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Boston School Committee

DOCUMENTS

OF THE

SCHOOL COMMITTEE

OF THE

CITY OF BOSTON,

FOR THE YEAR 1892.

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1892



BOSTON:

ROCKWELL & CHURCHILL, CITY PRINTERS.

1892.

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29. cont.

Boston School Committee,

April 27, 1893.

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SCHOOL DOCUMENT NO. 1—1892.

REPORT AND CATALOGUE

OF THE

BOSTON NORMAL SCHOOL

FOR THE YEARS

1891-92.



BOSTON :

ROCKWELL AND CHURCHILL, CITY PRINTERS.

1892.

REPORT OF THE HEAD MASTER.

To the Committee on the Normal School:

In accordance with the Regulations of the School Committee, I have the honor of submitting the following report:

CHANGE IN TEACHERS.

The past year has been one of harmony, earnest effort, and progress in the Normal School. The teachers, as usual, have devoted their earnest efforts to securing the best good of the pupils; the pupils have responded with a loyal spirit and a hearty devotion to their duties. I do not think that we have ever done a better year's work in the school.

We have lost two of our able and experienced teachers during the year. Miss V. Colonna Murray, who had made herself invaluable to the school in the department of language, resigned to be married; and Miss W. Bertha Hintz, who had long been recognized as an able and accomplished teacher of drawing, resigned to accept the offer of a more lucrative position in New York.

The teachers appointed this year are Miss Laura S. Plummer and Miss Almira I. Wilson. I think the school has been fortunate in both appointments, for the ladies are both doing excellent work. Mr. Henry W. Poor has taken Miss Hintz's place as teacher of drawing. He, also, is proving himself highly satisfactory.

OBSERVATION AND PRACTICE.

The observation and practice of the Normal students is done partly in the Training School and partly in the other

public schools. This work is becoming of much more value to our Normal pupils when done in the Training School than when done in the other schools. The reason for this consists partly in the fact that the teachers in the Training School are becoming experts in the business of training, and partly in the fact that the teachers who do this work in the other schools are constantly changing. One year one set of teachers receive the Normal pupils, another year it may be largely a new set. And more than this, it sometimes happens that the Normal pupils are placed with teachers who, either through lack of experience or of natural ability, are not fitted for this special work. One phase of the former difficulty may be obviated by the plan recently adopted by the Board; but the worst feature still remains, namely, the lack of special training on the part of training teachers.

The work of deciding what a Normal pupil should do while in a school for the purpose of observation and practice, of assisting her in the preparation of lessons, of criticising lessons that are given, of bringing to the attention of the novice her faults of discipline, of showing her the principles of good teaching and discipline which she violates, of making her see the reason of her faults and the means of their correction, — all this, and much more of the like sort, require teachers with special qualifications.

The work of a training teacher added to that of the ordinary teacher does make a larger total, and this extra work should command commensurate compensation. It is useless to expect the ablest teachers in the city to submit perpetually to the process of being fined for their extra ability. The rule is that people are paid for the use of superior ability, and this is especially the case where the exercise of superior ability is attended with extra labor. The work of training the Normal pupils during their period of practice teaching should be done by the best teachers in Boston, and these teachers should be paid for the additional work of preparing themselves for their special duties and

for the extra work of performing their special duties. I therefore recommend that the Regulations be so amended as to provide for the appointment of a sufficient number of training teachers, to do the work of instructing and directing the pupils of the Normal School, while they are in the schools for observation and practice; that provision be made for the training of such training teachers; and that extra compensation be provided for the same. This I believe to be an indispensable condition of that progress which the Normal School should make.

LENGTHENING THE COURSE.

I believe the time has come when the course of study for the Normal School should be extended so as to include work for two years. Several special lines of work have been introduced into the schools within the last few years, all of which should be made educational in the highest degree. To secure this, every special kind of work should be directed by some one specially trained in the work. Every specialty needs a specialist. These necessary specialists must be educated as such. For this work, Boston cannot depend upon charity. Noble work has been done by those philanthropists who have made possible the introduction of kindergarten, cooking, and manual training into the public schools of the city. The names of Mrs. Shaw and Mrs. Hem-enway will be held, it is to be hoped, in everlasting remembrance for what they have done for the public schools. But it is useless to depend upon such sources for the perpetual supply of specialists for these and other subjects. Boston must train its own special teachers; and this must be done, of course, in the Normal School. I therefore recommend that the course of study in the Normal School be made to cover two years, beginning with the next school year.

We could then complete the general course of professional study as at present, and then allow pupils to take certain

optional studies the last half of the second year; and perhaps the work of specialization might begin somewhat earlier. Specialists should be trained, not only for kindergarten, as at present, but also for gymnastics, manual training, elementary science, sewing, cooking, drawing, and for any other departments of work that should require it.

The result of such specialization of work would be the possibility of putting into every large district one teacher capable of directing each specialty and of giving to all the teachers an inspiration in it. And then it would do away with the practice of making it necessary for teachers to look on while those who are not teachers attempt to teach what they do not know how to teach. Thus the result would ultimately be one of great economy.

ADDITIONAL ROOM.

The Normal School imperatively demands better accommodation. It is impossible to teach all the pupils at once for lack of room. Nearly fifty must be kept in the other schools all the time; and even then it is necessary to have two, and often three, classes in the same room at the same time. In this way the efficiency of the school is much hindered. We need an additional room for a gymnasium for the Normal and Training Schools, one for drawing, one for instruction in natural science, and at least half a dozen more recitation-rooms. All these can be furnished at a comparatively small expense, because there is ample room on the lot now occupied. No additional land need be bought. I trust that the school will be at once provided with ample accommodations.

Very respectfully yours,

LARKIN DUNTON.

CATALOGUE
OF THE
BOSTON NORMAL SCHOOL
FOR THE YEARS
1891-92.

SCHOOL COMMITTEE.

1892.

Term expires January, 1893.

CHARLES T. GALLAGHER,	FRED G. PETTIGROVE,
CAROLINE E. HASTINGS,	GEORGE E. MECUEN,
BENJAMIN B. WHITTEMORE,	ELIZABETH C. KELLER,
CHARLES E. DANIELS,	JOHN J. KENNEDY.

Term expires January, 1894.

EMILY A. FIFIELD,	JAMES S. MURPHY,
RUSSELL D. ELLIOTT,	JAMES A. McDONALD,
CHARLES M. GREEN,	WILLIAM A. DUNN,
CHOATE BURNHAM,	HENRY D. HUGGAN.

Term expires January, 1895.

SOLOMON SCHINDLER,	SAMUEL B. CAPEN,
LALIAH B. PINGREE,	RICHARD C. HUMPHREYS,
EDWIN H. DARLING,	ERNEST C. MARSHALL,
SIMON DAVIS,	THOMAS F. STRANGE.

COMMITTEE ON THE NORMAL SCHOOL.

FRED G. PETTIGROVE, *Chairman.*

JOHN J. KENNEDY,	THOMAS F. STRANGE,
MRS. EMILY A. FIFIELD.	MISS LALIAH B. PINGREE, <i>Sec.</i>

BOSTON NORMAL SCHOOL.

LARKIN DUNTON, Head Master, 16 Ashford St., Allston, Mass.

WALLACE C. BOYDEN, *Sub-Master*.

L. THERESA MOSES, *First Assistant*.

ANNIE E. CHACE, *Second Assistant*.

KATHERINE H. SHUTE, *Second Assistant*.

DORA WILLIAMS, *Second Assistant*.

LAURA S. PLUMMER, *Second Assistant*.

ALMIRA I. WILSON, *Second Assistant*.

LAURA FISHER, *Teacher of Kindergartening*.

HOSEA E. HOLT, *Teacher of Music*.

HENRY W. POOR, *Teacher of Drawing*.

HENRY HITCHINGS, *Director of Drawing*.

RICE TRAINING SCHOOL.

DELWIN A. HAMLIN, PRINCIPAL.

GRAMMAR DEPARTMENT.

CHARLES F. KIMBALL, *Sub-Master*.

JOSEPH L. CAVERLY, *Sub-Master*.

FLORENCE MARSHALL, *First Assistant*.

Second Assistants.

DORA BROWN,

MIRIAM W. DIKE,

BESSIE H. CHAPIN,

ELLA T. GOULD,

M. ELIZABETH MAILMAN.

Third Assistants.

ELIZA COX,

MATTIE H. JACKSON.

PRIMARY DEPARTMENT.

GERTRUDE E. BIGELOW, *First Assistant*.

Second Assistants.

MABEL I. EMERSON,

ALICE M. MAY,

ELEANOR F. LANG,

MARY C. MELLYN.

Third Assistants.

SARAH E. BOWERS,

CLARA C. DUNN,

EMMA L. WYMAN.

KINDERGARTEN DEPARTMENT.

MABEL HOOPER, *Principal*. ADA C. WILLIAMSON, *Assistant*.

REGULATIONS OF THE BOSTON NORMAL SCHOOL.

ADOPTED BY THE SCHOOL BOARD.

SECTION 1. The Boston Normal School is established for the purpose of giving professional instruction to young women who intend to become teachers in the public schools of Boston. The course of study in this school shall be for a year and a half, and shall be divided into three terms of five months each.

SECT. 2. The instructors in this school shall be a head-master, sub-master, and first and second assistants. The head-master shall be a graduate of a college in good standing. He shall have a sub-master, a first assistant, and as many second assistants as may be necessary, provided the whole number of teachers, exclusive of the head-master, shall not exceed one for every thirty pupils. An additional instructor may be elected for an excess of twenty pupils, and one may be removed for a deficiency of twenty. In addition to the instructors already provided for in this section, there shall be a second assistant for service in the Normal and Training Schools, a second assistant for service in the Normal School and Normal Kindergarten, and a special teacher of drawing and blackboard illustration. The instructors in the Training School shall be a master, two sub-masters, two first assistants, and as many second and third assistants as may be necessary, — the committee in charge to determine the number of second and third assistants, — provided that the whole number of instructors, exclusive of the master, shall not exceed one for every forty-nine pupils. An additional instructor may be elected for an excess of twenty-five pupils, and one may be removed for a deficiency of twenty-five. An additional instructor, with the rank of second or third assistant, as the committee in charge shall determine, may be elected for an ungraded class.

SECT. 3. The salaries of sub-master and first and second assistants shall be established at a minimum rate for the first year of

service, with an annual increase during the succeeding five years, so that the maximum salary shall be reached for the sixth and each subsequent year of service. The committee in charge may recommend, and the Committee on Nominations, if they deem it advisable, may nominate, an instructor in the Normal School, whose term of service shall begin with the salary of any year after the first, except the last, in the series of years for the grade, and the salary of any such instructor, if the nomination be confirmed, shall be annually increased in the same manner as if the candidate had served during the preceding years of such term.

SECT. 4. Candidates for admission must be at least eighteen years of age, unless an exception is made by a special vote of the committee in charge, and must be recommended for admission by the master or committee of the last school they attended. Those who have completed the fourth year of the High School course will be admitted without examination. Other candidates must show to the Board of Supervisors, conjointly with the head-master, both by examination and recommendation, that they are qualified. All pupils shall be put on probation, and as soon as, in the opinion of the Board of Supervisors and the head-master, they prove unsuitable for this School, shall be discharged by the Committee on the School, if they deem proper.

SECT. 5. The Board of Supervisors, conjointly with the head-master, shall examine the pupils in the Normal School, make promotions from class to class, and, at the close of the course, submit the results of their examinations and the rank of the pupils, together with their own recommendations, to the Committee on Examinations, who shall award the diplomas. Questions for the diploma examinations in the Normal School shall be adopted by the Board of Supervisors, and approved by the Committee on Examinations. Pupils who fail of promotion or graduation at the close of any term may join the following class; but no pupil shall repeat the work of any term more than once.

SECT. 6. A diploma of graduation from the Normal School, issued after the year 1872, shall entitle the holder to receive a fourth-grade certificate of qualification. When teachers are to be employed in the public schools, graduates of this school shall have the preference, other things being equal.

SECT. 7. The text-books used in this school shall be such of the text-books used in the other public schools of the city as are

needed for the course of study, and such others as shall be authorized by the Board.

SECT. 8. This school shall begin on the Thursday following the first Wednesday in September, and shall close on such day of the week preceding the Fourth of July as the Committee on the School may direct.

SECT. 9. The head-master shall annually make a report to the committee in charge, which, under their direction, shall, in whole or in part, be printed, with a catalogue of the school, and be sent to the members of the School Committee and of the Board of Supervisors, the principals of the schools, and the members of the graduating classes of High Schools.

SECT. 10. When a graduate of this school is appointed as teacher in any public school of this city it shall be the duty of the head-master to make, or cause to be made by his assistants, one or more visits to her school, for the purpose of criticism and suggestion in regard to her teaching.

SECT. 11. Such instruction shall be given, in connection with the Normal School, to teachers in the employ of the city as the committee in charge may direct. Special instruction in music and drawing shall be given in this school under the direction of the committees on these departments.

SECT. 12. The head-master shall send the Normal pupils into the public schools for observation and practice in teaching, under his direction, four weeks during the second term and ten weeks during the third term; and he may send them, under proper guidance, to study the Museums of Natural History and Fine Arts, and important manufacturing industries. Principals of schools in which the Normal pupils observe and practise shall report to the head-master, in writing, their opinion of the teaching and governing ability of such pupils.

SECT. 13. There shall be a post-graduate course of one year in this school, for the further study of the principles of education and methods of instruction, and for observation and practice in teaching; and pupils attending this course may be employed as substitutes or temporary teachers, or appointed as permanent teachers. Regular instruction shall be provided for the pupils of the post-graduate class for one term only; but they may attend the instruction given in the other classes for the rest of the year.

SECT. 14. The course of study in this school is all pursued with special reference to teaching, and is as follows :

1. Psychology and Logic.
2. Principles of Education.
3. Methods of Instruction and Discipline.
4. Physiology and Hygiene.
5. The Studies of the Primary and Grammar Schools.
6. Observation and Practice in the Training School.
7. Observation and Practice in the other Public Schools.
8. Science of Language.
9. Phonics.
10. Gymnastics.
11. Vocal Music.
12. Drawing and Blackboard Illustration.
13. Special study of the Theory and Practice of the Kindergarten, for those members of the post-graduate class who desire to qualify themselves for teaching in that department.

TRAINING DEPARTMENT.

SECT. 15. The Rice Training School is intended to give the pupils of the Normal School a practical knowledge of the methods of instruction and discipline in the public schools of Boston.

SECT. 16. The Committee on the Normal School shall have charge of the Training School.

SECT. 17. The head-master of the Normal School shall have the direction of the observation, practice, and methods of instruction in the Training School, subject to the approval of the committee in charge.

SECT. 18. The principal of the Training School shall perform, in that school, the usual duties of master of a Grammar School, and such duties in connection with the Normal School as the committee in charge may direct.

SECT. 19. The course of study in the Training School shall be the same as in the Grammar and Primary Schools of the city.

SECT. 20. The instructors in the Normal School shall perform such service in the Training School as the head-master may direct.

TRAINING SCHOOL.

In 1876 the Rice District was constituted a Training School, where the Normal pupils have an opportunity of gaining, by observation and practice, a familiar acquaintance with the discipline and instruction of the Boston schools. The Training School, numbering about a thousand pupils, contains ten Grammar and eight Primary classes, and a Kindergarten.

LOCATION.

The Normal School occupies the upper floor of the school-house on Dartmouth street; and the Training School the first and second floors of that building, and also the school-house on Appleton street.

CONDITIONS OF ADMISSION.

A certificate that a candidate has completed the fourth year of the High School course is accepted as proof of qualification for admission. The course of study in the Boston High Schools embraces the following subjects: Composition; Rhetoric; English Literature; Ancient, Mediæval, and Modern History; Civil Government; Botany; Zoölogy; Anatomy and Physiology; Chemistry; Physics; Astronomy; Arithmetic, including the Metric System; Algebra; Geometry; Plain Trigonometry; Latin, or French, or German; Vocal Music; and Drawing. Candidates who have not completed the fourth year of the Boston High School course will be examined on this or its equivalent. An examination of such candidates will be held at the school-house, on Dartmouth street, the Tuesday preceding the first Wednesday in September, at 9 o'clock A.M. Those who have completed the fourth year of the Boston High School course will present themselves with their diplomas on the following Thursday.

TUITION.

The rule of the School Board in regard to the payment of tuition by non-resident pupils, applicable to the Normal School as well as the other public schools of the city, is as follows:

“All children living in the city, who are upwards of five years of age, and are not disqualified by non-compliance with the regulations of the Board, shall be entitled to attend the public schools; but neither a non-resident pupil, nor one who has only a temporary residence in the city, shall be allowed to enter or to remain in any school, unless the parent, guardian, or some other responsible person has signed an agreement to pay the tuition of such scholar, or until a certified copy of a vote of the Committee on Accounts, permitting such scholar to attend the school, has been transmitted to the principal.” The tuition is usually about seventy-five dollars a year.

NECESSITY FOR ATTENDANCE.

The following extracts from the Regulations of the Public Schools of the City of Boston will show the relation of the Normal School to the work of teaching in Boston :

“The Board of Supervisors shall not admit to an examination [of applicants for situations as teachers] any person who is not a graduate of the Boston Normal School or of one of the State Normal Schools, unless such person has had at least one year’s experience in teaching school.”

“The Board of Supervisors shall grant certificates of qualification for the several grades, after examination, to such candidates as they shall consider entitled to them, as follows :

“*First Grade.* — To head-masters, masters, and junior-masters of the Normal and High Schools, and principals of Evening High Schools.

“*Second Grade.* — To masters and sub-masters of Grammar Schools, principals of Evening Elementary Schools, and assistants of High Schools.

“*Third Grade.* — To assistant principals and assistants of the Normal and High Schools.

“*Fourth Grade.* — To assistants of Grammar, Primary, and Evening Elementary Schools.

“*Special Grade.* — To instructors in special studies, and in Schools for the Deaf, Manual Training Schools, and Kindergartens.

“No instructor shall be employed in any higher grade of

schools than that for which the certificates shall qualify the holder thereof ; and no instructor whose certificate is not recorded in the office of the Committee on Accounts shall be entitled to draw any salary as a teacher or as substitute ; and the Auditing Clerk shall not allow the name of any teacher or substitute to be entered or to remain on the pay-rolls."

VACATIONS.

The following holidays and vacations are granted to the school, viz. : every Saturday ; the first Monday in September ; the half day before Thanksgiving day, and the remainder of the week ; one week commencing with Christmas day ; New Year's day ; the twenty-second of February ; Good-Friday ; Fast-day ; the week immediately preceding the second Monday in April ; Decoration day ; the seventeenth of June ; and from the close of the school, the week preceding the Fourth of July, to the Thursday following the first Wednesday in September.

TIME OF ADMISSION.

Only one class is admitted to this school during the year, and that is admitted at the beginning of the school year. Pupils are not received at other times. The work of the school is so conducted that it is impossible for pupils to make up lessons lost at the beginning of the term, so that it is necessary for all who desire to enter during the year to be present at the opening of the school in September.

The post-graduate class will be organized the first day of the term beginning in September, at three o'clock in the afternoon.

PROGRAM.

The following table shows how the time of the students is now occupied during the course, and the notes following the table show what is attempted in each subject :

FIRST TERM.

SUBJECTS.	Hours per week.	No. of weeks.
Psychology	5	20
Physiology and Hygiene.....	4	16
Arithmetic.....	4	4
Language,		
Oral Expression and Composition	3	9
Penmanship.....	3	3
Grammar	3	8
Geography.....	4	20
Drawing	2	20
Vocal Music	1	20
Gymnastics,		
Theory	1	20
Practice	12 minutes daily.	

SECOND TERM.

SUBJECTS.	Hours per week.	No. of weeks.
Principles of Education	5	16
Language,		
Reading, including Phonics.....	4	8
Spelling	4	2
Literature	4	4
Grammar	4	2
Arithmetic	4	16
Elementary Science,		
Minerals.....	3	5
Plants	3	11
Drawing	2	12
Form.....	2	4
Vocal Music	1	16
Gymnastics,		
Theory	1	16
Practice	12 minutes daily.	
Observation and Practice in the Public Schools.....	all day, 4 weeks.	

THIRD TERM.

SUBJECTS.	Hours per week.	No. of weeks.
Principles of Education	5	7
Logic	5	3
Language,		
Oral Expression and Composition	4	3
Science of Language.....	4	4
History.....	4	3
Arithmetic.....	3	10
Elementary Science,		
Plants.....	4	2
Animals	4	6
Color	4	2
Drawing.....	1	10
Kindergartening.....	2	10
Gymnastics,		
Theory.....	1	10
Practice	12 minutes daily.	
Observation and Practice in Public Schools.....	all day, 10 weeks.	

POST-GRADUATE COURSE.

The work of the post-graduate class includes :

1. General course.
 - (1.) A further study of the principles of education, with special reference to their application in teaching the different subjects of the regular course, and in school discipline ;
 - (2.) The history of education.
2. Special course.

The study of Kindergartening.

NOTES ON THE PROGRAM.

Psychology.

The study of psychology is conducted both from the standpoint of introspection and that of observation. The students are led to know and name their own mental processes, and to interpret the signs of the mental processes of others. The study is not exhaustive, the attention being mainly directed to those phases of mental activity, a knowledge of which will be of most use in the study of the science of education.

Logic.

The aim of the study in this subject is to give the students a knowledge of its terms, to interest them in a further study of the subject, and to give them such a familiarity with the processes of reasoning as will enable them to direct the reasoning of their pupils with more exactness.

Principles of Education.

The study in this department is directed mainly to ascertaining those necessary sequences in different kinds of mental action, which will serve as guides to the teacher in directing the work of children. These sequences constitute the principles in accordance with which all sound educational processes must be conducted. Their application is shown by constant reference to proper methods of instruction and discipline.

Physiology.

The purpose of the work in physiology and school hygiene is twofold: first, to give the Normal students a practical knowledge of the laws of health, based upon a knowledge of anatomy and physiology, in order that they may know the means of preserving their own health and that of the children whom they are to teach; second, to prepare them to give elementary instruction in physiology to pupils in Primary and Grammar Schools.

Language.

The purpose of the work on the English language is to prepare the Normal students, first, to teach children to speak, read, and write their mother tongue with accuracy and facility; second, to awaken in them a love and appreciation of literature. In order to accomplish this object, the pupils are led to understand the principles which should guide them in the development of power in the departments of the work enumerated in the program, and to apply these principles in giving illustrative lessons.

Arithmetic.

The course in arithmetic is intended to develop power in analyzing and arranging the subject-matter to be taught, and in discovering and applying methods adapted to its clear presentation. Each pupil is required to do this work of analysis, arrangement of the subject, and teaching of lessons to the class, under the direction and criticism of the teacher. The instruction covers the whole range of the subject, both elementary and advanced. Incidentally, the student's knowledge of arithmetic is made broader, clearer, and more accurate, although the chief purpose of the work is to show the application of the principles of teaching to this subject.

Geography.

The work in geography is designed to develop in the Normal pupils the ability to apply the principles of education to the teaching of this subject. They are taught to observe carefully the natural objects around them; they are taught to use the elements gained by direct observation in picturing scenes in distant lands; they are taught to reason from cause to effect in their observation of the phenomena of nature, and from their knowledge of their own surroundings to infer conditions in other places. Thus, by their own experience, they learn the methods of directing the work of others.

History.

The purpose of the work in history is to equip pupils for teaching the subject. The work includes, first, a study of the nature of history, and the principles which should guide in teaching it; and, second, practice in giving illustrative lessons.

Elementary Science.

The main object in all the branches of elementary science is to give the pupils of the Normal School the power of so presenting each subject that the children will observe the various objects to be studied; will see their likenesses and differences so as to make simple classifications; and, through their knowledge of the relations of these various objects to each other, will see the unity and beauty of the world.

Drawing.

The following course of instruction in drawing, for the students in this school, has been prepared by the director of drawing, and is closely followed. The object of the course is twofold: first, to prepare the students to teach all the branches of this subject that are studied in the Primary and Grammar Schools; and, second, to give them the power to illustrate any subject that may need illustration, with sketches made upon the blackboard with chalk.

DRAWING PROGRAM FOR THE NORMAL SCHOOL.

The instruction in this subject is to be largely "normal." The students are required to make copious notes and illustrate them with sketches. The course of instruction should be presented in the order of its arrangement as given below, and the amount of time given to each subject should be also governed by this program.

Geometric Drawing. — Time, 3 hours.

The instruction includes the best methods of presenting this subject, both in its relation to the other departments of drawing, and as a separate study: (1) How to handle compasses, straight-edges, pencils, etc.; (2) the selection of problems useful to scholars; and (3) the system of notation used, and the reason why it should be insisted upon.

Historic Ornament. — Time, 5 hours.

Here the students are taught the methods of studying this subject from illustrations (to be made by the teacher) of three or more schools of ornament, and the use of these illustrations for observation lessons introductory to the subjects of decoration, and the technique of elementary design.

Geometric Decoration. — Time, 2 hours.

The methods of construction to be used in decorations of this kind are: (1) Those purely geometric; (2) Those based on the great law of growth in plants.

Elementary Design. — Time, 10 hours.

Here are taught the principles of decoration, which are based upon the laws of growth in plants, and their application to the various kinds of decoration: (1) Horizontal radiation, or repetition around a point or central stem; (2) Vertical radiation, or growth from a point or central root; (3) Vertical growth, opposite or alternate, from an upright line or stem; (4) Growth or movement of trailing or climbing plants, both on vertical and horizontal surfaces.

The following ground is to be covered: natural or pictorial treatment contrasted with conventional treatment; the reasons why the latter should be used in decoration; the treatment of stems and the number of planes to be suggested in elementary design; geometric construction and division of surfaces to be decorated; construction of the decoration, which must be based upon the laws of growth; conventionalization, — repetition, alteration, symmetry, balance, harmony, variety, unity.

Construction or Working Drawing. — Time, 6 hours.

The study of this subject includes: (1) How to make free-hand working drawings from geometric solids and from common objects; (2) How to make working drawings from geometric solids and from common objects by the use of instruments; (3) How to figure the dimensions on all working drawings.

Model and Object Drawing, and Practical Perspective. — Time, 16 hours.

This branch of the instruction includes: (1) Observation from solids of the actual direction of lines, or rather of edges which are to be represented by lines; (2) Observation from solids of the apparent direction of retreating lines; (3) Observation from solids of the relative length of lines, both actual and apparent; (4) Observation of the actual forms of surfaces; (5) Observation of the apparent forms of surfaces as seen from different points of view; (6) Observation of the actual proportions and of the true positions of surfaces in their relation to one another; (7) Observation of the apparent forms of surfaces in their relation to one another, when seen from various points of view; (8) Observation leading to the best methods of accurate representation in model and object drawing; (9) Observation leading to the best use of diagonals and diameters of a given surface, or any representation thereof, for the purpose of finding either the actual or apparent positions of certain points upon that surface.

Illustrative Drawing. — Time, 18 hours.

This work includes methods and practice in drawing illustrations upon the blackboard in connection with the teaching of various subjects, such as geography, plants, animals, etc.

Form.

The principal object in the study of form is to prepare the students to teach modelling in clay, paper-folding, etc., so as to lay the foundation for drawing as based upon the observation of the form to be drawn.

Color.

In this department the Normal pupils are qualified to direct the observation of children so as to give them the knowledge of common colors, together with their most important harmonies and contrasts.

Vocal Music.

This department is under the direction of Mr. H. E. Holt, one of the special teachers in music. It is the aim to qualify the students to direct children in the study, first, of musical sounds themselves, and, secondly, of the proper mode of representing music. Music itself is made the chief object of study, the study of signs being confined to those needed to express the child's knowledge of the music.

Gymnastics.

Special training in gymnastics has been given since the beginning of the school year in 1889. The plan of the work is as follows: The whole school receives one lesson a week, during the whole course, on the theory of the subject, including a careful treatment of the physiology and anatomy of the human body upon which the exercises are based. The entering class is divided into sections of from twelve to fifteen each; and these sections are given a systematic drill in the exercises, throughout the first year, for twelve minutes each day. The graduating class is divided into groups of four, and each member in turn is placed in charge of one section of the entering class for a week at a time, the other three acting as assistants. This work is directed and criticised by one of the regular teachers in the Normal School.

This course secures for every pupil in the school: (1) a study of the theory, one hour per week, for a year and a half; (2) a carefully arranged daily drill in the exercises, for one year; and (3) ten weeks' practice as leader and critic.

Culture of the Students.

From the foregoing sketch of the aims of the different branches of study pursued in the Normal School it might be inferred that the sole purpose of the school is to make its students acquainted with the science of education and with those methods of instruction and discipline which this science demands. This, however, would be a wrong inference. Several other results usually follow.

In the first place, the students' knowledge of the branches taught in the Primary and Grammar Schools is materially broadened and deepened. Most of these branches have not been studied at all since the students were in the lower schools themselves. Here they are taken up again and analyzed into their elementary stages, and these stages arranged in their necessary orders of dependence. This work not only requires a recall of what had been formerly learned, but often new facts must be added; and more than this, it demands that the students shall see the entire subjects in all their elements and relations. This is knowledge too deep for the child, but essential for the teacher who aspires to be a true educator. The development of the power of rigid analysis and logical arrangement is one of the chief incidental aims of the school.

While the aim of the Normal School is more particularly to fit its students to teach in Grammar and Primary Schools and in Kindergartens, yet much is done toward fitting them for High School work. Many of the High School studies are brought more or less under consideration, so that our students obtain a deeper insight into them than is possible while studying them for the first time. The Normal pupils learn to look at all subjects from the standpoint of the teacher, and this involves, in addition to a knowledge of the subject itself, a comprehension of its genesis and the necessary dependence of its parts one upon another. So the pupils go out of the Normal School with a profounder knowledge of many of the High School subjects, with an intenser literary spirit, and with a deeper love for scientific pursuits.

Another reflex effect upon the students is what may be called enthusiasm. Their views of the various ways in which it is possible for others to be helped in the acquisition of knowledge and the formation of character are constantly broadening. The possibility of self-development is ever becoming clearer. Conse-

quently, the duty of self-improvement and of devotion to the good of others is made ever more apparent. Thus narrowness and selfishness are made to yield to catholicity of view and feeling, till the desire to become and to do the best is the prevailing sentiment. Nowhere more than in a good Normal School is devotion to duty created.

Finally, we try to infuse into the students of the Normal School a spirit of docility. This puts them in the right relation to criticism. When they begin their work as assistants, they believe it to be their duty to assist. They feel themselves to be learners and not critics. They regard kindly criticism as friendly advice, which they are bound to heed, and for which they should be profoundly grateful. This accounts, in part, for the rapid professional progress for which Normal graduates are noted.

Observation and Practice.

During the first half-year the Normal pupils have frequent opportunity to see the work of instruction as it is carried on in the Training School. When the methods of teaching any subject, as reading, are under consideration in the Normal School, the pupils are taken to the Training School classes for a practical demonstration of what they are studying. Thus they have an opportunity to see the methods of teaching which they study in the Normal School applied in the Training School. Their practice work the first term is confined to teaching their classmates. The object in this is to make them somewhat familiar with the orderly presentation of subjects, and with the proper sequence of questions in teaching.

During the second half-year the Normal pupils spend two whole weeks in Primary Schools, and two in Grammar Schools. They are assigned to all the classes in the Training School, and to as many classes in the other public schools of the city as are needed for this purpose, only one pupil being assigned to a class. These classes remain in charge of the regular teachers. The Normal students generally give two or three short lessons daily, under the direction and subject to the criticism of the teachers in charge. The teachers of the Normal School visit the pupils several times during their stay, both in the Primary and Grammar Schools, for purposes of criticism and instruction.

During the third half-year the observation and practice are continued, under substantially the same conditions, for ten weeks. This time is broken into periods of four weeks each, alternating with equal periods of theoretical instruction in the Normal Schools, only one-half of the class being absent from the school at a time.

Post-graduate Class.

Usually from half to two-thirds of the graduates join this class ; so that the number actually present at the Normal School remains about the same during the first part of the second term as it is during the first term. This gives an opportunity to do some excellent work. The calling-off of the class for substitute service begins at once. Substituting proves to be an excellent training for permanent service. It not infrequently happens that beginners make mistakes when they first take charge of classes that they can avoid with the next classes. In such cases the sooner they take charge of new classes the better. Many a young teacher, who would utterly fail at first if put in charge of a difficult class, gains sufficient power by a few months' experience in general substituting to insure success in almost any grade.

GRADUATES
OF THE
BOSTON NORMAL SCHOOL.

CLASS OF 1892.

B., Brighton; C., Charlestown; D., Dorchester; J.P., Jamaica Plain; R., Roxbury; S.B., South Boston; W.R., West Roxbury; E.B., East Boston; A., Allston; M., Mattapan; N., Neponset.

Name.	Residence.
Anderson, Mabel M.	25 Camden Street.
Barnes, Caroline F.	72 Richmond Street, M.
Barrows, Florence H.	Longwood Avenue, Brookline.
Barry, Elizabeth C.	25 Alpine Street, R.
Baxter, Eva M.	166 Chestnut Street, Chelsea.
Beale, Mary M.	550 Washington Street, D.
Bloomfield, Elizabeth A.	216 Marginal Street, E.B.
Bowers, Annie M.	113 Pembroke Street.
Boyle, Bridget T.	141 Elm Street, Cambridgeport.
Brackett, Bertha	Needham.
Butler, Alice C.	424 Columbus Avenue.
Clark, Lotta A.	104 Westminster Street.
Clarke, Mabel A.	202½ Putnam Avenue, Cambridge.
Coan, Hattie H.	68 Webster Street, E.B.
Cole, Rose M.	113 Paul Gore Street, J.P.
Colleton, Eleanor A. M.	47 Decatur Street, C.
Collins, Hannah E.	38 Fleet Street.
Cook, Jane T.	Tremont Street, M.
Crawford, Grace M.	56 Eutaw Street, E.B.

Name.	Residence.
Dacey, Mary M.	459 Neponset Avenue, N.
Daly, Annie F.	4 Parker Place, R.
Desmond, Ellen G.	209 Salem Street.
Donovan, Adelaide R.	10 North Russell Street
Elton, Eleanor F.	79 Dorchester Street, S.B.
Endicott, Stella	944 Beacon Street.
Fitzgerald, Charlotte	33 Northfield Street.
Fitzpatrick, Mary L.	44 Upton Street.
Foster, Mabel P.	13 Adams Street, C.
Fraser, Theresa E.	195 Salem Street.
Fuller, Alice B.	70 High Street, Woburn.
Grant, Elizabeth M.	51 Regent Street, R.
Hall, Estella M.	94 Hammond Street.
Halliday, Janet B.	Granite Avenue, D.
Harvey, Arvilla T.	333 Dorchester Street, S.B.
Henderson, Ida B.	61 Bickford Street, R.
Hewins, Margaret	Linnet Street, W.R.
Hilton, Georgia L.	3 Dunrock Street, R.
Hoffman, Emma M. M.	2888 Washington Street, R.
Horn, Lillian F.	11 Greenwich Park.
Hunt, Nelle C.	48 Union Park.
Irwin, Mary E.	10 Orchard Place, D.
Jackson, Mary A.	681 Tremont Street.
Jasper, Fannie M.	449 Quincy Street, D.
Johnson, Ruby A.	40 Berkeley Street.
Kemp, Gertrude L.	270 West Newton Street.
King, Katharine L.	14 Lynde Street.
Lambert, Helen F.	62 Cabot Street.
Leahy, Margaret A.	53 G Street, S.B.
Littlefield, Elsie M.	4 Chickatawbut Street, N.
Littlefield, Sara F.	90 West Eagle Street, E.B.
Manning, Nellie A.	53 Longwood Avenue, R.
McCready, Mary H.	133 South Street, J.P.
McLauthlin, Alice L.	54 Eutaw Street, E.B.
Meade, Caroline A.	69 Decatur Street, C.
Moore, Esther C.	140 Webster Street, E.B.
Morse, Winifred M.	40 Rutland Square.
Nolan, Margaret L.	506 East Second Street, S.B.
O'Neil, Elizabeth A.	115 Vernon Street, R.

Name.	Residence.
Palmer, Helen E.	23 <i>Lexington Street, E.B.</i>
Pickering, Eva D.	592 <i>Tremont Street.</i>
Pinkham, Nellie M.	39 <i>Pleasant Street.</i>
Prentiss, Helen F.	23 <i>Woodbine Street, R.</i>
Reddy, Florence I.	250 <i>Cabot Street, R.</i>
Robinson, Louise	33 <i>Curruth Street, D.</i>
Roche, Mabel V.	54 <i>Marion Street, E.B.</i>
Rourke, Julia A.	216 <i>E Street, S.B.</i>
Sawyer, Georgietta	79 <i>Russell Street.</i>
Shute, Mary C.	13 <i>Laurel Street, R.</i>
Skilton, Grace H.	26 <i>Sullivan Street, C.</i>
Skilton, Helen D.	26 <i>Sullivan Street, C.</i>
Spear, Florence L.	124 <i>K Street, S.B.</i>
Spike, Charlotte M. E.	5 <i>Falmouth Street.</i>
Stanley, Kate	40 <i>Worcester Square.</i>
Stevenson, Lydia E.	81 <i>Arlington Street, B.</i>
Strong, Grace M.	118 <i>London Street, E.B.</i>
Sullivan, Catherine A.	430 <i>Bennington Street, E.B.</i>
Sullivan, Julia E.	83 <i>Decatur Street, C.</i>
Swan, Marion N.	32 <i>Worcester Street.</i>
Thing, Harriet E.	528 <i>Fifth Street, S.B.</i>
Thornton, Alice E.	3 <i>Carnes Place.</i>
Waugh, Carrie A.	83 <i>Zeigler Street, R.</i>
Weaver, Angeline M.	39 <i>Sterling Street, R.</i>
Whalen, Sophia G.	41 <i>Newman Street, S.B.</i>
Wolff, Winifred C.	69 <i>Carver Street.</i>
Wyman, Edith S.	62 <i>Gardner Street, A.</i>

Number of graduates in 1892	85
Number of previous graduates	1,136
	<hr style="width: 10%; margin-left: auto; margin-right: 0;"/>
Total	1,221

SCHOOL DOCUMENT NO. 2—1892.

REPORT

OF THE

COMMITTEE ON SCHOOL HOUSES

ON

SCHOOL ACCOMMODATIONS.

JANUARY, 1892.



BOSTON :

ROCKWELL AND CHURCHILL, CITY PRINTERS.

1892.

IN SCHOOL COMMITTEE,

BOSTON, Jan. 26, 1892.

Ordered, That six hundred copies of the report of the Committee on School Houses on the subject of school accommodations be printed.

Attest :

PHINEAS BATES,

Secretary.

REPORT.

IN SCHOOL COMMITTEE,

BOSTON, Jan. 26, 1892.

At the last meeting of the Board an order was introduced and referred to the Committee on School-Houses looking to better Primary school accommodations in the Harvard District, Charlestown. A similar order was before this committee last year, as also one asking for a new Primary school-house in the Frothingham District. The Committee on School Houses have felt the need of better school accommodations in some of the older parts of Charlestown, but the necessities have been so great elsewhere that no definite action has been taken. We think, however, the time has come to secure the land for two new Primary school-houses in that section, — one in the Harvard District and the other in the Frothingham District, — looking forward to an appropriation for the buildings in 1893.

We regret that we cannot properly ask this year for an appropriation to cover more than the land. But it will be borne in mind that although the City Council have been very generous to us the last three years, that we are still behind because of the neglect of several years ago. By reference to School Document No. 7 of 1891, it will be found that there are several buildings as yet unprovided for to bring up what may be called the *arrearages* to date. They may be specified as follows :

SCHEDULE A.

Primary School-house, South Boston, for land and building, in addition to \$30,000 already appropriated	\$25,000
<i>Carried forward,</i>	<hr/> \$25,000

<i>Brought forward,</i>	\$25,000
Primary School-house, Dillaway District, Roxbury (six rooms)	40,000
Grammar School-house, Gibson District, Dorchester (12 rooms and hall)	100,000
Primary School-house, Canterbury street, West Roxbury (6 rooms)	40,000
Primary School-house, Beech street, Roslindale (6 rooms)	40,000
Primary School-house, Gardner street, West Roxbury (4 rooms)	30,000
Total	\$275,000

When these appropriations were first asked for, the Gibson was called a ten-room, and the Canterbury and Beech streets four rooms each. But in the rapid growth of these districts the former must be a twelve, and the last two six rooms each.

Following this, there must be provision made for *furnishing* the eight schools to be completed this year, in addition to the four provided for in December, 1891. These, in detail, are as follows :

SCHEDULE B.

Meeting-House Hill, Primary	\$3,000
Bunker Hill, Primary	4,000
Emerson, Primary	4,000
George Putnam, Primary	4,000
Bowditch, Primary	4,000
Lowell, Primary	4,000
North Brighton, Primary	5,000
Mount Vernon, Grammar	7,000
Total	\$35,000

SCHEDULE C.

There will also be needed for the completion of the Lowell Primary	\$500
Grading and fencing Bowditch Grammar, and heating-apparatus, basement	3,500
Grading and fencing Bowditch Primary	4,000
Grading and fencing Bunker Hill Primary	5,000
Grading and fencing Lowell Primary	3,500
Grading and fencing George Putnam Primary	5,000
Heating-apparatus, manual training rooms, Henry L. Pierce School-house	500
Additional for land, Thornton st.	600
Additional for land, Gibson Grammar	500
Additional for land, Munroe st.	925
Additional for land, Groton st.	3,000
Removal of Oak Square Primary and repairing building	12,000
Land for Dorchester High	12,000
Land for West Roxbury High	7,400
Mechanic Arts High School; additional appropriation to construct whole building at present time	60,000
Total	<u>\$118,425</u>

There are three other necessities asked for by the Board in 1891, any delay in providing for which will be very detrimental to our school interests. They are as follows :

SCHEDULE D.

Parental School for Boys	\$125,000
Parental School for Girls	25,000
New Brighton High School-house	75,000
Total	<u>\$225,000</u>

There will be a small credit to the appropriation from the sale of old school-houses and sites. These are valued by the Assessors' Department as follows:

	Area.	Price per foot.	Value of Land.	Value of Building.	Total Valuation.	Ward.
Francis-st. Primary School .	12,075	\$.35	\$4,200	\$12,000	\$16,200	22
Webster-st. Primary School .	5,036	.50	2,500	12,000	14,500	2
Haverhill-st. Primary School,	5,399	1.09	5,600	300	5,900	4
Baker-st. Primary School . .	10,464	.04	400	1,000	1,400	23
Thornton-st. Primary School	6,640	.45	3,000	2,000	5,000	21
Primary School, Washington st., near Green st.	12,303	.35	4,300	1,000	5,300	23
Village Hall, Thomas st. . .	10,954	.35	3,800	3,000	6,800	23
Totals			\$23,800	\$31,300	\$55,100	

Experience has shown that but comparatively little is received from the sale of old buildings, the chief value being in the land. But it would seem that we might net from the above at least \$30,000.

The total amount needed would then stand as follows :

Schedule A	\$275,000
Schedule B	\$35,000
Schedule C	118,425
Schedule D	225,000
	<hr/>
	\$378,425
Less from sales old sites, etc.	30,000
	<hr/>
	348,425
	<hr/>
	\$623,425

To this we must add the cost of the two lots in Charlestown, referred to above.

This seems a large sum of money, but it only confirms

the statement made by this committee (School Document No. 18 of 1890), that we need for new Grammar and Primary schools every year from \$200,000 to \$300,000, or an average of about \$250,000.

It has also been found true that for High, Latin, and Normal school necessities we need also a sum equal to about \$100,000 per year. This amount does not come regularly each year, as in the case of Grammar and Primary schools, but in a series of years we believe it a fair estimate. We have just completed the Roxbury High School-house, and Brighton now needs one. In 1893 the Normal School will require additional accommodations, and Dorchester will require a new High School-house. In 1894 the West Roxbury High School-house, which is now full, will have to be enlarged to provide for that section, which is growing so rapidly. His Honor the Mayor has done the School Board a great service by endorsing this position in the table accompanying his last annual message, in which he allows for school-houses and sites for the next five years an average annual expenditure of \$350,000.

To recapitulate, schedule A represents the remainder of the past arrearages. The balance, about \$350,000, represents the sum the Mayor has allowed as the average annual requirement in his message, as referred to above. It ought also to be noted that in schedules B, C, and D we are not asking for any new Grammar and Primary schools, but are using the whole sum to furnish, grade, etc., the buildings already being built, and for the completion of the Mechanic Arts High School building, the Parental schools, the Brighton High School-house, and land for the future. There is needed at once a new Grammar building for the Stoughton School, Dorchester, a new Primary school in the Dearborn District, Roxbury, and another in the Lewis District, and another in the Lyman District; but these must wait until 1893.

It ought also to be said that these Parental schools, being under the care of the Commissioners of Public Institutions, ought not in justice to be considered a part of the school appropriation. But this Board and the whole city so feel their importance that we are willing the money should come out of the proportion of the new loan fairly belonging to the schools, if only we can thereby secure their erection more promptly.

For the Committee on School-Houses,

SAMUEL B. CAPEN,

Chairman.

Ordered, That the Committee on School Houses be instructed to advertise for proposals for two lots of land suitable for Primary schools, one each in the Harvard and Frothingham districts, Charlestown.

SCHOOL DOCUMENT NO. 3 — 1892,

REPORT

OF

COMMITTEE ON SUPPLIES.



BOSTON :
ROCKWELL AND CHURCHILL, CITY PRINTERS.
1892.

FOURTEENTH ANNUAL REPORT.

COMMITTEE ON SUPPLIES.

BOSTON, February, 1892.

To the School Committee:

The Committee on Supplies present their report for the nine months ending January 31, 1892; the same being the financial year for 1891-92 as fixed by the City Council.

As this report is not for a full year, but only includes the expenditures from May 1, 1891, to January 31, 1892, a period of nine months, the usual comparison of expenses, and much information commonly given in these reports, are necessarily omitted.

Under date of January 27, 1891, your Committee presented the estimate of money needed for carrying on this department for one year from May 1, 1891, to April 30, 1892, as follows:

Fuel, gas, and water	\$79,200
Supplies and incidental expenses	99,500
	<hr/>
Total asked for	\$178,700

The City Council granted, under one appropriation, \$1,500,000 for the running expenses of the schools for the nine months ending January 31, 1892, which prove sufficient for all the requirements.

The value of the stock on hand increased during the year \$791.88, so that the expenditures represent that amount more than the cost of the materials sent to the schools.

The expenditures of this department, for the nine months, have been as follows:

Appropriation "Supplies and Incidentals:"

Text-books	\$24,791 48	
Writing-books	4,259 35	
Drawing-books	5,068 48	
Reference-books	1,196 46	
Record-books	220 47	
	<hr/>	\$35,536 24
Books for supplementary reading		2,428 77
Annual festival		2,284 05
Globes, maps, and charts		598 85
Musical expenses: Instruments, repairs, and covers		1,850 25
Printing and stock		3,735 77
Philosophical and chemical apparatus and supplies		1,488 12
School census		1,400 00
Stationery and drawing materials		12,343 26
Slates, diplomas, pencils, and erasers		2,536 45
Advertising		220 54
Military drill, arms, etc.		831 80
Janitors' and other supplies		2,576 22
Car and ferry tickets (refunded by State, \$838.18)		1,560 82
Reports of proceedings School Committee		400 00
Kindergarten supplies and maid service		1,041 50
Manual-training supplies		3,135 99
Horse and carriage expenses		321 50
Carriage-hire		12 00
Extra clerk-hire		371 00
District telegraph and telephones		204 75
Sewing materials		162 51
Teaming		124 93
Travelling expenses of Superintendent		200 00
Cost of work for delivering supplies, including salaries, expenses of teaming, repairing apparatus, etc.		4,325 00
Removing ashes		291 50
Crickets for undersized pupils (750)		67 50
Sundry items		113 25
		<hr/>
Total for supplies and incidentals		\$80,162 57
Appropriation "Fuel, Gas, and Water:"		
Fuel	\$50,862 97	
Gas	3,290 00	
Water	2,512 25	
	<hr/>	
Total for fuel, gas, and water		56,665 22
		<hr/>
Gross expenditure		\$136,827 79
		<hr/>

Gross expenditure for schools, under the charge of the Committee on Supplies	\$136,827 79
Less the following credits:	
Sale of books and supplies:	
High Schools	\$40 48
Grammar Schools	37 84
Primary Schools	25 49
Evening Schools	3 45
Refunded by State, on account of travelling ex- penses pupils, Horace Mann School	838 18
	945 44
Net expenditure	\$135,882 35

The time covered by the above expenses, compared with last year, is 75 per cent., and the expenditures about 88 per cent.

The expenses for the coming three months (February, March, and April) will be proportionately much less than those incurred for the nine months covered by this report.

The expenditures from May 1, 1891, to Jan. 31, 1892, have been about 75 per cent. of the amount asked for in the estimates of expenses from May 1, 1891, to April 30, 1892.

The following statement gives in detail more information regarding the expenditure of several of the items asked for in the estimates :

TEXT-BOOKS, DRAWING-MATERIAL, AND STATIONERY.

Under this head are included nearly all of the supplies furnished to pupils.

Text-books, cost	\$24,791 48
Writing-books	4,259 35
Drawing-books	5,068 48
Reference-books	1,196 46
Record-books	220 47
Books for supplementary reading	2,428 77
Total cost for books	\$37,965 01

The schools required, during the past nine months :

Franklin Readers	16,880
Arithmetics	3,867
Geographies	6,110
Music Readers	3,741
Spelling-books	2,681
Masterpieces of American Literature	2,400
Mowry's Civil Government	1,650
Language Lessons	2,125
Stowell's A Healthy Body	5,905
Blaisdell's Physiology for Little Folks	5,850
Smith's Elementary Physiology	750
Bradbury and Emery's Algebra	1,075
Grandgent's French Composition	1,985
Fiske's Civil Government	615
Writing-books, and Blank Writing-books	133,310
Drawing-books	69,218

In addition, a large variety of other books not enumerated was required, the number of copies of each of which was under six hundred.

The schools were supplied as liberally with supplementary reading as the appropriation would warrant.

The cost of stationery was \$8,797.09.

The sum of \$6,690 was paid to Carter, Rice & Co. for furnishing the following supplies, the contract for the same having been awarded to them :

3,150 Reams Letter-paper.
150 " Book-keeping paper.
250 " Map Drawing-paper.
3,000 " Primary Writing-paper.
92,000 Composition-books.
5,000 Journals and Ledgers.
40,000 Spelling-blanks.
7,680 Packages Blotting-paper.

The lead pencils were furnished by the Eagle Pencil Company and by the Joseph Dixon Crucible Company, and the ink and mucilage by Carter, Dinsmore & Co.

The expenditure for drawing-materials amounted to \$3,546.17. Included in this sum were \$769.10, the cost of importing five hundred sets of mathematical instruments. Whatman's paper, for the Evening Drawing-schools, drawing-blocks, pencils, designers' colors, etc., for the use of the various schools, make up the balance.

The total cost of text-books, stationery, and drawing-materials was \$50,308.27, or about seventy-five cents per pupil.

ANNUAL FESTIVAL.

The annual festival took place in Mechanics' Building, on Saturday, June 27, under the direction of a committee of five members who were appointed at the first meeting of the Board in April. The following expenditures for the festival were all incurred by that committee, the bills for the same being presented to the Committee on Supplies for approval:

Rent of Mechanics' Hall	\$260 00
Band	104 00
Bouquets	1,060 00
Platform decorations	50 00
Collation	646 00
Transportation	114 10
Sundry items	49 95
Total cost of annual festival	<u>\$2,284 05</u>

GLOBES, MAPS, AND CHARTS.

The cost of materials under this head for the past nine months was \$598.85. Of this amount \$375 were spent for thirty-three copies of MacCoun's Historical Charts introduced during the year, and \$100 for ten thousand copies of printed outline-maps called for by the new course of study.

MUSICAL EXPENSES.

The principal item of expense, on this account, is for the tuning and care of pianos.

This work has been done by the Perkins Institution for the Blind, for \$110 per month.

During the year a concert grand piano was purchased from the Henry F. Miller & Sons Piano Co., at an expense of \$450, for the new Roxbury High School-house. In addition to this, two square pianos for kindergartens were bought from the Ivers & Pond Piano Co. for \$174 each.

The total for musical expenses amounts to \$1,850.25.

There are one hundred and sixty pianos now in the schools, representing a cost of about \$50,000.

PRINTING.

The cost of printing, including the stock used and the binding of the various documents, amounted to \$3,735.77. The printed examination-questions used in nearly every school, and in many classes in some schools, add to the expense for this item.

CHEMICAL APPARATUS AND SUPPLIES.

The cost of supplying the schools with what was required to carry out the course of study in physics and chemistry amounted to \$1,488.12, which was almost exclusively for high schools. Although the schools are well supplied with apparatus, there is a constant demand for new pieces in order to keep pace with modern improvements.

SCHOOL CENSUS.

A State law requires a census of all of the children in the city between the ages of five and fifteen to be taken each year. It cost the School Committee \$1,400 to comply with this law the past year.

DIPLOMAS, SLATES, ERASERS, ETC.

The cost of these supplies was \$2,536.45, of which \$1,494.45 were expended for diplomas. The schools re-

quire about 2,500 blackboard erasers, 1,800 boxes of chalk, and more than 20,000 slates each year to supply the demand.

MILITARY DRILL.

The instructor of Military Drill is allowed in addition to his salary one dollar per day for travelling expenses. This, with \$650 expended for 100 guns, and the cost of slight repairs, made a total expenditure of \$831.80 for this item.

FUEL, GAS, AND WATER.

The contract for supplying the School Department with coal for the past year was awarded to Messrs. L. G. Burnham & Co., at a uniform price of \$4.88 per ton, including housing. About 10,000 tons of coal and 175 cords of wood were purchased the last nine months, at an expense, including weighing, of \$50,862.97.

The gas consumed cost \$3,290, and the bills for water amounted to \$2,512.25; making the total charge for fuel, gas, and water \$56,665.22.

JANITORS' SUPPLIES.

The amount expended for this purpose was \$2,576.22. The janitors are in constant need of material to keep the buildings under their charge in good order. It requires about 800 large floor-brushes and 500 feather dusters, in addition to a large variety of other supplies each year, to keep the buildings in good condition.

DELIVERING SUPPLIES.

The cost of work for delivering supplies, including the salaries paid to four clerks, a teamster, and a man to repair the apparatus, amounted to \$4,325. Deliveries are made to each school at least twice every month, but many of the schools average a weekly delivery during the school year.

MISCELLANEOUS EXPENSES.

Under this head there have been expended amounts as follows :

Sewing materials	\$162 51
Teaming	124 93
Extra clerk-hire	371 00
Horse and carriage expenses	321 50
Carriage-hire	12 00
Car and ferry tickets	1,560 82
[The State will refund \$1,303.80.]	
Telephones and District Messenger service	204 75
Reporting proceedings of School Committee	400 00
Travelling expenses of Superintendent	200 00
Removing ashes from school-houses	291 50
Seven hundred and fifty crickets for undersized pupils	67 50
Sundries	113 25
Total	<u>\$3,829 76</u>

The Superintendent of Streets notified the School Committee during the past year that his department would not, in the future, remove ashes from the school-houses, and the expense for removing ashes must be borne by the School Department. The sum of \$291.50 has been spent for this item during the past few months. It is difficult to estimate the annual expense.

This has been the eighth year in which the pupils have been supplied under the free text-book law.

The rules regulating the loaning of books and the methods of keeping the accounts are working successfully in the various schools.

For the information of newly-appointed teachers principally, the following circular was sent to each instructor in September, 1891 :

MASON STREET, BOSTON, Sept. 9, 1891.

To the Instructors in the Public Schools :

Text-books will be loaned to pupils, and school supplies furnished them free of charge, in the same manner as last year.

The regulations made by the School Committee governing the loaning of books are to be enforced by the teachers, and will be found on the label inserted in each text-book.

While the committee are prepared to furnish sufficient books to loan pupils, they do not think it desirable to keep a stock of books unused in each school-building. To obviate this, you are requested not to order books in excess of the number of pupils in the classes authorized to use them. If, for any reason, additional books are needed, or books are desired not authorized for the class to be supplied, a proper explanation must be forwarded to the Committee on Supplies.

The continued success of the free text-book law depends largely upon the care taken of the books by the pupils. Teachers must insist upon pupils who lose or misuse a book, replacing it. If pupils fail to make good the loss or damage incurred by them, recourse should be had to the parents. In cases where this regulation cannot be enforced by the instructors, the matter should be referred to the Committee on Supplies. New books may be obtained, to replace those lost or misused, at the School Committee building, at cost prices.

No books should be returned at the end of the year as worn out, unless, after careful examination, it is decided that they are unfit for further use.

Teachers are requested to keep an oversight at all times of books loaned to pupils, and to examine such books very carefully at least once in each month. Principals should appoint a time in each month for this examination, and should see personally that it is carried out.

Instructors in the High Schools will take receipts from pupils for the books loaned, as heretofore.

Every teacher should be provided with an account-book, and keep it in the manner previously directed.

Subordinate teachers of High and Grammar Schools and Primary School teachers should keep an accurate account of the books loaned to each pupil by a proper record in the account-book. Sufficient care should be taken in keeping the accounts, both with pupils and with this office, as to secure accuracy.

Principals of High and Grammar Schools will continue the plan of last year in keeping the accounts with their subordinate teachers, taking receipts for books given out, and giving receipts for books returned.

Additional copies of Receipt Book No. 1 and Receipt Book No. 2 will be furnished upon application to the Committee on Supplies.

Writing-books, drawing-books, stationery, and drawing-material will be furnished the same as last year, the principals confining themselves to the amount allowed to their schools respectively, according to the number of their pupils; and the teachers are requested to see that all supplies furnished by the city are economically used.

All orders for books and materials required during the year must be made out from the regular order-books supplied to the schools, before being filled.

☞ Attention is called to the fact that Stowell's "A Healthy Body" is to be used half the year in the fifth class; the same books to be used half the year in the fourth class; and that the copies of Smith's Elementary Physiology and Hygiene now in the second class in the schools are to be used half a year in that class, and the other half year in the third class.

By action of the School Board the first class will omit the study of United States history during the school year beginning Sept. 9, 1891. No text-book in United States history has yet been authorized for the second class, and the use of Higginson's History of the United States will be continued in the third class.

The Committee on Supplies request that careful attention be given to the foregoing instructions.

For the Committee on Supplies,

RUSSELL D. ELLIOTT,

Chairman.

On the following page is a tabulated statement showing the cost of the different materials sent to the various grades of schools. A large portion of the expense for manual training was incurred for models and for fitting up the Manual-training School in South Boston :

During the nine months, supplies have been distributed to the several grades of schools, and expenses incurred directly chargeable to these grades, as follows:

	Books.	Drawing-Material.	Stationery.	Philosophical, Chemical, and Mathematical Apparatus and Supplies.	Fuel, Gas, Water.	Janitors' Supplies.	Other Supplies, Repairs, and Sundries.	Totals.
High Schools	\$7,280 66	\$176 71	\$1,616 07	\$1,287 03	\$6,600 29	\$377 76	\$833 53	\$18,172 05
Grammar Schools	25,589 41	1,552 01	5,154 46	62 40	27,529 58	1,236 05	1,282 53	62,406 44
Primary Schools	4,030 45	33 16	665 26	22 75	18,978 49	940 20	985 11	25,655 42
Horace Mann School	25 79	13 48	12 64	33	403 76	12 73	1,316 34	1,785 07
Manual-training Schools	23 94	24 44	6 33	. . . . .	110 02	12 98	3,115 52	3,263 23
Kindergartens	28 71	. . . . .	24 80	9 63	446 39	63 25	1,411 38	1,984 16
Evening Schools	808 26	. . . . .	427 55	. . . . .	1,832 04	5 75	20 18	3,093 78
Evening Drawing-schools . . . . .	. . . . .	662 52	13 04	. . . . .	392 62	5 24	6 91	1,080 33
School Committee Officers	07 39	67	133 26	. . . . .	372 03	64 59	12	638 06
Totals	\$37,854 61	\$2,462 99	\$8,053 41	\$1,382 14	\$56,665 22	\$2,718 55	\$8,971 62	\$118,108 54

The stock on hand Jan. 1, 1892, was \$791.88 more than was represented in the stock April 1, 1891, which accounts for the difference between the amount of the various articles delivered and the amount purchased.

Amount brought forward from tabulated statement \$118,108 54

Expenditures made for objects not chargeable to any particular school :

Annual festival	\$2,284 05	
Horses and carriages, including repairs and carriage-hire	333 50	
Advertising	220 54	
Expenses, delivering supplies, etc.	4,325 00	
Printing, printing-stock, binding, and postage	4,268 03	
Car and ferry tickets	257 02	
Telephones and District Telegraph	204 75	
Military drill and band	506 80	
Tuning and repairing pianos	990 00	
Diplomas	1,494 45	
Express and carting, including fares	124 93	
Census, including books for same	1,400 00	
Sewing materials	69 05	
Furniture, repairs, paper, twine, etc.	44 57	
Floral tribute to Stillman B. Allen	30 00	
Cricket	67 50	
Removing ashes	291 50	
Report of proceedings of School Board	400 00	
<i>Amounts carried forward,</i>	<u>\$17,311 69</u>	\$118,108 54

<i>Amounts brought forward,</i>	\$17,311 69	\$118,108 54
Travelling expenses of Superintendent	200 00	
Washing towels	28 68	
Extra labor and clerk-hire	371 00	
Rent of hall for exhibition	10 00	
Subscription to "Boston Post,"	6 00	
	<hr/>	17,927 37
		<hr/>
		\$136,035 91
Stock on hand Jan. 1, 1892	\$25,611 87	
Stock on hand April 1, 1891	24,819 99	
	<hr/>	
Stock purchased during the nine months, but not delivered		791 88
		<hr/>
Total amount expended		\$136,827 79
		<hr/> <hr/>

Requisitions of the Committee on Supplies to the Committee on Accounts:

1891.	Fuel, gas, and water.	Incidentals.	Total.
May	\$2,960 45	\$9,524 23	\$12,484 68
June	1,006 41	4,318 42	5,324 83
July	268 87	9,075 94	9,344 81
August	15,659 37	12,498 40	28,157 77
September	31,981 57	18,978 48	50,960 05
October	1,484 92	7,270 62	8,755 54
November	1,603 58	6,876 32	8,479 90
December	656 53	6,252 63	6,909 16
1892.			
January	1,043 52	5,367 53	6,411 05
	<hr/>	<hr/>	<hr/>
Totals	\$56,665 22	\$80,162 57	\$136,827 79
	<hr/> <hr/>	<hr/> <hr/>	<hr/> <hr/>

The total amount expended during the nine months, \$136,827.79, was paid to the following-named parties:

L. G. Burnham & Co.,	\$46,743 70	<i>Am't brought for'd,</i>	\$118,859 53
Carter, Rice & Co. . . .	8,317 18	Efingham Maynard &	
Taintor Bros. & Co. . . .	5,636 10	Co.	536 80
Prang Educational Co.,	5,036 71	United States	530 00
Services in Storeroom . . .	4,325 00	A. R. Dunton	526 45
American Book Co. . . .	4,109 94	Willard Small	466 27
Silver, Burdett & Co. . . .	3,621 03	Henry F. Miller & Sons	
Geo. S. Perry	3,379 12	Piano Co.	453 50
Rockwell & Churchill . . .	3,063 82	Charlestown Gas Co. . .	450 30
Cowperthwait & Co. . . .	3,008 00	Educational Supply Co.,	422 81
City of Boston	2,612 25	Boston Transcript Co. . .	418 26
Houghton, Mifflin &		William Ware & Co. . .	385 38
Co.	2,497 49	Charles F. Shourds &	
Ginn & Co.	2,217 31	Co.	375 57
Overseers of the Poor . . .	2,109 31	Roxbury Gas Light Co.,	375 15
Lee & Shepard	1,875 76	Ivers & Pond Piano Co.,	355 50
Boston Gas Light Co. . . .	1,808 95	Carter, Dinsmore & Co.,	322 01
H. G. Jordan & Co. . . .	1,431 76	Columbia Rubber Works	
John W. Slavin	1,400 00	Co.	294 65
Sarah Fuller	1,303 80	Cutler Bros. & Co. . . .	288 70
Eagle Pencil Co. . . .	1,227 62	Leach, Shewell & San-	
Jos. Dixon Crucible Co.,	1,217 40	born	288 35
D. C. Heath & Co. . . .	1,178 72	East Boston Gas Co. . .	282 16
Boston School Supply		Carl Schoenhof	272 72
Co.	1,128 71	Mass. Char. Mech As'n,	260 00
Thompson, Brown &		South Boston Gas Light	
Co.	1,127 50	Co.	257 55
Perkins Institution	990 00	Henry Holt & Co. . . .	254 80
Chandler & Barber	893 99	Brooks, Baldwin &	
Amer. Bank Note Co. . . .	859 30	Robbins	237 14
F. Weber & Co.	769 10	Norton Bros.	235 00
Frost & Adams	709 06	J. Fred. Sayer, Jr. . . .	233 07
Murphy, Leavens & Co.,	681 68	Thomas H. Meade	220 00
William Read & Sons . . .	650 00	Allyn & Bacon	214 59
William Tufts	646 00	Robert M. Plympton &	
J. L. Hammett	614 75	Co.	211 50
Samuel Hosea, Jr. . . .	577 10	E. P. Seaver	200 00
J. W. C. Gilman & Co.,	552 90	Educational Publishing	
John P. Dale & Co. . . .	538 47	Co.	199 50
<i>Am't carried for'd,</i>	\$118,859 53	<i>Am't carried for'd,</i>	\$128,427 26

<i>Am't brought for'd,</i>	\$128,427 26
Edmunds & Hooper	194 46
Samuel Hobbs & Co.	192 19
N.E. Telephone & Telegraph Co.	185 35
A. P. Gage & Son	184 13
Shepard & Samuel	172 32
Mrs. C. N. S. Horner	170 00
Baldwin's Boston Cadet Band	169 00
J. P. Clark	165 00
James Delay	160 00
J. Newman & Sons	160 00
P. Lynam & Sons	154 02
Hugh Nawn	150 00
Margaret A. Rohan	148 50
Harper & Bros.	136 58
Charles C. Gerry	135 00
DeWolfe, Fiske & Co., University Publishing Co.	130 61
120 40	
Ticknor & Co.	118 75
Emily B. Browne	110 00
Hobart Moore	110 00
West End St. Railway Co.	108 78
Emery & Greenwood	108 00
Greenwood Brothers	107 00
Joseph Watrous	105 00
Johnson & Morrison	104 80
J. G. Roberts & Co.	103 28
John Gormley & Son	100 00
W. A. Twombly	100 00
S. R. Reading & Co.	96 14
Wakefield Rattan Co.	91 95
Amos M. Keirstead	90 00
Jeremiah J. Sullivan	87 50
George G. McLean	87 00
Eberhard Faber	86 10
Brown, Durrell & Co.	83 45
W. J. Stokes	72 00
Amabel G. E. Hope	71 43

Am't carried for'd, \$133,096 00

<i>Am't brought for'd,</i>	\$133,096 00
Thorp & Adams Manufacturing Co.	70 36
Proctor & Drummey	70 12
Jamaica Plain Gas Light Co.	66 69
Lalance & Grosjean Manufacturing Co.	63 68
Wheeler, Blodgett & Co.	63 45
Revere Rubber Co.	63 00
E. A. Power	61 00
Claës J. Enebuske	60 00
Spencerian Pen Co.	60 00
Whitall, Tatum & Co.	59 69
Longmans, Green & Co.,	59 50
Edward E. Babb & Co.,	57 50
T. H. Reynolds & Co.	56 77
Cobb, Bates & Yerxa	56 42
Interstate Publishing Co.	54 37
James J. Sullivan	54 00
Althea W. Somes	52 57
William F. Chester	51 41
Julia M. Murphy	50 20
Charles H. Stephan	50 00
Harriet I. Davis	49 62
J. B. Lippincott & Co.,	49 50
Boston Woven Hose Co.,	48 60
Paul A. Garey & Co.	47 25
Ellen L. Duff	42 17
Mass. Bible Society	40 80
E. P. Jackson	39 85
E. M. Cundall	36 25
Josephine Morris	36 19
Frank A. Burns	36 00
William H. Sylvester	35 75
Steamship "Indian"	35 08
John Boltz	35 00
"Boston Daily Advertiser"	34 13
Boston Ice Co.	32 00

Am't carried for'd, \$134,874 92

<i>Am't brought for'd,</i> \$134,874 92	<i>Am't brought for'd,</i> \$135,600 25
Annie Regan 31 50	R. Beeching & Co. 22 53
Eva Wulf 31 50	Davidson Rubber Co. 21 70
Clara Osborne 31 25	Estes & Lauriat 21 35
Annie Leverone 30 25	C. W. Bardeen 20 00
Roberts Bros. 30 24	Curtis Davis & Co. 20 00
W. B. & J. Foster 29 35	Laura B. White 20 00
Mrs. S. Wetherbee 28 68	Dorchester Gas Light
Traveller Publishing	Co. 19 80
Co. 28 41	Mutual Dist. Mess. Co.,
Boston Herald Co. 28 26	A. G. Cheever & Co. 19 00
Emilie F. Bethmann 28 00	Mary Lavazola 19 00
Oliver Ditson Co. 27 50	Little, Brown & Co. 18 90
Mary T. Hale 27 50	A. W. Moore & Co. 18 50
Lizzie Harrison 27 25	Ceiley & Wright. 18 24
Globe Newspaper Co. 26 76	Journal Newspaper Co.,
Susan Leverone 26 75	Brookline Gas Light Co.,
Wadsworth, Howland	A. S. Barnes & Co. 16 66
& Co. 25 85	M. Lewis Crosby 16 35
Dame, Stoddard & Ken-	Katherine Devine 16 25
dall 25 75	John Gilbert, Jr., & Co.,
Mary L. Lynch 25 25	Mary Fandel 15 75
W. B. Foster 25 14	Thomas Groom & Co.,
Kate W. Cushing 25 00	Mary Backoff 15 25
Esther N. Upham 25 00	Louisa Baumann 15 25
Wayne Whipple 25 00	Annie Fox 15 25
Mary A. H. Fuller 23 69	Charles C. Harvey &
Robert J. Haines 23 00	Co. 15 00
Post Publishing Co. 23 00	Bridget O'Donnell 15 00
Boston "Evening Rec-	William Phillips 15 00
ord" 22 75	Sundry bills less than
Blacker & Shepard 22 70	\$15 746 06
<i>Am't carried for'd,</i> \$135,600 25	Total expenses . <u>\$136,827 79</u>

It is often asked how much the introduction of free books has added to the cost of carrying on the schools. This is difficult to answer.

The cost to the city of books, drawing-materials, and stationery since the operation of the free text-book law averages a much less annual expense than was incurred for these items twelve or fifteen years ago, when there was a

much smaller number of pupils and free text-books were furnished to indigent pupils only, as will be seen by the following statement :

The average number of pupils from 1875 to 1880, a period of five years, was 51,725, and the cost of books, drawing-materials, and stationery, without a free text-book law, averaged annually \$69,646.99.

From 1885 to 1890 the number of pupils averaged 63,266, and the cost of the above-mentioned articles under the operation of the free text-book law averaged annually \$48,328.51, showing that an average of 11,541 more pupils were supplied in each of the years mentioned at a reduction in the cost in favor of free books of \$21,318.48.

This result cannot be attributed to the change in the methods of supplying pupils, but rather to the carrying out of the system adopted, and the care and attention given to the work by the instructors. These have produced the results, and the instructors are entitled to much credit for the zeal manifested in caring for the property of the city.

During the year the Text-book Committee recommended, and the School Board authorized, an unusually large list of additional books and charts for use in the schools. Notwithstanding the fact that this additional expense was not anticipated when the estimates were made, the appropriation requested for supplies was more than sufficient to meet all demands on this department.

For the Committee on Supplies,

RUSSELL D. ELLIOTT,

Chairman.

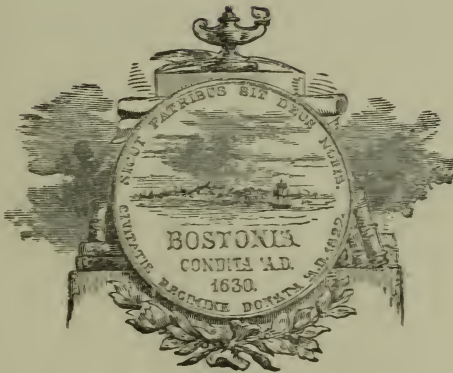
SCHOOL DOCUMENT NO. 4 — 1892.

EXPENDITURES FOR THE PUBLIC SCHOOLS.

REPORT

OF

COMMITTEE ON ACCOUNTS.



BOSTON :
ROCKWELL AND CHURCHILL, CITY PRINTERS.
1892.

IN SCHOOL COMMITTEE,

BOSTON, March 8, 1892.

Ordered, That the Committee on Accounts be authorized to report in print, and that seven hundred and fifty copies of the report be printed.

Attest :

PHINEAS BATES,

Secretary.

TWENTY-FOURTH ANNUAL REPORT.

COMMITTEE ON ACCOUNTS.

BOSTON, March 1, 1892.

To the School Committee:

The Committee on Accounts present to the Board the expenditures of the public schools from May 1, 1891, to January 31, 1892, a period of nine months, which covers the financial year of 1891-2 as fixed by the City Council.

As this report, therefore, is for only a portion of a year of twelve months, the usual comparisons with the expenses of previous years are not given.

In former reports (which were not presented until June) the average number of pupils attending the public schools was taken from the Superintendent's annual report. As this year's report has not yet been presented, no statement of the number of pupils belonging to the various grades of schools that would compare with that of previous years can be given.

On May 12, 1891, the following order was passed by the School Committee:

Ordered, That the Superintendent of Public Buildings of the city of Boston, acting under the direction of the Committee on School-Houses of the School Committee, be authorized to make the necessary repairs upon school buildings and furniture, purchase the furniture needed, employ whatever assistance may be necessary, and perform such duties as are required to keep the school property in a satisfactory condition, for

the present financial year, to an amount not exceeding in aggregate two hundred thousand dollars (\$200,000).

Ordered, That the bills and rolls representing the expenditures incurred in carrying out the provisions of the foregoing order, after having been approved by the Committee on School-Houses of the School Committee, be presented to the Committee on Accounts on or before the fifteenth day of each month, accompanied by a tabulation of said bills and rolls.

In addition to the above amount, an appropriation of \$5,000 was granted under date of December 8, 1891, for school-house repairs. All of the running expenses of the schools during the year, except \$465 expended for flag-staffs in Brighton by vote of the City Council, have been approved by this committee; heretofore the bills for furniture and repairs on school-houses were sent directly to the City Auditor without such approval.

Under dates of January 27 and February 10, 1891, this committee presented to the Board the estimated amount required for carrying on the schools exclusive of new school-houses. The estimates submitted, approved by the School Committee and forwarded to His Honor the Mayor, for ordinary expenses, were as follows:

Salaries of instructors	\$1,398,400
Salaries of officers	60,900
Salaries of janitors	106,600
Fuel, gas, and water	79,200
Supplies and incidentals	99,500
Furniture, repairs, etc.	260,600
Total ordinary expenses	<u>\$2,005,200</u>

The City Council granted the School Committee, for expenses of the public schools for the nine months ending January 31, 1892, the sum of \$1,500,000. The City Auditor added \$838.18 received from the State of Massachusetts on account of travelling expenses of pupils in the Horace Mann School, making the total available amount \$1,500,838.18.

The ordinary expenses the past nine months were as follows :

School Committee.

Salaries of instructors	\$1,034,210	26
Salaries of officers	45,638	33
Salaries of janitors	78,652	64
Fuel, gas, and water	56,665	22
Supplies and Incidentals :		
Books	\$37,965	01
Printing	3,735	77
Stationery and drawing materials	12,343	26
Miscellaneous items	26,118	53
		80,162 57
School-house repairs, etc.		204,879 27
Expended from the appropriation	\$1,500,208	29
Expended from income of Gibson Fund		652 32
¹ Total expenditure	\$1,500,860	61
Total income		31,352 81
Net expenditure, School Committee	\$1,469,507	80

Your committee in preparing the estimates stated that the probable income would be as follows :

Non-residents, State and City	\$13,500
Trust-funds and other sources	24,500
Total estimated income	\$38,000

¹ The City Council voted to place flag-staffs on the school-houses in Brighton. The City Auditor charged the expense (\$465) to the running expenses of the schools, thus increasing this charge to \$1,501,325.61

The estimated income was for the year of twelve months. The income collected during the nine months, or the financial year, was as follows :

Non-residents, State and City	\$8,516 02
Trust-funds and other sources	21,295 85
Sale of books	107 26
State of Massachusetts, travel- ling expenses pupils Horace Mann School	838 18
Rents, etc. school-houses	595 50
	<hr/>
Total income	<u>\$31,352 81</u>

The gross expenditures for the past nine months, compared with those for the corresponding time last year, show an increase as follows :

Salaries of instructors, increased	\$25,988 63
Salaries of officers, increased	736 00
Salaries of janitors, increased	1,750 44
Fuel, gas, and water, increased	312 83
Supplies and incidental expenses, increased	9,403 37
	<hr/>
	\$38,191 27
School-houses, repairs, alterations, etc., decreased	23,103 22
	<hr/>
Increase for nine months	<u>\$15,088 05</u>

Of the \$25,988.63 increase in salaries of instructors, nearly thirty-three per cent. was for services in our High Schools, and a large portion of the balance was occasioned by the appointment of additional teachers for Kindergartens and Manual Training Schools lately established.

During the nine months, \$45,331.21 were paid for instruction by special teachers, as follows :

Sewing, 30 teachers, 258 divisions	\$13,283 17
Music, 5 instructors	9,900 00
Drawing: director	2,250 00
assistant	300 00
Modern languages: director	2,250 00
two assistants	2,250 00
	<hr/>
<i>Carried forward,</i>	\$30,233 17

<i>Brought forward,</i>	\$30,233 17
Physical training: director	2,250 00
assistant	1,260 00
Manual training: 4 teachers of carpentry	1,986 62
7 teachers in schools of cookery	3,098 42
Military drill: 1 instructor and armorer	2,100 00
Kindergarten methods, instructor	810 00
Illustrative drawing, instructor	450 00
Calisthenics and elocution, 2 instructors	1,125 00
Chemistry: 1 instructor	1,215 00
assistant	603 00
Service on Spectacle Island	200 00
	<hr/>
Total for special instructors	\$45,331 21

The number of temporary teachers employed was 84, of whom 8 were for service in the High Schools, 42 in the Grammar Schools, and 34 in the Primary Schools.

The number of special assistants employed in the lowest classes of the Primary Schools was 45.

The following shows the total net cost of carrying on each grade of schools for the past nine months. It includes not only the expenses directly chargeable to each grade, which expenses are given later in this report, but, in addition, the *pro rata* share of the general expenses and income. It comprises all of the ordinary expenses of the schools, including furniture, repairs, etc.

NORMAL, LATIN, AND HIGH SCHOOLS.

Salaries of instructors	\$165,276 64
Salaries of janitors	8,988 20
Books, drawing materials, and stationery	9,073 44
Other supplies and miscellaneous items	2,498 32
Fuel, gas, and water	6,600 29
Furniture, repairs, etc.	15,347 46
Proportion of general expenses	13,911 77
	<hr/>
Total cost	\$221,696 12
Income from sale of books	\$40 48
Income from non-resident tuition	4,180 34
Proportion of general income	3,162 90
	<hr/>
	7,383 72
Net cost	\$214,312 40

GRAMMAR SCHOOLS.

Salaries of instructors		\$531,566 59
Salaries of janitors		37,671 50
Books, drawing materials, and stationery		32,295 88
Other supplies and miscellaneous items		2,580 98
Fuel, gas, and water		27,529 58
Furniture, repairs, etc.		95,728 84
Proportion of general expenses		48,699 78
Total cost		<u>\$776,073 15</u>
Income from sale of books	\$37 84	
Income from non-resident tuition	149 17	
Proportion of general income	11,072 12	
		<u>11,259 13</u>
Net cost		<u><u>\$764,814 02</u></u>

PRIMARY SCHOOLS.

Salaries of instructors		\$251,667 95
Salaries of janitors		29,302 67
Books, drawing materials, and stationery		4,728 87
Other supplies and miscellaneous items		1,948 06
Fuel, gas, and water		18,978 49
Furniture, repairs, etc.		70,962 86
Proportion of general expenses		25,280 69
Total cost		<u>\$402,869 59</u>
Income from sale of books	\$25 49	
Proportion of general income	5,747 68	
		<u>5,773 17</u>
Net cost		<u><u>\$397,096 42</u></u>

HORACE MANN SCHOOL.

Salaries of instructors		\$8,016 00
Salaries of janitors		614 67
Books, drawing materials, and stationery		51 91
Other supplies, car-fares, and miscellaneous items		1,329 40
Fuel, gas, and water		403 76
Furniture, repairs, etc.		430 54
Proportion of general expenses		726 19
Total cost		<u>\$11,572 47</u>
Carried forward,		<u>\$11,572 47</u>

<i>Brought forward,</i>		\$11,572 47
Income from the State for tuition and travel-		
ling expenses of pupils	\$5,002 74	
Proportion of general income	165 10	
		<hr/> 5,167 84
Net cost		<hr/> <u>\$6,404 63</u>

KINDERGARTENS.

Salaries of instructors		\$26,914 54
Salaries of janitors		690 50
Books, drawing materials, and stationery		53 51
Kindergarten supplies		554 37
Pianos and stools		353 00
Other supplies and miscellaneous items		576 89
Fuel, gas, and water		446 39
Furniture, repairs, etc.		5,378 93
Proportion of general expenses		2,341 22
Total cost		<hr/> \$37,309 35
Proportion of general income		532 29
Net cost		<hr/> <u>\$36,777 06</u>

EVENING HIGH AND ELEMENTARY SCHOOLS.

Salaries of instructors		\$23,635 50
Salaries of janitors		1,253 10
Books, drawing materials, and stationery		1,235 81
Other supplies and miscellaneous items		25 93
Fuel, gas, and water		1,832 04
Furniture, repairs, etc.		1,087 06
Proportion of general expenses		1,946 28
Total cost		<hr/> \$31,015 72
Income from sale of books	\$3 45	
Proportion of general income	442 50	
		<hr/> 445 95
Net cost		<hr/> <u>\$30,569 77</u>

EVENING DRAWING SCHOOLS.

Salaries of instructors		\$3,988 00
Salaries of janitors		132 00
Drawing materials and stationery		675 56
Other supplies and miscellaneous items		12 15
Fuel, gas, and water		392 62
Furniture, repairs, etc.		2,449 18
Proportion of general expenses		512 16
		<hr/>
Total cost		\$8,161 67
Income from non-resident tuition	\$21 95	
Proportion of general income	116 44	
		<hr/>
		138 39
		<hr/>
Net cost		<u>\$8,023 28</u>

MANUAL TRAINING SCHOOLS.

Salaries of instructors		\$5,085 04
Books, drawing materials, and stationery		54 71
Lumber and hardware		1,050 15
Crockery, groceries, and kitchen materials		443 96
Other supplies, models, and miscellaneous items		1,634 39
Fuel, gas, and water		110 02
Furniture, repairs, etc.		2,340 07
		<hr/>
Total cost		<u>\$10,718 34</u>

The pupils attending the Manual Training Schools come from the Grammar Schools throughout the city.

Since September, 1888, when the School Board introduced Kindergartens as a part of the school system, there have been thirty-six Kindergartens established, requiring, at the present time, a force of seventy instructors. Additional Kindergartens are being established in localities where they are most needed, as rapidly as the appropriations will permit. It will require at least an average of one Kindergarten in each Grammar School District to afford reasonable ac-

commodations for all who wish to take advantage of this system of instruction. The salaries paid instructors of Kindergartens for the nine months amounted to \$26,914.54, an increase of \$4,979.97 compared with the salaries paid during the corresponding time of the preceding year.

The Evening High School with its two branches, and sixteen Evening Elementary Schools, were opened September 28. The salaries paid instructors in these schools, from the opening until December 20, amounted to \$23,635.50.

Five Evening Drawing Schools were opened at the time fixed by the rules, October 19. During the year the salaries of instructors in these schools were classified to correspond somewhat with the system adopted in the day schools.

The salaries paid for carrying on these schools until December 20 amounted to \$3,988.

Five hundred sets of drawing instruments have been imported and furnished to these schools during the past two years at an expense of \$1,000.

The salaries paid to janitors for nine months amounted to \$78,652.64, an increase, compared with the corresponding time last year, of \$1,750.44.

The care of the heating and ventilating apparatus now being placed in the new school-houses requires more ability and labor than the care of the apparatus in the older buildings, consequently the salaries of the janitors of the school-houses lately erected are much higher in proportion to the number of pupils accommodated than in the less modern buildings.

The new Roxbury High School-house, lately completed, requires a force of three men to do the work, at an expenditure of \$2,208 per annum, nearly four times the amount paid for the care of the building vacated.

On pages 22, 23, 24, and 25 of this report is tabulated a list of buildings in which the several salaries paid for services of janitors amounting to \$300 or more per annum are given.

During the past nine months the Committee on Supplies presented for approval bills to the amount of \$136,827.79, which represent the total expenditure of the School Committee outside of salaries and repairs. The income amounted to \$945.44, which deducted from the gross expenditure leaves the sum of \$135,882.35 as the net amount expended under their direction. These expenses come under the head of "Fuel, Gas, and Water," and "Supplies and Incidentals."

The information regarding the cost and methods of supplying the schools is given in the report of the Committee on Supplies lately presented.

Non-resident pupils who attend our schools, and who are not excused from the payment of tuition, are obliged to pay the average cost of tuition for the grade of school attended.

The sum collected, which included only one-half of the year's tuition, amounted to \$4,351.46.

The amount collected from the State of Massachusetts for one-half of the year's tuition of pupils attending the Horace Mann School was \$4,164.56; making a total of \$8,516.02 received for tuition for the nine months ending January 31, 1892.

The School Board received the following communication and referred it to this committee, under date of Sept. 8, 1891:

CITY OF BOSTON,
TREASURER'S OFFICE, BOSTON, Sept. 8, 1891.

To the Honorable School Committee of the City of Boston:

GENTLEMEN: With the school year and vacations as now established for the schools, which are likely to be continued, I beg leave to suggest that a change be made in the manner of making up the pay-

roll of instructors and employees of the School Department, by paying them their annual salaries in ten instalments instead of twelve, beginning with the pay-rolls due on the first of October next and terminating with those payable July first of each year.

It will, in my opinion, be a better system than the present one, and give better satisfaction to those employed, and at the same time facilitate the business of the Treasury Department and equalize the distribution of money.

Yours most respectfully,

ALFRED T. TURNER,

City Treasurer.

At a meeting of this committee, held Sept. 21, 1891, the communication was carefully considered.

The City Treasurer was present and stated that the reason for suggesting a change was the fact that the June payment, which includes the salaries for June and July, has increased from \$74,000 in 1860, to \$224,000 in 1891; the disbursement of so large an amount of money involves upon him a great deal of responsibility.

In no other city are the teachers paid at the school-houses, and in two of the largest cities in the Commonwealth payments are made in ten instalments.

After receiving this information, and ascertaining that legal objections existed to making the proposed change at that time, it was voted to report to the Board that the subject be referred to the Committee on Accounts of 1892.

Early in the present year the subject was again considered, and although it was thought that the plan proposed might prove more equitable as regards payments for services actually rendered, yet it was found upon inquiry that the great body of instructors were opposed to the change, and your committee were unwilling to recommend it in opposition to their wishes, as they were the ones most interested, and the committee so reported to the Board. The report was accepted, and no action taken.

The total expenditure for the public schools, including new school-houses, for the financial year 1891-2 (nine months) was as follows :

School Committee	\$1,295,981 34
School Committee, repairs, etc.	204,879 27
City Council, flag-staffs	465 00
Public Buildings and City Architect Departments :	
New School-houses (special)	527,429 10
	<hr/>
Total gross expenditure	\$2,028,754 71

Income for the nine months was as follows :

School Committee	\$31,352 81
Sale of old school buildings and sites	104,500 00
	<hr/>
	135,852 81
	<hr/>
Total net expenditure	<u>\$1,892,901 90</u>

Your committee have added to this report the estimates for the financial year 1892-3, as prepared, approved, and presented to His Honor the Mayor, under date of Dec. 8, 1891. The amount asked for, for ordinary expenses, was as follows :

Salaries of instructors	\$1,435,267 00
Salaries of officers	60,840 00
Salaries of janitors	108,700 00
Fuel, gas, and water	77,700 00
Supplies and incidentals	104,900 00
School-houses — Repairs, etc.	261,000 00
	<hr/>
Total ordinary expenses	<u>\$2,048,407 00</u>

In addition there were required for extraordinary repairs, relating to ventilation and other sanitary improvements of school-houses, the sum of \$70,000 ; making the total amount estimated for the year 1892-3, \$2,118,407.

The City Council granted the School Committee, for expenses of the public schools, \$2,000,000. This amount will not permit any expense to be incurred for improving the defective ventilation of any of our school buildings, and reduces the amount asked for the running expenses of the schools \$48,407.

As about eighty per cent. of the amount asked for was for salaries, and as it is not probable that salaries will be reduced, the amount cut off must be saved from Fuel, Gas, and Water, Supplies, and Repairs.

It is impossible to carry on our schools without fuel, gas, and water. Something may be saved on the price, but the quantity cannot be materially reduced. The reduction must come principally from "supplies" and "repairs," and it will be a difficult matter to curtail these estimates thirteen per cent. without practising more economy than the good of the schools warrants.

In closing this report your committee cannot refrain from stating that whatever success has been attained during the past year in the work of this department, is largely due to the zeal and interest manifested by Dr. Packard, the chairman, and Messrs. Allen and Winship, members of this committee for the year 1891. The retirement of these gentlemen was, in the opinion of their associates, an event much to be regretted. No matter how much time was required, it was freely given, and the work, however laborious, was cheerfully performed by the members of this committee for 1891 who retired last January.

For the Committee on Accounts,

BENJAMIN B. WHITTEMORE,

Chairman.

CALENDAR FOR FINANCIAL YEAR 1892-93.

FEBRUARY.							JUNE.							OCTOBER.						
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
..	1	2	3	4	5	6	..	..	..	1	2	3	4	..	..	..	..	..	..	1
7	8	9	10	11	12	13	5	6	7	8	9	10	11	2	3	4	5	6	7	8
14	15	16	17	18	19	20	12	13	14	15	16	17	18	9	10	11	12	13	14	15
21	22	23	24	25	26	27	19	20	21	22	23	24	25	16	17	18	19	20	21	22
28	29	..	..	..	..	..	26	27	28	29	30	..	..	23	24	25	26	27	28	29
..	..	..	..	..	..	..	..	..	..	..	..	..	..	30	31	..	..	..	..	..
MARCH.							JULY.							NOVEMBER.						
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
..	..	1	2	3	4	5	..	..	..	..	..	1	2	..	..	1	2	3	4	5
6	7	8	9	10	11	12	3	4	5	6	7	8	9	6	7	8	9	10	11	12
13	14	15	16	17	18	19	10	11	12	13	14	15	16	13	14	15	16	17	18	19
20	21	22	23	24	25	26	17	18	19	20	21	22	23	20	21	22	23	24	25	26
27	28	29	30	31	..	..	24	25	26	27	28	29	30	27	28	29	30	..	..	..
..	..	..	..	..	..	..	31	..	..	..	..	..	..	..	..	..	..	..	..	..
APRIL.							AUGUST.							DECEMBER.						
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
..	..	..	..	..	1	2	..	1	2	3	4	5	6	..	..	..	..	1	2	3
3	4	5	6	7	8	9	7	8	9	10	11	12	13	4	5	6	7	8	9	10
10	11	12	13	14	15	16	14	15	16	17	18	19	20	11	12	13	14	15	16	17
17	18	19	20	21	22	23	21	22	23	24	25	26	27	18	19	20	21	22	23	24
24	25	26	27	28	29	30	28	29	30	31	..	..	..	25	26	27	28	29	30	31
..
MAY.							SEPTEMBER.							JANUARY.						
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7	..	..	..	..	1	2	3	1	2	3	4	5	6	7
8	9	10	11	12	13	14	4	5	6	7	8	9	10	8	9	10	11	12	13	14
15	16	17	18	19	20	21	11	12	13	14	15	16	17	15	16	17	18	19	20	21
22	23	24	25	26	27	28	18	19	20	21	22	23	24	22	23	24	25	26	27	28
29	30	31	..	..	..	..	25	26	27	28	29	30	..	29	30	31	..	..	..	..
..

Figures in black indicate days on which schools are in session; in red, days on which they are closed.

Besides these, Thanksgiving and the Friday following, and Fast Day, are holidays.

The regular meetings of the School Committee are on the evenings of the second and fourth Tuesdays in each month, except July and August.

PAY-DAYS FOR THE TEACHERS OF THE PUBLIC SCHOOLS
BY THE CITY TREASURER.

Payments are made at the school-houses on the following *working-days* of the schools each month, according to the time the rolls are received by the Treasurer :

Last or first Monday : Bowdoin, Phillips, and Wells.

Last or first Tuesday : Dorchester High, Eliot, Hancock, Harris, Minot, and Stoughton.

Last or first Wednesday : East Boston High, Adams, Chapman, Emerson, and Lyman.

Last or first Thursday : Normal, Latin, English High, Brimmer, Edward Everett, Gibson, Henry L. Pierce, Hugh O'Brien, Mather, Prince, Rice, Tileston, Winthrop, and Horace Mann.

Last or first Friday : Girls' Latin, Charlestown High, Girls' High, Bigelow, Bunker Hill, Dwight, Everett, Franklin, Frothingham, Gaston, Harvard, John A. Andrew, Lawrence, Lincoln, Norcross, Prescott, Quiney, Shurtleff, Thomas N. Hart, and Warren.

First Thursday after the 27th : Roxbury High, Dearborn, Dillaway, Dudley, Hyde, and Sherwin.

Last Tuesday after the 27th : Charles Sumner, Mt. Vernon.

First Wednesday after the 27th : Brighton High, Allston, Bennett.

First Monday after the 27th : Comins, Lowell, and Martin.

First Friday after the 27th : West Roxbury High, Agassiz, Bowditch, George Putnam, and Lewis.

The schools in East Boston, Charlestown, North and West Ends are paid by Mr. Gibson; the remainder of the schools in the city proper by Mr. Carty; those in Roxbury, West Roxbury, and Brighton by Mr. Gibbons; and those in South Boston and Dorchester and the Hugh O'Brien District of Roxbury, by Mr. Vaughn.

Janitors are paid on the same days as the teachers.

If for any reason the schools should be closed on the above-named days, the teachers will be paid as soon after as possible.

Teachers not paid on the regular days will be paid at the Treasurer's office, between 9 A.M. and 2 P.M., any day after the paymaster has visited the school.

Teachers should collect their salaries in person, except in cases of sickness, when orders addressed to the City Treasurer will be received.

Evening School teachers and Special Instructors will be paid on the last secular day but one of each month, between 9 A.M. and 2 P.M., at the City Treasurer's office, City Hall.

SCHOOL EXPENSES.

ANNUAL EXPENDITURES for the Public Schools of Boston for the last thirty financial years, ending 30th April in each year; also the average number of scholars. Annexations occurred as follows: Roxbury, Jan. 6, 1808; Dorchester, Jan. 3, 1870; Charleston, Brighton, and West Roxbury, Jan. 5, 1874.

FINANCIAL YEAR.	No. of Day Scholars Belonging	No. of Evening Scholars Belonging	Total No. of Scholars Belonging	Salaries of Teachers and Officers, School Committee.	Incidental Expenses.	Total for Running Expenses.	Ordinary Revenue.	Net Running Expenses.	Net Rate per Scholar.	Cost of new School-houses.	Total Expenditures.
1802-03	27,651	..	27,651	\$319,069 22	\$113,847 17	\$432,013 29	\$6,885 50	\$426,027 89	\$15 75	\$101,953 02	\$534,867 01
1803-04	26,001	..	26,001	332,710 06	132,701 75	465,472 41	7,185 78	458,286 63	17 00	6,870 87	471,343 28
1804-05	27,005	..	27,005	380,833 06	172,331 78	553,164 84	7,927 56	545,237 28	20 12	90,069 84	643,774 08
1805-06	27,204	..	27,204	412,550 82	163,270 76	575,821 58	8,574 22	567,247 36	20 85	200,553 04	767,375 22
1806-07	28,002	..	28,002	505,590 06	176,108 85	679,505 51	6,858 93	673,846 58	24 06	101,375 09	781,280 00
1807-08	27,982	..	27,982	501,169 08	211,536 43	772,706 41	10,467 05	762,239 36	27 24	181,790 80	901,497 21
1808-09	33,994	..	33,994	738,198 37	244,478 63	982,677 00	8,876 68	973,800 32	28 64	346,610 78	1,329,287 78
1809-70	35,442	..	35,442	739,345 05	248,006 95	987,412 00	14,601 16	972,751 44	27 45	612,337 86	1,599,750 40
1870-71	36,758	..	36,758	868,306 77	293,232 59	1,131,579 35	23,806 25	1,107,763 01	30 14	443,679 71	1,575,279 07
1871-72	36,650	5,128	41,778	886,940 47	320,039 18	1,210,579 65	26,899 98	1,189,679 67	28 47	97,800 68	1,314,380 33
1872-73	35,924	2,121	37,745	953,502 00	338,970 85	1,292,472 91	28,113 93	1,264,358 98	33 50	454,230 31	1,740,793 25
1873-74	41,544	1,714	43,258	1,041,375 52	377,081 52	1,419,057 04	28,848 73	1,390,208 31	32 14	440,693 25	1,865,720 29
1874-75	44,942	1,522	46,464	1,249,498 63	474,874 68	1,724,373 61	26,220 82	1,698,152 79	36 54	356,669 74	2,081,043 35
1875-76	3,393	49,317	50,810	1,206,803 59	470,830 68	1,737,634 27	20,635 72	1,716,998 55	34 82	277,746 57	2,015,380 84
1876-77	46,681	3,727	50,308	1,208,004 23	422,472 22	1,691,976 45	21,999 03	1,690,977 42	33 18	125,530 04	1,816,015 49
1877-78	47,075	4,084	51,759	1,215,782 03	366,334 06	1,582,116 09	30,109 31	1,552,006 78	29 99	174,324 75	1,766,440 84
1878-79	49,700	3,662	53,292	1,172,489 09	347,173 23	1,519,662 92	32,145 54	1,487,517 38	27 93	240,222 98	1,769,885 60
1879-80	50,851	3,130	53,981	1,102,238 01	353,108 23	1,515,366 84	49,069 28	1,466,276 56	27 16	136,878 45	1,632,245 20
1880-81	51,542	3,170	54,712	1,165,462 69	394,274 82	1,559,077 51	47,076 08	1,511,991 43	27 15	139,359 04	1,775,037 15
1881-82	52,011	3,027	55,038	1,165,429 71	405,349 36	1,570,979 07	69,591 58	1,501,387 49	26 98	131,129 88	1,716,105 95
1882-83	54,590	2,964	57,554	1,180,163 73	422,908 73	1,603,162 49	73,599 66	1,529,562 83	26 58	77,928 73	1,680,791 22
1883-84	55,040	3,148	58,788	1,206,803 23	433,023 33	1,639,706 56	79,304 06	1,560,341 90	26 54	268,870 72	1,908,680 28
1884-85	55,888	3,818	59,706	1,250,771 71	474,081 43	1,705,453 14	39,574 76	1,665,878 38	27 90	278,114 05	1,983,697 19
1885-86	57,190	4,079	61,259	1,251,403 29	422,269 51	1,673,672 83	31,356 84	1,642,316 99	26 81	362,790 15	2,066,168 98
1886-87	58,290	3,993	62,269	1,259,545 91	390,830 09	1,650,376 00	33,084 20	1,622,691 80	26 00	125,087 45	1,782,063 45
1887-88	58,310	3,916	62,226	1,296,192 42	483,408 46	1,779,600 88	37,313 81	1,742,287 07	28 00	127,875 99	1,907,539 78
1888-89	60,224	4,360	64,584	1,332,505 17	510,170 08	1,848,685 25	39,738 62	1,808,946 73	28 01	121,328 95	1,970,014 20
1889-90	60,478	5,625	66,003	1,390,808 87	525,267 09	1,916,755 96	40,762 50	1,875,973 46	28 42	340,602 82	2,296,338 78
1890-01	61,019	0,003	61,022	1,424,988 20	524,232 24	1,949,220 44	41,417 09	1,907,803 38	28 47	172,523 90	2,121,744 34
For the nine months ending January 31, 1892	..	..	..	1,079,848 69	421,477 02	1,501,325 01	31,352 81	1,469,972 80	..	527,429 10	2,028,734 71

(From report of JAMES H. DODGE, Esq., City Auditor.)

SALARIES OF OFFICERS AND TEACHERS OF THE PUBLIC
SCHOOLS, 1892-93.

Superintendent	\$1,200 00
Supervisors (each)	3,780 00
Secretary	2,880 00
Auditing Clerk	2,880 00

Normal School.

Head-Master	\$3,780 00
Sub-Master, first year, \$2,196; annual increase, \$60; maximum	2,496 00
First Assistant, first year, \$1,440; annual increase, \$36; maximum	1,620 00
Second Assistants, first year, \$1,140; annual increase, \$48; maximum	1,380 00

FIRST GRADE.

High Schools.

Head-Masters	\$3,780 00
Masters	2,880 00
Junior-Masters, first year, \$1,008; annual increase, \$144; maximum (with rank of master)	2,880 00

SECOND GRADE.

Grammar Schools.

Masters, first year, \$2,580; annual increase, \$60; maxi- mum	\$2,880 00
Sub-Masters, first year, \$1,500; annual increase, \$60; maximum	2,280 00

THIRD GRADE.

High Schools.

Assistant Principal	\$1,800 00
¹ First Assistants	1,620 00
Assistants, first year, \$756; annual increase, \$48; maxi- mum	1,380 00

¹ It has been voted to abolish this grade when the two present incumbents retire from service.

FOURTH GRADE.

Grammar and Primary Schools.

First Assistants, first year, \$900; annual increase, \$36; maximum	\$1,080 00
Second Assistants, first year, \$756; annual increase, \$12; maximum	816 00
Third Assistants, first year, \$456; annual increase, \$48; maximum	744 00
Fourth Assistants, first year, \$456; annual increase, \$48; maximum	744 00

SPECIAL GRADE.

Kindergartens—Principals, first year, \$600; annual in- crease, \$36; maximum	\$708 00
Kindergartens—Assistants, first year, \$432; annual in- crease, \$36; maximum	540 00
Special Instructors of Music (each)	2,640 00
Director of Drawing	3,000 00
Assistant Director of Drawing	1,800 00
Teacher of Chemistry, Girls' High School	1,620 00
Assistant in Chemistry, Girls' High School	804 00
Teacher of Physical Culture, Girls' High School	1,008 00
Teacher of Physical Culture, Girls' Latin School	492 00
Teacher of Kindergarten Methods, Normal School	1,080 00
Director of French and German	3,000 00
Assistants in French and German (each)	1,500 00
Special assistant in German, Brighton High School, per week of actual service of three hours	4 00
Director of Physical Training	3,000 00
Assistant Instructor of Physical Training	2,000 00
Principal, Horace Mann School for the Deaf	2,508 00
First Assistant, " " "	900 00
Assistants, first year, \$700; second year and subsequently, Instructors in Manual Training Schools (each)	800 00 1,200 00
Instructor in Manual Training School, South Boston	1,620 00
Assistant Instructors in Manual Training Schools (each)	800 00
Instructors in Schools of Cookery, first year, \$456; annual increase, \$48; maximum	744 00
Instructor Military Drill	2,000 00
Armorer	800 00
Instructor in School on Spectacle Island (including all ex- penses for school, except for books)	400 00

Teachers of Sewing:

One division, two hours per week	\$108 00
Two divisions, four hours per week	192 00
Three " six " " "	276 00
Four " eight " " "	348 00
Five " ten " " "	420 00
Six " twelve " " "	492 00
Seven " fourteen hours per week	540 00
Eight " sixteen " " "	588 00
Nine " eighteen " " "	636 00
Ten " twenty " " "	684 00
Eleven " twenty-two " " "	732 00
Twelve " twenty-four " " "	744 00
Principal, Evening High School (per week), first year, \$30; second year, \$40; third year and subsequently	50 00
Assistants, Evening High School (per evening)	4 00
Principals, Evening Elementary Schools (per evening), 100 pupils or more	5 00
Principals, Evening Elementary Schools (per evening), less than 100 pupils	4 00
First Assistants, Evening Schools (per evening), 75 pupils or more	2 50
First Assistants, Evening Schools (per evening), less than 75 pupils	1 50
Assistants, Evening Schools (per evening)	1 50
¹ Masters, Evening Drawing Schools (per evening)	10 00
Principals, Evening Drawing Schools (per evening), first year, \$7.00; second year and subsequently	8 00
Assistants, Evening Drawing Schools (per evening), first year, \$4.00; second year, \$5.00; third year and subse- quently	6 00
Special Assistant Teachers, Primary Schools and Kindergar- tens (per week)	5 00

Masters elected as Principals of High Schools, whose average whole number for the preceding school year exceeds one hundred pupils, receive \$288; Sub-Masters elected as Principals, \$216, — each, in addition to the regular salary of the rank.

¹ The rank of Master in Evening Drawing Schools shall be abolished as the position becomes vacant by the retirement of the present incumbents.

Temporary Junior-Masters receive \$5 per day of actual service.

Other temporary teachers receive one-quarter of one per cent. of the maximum salary of the grade per day of actual service.

SALARIES OF JANITORS.

January 1, 1892.

HIGH SCHOOLS.

The salaries paid janitors per annum for taking care of the various High School buildings are as follows:

Latin and English High School:

Engineer	\$2,100 00	
Janitor of Latin School	1,900 00	
Janitor of English High School	1,920 00	
	<hr/>	\$5,920 00

Girls' High School:

Janitor	\$1,620 00	
Assistant janitor	720 00	
	<hr/>	2,340 00
Dorchester High School	780 00	
Charlestown " "	768 00	
Roxbury " "	2,208 00	
East Boston " "	672 00	
Brighton " "	444 00	
West Roxbury " "	432 00	
	<hr/>	
Total for High Schools	\$12,864 00	

KINDERGARTENS.

Walpole Street (per annum)	\$276 00
Hudson Street	216 00
Cottage Place	156 00
North Margin Street	144 00
North Bennet Street	120 00
Prince	120 00
Field's Corner	72 00
	<hr/>
Total	<u>\$1,104 00</u>

Rooms of the School Committee :

Janitor	\$1,500 00
Assistant janitor	696 00
	<hr/>
Total	<u>\$2,196 00</u>

SPECIAL SCHOOLS.

The salaries paid janitors for taking care of the rooms occupied for Evening Schools are based upon the number of rooms occupied, \$12 per month being allowed for the first room and, as a rule, \$2 for each additional room while the schools are in session. The janitor of the Evening High School receives \$50 per month while the school is in session, and \$100 additional for the term for the services of a door-keeper.

The salaries paid the past nine months for the Special Schools were as follows :

Horace Mann School	\$614 67
Evening Schools	1,253 10
Evening Drawing Schools	132 00
	<hr/>
Total for Special Schools	<u>\$1,999 77</u>

GRAMMAR SCHOOLS.

The salaries paid janitors per annum for taking care of the various Grammar School buildings at the present time are as follows :

Hugh O'Brien	\$1,404	Lewis	\$876
Bennett and Branch	1,200	Lincoln	876
Martin	1,200	Comins	864
Rice	1,200	Phillips	852
Hyde	1,176	Eliot	840
John A. Andrew	1,140	Ware (Branch of Eliot)	360
Emerson	1,116	Bigelow	828
Sherwin	1,116	Brimmer	816
Lowell	1,104	George Putnam	792
Dudley	1,080	Quincy	792
Gaston	1,080	Charles Sumner	780
Thomas N. Hart	1,080	Allston	756
Shurtleff	1,068	Edward Everett	756
Lyman	1,044	Prescott	744
Harvard	1,020	Wells	744
Frothingham	1,008	Winthrop	732
Lawrence	984	Mather	708
Dearborn	960	Minot	696
Prince	960	Harris	672
Dillaway	948	Bowdoin	600
Chapman	912	Gibson	600
Hancock	912	Bowditch and Branch	564
Adams	900	Stoughton	504
Warren	900	Henry L. Pierce	492
Norcross	888	Tileston	480
Bunker Hill	876	Agassiz	396
Dwight	876	Mount Vernon	348
Everett	876		
Franklin	876		
Total for Grammar Schools			<u>\$48,372</u>

PRIMARY SCHOOLS.

The salaries, amounting to three hundred dollars and over per annum, paid janitors for taking care of the various Primary School buildings, are as follows :

Winchell	\$864	Sharp	\$444
Cushman	840	Bunker Hill	432
Yeoman-st.	744	Florence-st.	432
Appleton-st.	720	Drake	420
Joshua Bates	720	Webster-pl.	420
Lucretia Crocker	720	Winship-pl.	420
Cyrus Alger	672	Bailey-st.	408
Howe	672	George-st.	408
Ticknor	672	North Harvard-st.	384
Quincy-st. (Rox.)	648	Walnut-st. (Dor.)	384
Starr King	636	Old Mather	372
Roxbury-st.	624	Austin	360
Weston-st.	624	Bartlett-st.	360
Benjamin Pope	600	Pormort	360
Mather (S. B.)	600	Skinner	360
Noble	564	Baldwin	348
Tappan	564	Cook	348
Hawes and Simonds	552	Common-st.	336
Phillips-st. (Rox.)	552	Parkman	336
Clinch	540	Poplar-st.	336
Concord-st.	540	Sumner-st. (Dor.)	324
Harvard Hill	540	Tuckerman	324
Howard-ave.	540	Webb	324
Polk-st.	540	Webster-st.	324
Capen	480	Tyler-st.	312
Rutland-st.	480	Dorchester-ave.	300
School-st. (Dor.)	480	Freeman	300
Wait	456		
Old Dorchester High	444		
			<u>\$27,504</u>

In addition to the above, the care of fifty-six school-houses, each at a salary of less than three hundred dollars per annum, amounts to 10,944

Total for Primary Schools \$38,448

APPROPRIATIONS AND EXPENDITURES
FOR
PUBLIC SCHOOLS.

APPROPRIATIONS AND CREDITS.

Appropriation granted by the City Council	\$1,500,000	00
Received from the State of Massachusetts, for travelling expenses of pupils in Horace Mann School		838 18
		\$1,500,838 18

EXPENDITURES.

1891. *Requisitions in accordance with the same, for May.*

Instructors	\$111,710	39
Officers	5,070	00
Janitors	8,457	67
Fuel, gas, and water	2,960	45
Incidentals	9,524	23
	\$137,722	74

Requisitions for June.

Instructors	\$112,594	77
Officers	5,070	00
Janitors	8,790	67
Fuel, gas, and water	1,006	41
Incidentals	4,318	42
Repairs, etc.	24,716	07
	156,496	34

<i>Carried forward,</i>	\$294,219 08	\$1,500,838 18
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<i>Brought forward,</i>	\$294,219 08	\$1,500,838 18
<i>Requisitions for July.</i>		
Instructors . . .	\$223,319 93	
Officers . . .	10,140 01	
Janitors . . .	8,470 06	
Fuel, gas, and water . . .	268 87	
Incidentals . . .	9,075 94	
Repairs, etc. . .	11,363 53	
	<hr/>	262,638 34
<i>Requisitions for August.</i>		
Janitors . . .	\$8,539 50	
Fuel, gas, and water . . .	15,659 37	
Incidentals . . .	12,498 40	
Repairs, etc. . .	9,886 93	
	<hr/>	46,584 20
<i>Requisitions for September.</i>		
Instructors . . .	\$110,666 78	
Officers . . .	5,070 00	
Janitors . . .	8,416 20	
Fuel, gas, and water . . .	31,981 57	
Incidentals . . .	18,978 48	
Repairs, etc. . .	49,126 30	
	<hr/>	224,239 33
<i>Requisitions for October.</i>		
Instructors . . .	\$108,664 10	
Officers . . .	5,070 00	
Janitors . . .	8,553 67	
Fuel, gas, and water . . .	1,484 92	
Incidentals . . .	7,270 62	
Repairs, etc. . .	73,543 65	
	<hr/>	204,586 96
<i>Carried forward,</i>	<hr/>	<hr/>
	\$1,032,267 91	\$1,500,838 18

Brought forward, \$1,032,267 91 \$1,500,838 18
Requisitions for November.

Instructors	. \$118,768 51	
Officers . . .	5,069 99	
Janitors . . .	9,095 70	
Fuel, gas, and water . . .	1,603 58	
Incidentals . . .	6,876 32	
Repairs, etc. . .	14,251 78	
	—————	155,665 88

Requisitions for December.

Instructors	. \$125,357 71	
Officers . . .	5,081 66	
Janitors . . .	9,001 47	
Fuel, gas, and water . . .	656 53	
Incidentals . . .	6,252 63	
Repairs, etc. . .	14,049 60	
	—————	160,399 60

1892. *Requisitions for January.*

Instructors	. \$123,128 07	
Officers . . .	5,066 67	
Janitors . . .	9,327 70	
Fuel, gas, and water . . .	1,043 52	
Incidentals . . .	5,367 53	
Repairs, etc. . .	7,941 41	
	—————	151,874 90

Balance unexpended, returned
to the City Treasurer 629 89

	—————	—————
	\$1,500,208 29	\$1,500,208 29
	—————	—————

EXPENDITURES BY THE SCHOOL COMMITTEE.

SALARIES OF OFFICERS.

Superintendent	\$3,150 00
Superintendent's Clerk	540 00
Supervisors (six)	17,010 00
Secretary	2,160 00
Secretary's assistants (two)	1,350 00
Auditing Clerk	2,160 00
Auditing Clerk's assistant	990 00
Assistant in offices of School Board	450 00
Copyist	733 33
Messenger	675 00
“	315 00
“	205 00
“	150 00
Truant-officer, Chief	1,350 00
Truant-officers (sixteen)	14,400 00
Total for officers	<u>\$45,638 33</u>

SALARIES OF INSTRUCTORS.

High Schools.

Normal	\$11,171 55
Latin	29,474 48
Girls' Latin	8,427 08
English High	42,387 76
Girls' High	26,924 24
Roxbury High	14,674 35
Charlestown High	7,952 36
Dorchester High	9,009 00
East Boston High	5,835 37
West Roxbury High	4,849 64
Brighton High	4,570 81
Total for High Schools	<u>\$165,276 64</u>
<i>Carried forward,</i>	\$165,276 64

*Brought forward,
Grammar Schools.*

\$165,276 64

Adams	\$9,033 83
Agassiz	7,165 52
Allston	10,549 37
Bennett	8,234 83
Bigelow	12,035 30
Bowditch	6,757 27
Bowdoin	7,737 04
Brimmer	12,059 53
Bunker Hill	11,996 50
Chapman	10,790 21
Charles Sumner	10,426 83
Comins	9,483 32
Dearborn	10,916 55
Dillaway	9,003 90
Dudley	11,351 33
Dwight	11,310 07
Edward Everett	9,963 43
Eliot	15,723 50
Emerson	11,423 14
Everett	10,572 49
Franklin	10,342 44
Frothingham	9,896 21
Gaston	10,046 35
George Putnam	6,141 93
Gibson	7,632 69
Hancock	9,879 45
Harris	6,071 75
Harvard	10,824 07
Henry L. Pierce	5,157 47
Hugh O'Brien	10,569 57
Hyde	9,917 89
John A. Andrew	11,031 84

Carried forward,

\$314,045 62 \$165,276 64

<i>Brought forward,</i>	\$314,045 62	\$165,276 64
Lawrence	14,424 41	
Lewis	10,289 60	
Lincoln	8,915 40	
Lowell	10,997 34	
Lyman	10,787 77	
Martin	8,107 33	
Mather	9,210 14	
Minot	6,184 53	
Mt. Vernon	5,305 87	
Norcross	10,946 11	
Phillips	12,255 84	
Prescott	8,455 50	
Prince	8,607 24	
Quincy	9,672 13	
Rice	10,655 27	
Sherwin	9,591 33	
Shurtleff	10,657 92	
Stoughton	8,538 24	
Thomas N. Hart	8,142 74	
Tileston	2,430 00	
Warren	11,009 73	
Wells	9,207 93	
Winthrop	13,128 60	
	<hr/>	
Total for Grammar Schools		531,566 59

Primary Schools by Districts.

Adams District	\$3,470 00	
Agassiz "	1,842 73	
Allston "	5,384 40	
Bennett "	3,765 00	
Bigelow "	6,622 17	
Bowditch "	3,143 20	
Bowdoin "	3,891 33	
Brimmer "	4,453 93	
Bunker Hill District	6,198 67	
	<hr/>	
<i>Carried forward,</i>	\$38,771 43	\$696,843 23

<i>Brought forward,</i>	\$38,771 43	\$696,843 23
Chapman District . . .	3,372 20	
Charles Sumner District . . .	4,824 36	
Comins " . . .	3,380 00	
Dearborn " . . .	6,730 98	
Dillaway " . . .	3,943 13	
Dudley " . . .	6,940 86	
Dwight " . . .	4,850 63	
Edward Everett " . . .	4,054 25	
Eliot " . . .	4,681 96	
Emerson " . . .	5,498 40	
Everett " . . .	5,271 62	
Franklin " . . .	6,684 18	
Frothingham " . . .	4,821 07	
Gaston " . . .	4,547 87	
George Putnam " . . .	2,315 66	
Gibson " . . .	2,802 00	
Hancock " . . .	8,313 01	
Harris " . . .	3,018 47	
Harvard " . . .	6,244 53	
Henry L. Pierce " . . .	1,608 27	
Hugh O'Brien " . . .	6,863 91	
Hyde " . . .	4,624 39	
John A. Andrew " . . .	5,635 60	
Lawrence " . . .	9,513 13	
Lewis " . . .	5,223 82	
Lincoln " . . .	3,259 42	
Lowell " . . .	8,419 48	
Lyman " . . .	4,490 98	
Martin " . . .	1,674 00	
Mather " . . .	5,440 86	
Minot " . . .	2,309 01	
Mt. Vernon " . . .	2,207 06	
Norcross " . . .	7,362 00	
<i>Carried forward,</i>	\$199,698 54	\$696,843 23

<i>Brought forward,</i>	\$199,698 54	\$696,843 23
Phillips District	3,403 60	
Prescott "	4,124 79	
Prince "	2,015 47	
Quincy "	6,823 00	
Rice "	4,143 67	
Sherwin "	4,992 00	
Shurtleff "	3,284 46	
Stoughton "	2,390 92	
Thomas N. Hart District .	4,513 34	
Tileston "	1,076 67	
Warren "	3,641 20	
Wells "	8,082 44	
Winthrop "	3,477 85	

Total for Primary Schools 251,667 95

Special Schools.

Horace Mann	\$8,016 00	
Kindergartens	26,914 54	
Manual Training	5,085 04	
	<hr/>	\$40,015 58

Evening Schools

Evening High	\$7,717 00
Agassiz	192 50
Allston	464 50
Bigelow	1,314 00
Comins	1,225 50
Dearborn	951 50
Eliot	1,272 00
Franklin	2,072 00
Hancock	1,090 50
Lincoln	1,008 50

Carried forward, \$17,308 00 \$40,015 58 \$948,511 18

<i>Brought for'd,</i>	\$17,308 00	\$40,015 58	\$948,511 18
Lyman . . .	966 00		
Phillips . . .	702 00		
Quincy . . .	1,054 50		
Sherwin . . .	604 00		
Warren . . .	1,188 00		
Warren-st. Chapel,	340 00		
Wells . . .	1,473 00		

23,635 50

Evening Drawing Schools.

Warren-ave. . .	\$814 00
Tennyson-st. . .	1,026 00
Charlestown . . .	938 00
Roxbury . . .	624 00
East Boston . . .	586 00

3,988 00

Special Instructors.

Music . . .	\$9,900 00
Drawing . . .	2,550 00
Military Drill and Armorer . . .	2,100 00
Physical Training,	3,510 00

18,060 00

Total for Special Schools and Special In-
structors 85,699 08

Total for School Instructors \$1,034,210 26

SALARIES OF JANITORS.

Amount paid during the nine months \$78,652 64

FUEL, GAS, AND WATER.

Fuel	\$50,862 97
Gas	3,290 00
Water	2,512 25
	<hr/>
Total	\$56,665 22
	<hr/>

SUPPLIES AND INCIDENTALS.

Books	\$37,965 01
Phil. apparatus and supplies	1,488 12
Slates, erasers, etc.	1,042 00
Pianos; tuning, repairs, etc.	1,850 25
Expressage	124 93
Extra labor and clerk-hire	371 00
Printing	3,735 77
Diplomas	1,494 45
Maps and globes	598 85
Car and ferry tickets (refunded, \$838.18),	1,560 82
Stationery, drawing materials, and postage,	12,343 26
Advertising	220 54
Annual festival	2,284 05
Delivering supplies	4,325 00
Janitors' supplies	2,576 22
Horse and carriage expenses and hire	333 50
Census, including books	1,400 00
Military drill, arms, etc.	831 80
Manual Training supplies	3,135 99
Kindergarten supplies	1,041 50
Reports of proceedings of School Committee,	400 00
Sewing materials	162 51
District Telegraph and rent of telephones,	204 75
Sundries	672 25
	<hr/>
Total for Supplies and Incidentals	\$80,162 57
	<hr/>

FURNITURE, REPAIRS, AND ALTERATIONS.

Furniture	\$33,880	32
Carpentry, lumber, and hardware	32,799	95
Heating-apparatus and ventilation	28,039	53
Masonry, paving, drains, etc.	21,175	96
Rents and taxes :		
Primary Schools	\$4,638	54
Grammar Schools	1,667	47
Evening Drawing School, East Boston	705	00
Drill hall, Roxbury High School,	727	22
Kindergartens	559	17
Manual Training	375	00
	— — —	8,672 40
Painting and glazing	24,357	16
Whitening and plastering	8,669	51
Gas-fitting	2,784	75
Blackboards	3,651	41
Locks, keys, and electric bells	1,031	02
Roofing, gutters, and conductors	8,067	12
Iron and wire work	1,721	47
Watering streets, and care of grounds	2,434	05
Sash-elevators and weather-strips	940	22
Plumbing	11,865	97
Teaming and supplies	3,287	37
Asphalt in cellars and yards	1,365	29
Cleaning buildings	609	96
Horse-shoeing, care of horses, repairs on carriages, car and ferry fares	873	30
Salaries	5,400	00
Advertising, stationery, postage, etc.	85	57
Rent, repairs of boxes, auxiliary fire-alarm system, and repairs	1,605	00
	— — —	
<i>Carried forward,</i>	\$203,317	33

<i>Brought forward,</i>	\$203,317 33
Paving assessments	157 16
Cleaning vaults	918 00
Flag-staffs, new, and care	72 76
Moving building	125 00
Marble tiles	289 02
	<hr/>
Total for repairs, etc.	\$204,879 27
	<hr/> <hr/>

TOTAL AMOUNT EXPENDED BY THE SCHOOL COMMITTEE.

Salaries of officers	\$45,638 33
Salaries of instructors	1,034,210 26
Salaries of janitors	78,652 64
Fuel, gas, and water	56,665 22
Supplies and incidentals	80,162 57
Furniture, repairs, etc.	204,879 27
	<hr/>
Total expenditure from the appropriation, \$1,500,208 29	

Expended for Dorchester Schools, from income of the Gibson Fund	652 32
	<hr/>
Gross expenditure	\$1,500,860 61
Less income	31,352 81
	<hr/>
Net expenditure for nine months	\$1,469,507 80
	<hr/> <hr/>

The following buildings have been hired in whole or in part for the accommodation of High, Grammar, and Primary classes, Kindergartens, Manual Training, East Boston Evening Drawing School, and Military drill, during the nine months, at an expense of \$8,672.40.

Agassiz Branch	705 Centre st., Jamaica Plain . .	Rent, \$1,150 per annum.
Bowditch Branch	203 & 205 Green st., Jamaica Plain,	" 300 "
Bowditch Branch	162 Green st., Jamaica Plain . .	" 700 "
Murray Chapel	400 Bunker Hill st., Charlestown,	" 350 "
Carey Hall	Clarendon Hills	" 360 "
George Putnam Branch	School st., Roxbury	" 200 "
Henry L. Pierce Branch	100 Armandine st., Dorchester .	" 480 "
Henry L. Pierce Branch	122 Armandine st., Dorchester .	" 480 "
M. E. Chapel	Stanton ave., Dorchester	" 750 "
Boylston Chapel	Danforth st., Jamaica Plain . .	" 200 "
Nawn's Building	Centre st., Roxbury	" 720 "
Prince Branch	Huntington ave.	" 1,100 "
Day's Chapel	Parker st., Roxbury	" 350 "
Stoughton Branch	I.O.O.F. Building, Dorchester .	" 400 "
East Boston Evening Drawing School	Stepheuson's Block	" 940 "
Drill Hall, Roxbury High School	Bacon's Hall	" 350 "
Maverick Chapel	Bennington st., East Boston . .	Rent, \$672 per annum, with heating.
Barnard Memorial	Warren on st.	Rent, \$600 per annum.
Field's Building	Field's Corner	" 200 "
Workingmen's Building	321 Centre st.	" 312 "
Roxbury High School	Curtis Block	" 360 "
Manual Training	Dahlgren Hall, South Boston . .	" 1,500 "
Kindergarten	7 Byron court, Roxbury	" 300 "

PUBLIC SCHOOLS.

The Public Schools of the city proper and its annexed wards comprise one Normal School, two Latin Schools, eight High Schools, fifty-five Grammar Schools, four hundred and sixty-nine Primary classes, thirty-six Kindergartens, one School for the Deaf, nineteen Evening High and Elementary Schools, five Evening Drawing Schools, and ten Manual Training and Cooking Schools.

Expenditures for the various grades of schools for the financial year 1891-1892 (nine months):

HIGH SCHOOLS.

Salaries of instructors	\$165,276 64
Expenditures for text-books, maps, globes, drawing materials, stationery, etc.	11,571 76
Janitors	8,988 20
Fuel, gas, and water	6,600 29
Rent, furniture, repairs, etc.	15,347 46
Total expense for High Schools	\$207,784 35

GRAMMAR SCHOOLS.

Salaries of instructors	\$531,566 59
Expenditures for text-books, maps, globes, writing and drawing materials, stationery, etc.	34,876 86
Janitors	37,671 50
Fuel, gas, and water	27,529 58
Rent, furniture, repairs, etc.	95,728 84
Total expense for Grammar Schools	\$727,373 37

PRIMARY SCHOOLS.

Salaries of instructors	\$251,667 95
Expenditures for text-books, charts, writing and drawing materials, stationery, etc.	6,676 93
Janitors	29,302 67
Fuel, gas, and water	18,978 49
Rent, furniture, repairs, etc.	70,962 86
Total expense for Primary Schools	<u>\$377,588 90</u>

HORACE MANN SCHOOL.

Salaries of instructors	\$8,016 00
Expenses for books, stationery, etc.	1,381 31
Janitors	614 67
Fuel, gas, and water	403 76
Furniture, repairs, etc.	430 54
Total expense for Horace Mann School,	<u>\$10,846 28</u>

KINDERGARTENS.

Salaries of instructors	\$26,914 54
Kindergarten materials, pianos, etc.	1,537 77
Janitors	690 50
Fuel, gas, and water	446 39
Rent, furniture, repairs, etc.	5,378 93
Total expense for Kindergartens	<u>\$34,968 13</u>

MANUAL TRAINING SCHOOLS.

Salaries of instructors	\$5,085 04
Fuel, gas, and water	110 02
Lumber, hardware, kitchen materials, etc.,	3,183 21
Rent, furniture, repairs, etc.	2,340 07
Total expense for Manual Training Schools,	<u>\$10,718 34</u>

EVENING SCHOOLS.

Salaries of instructors	\$23,635 50
Expenses for books, stationery, etc.	1,261 74
Janitors	1,253 10
Fuel and gas	1,832 04
Furniture, repairs, etc.	1,087 06
Total expense for Evening Schools	<u>\$29,069 44</u>

EVENING DRAWING SCHOOLS.

Salaries of instructors	\$3,988 00
Drawing materials, stationery, models, boards, etc.	687 71
Janitors	132 00
Fuel and gas	392 62
Rent, furniture, repairs, etc.	2,449 18
Total expense for Evening Drawing Schools,	<u>\$7,649 51</u>

EXPENDITURES FOR OFFICERS AND SPECIAL INSTRUCTORS.

Salaries paid Superintendent, Supervisors, Secretary, Auditing Clerk, Assistant Clerks, and Messengers	\$29,888 33
Salaries paid seventeen Truant-Officers	15,750 00
“ “ five Music Instructors	9,900 00
“ “ Drawing Director and assistant,	2,550 00
“ “ Instructor in Physical Training and assistant	3,510 00
Salaries paid Military Instructor and Ar- morer	2,100 00
Books and stationery for School Committee and officers, and office expenses	266 03
Fuel, gas, and water	372 03
Total	<u>\$64,336 39</u>

INCIDENTAL EXPENSES.

These expenditures are made for objects not chargeable to any particular school, and consist chiefly of expenses for delivering supplies, printing, advertising, festival, board of horse, carriage-hire, tuning of pianos, and other small items :

Annual Festival	\$2,284 05
Board of horse, with shoeing expenses and sundry repairs of vehicles and harnesses .	321 50
Carriage-hire	12 00
Advertising	220 54
Census of school children	1,400 00
Printing, printing-stock, binding, and postage	4,268 03
Diplomas	1,494 45
Extra labor and clerk-hire	371 00
Military drill, sundry repairs, and trans- portation expenses of instructor	506 80
Teaming and expressage, including fares	124 93
Tuning and repairing pianos	990 00
Expenses, delivering supplies for nine months	4,325 00
Reports of proceedings School Committee,	400 00
District Telegraph, rent of telephones	204 75
Car and ferry tickets for pupils and mes- sengers	257 02
Twine, frames, and small items	747 30
	<hr/>
	\$17,927 37
Expenses connected with school-house re- pairs not charged to any particular school,	11,154 33
	<hr/>
Total	<u>\$29,081 70</u>

SPECIAL EXPENDITURES BY CITY COUNCIL,
CITY ARCHITECT, AND SCHOOL COMMITTEE.

High School, Roxbury	\$83,372 91
High School, Roxbury, furnishing	12,924 22
Grammar School-house, Agassiz District, site	7,889 22
Grammar School-house, Gibson District, site	7,378 10
Grammar School-house, Bowditch District, site	51,323 25
Grammar School-house, Mt. Vernon Dis- trict, site	10,100 80
Grammar School-house, Mt. Vernon Dis- trict, building	9,080 90
Grammar School-house, North Brighton, site, building	5,200 00
Grammar School-house, North Brighton, building	15,076 10
Grammar School-house, H. L. Pierce District, building	66,937 74
Grammar School-house, South Boston	2,500 15
Mechanics' Art School, site	40,388 08
Mechanics' Art School, building	106 96
Cook School-house, enlargement of yard	5,800 00
Agassiz School-house	48 19
Primary School-house, Adams District	47,600 25
Primary School-house, Bunker Hill District, building	16,135 20
Primary School-house, Canterbury street, site	3,785 64
Primary School-house Dillaway District, site	5,545 36
Primary School-house, Emerson District	22,103 03
Primary School-house, Gardner street, site, building	2,700 00
Primary School-house, George Putnam Dis- trict	8,094 73
<i>Carried forward,</i>	<hr/> \$424,090 83

<i>Brought forward,</i>	\$424,090 83
Primary School-house, Bowditch District .	17,431 72
Primary School-house, Lowell District .	20,410 30
Primary School-house, Prescott District .	3,947 33
Primary School-house, Prince District .	48,493 25
Lyceum Hall, Dorchester, to fit for Primary School	12,587 82
Primary School buildings and sites	467 85
	<hr/>
Total expenditure on account of new school-houses	<u>\$527,429 10</u>

RECAPITULATION.

TOTAL EXPENDITURE.

School Committee.

High Schools, per detailed statement,	\$207,784 35
Grammar Schools, " "	727,373 37
Primary Schools, " "	377,588 90
Horace Mann School, " "	10,846 28
Kindergartens, " "	34,968 13
Manual Training Schools, " "	10,718 34
Evening Schools, " "	29,069 44
Evening Drawing Schools, " "	7,649 51
Officers and Special Instructors, per detailed statement	64,336 39
Incidentals, per detailed statement	29,081 70
Stock purchased during the year but not delivered	791 88
From Income Gibson Fund expended for Dorchester Schools	652 32
	<hr/>
Gross expenditure	\$1,500,860 61
Less income	31,352 81
	<hr/>
Net expenditure, School Committee,	<u>\$1,469,507 80</u>
<i>Carried forward,</i>	\$1,469,507 80

<i>Brought forward,</i>	\$1,469,507 80
Expended by vote of City Council for flag-staffs in Brighton . . .	465 00
	<hr/>
Total net ordinary expenses . . .	\$1,469,972 80

SPECIAL EXPENDITURES.

*Public Buildings and City Architect's
Departments.*

High School, new building . . .	\$96,297 13
Grammar Schools, new build- ings	175,534 45
Primary Schools, new build- ings	215,102 48
Mechanics' Art School . . .	40,495 04
	<hr/>
Total	\$527,429 10
Less Income :	
Sale of school buildings and sites	104,500 00
	<hr/>
	422,929 10
	<hr/>
Net expenditure for the Public Schools . .	<u>\$1,892,901 90</u>

INCOME.

School Committee.

From State, for deaf-mute scholars . . .	\$4,164 56
Non-residents	4,351 46
Gibson Fund	906 25
Smith Fund	196 00
Stoughton Fund	106 00
Other sources	20,087 60
Sale of books	107 26
Refunded by State, car-fares	838 18
Rents, etc., school-houses	595 50
	<hr/>
Total income, School Committee . . .	<u>\$31,352 81</u>

*Public Building Department.*Income from sale of school buildings and sites, \$104,500 00

SCHOOLS. — ESTIMATES. 1892-93.

SCHOOL COMMITTEE,

OFFICE OF ACCOUNTS, Dec. 8, 1891.

HON. NATHAN MATTHEWS, JR., *Mayor*:

DEAR SIR: The Committee on Accounts of the School Committee herewith transmit to you estimates of the amount which will be required to meet the expenses of the public schools for the financial year commencing on the first day of February, 1892, and ending January 31, 1893, exclusive of the expenses for the building of school-houses.

Very respectfully yours,

L. D. PACKARD,

Chairman, Com. on Accounts School Committee.

SALARIES OF INSTRUCTORS.

First Grade.

7	Head-masters	. . . . .	at \$3,780	\$26,460	
1	Master	. . . . .	3,168	3,168	
21	Masters	. . . . .	2,880	60,480	
5	Junior-masters	. . . . .	2,592	7,776	
1	Junior-master	. . . . .	2,448	2,448	
4	Junior-masters	. . . . .	2,304	9,216	
1	Junior-master	. . . . .	2,160	2,160	
2	Junior-masters	. . . . .	2,016	4,032	
5	"	. . . . .	1,872	9,360	
3	"	. . . . .	1,728	5,184	
4	"	. . . . .	1,584	6,336	
1	Junior-master	. . . . .	1,440	1,440	
1	"	. . . . .	1,296	1,296	
1	"	. . . . .	1,152	1,152	
1	"	. . . . .	1,008	1,008	
				<u>\$141,516</u>	
	<i>Carried forward,</i>				\$141,516

Brought forward,

\$141,516

Second Grade.

46 Masters	at \$2,880	\$132,480
1 Master	2,820	2,820
2 Masters	2,760	5,520
2 "	2,700	5,400
1 Master	2,640	2,640
2 Sub-masters	2,496	4,992
1 Sub-master	2,376	2,376
11 Sub-masters	2,280	25,080
2 "	2,220	4,440
2 "	2,160	4,320
2 "	2,100	4,200
4 "	2,040	8,160
2 "	1,980	3,960
1 Sub-master	1,956	1,956
1 "	1,920	1,920
5 Sub-masters	1,860	9,300
6 "	1,800	10,800
3 "	1,740	5,220
4 "	1,680	6,720
2 "	1,620	3,240
3 "	1,560	4,680
2 "	1,500	3,000

253,224

Third Grade.

1 Assistant Principal	at \$1,800	\$1,800
3 First Assistants	1,620	4,860
2 Second Assistants	1,380	2,760
1 " Assistant	1,332	1,332
2 " Assistants	1,188	2,376
20 Assistants	1,380	27,600
3 "	1,332	3,996
1 Assistant	1,284	1,284
3 Assistants	1,236	3,708
1 Assistant	1,188	1,188
1 "	1,140	1,140
5 Assistants	1,092	5,460
3 "	1,044	3,132
4 "	996	3,984

Carried forward,

\$64,620

\$394,740

<i>Brought forward,</i>		\$64,620	\$394,740
5	Assistants at \$948	4,740	
3	“	900	2,700
2	“	852	1,704
3	“	804	2,412
2	“	756	1,512
		<hr/>	77,688

Fourth Grade.

60	First Assistants at \$1,080	\$64,800	
6	“	1,044	6,264
4	“	1,008	4,032
5	“	972	4,860
4	“	936	3,744
97	Second Assistants	816	79,152
10	“	804	8,040
9	“	792	7,128
14	“	780	10,920
11	“	768	8,448
300	Third Assistants	744	223,200
19	“	696	13,224
21	“	648	13,608
23	“	600	13,800
26	“	552	14,352
22	“	504	11,088
12	“	456	5,472
296	Fourth Assistants	744	220,224
20	“	696	13,920
19	“	648	12,312
22	“	600	13,200
23	“	552	12,696
24	“	504	12,096
13	“	456	5,928
10	Temporary Teachers, 100 days		1,860
10	Special Assistants, 170 days		1,700
		<hr/>	786,068

Special Grade.

School on Spectacle Island:		
Instructor		400
<i>Carried forward,</i>		<hr/>
		\$1,258,896

<i>Brought forward,</i>		\$1,258,896
Normal School:		
Special Instructor of Kindergarten Methods		1,080
Sewing:		
30 Instructors, 258 Divisions		18,120
High Schools:		
Director of Modern Languages	\$3,000	
2 Assistants	3,000	
	<hr/>	6,000
Horace Mann School:		
1 Principal	\$2,508	
10 Assistants	8,100	
	<hr/>	10,608
Music:		
1 Instructor, High Schools	\$2,640	
4 Instructors, Grammar and Primary Schools,	10,560	
	<hr/>	13,200
Drawing:		
Director	\$3,000	
Assistant	1,800	
	<hr/>	4,800
Chemistry:		
Girls' High, 1 Instructor	\$1,620	
" " 1 Laboratory Assistant	804	
	<hr/>	2,424
Physical Training:		
Director	\$3,000	
Assistant	1,680	
	<hr/>	4,680
Physical Culture:		
Girls' High, 1 Instructor	\$1,008	
Girls' Latin, 1 Instructor	492	
	<hr/>	1,500
Military Drill:		
Instructor	\$2,000	
Armorer	800	
	<hr/>	2,800
		<hr/>
<i>Carried forward,</i>		\$1,324,108

<i>Brought forward,</i>		\$1,324,108
Manual Training Schools :		
Carpentry, 1 Instructor		\$1,620
3 Instructors		3,600
4 Assistants		3,200
Cookery, Director		1,000
3 Instructors	at \$744	2,232
2 "	600	1,200
2 "	504	1,008
4 "	456	1,824
		<hr/>
		15,684
Evening High School :		
Head-Master, 22 weeks		\$1,100
2 Assistants, 66 evenings		660
27 Assistants, 22 weeks		11,880
Clerk		330
		<hr/>
		13,970
Evening Elementary Schools :		
10 Principals, 22 weeks		\$5,500
6 Principals, 22 weeks		2,640
13 First Assistants, 22 weeks		3,575
94 Assistants, 22 weeks		15,510
		<hr/>
		27,225
Evening Drawing Schools :		
2 Masters, 66 evenings		\$1,320
3 Principals, 66 evenings		1,584
16 Assistants, 66 evenings		6,336
6 Assistants, 66 evenings		1,980
5 Curators		660
		<hr/>
		11,880
Kindergartens :		
23 Principals	at \$708	\$16,284
5 "	672	3,360
4 "	636	2,544
4 "	600	2,400
9 Assistants	540	4,860
12 "	504	6,048
9 "	468	4,212
6 "	432	2,592
2 Special Assistants, 50 days		100
		<hr/>
		42,400
Total for Instructors		<hr/> <hr/> <u>\$1,435,267</u>

SALARIES OF OFFICERS.

Superintendent	\$4,200
Six Supervisors, at \$3,780	22,680
Secretary	2,880
Auditing Clerk	2,880
Assistants in offices — School Department	4,440
Copyist	900
Messengers	1,860
Seventeen Truant-officers	21,000
	<hr/>
Total for officers	<u>\$60,840</u>

SALARIES OF JANITORS.

Janitors of 10 High Schools	\$13,100
“ “ 55 Grammar Schools	48,900
“ “ 103 Primary Schools	40,000
“ “ 27 Special and Evening Schools	4,500
“ “ School Committee rooms	2,200
	<hr/>
Total for Janitors	<u>\$108,700</u>

FUEL, GAS, AND WATER.

12,000 tons of coal, at \$5.25 (including weighing)	\$63,000
200 cords of wood, at \$12.00	2,400
Gas	6,500
Water	5,800
	<hr/>
Total	<u>\$77,700</u>

SUPPLIES AND INCIDENTALS.

Text-books,	}	. . . . .	\$44,000
Reference books,			
Exchange of books,			
Books for Supplementary Reading			5,000
Annual Festival			2,500
Globes, maps, and charts			1,100
Musical Expenses:			
Instruments, repairs, and covers			2,000
Printing and stock used for same, including reports of School Committee meetings			6,800
Philosophical, chemical, and mathematical apparatus and supplies			2,200
School census			1,400
Stationery, drawing materials, and record books			13,700
Slates, diplomas, racks, pencils, erasers, etc.			3,000
Advertising			350
Military drill:			
Arms, repairs, etc.			600
Removing ashes from school-houses and snow from yards, Janitors' and other supplies			2,700
Supplies for Manual Training Schools			4,500
Materials for Kindergartens			3,800
Cost of work for delivering supplies, including salaries, expenses of teaming, repairs, repairing apparatus, etc., Car and ferry tickets, Horace Mann School (refunded by State)			1,300
Miscellaneous, including sewing materials, teaming, extra labor, horse and carriage expenses, postage, car and ferry tickets, receiving coal, extra clerk-hire, and sundry items			2,500
			<hr/>
Totals for Supplies and Incidentals			\$104,900
			<hr/>

SCHOOL-HOUSES — REPAIRS, ETC.

Carpentry, lumber, and hardware	\$36,000
New furniture and repairs of old	36,000
Masonry and stock	33,000
Heating-apparatus	35,000
Painting and glazing	30,000
Plumbing and gas-fitting	20,000
Plastering, whitening, and tinting	15,000
Gutters, conductors, and roofing	14,000
Rents and taxes	12,000
Salaries	8,000
Blackboards	4,500
Watering streets and care of lawns	4,500
Ironwork and wire screens	6,000
Auxiliary fire-alarm rental	4,000
Teaming	1,800
Board and shoeing of two horses, repairs of carriage and harness	1,200
	<hr/>
	<u>\$261,000</u>

SCHOOL-HOUSES — SPECIAL APPROPRIATION.

Ventilating-apparatus for school-houses	\$30,000
Heating, ventilating, and sanitary improvements in Mather School-house, South Boston, and Bunker Hill Grammar School-house	10,000
Additional egress from school buildings and fire-proofing	25,000
Applying Johnson Valve Service	5,000
	<hr/>
	<u>\$70,000</u>

RECAPITULATION.

Salaries of Instructors	\$1,435,267
Salaries of Officers	60,840
Salaries of Janitors	108,700
Fuel, gas, and water	77,700
Supplies and Incidentals	104,900
School-houses — Repairs, etc.	261,000
	<hr/>
Total ordinary expenses	<u>\$2,048,407</u>

“ Special Appropriation,” extraordinary repairs	<u>\$70,000</u>
INCOME.	
Non-residents, State and city	\$14,000
Trust-funds and other sources	25,000
	<u>\$39,000</u>

The estimates presented by the School Committee for the year from May 1, 1891, to April 30, 1892, exclusive of extraordinary repairs, amounted to \$2,005,200.

The amount requested, according to the estimates herewith presented, for the twelve months ending Jan. 31, 1893, exclusive of extraordinary repairs, amounts to \$2,048,407; an increase of \$43,207.

The current ordinary expenses of the schools for the last fiscal year of twelve months, namely, from May 1, 1890, to April 30, 1891, amounted to \$1,948,022.19.

The estimates asked for the coming year (Feb. 1, 1892, to Jan. 31, 1893) show an increase over this amount of \$100,384.81. The reasons for this increase are as follows:

1st. It is estimated that the number of pupils attending our schools will increase about four per cent. in twenty-one months. At the average rate per pupil this increase will necessitate an additional expense of nearly \$80,000 the coming year. The salaries of our High School instructors alone, owing largely to the increased number of pupils, will, it is estimated, require nearly \$20,000 more the coming year than was expended for them during the financial year 1890-91.

2d. Manual Training is assuming its proper place in our schools, and \$12,868 more for this item than was estimated for the financial year 1890-91 will, in the opinion of this committee, be required the coming year for the payment of salaries and purchase of supplies. Fitting up schools and shops will involve still further expenditure.

3d. Physical Training has been introduced, and adds about \$5,000 to our expenses.

4th. The cost of removing ashes from school-houses has been added to this department, and will, it is estimated, be \$2,500.

The amount included in the reasons enumerated is \$100,368, which is about the increase asked for the coming year over the amount expended for the financial year 1890-91.

The special appropriation of \$70,000 asked for seems to be needed

if the request of the State officers for improved ventilation, and the Inspector of Buildings for better egress in case of fire, are to be complied with.

In the opinion of the committees having charge of the preparation of these estimates, the amount requested for each item is needed, and should be granted.

The Committee on Accounts respectfully request that if the amount estimated be not granted as one appropriation, the Auditor of Accounts be authorized to transfer unexpended balances from any one of the appropriations named to any other appropriation.

For the Committee on Accounts,

LIBERTY D. PACKARD,

Chairman.

For the Committee on Supplies,

RUSSELL D. ELLIOTT,

Chairman.

The appropriation bill, granting the School Committee the sum of \$2,000,000 for the expenses of the public schools for the year ending Jan. 31, 1893, was passed by the City Council and signed by the Mayor, Jan. 30, 1892.

SCHOOL DOCUMENT NO. 5 — 1892.

REPORT

OF THE

COMMITTEE ON SALARIES.



BOSTON :

ROCKWELL AND CHURCHILL, CITY PRINTERS.

1892.

REPORT.

IN SCHOOL COMMITTEE,

BOSTON, Feb. 23, 1892.

The Committee on Salaries, in accordance with the rules, present their annual report.

It has been the custom, and one which your committee consider desirable, if not necessary, to fix the salaries of teachers for the time covered by the financial year. The financial year has recently been changed. The salaries of instructors was fixed a year ago to April 1, 1892. Your committee, therefore, report the salaries of instructors for the nine months, from April 1, 1892, to Dec. 31, 1892.

An order was referred to this committee, Feb. 9, 1892, that the salary of the assistant to the Director of Physical Training be increased from \$1,680 to \$2,000 per annum, to date from Jan. 1, 1892. This salary was fixed by the Board for the year ending March 31, 1892, at \$1,680. Under the statutes the salaries of teachers established cannot be increased during the year for which they were fixed. Your committee are in favor of the increase proposed, and recommend the increased salary from April 1, 1892.

With the single exception above noted your committee recommend that the salaries of instructors be continued at rates now paid. They recommend the passage of the following orders.

For the Committee,

CHARLES E. DANIELS,

Chairman.

1. *Ordered*, That the salaries of instructors of the public schools be fixed for the nine months from April 1, 1892, to Dec. 31, 1892, as contained in the following schedule :

NORMAL SCHOOL.

Head-Master	\$3,780
Sub-Master, first year, \$2,196; annual increase, \$60; maximum .	2,496
First Assistant, first year, \$1,440; annual increase, \$36; maximum,	1,620
Second " first year, \$1,140; annual increase, \$48; maximum,	1,380

HIGH SCHOOLS.

Head-Masters	\$3,780
Masters	2,880
Junior-Masters, first year, \$1,008; annual increase (for thirteen years), \$144; salary for the fourteenth and subsequent years, with the rank of Master	2,880
Assistant Principal	1,800
¹ First Assistants	1,620
Assistants, first year, \$756; annual increase, \$48; maximum .	1,380

GRAMMAR SCHOOLS.

Masters, first year, \$2,580; annual increase, \$60; maximum .	\$2,880
Sub-Masters, first year, \$1,500; annual increase, \$60; maximum,	2,280
First Assistants, first year, \$900; annual increase, \$36; maximum,	1,080
Second " first year, \$756; annual increase, \$12; maximum,	816
Third " first year, \$456; annual increase, \$48; maximum,	744

PRIMARY SCHOOLS.

Second Assistants, first year, \$756; annual increase, \$12; maximum,	\$816
Fourth " first year, \$456; annual increase, \$48; maximum,	744

KINDERGARTENS.

Principals, first year, \$600; annual increase, \$36; maximum .	\$708
Assistants, first year, \$432; annual increase, \$36; maximum .	540

SPECIAL INSTRUCTORS.

Special Instructors of Music	\$2,640
Director of Drawing	3,000

¹ The rank of First Assistant (High Schools) shall be abolished, as the position now recognized shall become vacant in schools where first assistants are now employed. [Rules, Sect. 95.] There are at present two first assistants (High Schools) in service.

¹ Assistant	\$1,800
Teacher of Chemistry, Girls' High School	1,620
Assistant in " " " "	804
Teacher of Physical Culture and Elocution, Girls' High School	1,008
" " " " Girls' Latin School	492
Teacher of Kindergarten Methods, Normal School	1,080
Director of French and German	3,000
Assistants	1,500
Director of Physical Training	3,000
Assistant	2,000
Special Assistant in German in the Brighton High School—to serve three hours a week, and to be paid at the rate of four dollars per week of actual service.	
Horace Mann School for the Deaf—Principal	2,508
First Assistant	900
Assistants, first year, \$700; second year and subsequently	800
Instructor in Manual Training Schools	1,620
Instructor in Manual Training Schools	1,200
Assistant Instructors in Manual Training Schools	800
Principal of Schools of Cookery	1,000
Instructors in Schools of Cookery, first year, \$456; annual increase, \$48; maximum	744
Instructor in School on Spectacle Island (including all expenses con- nected with the school, except for books)	400
Instructor Military Drill	2,000
Armorer	800

Teachers of sewing:

One division	\$108	Seven divisions	\$540
Two divisions	192	Eight divisions	588
Three divisions	276	Nine divisions	636
Four divisions	348	Ten divisions	684
Five divisions	420	Eleven divisions	732
Six divisions	492	All over eleven divisions	744

Principal, Evening High School (per week), first year, \$30; second year, \$40; third year and subsequently	\$50 00
Assistants, Evening High School (per evening)	4 00
Principals, Evening Elementary Schools, in schools where average attendance for month is 100 pupils or more (per evening), \$5; in schools where average attendance for month is less than 100 (per evening)	4 00

¹ To give instruction in Drawing in the Normal School and to assist the Director of Drawing.

First Assistants, Evening Elementary Schools, in schools where average attendance for month is 75 pupils or more (per evening), \$2.50; in schools where average attendance for month is less than 75 (per evening)	\$1 50
Assistants, Evening Elementary Schools (per evening)	1 50
¹ Masters, Evening Drawing Schools (per evening)	10 00
Principals, Evening Drawing Schools (per evening), first year, \$7; second year and subsequently	8 00
Assistants, Evening Drawing Schools (per evening), first year, \$4; second year, \$5; third year and subsequently	6 00
Special Assistant Teachers, lowest classes Primary Schools (per week)	5 00

2. *Ordered*, That Masters elected as Principals of High Schools, whose average whole number for the preceding school year exceeds one hundred pupils, receive \$288; Sub-Masters, elected as Principals, \$216; First Assistants, elected as Principals, \$72; each, in addition to the regular salary of the rank.

3. *Ordered*, That the salary of a temporary junior-master be at the rate of \$5 per day of actual service.

¹ The rank of Master in Evening Drawing Schools shall be abolished, as the position becomes vacant by the retirement of the present incumbents.

SCHOOL DOCUMENT NO. 6 — 1892.

REPORT

OF THE

COMMITTEE ON ELECTIONS.

FEBRUARY, 1892.



BOSTON :

ROCKWELL AND CHURCHILL, CITY PRINTERS.

1892.

IN SCHOOL COMMITTEE,

BOSTON, Feb. 9, 1892.

Ordered, That the Committee on Elections be authorized to report in print on the subject of the order referred to that committee Jan. 11, 1892, relative to the recount of votes for School Committee, at the municipal election, Dec. 15, 1891.

Attest :

PHINEAS BATES,

Secretary.

REPORT.

IN SCHOOL COMMITTEE, Feb. 23, 1892.

The Committee on Elections were instructed by this Board — Jan. 14 — to recount the ballots cast at the last municipal election (Dec. 15, 1891) for members of the School Committee for the term of three years, with the exception of those cast for Miss Laliah B. Pingree, Messrs. Samuel B. Capen and Edwin H. Darling, and report to the Board.

Your committee respectfully report that they have performed the duty assigned to them. They have exercised the utmost care in counting the ballots, and are confident that the results as given in this report are correct. The tables in the Appendix will show the changes in the results of the previous counts.

The committee find that the members who have already received their certificates have been duly elected members of the School Committee.

An interesting feature of the late recount was the finding of 3,398 ballots on which there was no vote for the School Committee.

Three hundred and thirty-two (332) ballots were adjudged defective because there were nine or more names crossed.

The committee feel bound in justice to say that notwithstanding the charges of irregularity and fraud which have been made in relation to the counting of the ballots, they have found little or no data to warrant them in believing that there was any attempt to defeat the will of the voters.

WILLIAM A. DUNN,

Chairman.

BENJAMIN B. WHITTEMORE,

FRED. G. PETTIGROVE.

APPENDIX.

Ward.	WILLARD S. ALLEN.				SIMON DAVIS.				RICHARD C. HUMPHREYS.			
	Precinct Count.	Recount.	Gain.	Loss.	Precinct Count.	Recount.	Gain.	Loss.	Precinct Count.	Recount.	Gain.	Loss.
1 . . .	1,781	1,773	. . .	8	1,058	1,059	1 . . .		1,406	1,398	. . .	8
2 . . .	655	652	. . .	3	1,332	1,322	. . .	10	898	893	. . .	5
3 . . .	917	911	. . .	6	1,224	1,226	2 . . .		826	822	. . .	4
4 . . .	1,067	1,069	2 . . .		871	882	11 . . .		817	817	. . .	. . .
5 . . .	873	867	. . .	6	1,085	1,108	23 . . .		876	872	. . .	4
6 . . .	201	197	. . .	4	1,094	1,110	16 . . .		620	616	. . .	4
7 . . .	167	166	. . .	1	606	635	29 . . .		356	357	1 . . .	
8 . . .	385	382	. . .	3	986	990	4 . . .		561	561	. . .	. . .
9 . . .	862	856	. . .	6	408	406	. . .	2	694	692	. . .	2
10 . . .	587	587	. . .	. . .	326	325	. . .	1	600	597	. . .	3
11 . . .	1,833	1,831	. . .	2	773	765	. . .	8	1,662	1,660	. . .	2
12 . . .	270	275	5 . . .		835	875	40 . . .		487	490	3 . . .	
13 . . .	235	238	3 . . .		1,827	1,857	30 . . .		846	845	. . .	1
14 . . .	1,623	1,615	. . .	8	1,788	1,778	. . .	10	1,614	1,610	. . .	4
15 . . .	849	848	. . .	1	1,309	1,309	. . .	. . .	989	995	6 . . .	
16 . . .	497	496	. . .	1	882	880	. . .	2	656	656	. . .	. . .
17 . . .	1,168	1,165	. . .	3	960	967	7 . . .		1,077	1,078	1 . . .	
18 . . .	1,377	1,379	2 . . .		598	599	1 . . .		1,151	1,154	3 . . .	
19 . . .	982	979	. . .	3	1,318	1,333	15 . . .		1,092	1,095	3 . . .	
20 . . .	1,643	1,642	. . .	1	1,982	1,965	. . .	17	1,814	1,810	. . .	4
21 . . .	2,407	2,401	. . .	6	1,120	1,126	6 . . .		1,890	1,893	3 . . .	
22 . . .	858	853	. . .	5	1,302	1,304	2 . . .		1,095	1,093	. . .	2
23 . . .	1,938	1,930	. . .	8	1,378	1,375	. . .	3	1,754	1,755	1 . . .	
24 . . .	2,944	2,944	. . .	. . .	1,463	1,361	. . .	102	2,605	2,619	14 . . .	
25 . . .	1,023	1,026	3 . . .		837	845	8 . . .		871	869	. . .	2
Total.	27,142	27,082	15	75	27,362	27,402	195	155	27,257	27,247	35	45

APPENDIX.

ERNEST C. MARSHALL.				SOLOMON SCHINDLER.				THOMAS F. STRANGE.			
Precinct Count.	Recount.	Gain.	Loss.	Precinct Count.	Recount.	Gain.	Loss.	Precinct Count.	Recount.	Gain.	Loss.
1,043	1,041	. . .	2	1,372	1,376	4	. . .	1,050	1,041	. . .	9
1,324	1,329	. . .	5	878	864	. . .	14	1,260	1,308	48	
1,328	1,319	. . .	9	872	858	. . .	14	1,229	1,162	. . .	67
901	903	2	. . .	807	806	. . .	1	811	815	4	
1,092	1,092	. . .	. . .	879	875	. . .	4	1,016	1,017	1	
1,133	1,128	. . .	5	621	609	. . .	12	1,030	1,109	79	
628	626	. . .	2	361	355	. . .	6	636	629	. . .	7
1,004	1,004	. . .	. . .	602	608	6	. . .	982	985	3	
382	381	. . .	1	745	746	1	. . .	410	409	. . .	1
320	318	. . .	2	590	588	. . .	2	353	332	. . .	21
661	670	9	. . .	1,704	1,722	18	. . .	837	801	. . .	36
872	872	. . .	. . .	470	490	20	. . .	835	864	29	
1,862	1,855	. . .	7	889	883	. . .	6	1,863	1,864	1	
1,784	1,782	. . .	2	1,665	1,660	. . .	5	1,868	1,796	. . .	72
1,299	1,296	. . .	3	979	990	11	. . .	1,291	1,293	2	
867	873	6	. . .	748	705	. . .	43	879	887	8	
978	980	2	. . .	1,107	1,116	9	. . .	987	984	. . .	3
579	582	3	. . .	1,240	1,236	. . .	4	603	611	8	
1,321	1,326	5	. . .	1,151	1,151	. . .	. . .	1,317	1,325	8	
1,938	1,945	7	. . .	1,736	1,747	11	. . .	2,020	1,969	. . .	51
1,072	1,082	10	. . .	1,865	1,875	10	. . .	1,152	1,147	. . .	5
1,306	1,317	11	. . .	1,110	1,123	13	. . .	1,310	1,315	5	
1,380	1,373	. . .	7	1,734	1,759	25	. . .	1,438	1,407	. . .	31
1,305	1,321	16	. . .	2,353	2,360	7	. . .	1,425	1,392	. . .	33
845	849	4	. . .	921	918	. . .	3	844	831	. . .	13
27,234	27,264	75	45	27,899	27,420	135	114	27,446	27,293	196	349

APPENDIX, *continued.*

ERRORS IN PRECINCT RETURNS.

Ballots marked thus \times . $/$. \backslash . $\frac{\vee}{\wedge}$ $\frac{\vee}{\wedge}$ $\frac{\vee}{\wedge}$.

A large number of defective ballots were found which had been stamped defective by precinct officers. Some ballots marked defective on back of ballot when some part of the ballot should be counted.

Ward 1, Precinct 8. — Vote for Mr. Marshall—colored pencil mark erased, and then a black pencil cross marked over it—counted for Mr. Marshall.

Ward 2, Precinct 1. — Mr. Schindler given 33 votes in precinct return that belonged to Mr. Strange. Mr. Schindler should have been given 18. Mr. Strange was credited with 10 votes that belonged to Mr. Winship.

One ballot with 17 crosses for School Committee.

Ward 9, Precinct 3. — Mr. Allen and Mr. Capen had been voted for by placing a (\times) cross against the names, and then a line had been drawn through both crosses, from top to bottom, thus, ($\begin{matrix} > < \\ | & | \end{matrix}$). Four ballots had been marked in this way.

Ward 11, Precinct 8. — One ballot with names of Solomon Schindler and Wm. S. Allen written in blank spaces, but no mark opposite the names in column for crosses. Not counted.

Ward 11, Precinct 9. — Figures transposed in precinct return, Humphreys to Folsom, Folsom to Humphreys, Schindler to Strange, and Strange to Schindler.

Return of precinct officers, and check marks to conform to returns on tally sheet as follows:

	Precinct return.	Recount.
Allen	38	38
Davis	18	8
Humphreys	25	30
Marshall	12	8
Schindler	33	38
Strange	14	8

Ward 11, Precinct 10. — One ballot with a cross opposite the names of Messrs. Darling, Davis, Emery, Humphreys, Marshall, Schindler, and Strange, thus \times ; and a horizontal line opposite the names of the others, thus, —. Names crossed were counted.

Two ballots—nine names checked, and a cross from top to bottom of all the names, with words “No count” and “Not counted” written on ballot.

Ward 12, Precinct 1. — Names of Miss Pingree and Mr. Strange evidently marked by some person other than the voter. Not counted.

Ward 13, Precinct 2. — One ballot with the words "Entered on list as a non-resident" written on back of ballot.

Ward 14, Precinct 5. — Precinct returns give Mr. Schindler 16, and Mr. Strange 20 more votes than called for by block list. No total sheet could be found in box. Mr. Schindler loses 16 votes; Mr. Strange loses 20 votes.

Ward 14, Precinct 8. — 47 votes belonging to Mr. Winship were counted for Mr. Strange in precinct return. Mr. Strange loses 47 votes.

Ward 18, Precinct 1. — Precinct officers' return gives Mr. Schindler 19 votes, checked in proper form on tally-sheet. The recount gives him 32 votes — verified by recount clerks.

Ward 18, Precinct 7. — Names of Messrs. Allen, Capen, Darling, Davis, Emery, Humphreys, Marshall, and Schindler have a cross opposite each *printed* name. The names of all were then written on the ballot with a cross opposite in the *column* for the crosses, and then a check mark (✓) on right of crosses.

Ward 20, Precinct 4. — Mr. Humphreys given 35 votes in precinct returns — should have only 26 votes. Mr. Humphreys loses 9 votes.

Mr. Strange given 30 votes — should have only 12. Mr. Strange loses 18 votes.

Ward 20, Precinct 4. — Precinct return [block 4] gives Mr. Strange 28 votes. On duplicate sheet there were 20 marks in one hand, and 8 in another, with the evident intention of making the two sheets agree. Recount gives Mr. Strange 20 votes. Mr. Strange loses 8 votes.

Precinct return [block 3] gives Mr. Strange 30 votes; the recount gives him 18 votes. Mr. Strange loses 12 votes. The sheets had been filled up from 18 to 30 in a different hand.

Ward 20, Precinct 6. — None of the precinct tally sheets were signed by precinct officers.

Ward 22, Precinct 4. — Precinct return gives Mr. Schindler 52 votes — should be 72 votes.

Ward 23, Precinct 4. — Vote of Mr. Schindler and Mr. Strange reversed on precinct return.

Ward 23, Precinct 10. — Precinct return gives Mr. Davis 18 votes, when he received none. The figures were nearly all out of the proper line on precinct return.

Ward 24, Precinct 5. — Several ballots with a cross against every candidate.

Ward 24, Precinct 7. — Precinct return gives Mr. Davis 169 votes, when he should have been given 89. Mr. Davis loses 80.

Ward 24, Precinct 9. — Precinct return gives Mr. Strange 41 votes — should have only 3 votes. Mr. Strange loses 38 votes.

Ward 25, Precinct 6. — One ballot, enclosed in a paper, reading as follows:

“ Enclosed ballot does not bear the cancelling mark of the ballot-box, and was found within another ballot; check-list showed one less vote than ballots taken from box, if this uncanceled one was counted. Both ballots must have been marked, as no blanks were found. Ballot not counted.

“ Signed:

“ GEORGE A. WARREN, *Warden.*

“ G. S. PRATT, *Clerk.*”

SCHOOL DOCUMENT NO. 7—1892.

REPORTS

OF THE

BOARD OF HEALTH, AND CHIEF INSPECTOR OF
FACTORIES, PUBLIC BUILDINGS, ETC.,

ON THE

HEATING, VENTILATING, AND SANITARY CONDITION OF THE
STOUGHTON SCHOOL-HOUSE.

MARCH, 1892.



BOSTON :

ROCKWELL AND CHURCHILL, CITY PRINTERS.

1892.

IN SCHOOL COMMITTEE,

BOSTON, March 22, 1892.

Laid on the table and ordered to be printed.

Attest :

PHINEAS BATES,

Secretary.

REPORTS OF THE BOSTON BOARD OF HEALTH, AND OF
THE STATE INSPECTORS OF FACTORIES, PUBLIC
BUILDINGS, ETC., ON THE HEATING, VENTILATING,
AND SANITARY ARRANGEMENTS OF THE STOUGHTON
SCHOOL-HOUSE, DORCHESTER.

HEALTH DEPARTMENT,
12 BEACON STREET, BOSTON, March 22, 1892.

To the School Committee:

GENTLEMEN: Your communication dated January 26, requesting an examination of "the heating and ventilating and sanitary arrangements of the Stoughton School-house" by the Board of Health, was duly received, the examinations have been made, and we beg to make the following report:

This building stands on River street, at about grade 60, and is well situated for sunlight and air. It is a wooden building, two stories in height, about thirty-six years old, and in a fair state of repair. The land and building appear to be well drained, and the cellar is light and dry.

The privies and urinals, located in the cellar, are of the Fuller & Warren pattern, viz., the drying and burning process, and were found to be free from odors.

The heating and ventilating are also done by the Fuller & Warren system. Four furnaces are located in the cellar, each of which supplies heat for two rooms.

The air-supply is taken from the outside and conveyed to the heating-chambers through horizontal metallic ducts extending along the cellar-ceiling; the heated air is admitted to the rooms through vertical ducts of masonry at points on

the inner walls near the ceilings. The foul air is exhausted through outlets in the floors on the same side of the rooms as the inlets, into ducts which lead to the cellar and connect with hot-air shafts.

In the horizontal inlet-ducts there are dampers to be controlled by hand to regulate the amount of air admitted, while the supply of heat is regulated by a thermostat.

The examinations were made to determine the amount of air supplied to each room and to each of the occupants, the temperature at the inlet, at the breathing-line, and at the floor, and the purity of the air. These examinations were made on the 12th and 17th of February, and show that the supply of air to each person varies from 1,200 cubic feet per hour in Room 6 to 2,556 cubic feet in Room 1. The temperature of the air at the inlets of the different rooms varied from 72 F. to 92 F. In Room 1 the temperature varied at the breathing-line from 62 F. to 70 F., and at the floor from 58 F. to 69 F.

In room 2 at breathing-line	68 to 72,	floor 60 to 60½.
“ “ 3 “ “	73 to 74,	“ 68 to 73.
“ “ 4 “ “	64 to 74,	“ 62 to 71.
“ “ 5 “ “	67 to 70,	“ 63 to 69.
“ “ 6 “ “	68 to 72½,	“ 65 to 72.
“ “ 7 “ “	64 to 71,	“ 51 to 64.
“ “ 8 “ “	68 to 72,	“ 58 to 66.

The parts of carbonic acid to each 10,000 parts of the air as determined by Wolpert's air-tester were found to range from 5.1 to 7.7, the latter being found in Rooms 3 and 7.

The varying temperatures at the inlets, at the floor, and at a height of 2½ feet above the floor, or breathing-line, may be accounted for in part by the want of careful regulation of the cold air and heat supplies, and in part by the cold air admitted through porous walls and loose window-joints.

Taking a position near the inlets, one can easily discover the sudden change from a higher to a lower temperature by the sudden closure of the dampers by which warm air is cut off, and also the quite sudden changes of velocity effected evidently by the wind.

The objectionable features seem to us to be the sudden changes in the temperature and velocity of the air-supply, due to causes named and giving rise to sensations of draft, and the admission of cold air through the loose window joints and casings. The amount of air supplied is good in most rooms and fair in all. All other sanitary arrangements may be called good.

The Board of Health,
S. H. DURGIN,
Chairman.

OFFICE OF THE CHIEF OF THE DISTRICT POLICE,
BOSTON, MASS., March 7, 1892.

To the Honorable the School Committee of the City of Boston:

In compliance with the request contained in your communication of date 26th Jan., 1892, I have the honor to transmit herewith a report from the officers detailed to examine the heating, ventilating, and sanitary arrangements of the Stoughton School-house.

Respectfully,

RUFUS R. WADE,
Chief Inspector of Factories, Public Buildings, etc.

BOSTON, MASS., March 8, 1892.

RUFUS R. WADE, ESQ., *Chief of Massachusetts District Police:*

SIR: In accordance with instructions given by you at the request of the School Committee of the city of Boston,

we have made an inspection of the Stoughton School-house in Dorchester, and respectfully submit the following report :

The temperatures here given were taken with carefully tested standard thermometers of the best manufacture, and unless otherwise stated the points of observation were two and one-half feet above the floor on two outer and one inner side of the room, and all made at the same time. The amount of air at the inlets and outlets is given in cubic feet per minute. The temperature at the inlets was taken directly after the measurement of the velocity of the incoming air was made by an anemometer. Unless otherwise specified, the doors and windows were closed.

The carbonic-acid tests were made with Professor Wolpert's air-tester, and, unless otherwise specified, were taken at the breathing-line and near the centre of the room, and are given in the number of parts in ten thousand volumes of air.

One examination was made on a rainy day, a light westerly breeze, and the outside temperature 44 degrees. There were moderate fires in the furnaces and in the heater in the ventilating-shaft. The cold-air ducts to the furnaces were wide open.

In the south-easterly room, first story, there were present 47 pupils and 6 adults. Temperature of room 70, 70, $69\frac{1}{2}$, and in centre of room, 70 degrees. At the northerly side, half way between the windows, six inches above floor, 68 ; two and a half feet up, $69\frac{1}{2}$; five and a half feet up, 71 ; and ten feet up, 73 degrees. Carbonic-acid test at 11.55 A.M. gave 9.5 parts in 10,000 volumes of air. Fresh air coming in at inlet, 1,025 cubic feet at a temperature of 70 degrees. Foul air going out at outlet, 1,392 cubic feet.

North-easterly room, first story. Present, 42 pupils and 7 adults. Temperature of room, 70, 72, and 72 degrees. Near centre of southerly side at floor, $71\frac{1}{2}$; $2\frac{1}{2}$ feet up, 72 ; $5\frac{1}{2}$ feet up, 73 ; and at ceiling 11 feet up, 75 degrees. Carbonic-acid

test at 11.35 A.M. gave 9.1 parts. Fresh air coming in at inlet, 640 cubic feet at a temperature of 77 degrees. Foul air going out at outlet, 1,020 cubic feet.

South-westerly room, first story. Present, 45 pupils and 5 adults. Temperature of room, 67, 67, and 69 degrees. At pupil's desk near centre of room, $69\frac{1}{2}$, and at floor under this, 67 degrees. Fresh air coming in at inlet, 774 cubic feet at a temperature of 71 degrees. Foul air going out at outlet, 1,140 cubic feet at a temperature of 69 degrees.

North-westerly room, first story. Present, 56 pupils and 5 adults. Temperature of room, 68, 69, and 70 degrees. At pupil's desk near centre of room, 71, and at floor under this, 70 degrees. Carbonic-acid test at 3.40 P.M. gave 9.5 parts. Fresh air coming in at inlet, 1,020 cubic feet at a temperature of 73 degrees.

South-easterly room, second story. Present, 44 pupils and 6 adults. In this room the door was closed, but four windows were raised at the bottom, and had window-boards in. Temperature of room at centre of desks, $72\frac{1}{2}$, and six feet up, 74 degrees. Fresh air coming in at inlet, 1,299 cubic feet at a temperature of $78\frac{1}{2}$ degrees. Foul air going out at outlet, 1,187 cubic feet at a temperature of 74 degrees.

South-westerly room, second story. Present, 23 pupils and 6 adults. Temperature near centre of room, 69 degrees. Foul air going out at outlet, 1,187 cubic feet. Carbonic-acid test at 3.15 P.M. gave 8 parts. Session opened at 1.45 P.M. No recess.

North-easterly room, second story. Present, 43 pupils and 5 adults. Temperature of room, 69, $67\frac{1}{2}$, 70, and at pupil's desk near centre of room, $69\frac{1}{2}$ degrees. At floor under this desk, 69 degrees. Fresh air coming in at inlet, 1,350 cubic feet at a temperature of 70 degrees. Foul air going out at outlet, 982 cubic feet. Carbonic-acid test at 3 P.M. gave 5.5 parts.

Another examination was made on a clear day, moderate breeze, and temperature 38 degrees. Good fires in furnaces and ventilating-shaft heater. Cold-air ducts to furnaces wide open.

North-easterly room, first story. Present, 41 pupils and 7 adults. Temperature of room on southerly side at floor (over cold-air duct), $66\frac{1}{2}$; $2\frac{1}{2}$ feet up, 72; $5\frac{1}{4}$ feet up, $74\frac{1}{2}$; 8 feet up, 73; and at top of room, 11 feet up, 76 degrees. At floor near centre of room, 66, and 5 feet up, 73 degrees. Fresh air coming in at inlet, 1,203 cubic feet at a temperature of 83 degrees. Foul air going out at outlet, 1,237 cubic feet at a temperature of 69 degrees. Carbonic-acid test at 10.05 gave 14 parts.

South-easterly room, first story. Present, 47 pupils and 5 adults. Temperature of room, near middle of southerly side, at floor, 63; $2\frac{1}{2}$ feet up, 67; $5\frac{1}{4}$ feet up, 69; 8 feet up, 69; and 10 feet up, 71 degrees. Fresh air coming in at inlet, 1,541 cubic feet at a temperature of 73 degrees. Foul air going out at outlet, 1,662 cubic feet. Carbonic-acid test at 10.20 A.M. gave 9.5 parts.

South-westerly room, first story. Present, 44 pupils and 5 adults. Temperature of room, 72, 72, 75, and at pupil's desk in centre of room, 75 degrees. On northerly side, about half way across the room, at the floor, 68; $2\frac{1}{4}$ feet up, 75; $5\frac{1}{4}$ feet up, 77; 8 feet up, 80; and at top of room, 11 feet up, 77 degrees. Fresh air coming in at inlet, 1,302 cubic feet. Foul air going out at outlet, 1,292 cubic feet.

The further examination on this day was discontinued on account of the unauthorized interference with the apparatus for heating and ventilating, by persons who were present in the building at the time.

Another examination was made on a clear day, moderate westerly breeze, and the temperature 30 degrees; this rose to 34 at noon, and fell to 29 degrees in the P.M. There were fair fires in the furnaces and ventilating-shaft heater,

and the cold-air ducts leading to the furnaces were wide open.

North-easterly room, first story. Present, 43 pupils and 5 adults. Temperature of the room, 67, 70, and 72 degrees. At the floor near the centre of the northerly side, 70 degrees. At the post nearest the teacher's desk, at the floor, 71; 5 feet up, 74; and at the ceiling, 72 degrees. At the desk in the north-easterly corner, 71 degrees. Fresh air coming in at inlet, 1,394 cubic feet at a temperature of 72 degrees. Foul air going out at outlet, 1,672 cubic feet at a temperature of 71 degrees. Two carbonic-acid tests at 10.30 A.M. (taken at the same time) gave 6.7 parts each.

North-westerly room, first story. Present, 51 pupils and 8 adults. Temperature of the room on the two outer sides, 65 and 66 degrees. At the part nearest the teacher's desk, at the floor, 67; 5 feet up, 70; and at top of room, 69 degrees. Fresh air coming in at inlet, 1,122 cubic feet at a temperature of 70 degrees. Foul air going out at outlet, 1,453 cubic feet at a temperature of $68\frac{1}{2}$ degrees. Two tests for carbonic acid were made at the same time at 11.50 A.M. One in the extreme north-westerly corner, where the circulation appeared the poorest, gave 8.7 parts. The other, about half way across the room and about ten feet from the southerly side, where the circulation was good, gave 5.5 parts. Recess closed at 10.55 A.M.

South-westerly room, first story. Present, 44 pupils and 4 adults (part of the time 7 adults). Temperature of the room, 70, 70, and $72\frac{1}{2}$ degrees. At the westerly side, between the windows, 68, and at the floor under this, 65 degrees. At the floor, near centre of southerly side, 68; $2\frac{1}{2}$ feet up, 70; and 8 feet up, 73 degrees. At the pupil's desk near centre of the room, 71, and on the northerly (inner) side at the floor, 70; $2\frac{1}{2}$ feet up, $72\frac{1}{2}$; $5\frac{1}{2}$ feet up, 73; 8 feet up, 74; and at the ceiling, 11 feet up, $73\frac{1}{2}$ degrees. Fresh air coming in at inlet, 949 cubic feet at a temperature

of 80 degrees. Foul air going out at outlet, 1,273 cubic feet at a temperature of 72 degrees. Carbonic-acid test at 3 P.M., made near centre of room, gave 6.1 parts; and another at same time near north-westerly part of room gave 5.9 parts. Temperature outside was 29 degrees.

South-easterly room, first story. Present, 47 pupils and 7 adults. Temperature of room, 70, 67, and 69 degrees. At floor under windows in easterly side, 63; on pupil's desk at centre of room, 70 degrees. On southerly wall, half way between the windows, at floor, 67; $2\frac{1}{2}$ feet up, 69; $5\frac{1}{2}$ feet up, 69; 8 feet up, 69; and eleven feet up (top of room), 70 degrees. Fresh air coming in at inlet, 1,197 cubic feet at temperature of 66 degrees. The automatic valve had just before this time turned on cold air. Foul air going out at outlet, 1,776 cubic feet at a temperature of $69\frac{1}{2}$ degrees. Two carbonic-acid tests were made at 3.15 P.M., one near the centre of the room, and one near the north-easterly part; each gave 6.6 parts.

South-westerly room, second story. Present, 26 pupils and 5 adults. South-westerly window had been opened at the top about six inches, and was closed fifteen minutes before a carbonic-acid test was made, and which gave 9.1 parts.

The last examination was made on a clear day, strong north-westerly breeze, and the outside temperature 12 degrees. There were good fires in the furnaces and ventilating-shaft heater. The cold-air ducts to the furnaces were wide-open. The school session opened at 9 A.M., and no recess was had until after the carbonic tests were made.

North-easterly room, second story. Present, 42 pupils and 7 adults. Temperature of room near window on northerly side, at floor, 69; 2 feet up, 72; and 5 feet up, 74 degrees. Near window on easterly side, at floor, 62, and 2 feet up, 64 degrees. At southerly (inner) side, at floor, 73; 2 feet up, $74\frac{1}{2}$; 5 feet up, 75 degrees. At centre of room, at floor, 70; 2 feet up, 73 degrees. Fresh air coming in at inlet,

1,610 cubic feet at a temperature of $86\frac{1}{2}$ degrees. Foul air going out at outlet, 1,181 cubic feet at a temperature of $74\frac{1}{2}$ degrees. Carbonic-acid test at 11.10 A.M. gave 6.9 parts.

North-westerly room, second story. Present, 41 pupils and 6 adults. Temperature of room on northerly side near the windows, at the floor, $59\frac{1}{2}$; 2 feet up, 67 degrees. At the westerly side near the window, at the floor, 64; 2 feet up, 70 degrees. At the southerly (inner) side, about two-thirds towards the westerly side, at the floor, $69\frac{1}{2}$; 2 feet up, 71; 6 feet up, $74\frac{1}{2}$ degrees. At centre of room, at floor, 68, and at pupil's desk above this, $70\frac{1}{2}$ degrees. Fresh air coming in at inlet, 1,889 cubic feet at a temperature of 87 degrees. Foul air going out at outlet, 1,757 cubic feet at a temperature of 75 degrees. Carbonic-acid test at 10.30 A.M. gave 6.6 parts.

South-easterly room, second story. Outside temperature, 14 degrees. Present, 44 pupils and 6 adults. Temperature of room at southerly (outer) side, between the windows, at floor, 68; 2 feet up, 72 degrees; 6 feet up, 76 degrees. At easterly (outer) side, near windows, at floor, 68; 2 feet up, 72 degrees. At northerly (inner) side, at floor, $71\frac{1}{2}$; 2 feet up, $74\frac{1}{2}$; 6 feet up, 76 degrees. In centre of room, at floor, 73, and on pupil's desk, 74 degrees. Fresh air coming in at inlet, 1,712 cubic feet at temperature of 86 and 96 degrees, according as the valve was partly opened or closed. Foul air going out at outlet, 1,330 cubic feet at a temperature of 75 degrees. Carbonic-acid test at 11.45 A.M. gave 7.7 parts.

South-westerly room, first story. Outside temperature, 12 degrees. Temperature of room on the westerly side near the window, at floor, 68; 2 feet up, 68 degrees.

On the southerly side in front of the row of desks close to the wall, at the floor, 68, and $5\frac{1}{2}$ feet up, 74 degrees. At the desk in the south-east part of the room, at the floor, 68; on the desk, 76 degrees. At the desk in the south-west

part of the room, at the floor, 68 ; on the desk, 72 degrees. At the desk in the north-west part, at the floor, 67 ; on the desk, 72 degrees. At the desk at the north-east part, at the floor, 70½, and on the desk, 74 degrees.

Tests of circulation of air in this building, made with powder smoke, showed that the air came in at the inlet (up on the inner side of the rooms), spread over the ceiling to the walls, was there cooled, and descended, being drawn downward and inward to the outlet (at the inner side at the floor), passed out through the outlet into the ventilating-shaft, which is warmed by a heater near the bottom, but which is placed above the entrance for the foul air into the shaft. The heater, being above the foul-air entrance, warms the air and causes the outward draft from the rooms.

By placing an anemometer less than one foot from either side of the outlets in the floor, it was shown that there were no strong drafts across the floor at the outlet. The wheel, which is moved by a very light current, did not turn. The average of all the tests made in this building gave a supply of air of 1,251.31 cubic feet per minute for each room, coming in at the inlet, and 1,346.25 cubic feet of foul air being removed at the outlet for each room per minute. The average of the tests for carbonic acid gave 7.7 parts in 10,000. The results of five hundred examinations made by officers of this department, of different school-rooms, heated and ventilated by the different modern systems, made in different buildings, in various parts of this State, average as follows :

Outside temperature	40.01 degrees.
Temperature inside rooms	70.6 degrees.
Temperature at inlet	93.3 degrees.
Velocity at inlet	355.4 ft. pr. min.
Fresh warm air coming in at inlet	1,421.6 cu. ft. pr. min.
Net available area of inlet	4 sq. ft.

Air that is considered pure contains, according to the best authorities, four parts of carbonic acid (CO^2) in ten thousand volumes, and, to be suitable for breathing in schools or rooms occupied by a number of persons for any considerable period, should not contain over eight parts in ten thousand by volume; although under some conditions, as at the close of a session or when the rooms are occupied for but a short time, ten parts may not be considered bad. In unventilated school-rooms we frequently find from twenty to forty parts of carbonic acid in ten thousand of air.

To maintain the air of a school-room at a proper degree of purity, each pupil should receive at least thirty cubic feet of properly warmed and circulated fresh air per minute, and an equal amount of vitiated air should be removed. While the amount of air actually required for breathing is very much less, the amount of impurities thrown off by the pupils requires a large amount of pure air to dilute and remove these impurities.

Chemical science has not yet discovered any practical way of determining the separate amount of the impurities thrown off by the person, but the amount of carbonic acid given out by the lungs, being found in company with the other impurities, is used to determine the amount of vitiation.

Often a great difference is noted in the amount of air taken into a room at the inlet and that taken out at the outlet; sometimes being double at the inlet or outlet, and depending upon which is working the stronger. This difference is made up by the amount of leakage into or out of the room. We have found cases where, by actual test, 74,000 cubic feet of air per hour has been taken out at the outlet more than was coming in at the inlet. In other cases over 70,000 more cubic feet per hour has been forced into the room at the inlet than was taken out at the outlet. This air was being drawn into or forced out of the room through the numerous spaces and crevices about the doors, windows, floors, walls,

ceiling, and through the plastering, which is far from being air tight.

GENERAL REMARKS.

An opinion seems to prevail to some extent that the heating and ventilating apparatus in use in the Stoughton School is a complicated one and difficult to understand and operate. Now almost every one understands what a hot-air furnace is, as they are used to heat very many of our dwellings.

A small chamber, usually of brick, is constructed in the cellar, and in this chamber is placed an iron stove or heater, which, when so placed, is known as a furnace. There is an air-space or chamber under the heater, and another air-chamber over the heater, these chambers being connected through the air-space between the heater and the walls of its chamber or casing. The air-chamber under the heater is connected with the outside air by a pipe or duct of greater or less size and length, and the chamber over the heater is connected by a pipe or duct, of suitable size and length, with the room above which is to be heated. The heater warms and expands the air around it, which, from its decreased specific gravity, ascends to the room, and air comes in from the fresh-air duct to supply its place, and this process goes on as long as there is a fire in the furnace.

It may seem unnecessary to thus describe the operation of an appliance so well known as a furnace, but this is precisely the principle on which the Fuller & Warren and every other so-called "system" of heating by furnaces is arranged. A somewhat similar arrangement for heating was in use in Pompeii two thousand years ago, and it is a wonder that some enterprising Yankee has not introduced the "Pompeian System" in this country.

In the Fuller & Warren "system" — we use this word "system" because of its general use in speaking of appliances for heating and ventilating — there is what is called a

“common-sense” cold-air box interposed between the furnace chamber and the outer air. This box is so arranged that by means of valves the fresh air may be shut off, and air taken direct from the rooms to supply the furnaces. Whether or not there is any advantage in this arrangement, there is nothing at all complicated about it, as when the valve is so set as to let in fresh air it comes in direct, as though no “common-sense” box was in use. There is also an arrangement by which the fresh, cool air may be admitted into the duct leading from the furnace to the rooms, without passing over the furnace, thus mingling with and cooling the warm air before it enters the room.

This connection is effected by opening a valve, and this valve is operated by a chain or cord leading to the school-room, thus enabling the teacher to control, to a great extent, the temperature of her room without shutting off the supply of air, or reducing the fire in the furnace. This contrivance is not peculiar to the Fuller & Warren “system,” but is in general use in nearly all recent methods of heating by furnaces or indirect steam, and, when properly arranged, seems to be the best thing yet devised for the purpose.

The above description not only applies to the “Fuller & Warren system” as set up in the Stoughton School, but their method is substantially the same wherever it is in use in the State, and there is no essential difference in principle between it and any other method of heating by hot-air furnaces.

It should be understood, however, that good ventilation is the result of skilful and experienced engineering, and does not depend on anybody’s “system,” or on any patented furnaces, valves, or air-boxes.

We have heard of objections coming from the teachers, and from some of the citizens, against the method of introducing the air into the rooms of the Stoughton School, through inlets in the wall at a height of several feet above the floor.

If this objection were a valid one, it would weigh not only against the Fuller & Warren "system" wherever in use, but against every successfully ventilated school-room in the State. The old method of taking in warm air through registers in the floor has been discarded, not only by the various heating and ventilating companies, but by every ventilating engineer who has planned any recent systems of ventilation. The opinion of the people who make this objection seems to be, that warm air should be taken in at the bottom of the room, and the foul air taken out at the top.

Some of the teachers thought that if the warm air came in at the floor there would not be such differences in the temperature in the different parts of the rooms, and that in some way the floor would be kept warmer than by the present method. As a matter of fact, the differences in temperature are usually much greater where the air comes in at the floor, and the evenest-heated rooms ever found by us are those where the air comes in at some distance above the floor. If any one will try the experiment with a thermometer, he will find that about the coldest place in a room, except near the outer walls, is within a short distance from a hot-air register in the floor.

Without entering into any discussion as to the probability of future successful ventilation of school-rooms from the floor upwards, it is sufficient, we think, to say that, so far as our knowledge extends, good ventilation has never yet been secured in any school-room in this State in that manner. In all good examples of recent ventilation, the air is taken in at a height of six to nine feet above the floor, and taken out at or near the floor, and generally on the same side of the room at which it is admitted. The inlets in the upper rooms in the Stoughton School are certainly too far from the floor, but the rooms are much too high for their size, and it would have been much better to have furred down the ceilings at least three feet before the ventilating-system was put in. Whether

it would have been better to have set the inlets lower, with the rooms at their present height, is perhaps an open question.

There seems to have been an unusual amount of trouble in this school in operating the valves for controlling the temperature of the incoming air, the air either entering the rooms so warm as to keep them above the proper temperature, or so cold as to fall on the heads of the children. Whether this can be obviated by the electric system now in use remains to be seen after a fair trial; but there is no question that these devices can be operated by the teachers, with ease and certainty, in the same manner that they were operated by us at our last visit to the school. To do this it is necessary to have a thermometer hung in front of each inlet, which can be read from the teacher's desk, and the chain which works the valves should be so adjusted that it can be moved one-half an inch at a time. A short experience will show the teacher at what temperature the air should enter the room to keep it at 70 degrees, and when the valve is once set right, it may not have to be moved for hours unless the temperature of the outside air changes considerably, or the fire in the furnace is increased or diminished.

No method can be devised that will prevent air that is ten degrees colder than the average temperature of the room from dropping on the heads of the inmates, and the only remedy is, not to admit it at that low temperature.

Complaint was made to us of the great differences in the temperature in different parts of some of the rooms, and the complainants seemed to think that the fault must be in the system of heating. Whenever we have visited the school, we have found some of the rooms overheated. A temperature of 68 to 70 degrees at the breathing-line in any part of a school-room, where the pupils are seated, is amply sufficient for comfort, and the fact that the children complain of cold is no evidence whatever to the contrary. If accustomed to sit in a room heated to 80 degrees, they would probably complain

of cold when the thermometer fell to 75 degrees. Furthermore, if not discouraged from so doing, children are very apt to complain in any way that will attract attention. The higher the temperature of a room, the more sensitive will the inmates be to chills and drafts, and the greater will be the differences in temperature in different parts of the room, especially with a low outside temperature and a very loosely built building, as the Stoughton School-house unquestionably is.

On our first visit to the school the differences in temperature in the rooms were not very great, and we were told that we ought to come in a cold, windy day. The last day of our inspection was a day of that kind, and the differences in temperature between the breathing-line and floor were found to be in some places very considerable, although we have found them much greater in rooms where no complaint was made. In every case these differences could be easily accounted for without reference to the method of heating. In one place, where the thermometer at the floor near a window was several degrees lower than the average of the room, an air-meter held against the glass, under the meeting rail of the sash, registered a downward current of air of 115 feet per minute. In another case a thermometer was found at the floor directly over a joint in the floor-boards through which there came a perceptible current of cold air, perhaps from the cellar, perhaps from an outside current between the floor-beams. In another instance where the thermometer was set on the floor against an interior partition between the rooms, it was found to be directly over the cold-air duct which runs along on the ceiling in the cellar.

Every well-ventilated school-house should be as tightly and warmly built as possible, as in such a building there is no need of a supply of air around or through windows or through cracks in the walls or floors.

We would strongly recommend another set of sashes on the windows of the Stoughton School. In the lower south-

westerly room there are five children seated against the outer wall. These seats should be removed, as no proper temperature of the other portions of the room will keep these children warm in a cold day.

DRY CLOSETS.

Complaint was made to us of the "Fuller & Warren dry closets" which are located in the cellar of the building. It was said that odors from them had at times been perceived in the school-rooms, and that when they were burned out they were the cause of offensive smells in the neighborhood. At the time of our inspection, these closets seemed to be in good order, and no offensive odors were perceptible in the building. The draft of air through the closets was on each occasion carefully measured with an anemometer and found to vary from 540 to 960 feet per minute through the boys' closets, and from 500 to 1080 feet per minute on the girls' side; the slowest movement being sufficient to prevent all danger of a back draft.

The janitor said that he kept a fire in the closet grate for two days before he attempted to burn out the contents of the vaults, and that they did not then burn very well.

Without expressing any opinion as to the advantages or disadvantages of the "dry-closet system," we would say that the excrementitious matter should be at all times as thoroughly desiccated as possible, even if it is necessary to have a fire in the grate seven days in a week instead of two, and that when properly dried it can probably be burned out without giving offence.

CONCLUSION.

It will be seen that the average results of our inspections, made at different times and under different conditions of weather and temperature, show that in respect to the amount

of air supplied and removed from the rooms, and the circulation and purity of the air, as shown by the tests made, the Stoughton School is a fairly well-ventilated building.

We saw no reason to think that the heating-apparatus is deficient in power, and we believe that after the changes we have suggested have been made, any well-disposed and fairly intelligent person can manage the whole system in a satisfactory manner.

JOSEPH A. MOORE,
JOHN T. WHITE,
EDWIN Y. BROWN,

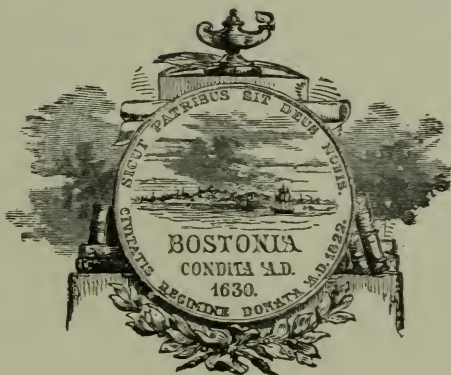
State Inspectors of Factories and Public Buildings.

SCHOOL DOCUMENT NO. 8 — 1892.

ANNUAL REPORT

OF THE

COMMITTEE ON TEXT-BOOKS.



BOSTON :
ROCKWELL AND CHURCHILL, CITY PRINTERS.
1892.

IN SCHOOL COMMITTEE,

BOSTON, April 12, 1892.

Ordered. That the Committee on Text-Books be authorized to report in print.

Attest :

PHINEAS BATES,

Secretary.

REPORT.

IN SCHOOL COMMITTEE.

BOSTON, April 12, 1892.

The Committee on Text-Books, in accordance with the rules, submit their annual report.

The committee have kept constantly in mind the necessity of exercising judgment and care with reference to the school finances, and suggest only such changes in text-books as seem to them necessary.

The Board of Supervisors have been consulted, and every proposition herewith presented has been carefully considered and reconsidered by the committee before being determined upon.

The question of a text-book in history for the upper classes of the Grammar Schools was considered last year, and for various reasons it was not necessary that there should be a text-book for the first class at that time, and a temporary arrangement was adopted; but this subject now requires immediate attention in order that the schools may be properly provided with books for the coming year. The Board of Supervisors have again considered the matter, and their recommendations are unanimously approved by this committee. It is proposed that Higginson's History shall be retained as a text-book in the third class of the Grammar Schools, with the understanding that the book shall be read through during the year by the pupils of that class. Montgomery's Leading Facts of American History is recommended as the regular text-book in the first and second classes. In their recommendations, the Board of Supervisors

ors suggest the addition of Sheldon Barnes American History to the list of text-books for the first and second classes, with the provision that this book shall be furnished to schools upon the request of the masters, and with the approval of the Board of Supervisors. Your committee heartily endorse this recommendation. They are strongly impressed in favor of the method of instruction of the Sheldon Barnes book, but they are somewhat in doubt if all the teachers could immediately adopt the method with satisfactory results. This is not mentioned with the thought of any disparagement of the ability of our excellent corps of instructors, but teachers naturally give particular attention to the requirements of the courses of study and to the prevailing methods. It cannot reasonably be expected that all of our teachers have the time or disposition to give special attention to new methods in all departments which may be presented. We believe, however, that in our corps of teachers to whom the study of history is assigned there are some, we hope there are many, who can carry out the instruction in history on the plan suggested by the Sheldon Barnes book; and it is the desire of this committee that by a fair and impartial, but earnest and honest trial, the merit of this plan may be tested.

We recommend the substitution of the New Franklin Second Reader for the Franklin Second Reader in the second class of the Primary Schools. We understand that very favorable terms for the exchange of these books can now be made, and this will complete the substitution of the new series of readers for the old.

In the Latin and High Schools, though the number of changes recommended may seem large, the actual expense involved is not considerable, and the changes suggested are requested by all the principals, and in the judgment of this committee are reasonable and desirable, and will add to the efficiency of the instruction.

In the department of English in the High Schools, there appears to be a pressing need for additional material. This matter has been carefully considered by the Board of Supervisors and the instructors in English in the High Schools. The plan suggested, which your committee approve, is the addition of a special list of text-books in this department; copies of any of the books in this special list to be furnished to the High Schools with the understanding that the aggregate number of books so furnished shall not exceed the number of pupils in the junior classes in the several schools.

The committee recommend the passage of the following orders.

For the Committee,

CHARLES M. GREEN,

Chairman.

1. *Ordered*, That the New Franklin Second Reader be authorized for use as a text-book in the second class of the Primary Schools, in place of the Franklin Second Reader.

2. *Ordered*, That one copy of Cutler's Primary Manual Training be supplied for the desk of each teacher in the Primary Schools.

3. *Ordered*, That Montgomery's Leading Facts of American History be authorized for use as a text-book in the first and second classes of the Grammar Schools.

4. *Ordered*, That Sheldon Barnes American History be authorized for use as a text-book in the first and second classes of the Grammar Schools; the book to be furnished to the schools on the request of the principals, approved by the Board of Supervisors, and supplied to the schools at the beginning of the year only.

5. *Ordered*, That Seymour's School Iliad be authorized for use as a text-book in the Boys' Latin School.

6. *Ordered*, That Strang's English Lessons be author-

ized for use as a text-book in the Latin Schools until July 1, 1892.

7. *Ordered*, That Lewis's Elementary Latin Dictionary be authorized for use as a text-book in the Latin Schools.

8. *Ordered*, That no more copies of White's Abridged Latin Lexicon be purchased.

9. *Ordered*, That Collar's Practical Latin Composition be authorized for use as a text-book in the Latin Schools in place of Allen's Latin Composition.

10. *Ordered*, That Oman's History of Greece and Allen's Short History of the Roman People be authorized for use as text-books in the Latin Schools.

11. *Ordered*, That Hall & Bergen's Physics be authorized for use as a text-book in the Latin Schools in place of Arnott's or Avery's Physics.

12. *Ordered*, That the following-named books be authorized for use as text-books in the Latin and High Schools: *French* — French Fairy Tales (edited by Joynes), La Famille de Germandre (Sand), Episodes from Sans Famille (Malot); *German* — Minna von Barnhelm (Lessing), Aus dem Staat Friedrichs des Grossen (Freytag).

13. *Ordered*, That Young's Astronomy be authorized for use as a text-book in the High Schools in place of Sharpless & Phillips's Astronomy.

14. *Ordered*, That Hill's Our English be authorized for use as a reference-book in the High Schools — for use on teachers' desks.

15. *Ordered*, That the following-named books be authorized for use as a special list of text-books in English in the High Schools; copies of these books to be furnished in addition to the supply of regular text-books in such numbers as may be desired, provided that the aggregate number of books furnished from this list to any High School shall not exceed the number of pupils in the junior class in that school:

Longfellow's Poems (Household edition). Selections from Lowell's Poems, Modern Classics, Vol. 5. Selections from Lowell's Prose, Modern Classics, Vol. 31. Selections from Emerson's Prose, Modern Classics, Vol. 2. Selections from Whittier's Prose, Modern Classics, Vol. 4. Macaulay's Lays of Ancient Rome, Modern Classics, Vol. 26. Palgrave's Golden Treasury. Tennyson's Selected Poems (Rolfe's Students' Series). Selections from Wordsworth (Matthew Arnold). Thurber's Select Essays of Macaulay. Thackeray's Henry Esmond. Scott's Talisman. Scott's Quentin Durward. Hawthorne's House of Seven Gables. Dana's Two Years Before the Mast. George Eliot's Silas Marner.

16. *Ordered*, That the following-named books be dropped from the list of supplementary reading books, Latin and High Schools :

Thurber's Select Essays of Macaulay. Thackeray's Henry Esmond. Scott's Talisman. Scott's Quentin Durward. Tennyson's Selected Poems (Rolfe's Students' Series). George Eliot's Silas Marner.

17. *Ordered*, That Homer's Iliad, Books XIII-XXIV (Teubner edition), be authorized for use as supplementary reading in the Latin Schools.

18. *Ordered*, That the following-named books be authorized for use as reference-books in the High Schools :

Bloxham's Chemistry. Remsen's Chemistry, Advanced Course. Richter's Chemistry, Inorganic (Smith's Translation). Sadtler's Industrial Organic Chemistry.

SCHOOL DOCUMENT NO. 9—1892.

SPECIAL REPORT TO THE SCHOOL COMMITTEE

ON

SEATING OF PUPILS IN THE
PUBLIC SCHOOLS.

By CHARLES L. SCUDDER, M.D.



BOSTON :

ROCKWELL AND CHURCHILL, CITY PRINTERS.

1892.

IN SCHOOL COMMITTEE,

BOSTON, Feb. 9, 1892.

Ordered, That twenty-five hundred copies of Dr. C. L. Scudder's report to the School Committee on Seating of Pupils be printed as a School Document.

Attest :

PHINEAS BATES,

Secretary.

AN INVESTIGATION

INTO

ONE OF THE ETIOLOGICAL FACTORS IN THE PRODUCTION OF LATERAL CURVATURE OF THE SPINE—REASONS WHY THE SEATING OF SCHOOL CHILDREN SHOULD RECEIVE VERY CAREFUL SUPERVISION.

CHARLES L. SCUDDER, M.D., BOSTON.

Hitherto theoretical rather than practical reasons have led to the investigation of school seats and desks. This present investigation was stimulated by an observance of the many cases of spinal deformity occurring in young girls in Boston.

Lateral spinal curvature is a deformity of growth, and is dependent upon three factors for its causation :

1. The superincumbent weight of the head, shoulders, arms, and trunk falling
2. Upon a spine weakened either in ligament, bone, or muscle, and
3. Held persistently out of plumb, or away from a median antero-posterior plane of the body.

Superincumbent weight, weakened spine, faulty position, — all tend to the production of a spinal curve with rotation.

It having hitherto in all orthopædic literature been assumed that muscular weakness is present in cases of lateral curvature, but it never having been demonstrated, one year ago I established¹ an index of muscular strength for the backs of growing girls, from which the presence or absence of muscular weakness might be approximately determined. I considered then one element (muscular weakness,) which was thought to play a part in the second etiological factor.

¹Trans. American Orthopædic Association, vol. 3, p. 84.

NOTE.—I wish to thank Dr. Edward H. Bradford, of Boston, for valuable suggestions made by him during this investigation.

It is to a study of one of the elements of the third etiological factor, namely, faulty position, that I invite your attention. This present investigation may be considered under four distinct heads :

A. The present method of seating school-houses in Boston.

B. The results of this method of seating.

C. Because of this result, certain definite malpositions are considered, which occur both in sitting and standing.

D. Because of these malpositions of sitting and standing deformities are invited which tend to become permanent.

A. The method of providing seats and desks for the various school-houses of Boston is somewhat as follows :

A school-house is built and ready for seats. The Commissioner of Public Buildings, or his assistant, having ascertained the grade of the school, and the number of pupils to be accommodated in each room, sends an order to the manufacturer of school furniture who is fortunate enough to hold the contract for the current year, to seat and desk the building. The manufacturer, knowing approximately the ages of the children who will attend a school of the given grade, provides desks and seats as he sees fit, furnishing one, two, or three sizes to a single room, as he is inclined, or as may have been suggested by the head-master of the school.

How does the manufacturer determine the sizes that shall be sent to meet the requirements of certain ages? After corresponding and talking with those who have supplied for many years large cities and Boston with school furniture, I find it impossible to learn how the standard of the height of desk and chair has been determined. Some of the recent manufacturers have a scale of desks which is arbitrary, and based on no accurate data whatever. The scale is arranged with convenient differences in size and assigned to different ages, irrespective of height and growth. The standard for the gradation of the modern school-desks has evidently been

handed down from one generation to the next, until it can no longer be traced to its originator. The manufacturer presents a figure of the different-sized desks, with a table giving the heights and sizes for pupils from the age of 5 to 18 and upward. The desks are apparently based upon quite arbitrary gradations, and, as further inquiry will demonstrate, are to a certain extent inaccurate.

The following scale will embrace all heights and sizes for pupils of the ages between 5 and 18 years.

FOR HIGH SCHOOLS, ACADEMIES, ETC.

No. 1 Chair, extra, $16\frac{3}{4}$ ins. high, desk next to scholar, 29 ins., for the age of 16 to 18 years and upwards.

No. 2 Chair, $15\frac{1}{2}$ ins. high, desk next to scholar, $27\frac{1}{2}$ ins. high, for the age of 14 to 16 years and upward.

FOR GRAMMAR SCHOOLS.

No. 1 Chair, $16\frac{3}{4}$ ins. high, desk next to scholar, $28\frac{1}{2}$ ins., for the age of 14 to 18 years.

No. 2 Chair, $15\frac{1}{2}$ ins. high, desk next to scholar, 27 ins., for the age of 12 to 14 years.

No. 3 Chair, $14\frac{1}{2}$ ins. high, desk next to scholar, $25\frac{1}{2}$ ins., for the age of 10 to 12 years.

No. 4 Chair, $13\frac{1}{2}$ ins. high, desk next to scholar, $24\frac{1}{2}$ ins., for the age of 8 to 10 years.

FOR INTERMEDIATE SCHOOLS.

No. 4 Chair, $13\frac{1}{2}$ ins. high, desk next to scholar, $24\frac{1}{2}$ ins., for the age of 8 to 10 years.

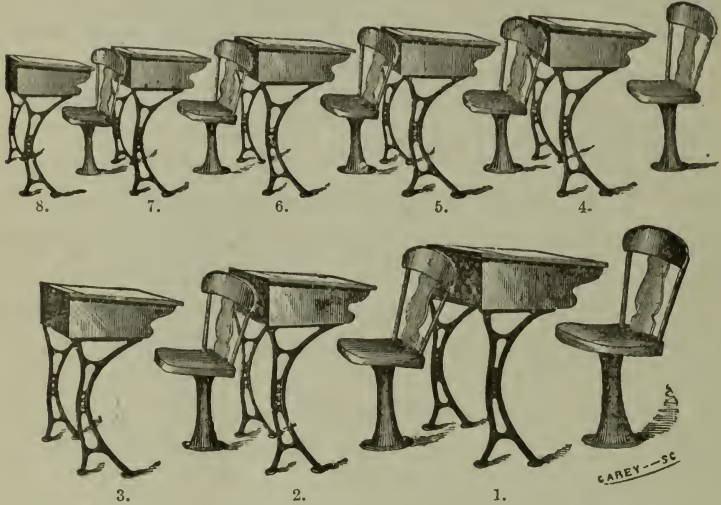
No. 5 Chair, $12\frac{1}{4}$ ins. high, desk next to scholar, 23 ins., for the age of 7 to 8 years.

FOR PRIMARY SCHOOLS.

No. 5 Chair, $12\frac{1}{4}$ ins. high, desk next to scholar, 23 ins., for the age of 7 to 8 years.

No. 6 Chair, $11\frac{1}{4}$ ins. high, desk next to scholar, $21\frac{1}{2}$ ins., for the age of 6 to 7 years.

No. 7 Chair, $10\frac{1}{2}$ ins. high, desk next to scholar, $20\frac{1}{2}$ ins., for the age of 5 to 6 years.



The above engraving represents the different sizes according to the ages of scholars, which are divided into High, Grammar, Intermediate, and Primary Schools. Grammar desks are sizes Nos. 1, 2, 3, and 4. Intermediate are Nos. 4 and 5. Primary are Nos. 5, 6, 7, and 8. The following schedule will show the different grades according to age :

No. 1 size, 14 to 16 years.	} Grammar School.
“ 2 “ 12 “ 14 “	
“ 3 “ 10 “ 12 “	
“ 4 “ 8 “ 10 “	

No. 4 size, 8 to 10 years.	} Intermediate School.
“ 5 “ 7 “ 8 “	

No. 5 size, 7 to 8 years.	} Primary School.
“ 6 “ 6 “ 7 “	
“ 7 “ 5 “ 6 “	
“ 8 “ 4 “ 5 “	

B. As a result of thus seating the school population of Boston, I find, after careful inquiry into the seating in detail of over 3,500 of the school-girls of the Grammar and High Schools, as will be seen by an examination of the accompanying tables, that of the 37 rooms examined 13 only were provided with two sizes of desks and chairs. In every instance where these two sizes are found there are only a few of the second, and the difference in sizes is often scarcely noticeable. With very few exceptions it is true that the girls of the Grammar Schools in any one room sit in the same-sized seats, and at desks of a uniform height.

In each school of the Grammar grade — and this grade is taken as the important one for our present purpose — the building is divided into from 6 to 10 rooms, each being occupied by about 50 scholars. The several classes, according to grade in scholarship, occupy from the lowest to the highest grade respectively the ground floor to the top floor rooms.

With the increase in age, which is taken for granted as uniform, and is supposed to be accompanied by a uniform increase in height, both sitting and standing, with this increase in age, the seats and desks increase in height according to the arbitrary table above mentioned. Several assumptions are therefore made under this method of seating: *First*, that a classification of children of different nationalities according to mental proficiency or scholarship will arrange them very nearly according to age; *secondly*, that these ages will be uniform as scholarship advances; it is assumed, *thirdly*, that the sitting height of these children of uniform ages will be practically the same; *fourthly*, it is assumed that the differences in sitting height are really so slight that they may be disregarded almost entirely, and that all children of a certain grade may be seated comfortably and properly in seats of arbitrary proportions, and not adapted to meet individual differences in size.

There was found to be a difference in age in any one room examined of from 5 to 9 years. Associated with these extremes of age there is a greater difference than might be supposed in the extremes of height, varying from 57 to 21 c.m. Of course, along with these differences in standing height are associated differences in the sitting height. There are to be found girls with 7 years difference in age, and 57 c.m. difference in height, sitting at the same-sized desks, and in seats equally distant from the floor and from the desks.

In one school in the first and second grade are two rooms; 91 girls are in attendance. The oldest is 16 years and 10 months; the youngest is 11 years and 4 months. These are the limits in age in these two rooms. The tallest girl is 170 c.m., the shortest girl is 129 c.m., each standing with shoes and stockings on. Between these extremes of both age and height there are many variations, as well as at the two extremes. All of these children sit in seats and at desks of the same height. These limits in age include 5 years, between 11 and 16, during which girls are growing. Not only do these 91 girls of a growing age sit at desks unsuited to them, but of the 91 eighteen per cent. cannot touch the floor with the heels when sitting straight and upright in the chairs.

In another class of the same school there are 161 pupils between the ages of 17 and 9 years, with a difference of 45 c.m. in height. They all sit at desks of uniform size, and in seats of equal height, placed at the same distance from the desks. Twenty per cent. of these children cannot touch the floor with the heels when sitting back in their seats.

In another class there are 189 pupils between the ages of 14 and 8, and with a difference in height of 46 c.m. They all sit at desks and in chairs of equal height, the chairs having the same relative distance from the corresponding desks. Twenty per cent. of these children cannot touch the floor with the heels, and some of them barely with the toes.

Other instances of the same sort might be cited, and I doubt not even better examples of this method of seating children. But a few illustrations of the necessary result of such school-seating are enough. It is possible, I am positive, to demonstrate that the majority of school-girls are not only subjected to this system of seating, but are suffering in consequence, and that, too, in very many instances, seriously.

Some may think that the heights compared in any one room are only extremes, and that it is an unfair comparison; but if the school records are consulted, it will be found that there are as many grouped about the extremes of age as about any of the intermediate years. The objection is an apparent, not a real one.

Let any one go through the school-rooms and see, as in a well-remembered instance, a child sitting upright on the seat, having the chin on a level with the desk, and next her a girl in the same-sized desk and chair, with the desk so far from the eyes when sitting upright that it was impossible for her with good eyesight to distinctly see the printed page, and the impression will be a lasting one.

C. The effect of this disproportion between child and seat is that faulty positions are assumed in sitting, and later in standing. These faulty positions may be resolved into a deviation of the spine.

1. Anteriorly
- or
2. Posteriorly
3. Laterally, with or without a twist.
4. Elevation of the shoulders, or a combination of these four positions.

The actual number of positions is great, but they may all be resolved into the above simple classification.

1. The desk may be too high for the child's sitting height.
2. The seats may be too high or too low for the child's lower leg.

3. The seats may be too long or too short for the thigh.

4. The distance of the seat from the desk may be too short or too long.

5. There may be no foot-rest for the feet.

A large number of combinations of these poor adjustments may be made, and for each combination there will result a characteristic malposition.

Rising from seats and desks not suited to the child will cause bad habits of standing. Bad positions in sitting are conducive to the assumption of faulty attitudes in standing.

D. What is the effect of repeatedly assuming faulty attitudes? The answer is —

1. A *tendency* to permanency in the malposition.

2. A subsequent exaggeration of the malposition.

3. A fixation of this exaggerated malposition; in other words, a *permanent deformity*.

In school-children we have to deal with a developing skeleton, a spine that is in process of growth; it is yet soft, impressionable, can be moulded. As long as the weight of the trunk and shoulders and head falls on the spine symmetrically, only a posterior bending will appear. This has been demonstrated. The moment this symmetrical impression is changed to an asymmetrical one by faulty position, that moment harm may be done; the bones and ligaments may be moulded and grow into distorted shapes.

One of the factors which has been determined as necessary to the formation of a lateral curvature in many instances is present in the seats and desks of the school-rooms here in Boston. There is presented a constant invitation, unrecognized as such by the child, and unconsciously accepted, — an invitation to hold the spine out of plumb.

The *masses* of children in the schools of the large cities in this country are weak, not strong. It has been impossible to demonstrate that beginning lateral curves do exist in the 3,500 children of the schools examined, because of the im-

practicability of examining each child nude. But some of the conditions determined upon by orthopædic surgeons as causative of this deformity are present in full force, and the experience of those seeing many instances of beginning lateral curvature justifies the opinion that in very many of the children in these schools the initial stage of lateral curvature is present. 57.2 112

The frequency of a posterior curvature and round-shoulders, where the deformity is more evident, I have determined.

A child sits two sessions each day, five days each week, compelled by the desk and chair to assume a position with the shoulders forward, the head supported on elbows and hands; and in the majority of school-rooms this position is uncorrected. The result is that almost twenty per cent. of the girls of the Grammar grade are decidedly round-shouldered.

I have attempted by this study to briefly present a set of facts which force me to the conclusion that the present method of seating the great school population is inefficient and positively harmful, being conducive to malpositions in sitting, which in the unwritten experience of orthopædic observers tends to deformity.

The important part which improper attitudes in sitting during school-life plays in the etiology of spinal curvatures has been recognized to a certain extent, but the magnitude of the evil has never been demonstrated. Sayre,¹ in his latest edition upon orthopædic surgery, barely gives it mention. Adams² gives it a passing notice. Bradford,³ under the head of Preventive Measures, speaks of the necessity for proper seats in home and school. Buckminster Brown in 1879, in a paper on "The influence which prevailing methods of edu-

¹ Orthopædic Surgery and Diseases of the Joints. Lewis A. Sayre.

² Lectures on the Pathology and Treatment of Lateral and other forms of Curvature of the Spine. William Adams.

³ A Treatise in Orthopædic Surgery. E. H. Bradford and R. W. Lovett.

cation have in the production of deformity in young persons of both sexes," calls especial attention to malpositions in school-rooms. Bernard Roth,¹ in his monograph on spinal curvature, attaches much importance to proper positions in sitting during school hours.

In Germany, and I believe in Sweden and Norway, great attention has been paid to school sitting. In the first volume of the "Zeitschrift für Orthopädische Chirurgie" Schulthess presents an investigation into the spinal curvatures of sitting children, in which tracings are made of the back in different positions for a study of the effect of varying positions upon the physiological curves of the spine, and a more careful adjustment of the chair to the sitting pelvis is worked out.

Mayer² in 1882 studied the curvatures induced in writing.

Lorenz³ in 1888 carefully studied school desks.

Schenk⁴ contributed a research to the frequency of scoliosis in schools, in 1886. The greater part of the work in this field has been done abroad.

What is to be the effect of the system of educational gymnastics upon the youth of this city? If Germany and Sweden may be taken as guides in forming an opinion, the health of the children will increase; faulty positions will be less often assumed; a better carriage will be seen; lateral curvatures will be less commonly found due to improper attitudes of sitting or standing. This system of school gymnastics is thus a great preventive measure, and it is being developed along lines which are peculiarly interesting. Great care is being used in selecting those exercises which naturally correspond to the physical development of the child at certain periods of its growth.

¹ The Treatment of Lateral Curvature of the Spine. Bernard Roth.

² Aezl. Int. Bl., Munich, 1882, xxix., 306.

³ Central. f. Orthopädische Chirurgie, Sept. 1, 1888, p. 84.

⁴ Central. f. Chirurgie, No. 48, 1886.

The law of evolution as applied to the nervous system is coming to be recognized by physical educators. I quote from Dr. E. W. Hartwell in a paper upon physical education. The fundamental and accessory neuro-muscular mechanisms of Ross correspond to the English Alienist Mercier's central and peripheral movements; central movements being those of the trunk, shoulder, and hip; and peripheral movements those of the digits, mouth, and eyes. Typical central movements are those of walking, riding, and ordinary gymnastics; while typical peripheral movements are seen in writing, sewing, and manual dexterity of all kinds. It is these central, fundamental, bodily movements, taught at the proper age, which will enable the child to control the position of the spine by the great extensors, which afford, when well developed, an exact and graceful carriage of the head and limbs, a straight back, broad shoulders, and the power to execute with ease, precision, and economy of force the simpler exercises of gymnastics. These movements we find carefully worked out and arranged in the Swedish system. This system is well adapted, therefore, to the preventive treatment of malpositions in our public schools.

In conclusion, it seems reasonable to assert —

1. That the present method of seating the school-houses of Boston is at fault, in that children are compelled to sit in desks unsuited to them.

2. That this method of seating tends to the production of permanent deformity of the spine.

3. That the poor seating in our schools has not been hitherto sufficiently emphasized by orthopædic surgeons as a cause of spinal deformities.

4. That a larger number of different-sized desks and seats, or adjustable desks and seats, should be provided for each school-room.

5. That the teachers of the public schools should be impressed with the fact of the importance of maintaining erect positions, both in sitting and standing.

6. That having greater variety in sizes of seats and desks, and recognizing the danger of malpositions in sitting, great care should be used to seat each child before a desk and in a chair as nearly as possible her proper size.

7. That the desk should be low enough to just allow the bent elbow to touch it when the hand is raised to write, without raising the shoulder or tilting the trunk.

8. That the chair should permit easy contact of the whole sole of the shoe with the floor when the child sits well back in the seat.

9. That foot-rests should be used more than at present, not only to support the foot and leg, but to give a feeling of support to the whole trunk, and to prevent the slipping forward of the buttocks upon the chair, causing one of the commonest of bad postures.

10. That the present system of gymnastics in use in the public schools will help to overcome slight tendencies to deformity which might go unchecked and lead to disastrous results.

The accompanying tables tabulate some of the observations made in the public schools of Boston.

SCHOOL 1.

No. Pupils in each Room.	Age of Oldest. Age of Youngest. Difference in Ages.		Height of Tallest. Height of Shortest. Difference in Heights. Measurement in Centi- meters.	How many Sizes of Desks in any Room.
	<i>Years.</i>	<i>Months.</i>		
103	19-1		171	1
	12		130	
	7-1		41	
36	15-4		164	2
	11-4		133	
	4-0		31	
134	15-2		157	1
	9		123	
	6-2		34	
43	13-6		152	1
	8-6		121	
	5-0		31	
48	14		148	2
	8-4		110	
	5-8		38	

SCHOOL 2.

No. Pupils in each Room.	Age of Oldest. Age of Youngest. Difference in Ages.		Height of Tallest. Height of Shortest. Difference in Heights. Measurement in Centi- meters.	How many Sizes of Desks in any Room.
	Years.	Months.		
77	17-11		171	1
	13-2		138	
	4-9		33	
100	17-2		172	2
	12-1		133	
	5-1		39	
102	16-1		172	1
	11-3		126	
	4-8		46	
115	16-9		168	2
	10		123	
	6-9		45	
149	16-2		162	2
	9-4		120	
	6-10		42	
113	14-4		160	2
	7-10		117	
	6-6		43	
16	17-2		158	1
	10-1		129	
	7-1		29	

SCHOOL 3.

No. Pupils in each Room.	Age of Oldest. Age of Youngest. Difference in Ages.		Height of Tallest. Height of Shortest. Difference in Heights. Measurement in Centi- meters.	How many Sizes of Desks in any Room.
	Years.	Months.		
73	18-9		173	
	14-3		149	
	4-6		24	
93	18-11		170	2
	13-4		142	
	5-7		28	
96	18-6		175	1
	13-6		149	
	5-0		26	
101	19-4		172	1
	14-1		150	
	5-3		22	
60	18-11		169	1
	14-2		147	
	4-9		22	
75	21-7		170	1
	17-3		149	
	4-4		31	
123	21		175	1
	15-8		148	
	5-4		27	
71	18-4		173	1
	14-8		147	
	3-8		26	

SCHOOL 4.

No. Pupils in each Room.	Age of Oldest. Age of Youngest. Difference in Ages.		Height of Tallest. Height of Shortest. Difference in Heights. Measurement in Centi- meters.	How many Sizes of Desks in any Room.
	Years.	Months.		
38	18-2		170	1
	13-7		144	
	4-7		26	
39	18-8		167	1
	13-11		146	
	4-9		21	
159	21-6		168	2
	11-8		134	
	9-0		34	
435	16-1		168	2
	7-4		116	
	8-9		52	

SCHOOL 5.

No. Pupils in each Room.	Age of Oldest. Age of Youngest. Difference in Ages.		Height of Tallest. Height of Shortest. Difference in Heights. Measurement in Centi- meters.	How many Sizes of Desks in any Room.
	Years.	Months.		
91	16-10		170	1
	11-4		129	
	5-6		41	
161	17-9		170	1
	9-10		125	
	7-11		45	
189	14-7		161	1
	8-3		115	
	6-4		46	
46	14-1		152	2
	8-1		115	
	6		37	

First and second classes have desks all the same height, 28½ inches next pupil from floor.

SCHOOL 6.

No. of Pupils in each Room.	Age of Oldest. Age of Youngest. Difference in Ages.		Height of Tallest. Height of Shortest. Difference in Heights. Measurement in Centime- ters.	How many Sizes of Desks in any Room.
	Years.	Months.		
58	17-9		175	1
	12-5		145	
	5-4		30	
93	16-10		166	2
	11-6		125	
	5-4		41	
102	16-3		165	1
	11-3		126	
	5-0		39	
153	15-10		166	2
	9-11		109	
	5-11		57	
155	15-5		169	2
	8-3		119	
	7-2		50	
163	14		159	1
	8		133	
	6		26	

The accompanying photographs will best serve to illustrate a few of the faulty positions taken because of the disproportion between child, seat, and desk. The models used assumed attitudes familiarly seen in the school-rooms.

Plate I. Illustrates the cramping of the legs, due to a small desk and chair, and also the forced flexion of the trunk and neck. This is a not uncommon position if the desk is too low, predisposing to round-shoulders, with the neck thrust forward.

Plate II. Illustrates the asymmetry of the body when supported unequally, as when the child sits on her knee or foot. The compensatory curve is seen in the dorsal spine.

Plate III. Illustrates a cramped position, the running of the neck forward, the curling of the legs and feet under the chair, thus removing the natural support to steady the trunk. The elevated shoulders are also seen, but not so well as in

Plate IV. Illustrating a too high desk, forcing the shoulders up and the head forward.

Plate V. Illustrating a too high desk and small seat, with a slouching down and consequent arching backward of the whole spine, causing one form of round-shoulders.

Plate VI. Illustrating a small child in a large desk and chair, the child being unable to touch the floor with the heels. The result is a throwing forward of the trunk, and a backward stretching of the legs. A cramped position of the chest is induced. The eyes are too near to the print. The shoulders are raised.

Plate VII. Illustrating a not very uncommon malposition, which presents not only an antero-posterior, but also a lateral and rotary, deformity.

Plate VIII. Illustrating a very common position induced by a cramping of the legs, both antero-posterior, lateral, and rotary deformity being present.

Plate IX. Illustrating a malposition assumed in writing when sitting improperly.

Plate X. Similar to Fig. VIII., but with less twisting of the trunk.



BONCHI BARRY WOTTE CO. BOSTON

PLATE I



WELCH'S BAKING POWDER CO. BOSTON

PLATE 2



BY THE BAKHREH COLLECTION

PLATE 3



PLATE 4



PLATE V.



HELIOTYPE ENG. CO.

PLATE VI.



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PLATE 7



BELLETTI BARRATE E BERTINI

PLATE 8



BRIDGES BANK NOTE CO. 80-1714

PLATE 9



PLATE 10

SYNOPSIS

OF

FRENCH AND GERMAN INSTRUCTION.

BOSTON HIGH SCHOOLS.



BOSTON :

ROCKWELL AND CHURCHILL, CITY PRINTERS.

1892.

IN SCHOOL COMMITTEE,
BOSTON, April 26, 1892.

Ordered, That the Synopsis of the Instruction in Modern Languages in High Schools be printed as a School Document, and that six hundred copies of the same be printed.

Attest :

PHINEAS BATES,
Secretary.

PROGRAMME FOR THE YEAR 1892-93.

HIGH SCHOOLS.

FRENCH. — FIRST YEAR.

1. READING. — Super's *French Reader*, 100 pages, including *La dernière classe* and *La pipe de Jean Bart*, and not including *M. Martin de Montmartre*. Advanced beginners will read the whole book (150 pages), and at least 25 pages in Joynes' *French Fairy Tales*. It is suggested that from the very beginning as much time as possible be devoted to translation at sight. — SUPPLEMENTARY READING (for pupils or classes that can do more than the required amount): Joynes' *French Fairy Tales*; Lebon's *Abeille* (France); *Peppino* (Ventura).

2. PRONUNCIATION. — Practice in reading and speaking French *immediately after the teacher*. It is of the greatest importance that the pupils' ears and vocal organs be well trained during this first year. Reading aloud should, in general, follow rather than precede translation.

3. GRAMMAR. — First half-year: the conjugation of *avoir*, *être*, and the regular verbs; the use of conjunctive personal pronouns; the use of the articles; and the formation of feminines and plurals. — Second half-year: Keetels' *Elementary French Grammar*, 18 lessons; the conjugation of *aller*, *devoir*, *dire*, *faire*, *falloir*, *pouvoir*, *savoir*, *venir*, *voir*, *vouloir*, and at least five more irregular verbs. French-English exercises should be recited with the books closed, the scholar repeating the French sentences after the teacher, and then translating them into English.

4. COMPOSITION. — Exercises based on *La pipe de Jean Bart* in Super's *French Reader: Materials for French Composition*, Part v.

5. CONVERSATION based on 1 and 4: practice in interpreting and constructing simple sentences.

SECOND YEAR.

1. READING. — From 300 to 350 pages. — [Teachers should insist upon the use of idiomatic English in the translations. It is suggested that as much time as possible be given to translation at sight.] — I. *L'abbé Constantin* (Halévy), Chapters iii., v., vi., to be used as a basis for composition. — II. Either *Colomba* (Mérimée) or *La famille de Germandre* (Sand). — III. Either Russell's *Episodes from Sans Famille* (Malot) or one of the following plays: *La poudre aux yeux* (Labiche and Martin), *Les petits oiseaux* (Labiche and Delacour), *La maison de Penarvan* (Sandeau). — IV. Four stories by Daudet. — SUPPLEMENTARY READING: Fontaine's *Historiettes modernes*, Vol. i.; *Au coin du feu* (Souvestre); *Le Clos-Pommier* (Achard).

2. COMPOSITION. — Exercises based on *L'abbé Constantin* (Halévy): *Materials for French Composition*, Part i., first 25 lessons with reviews.

3. GRAMMAR. — Keetels' *Elementary French Grammar*, 46 lessons. French-English exercises should, in general, be recited with the books closed.

4. PRONUNCIATION. — A large part of the reading aloud should consist of the repetition, by the pupils, of sentences just read by the teacher. This exercise should usually follow rather than precede the translation of the passage.

5. CONVERSATION based on 1 and 2. — Aside from set exercises, the French language should be used as much as possible in the class-room.

THIRD YEAR.¹

1. READING. — From 400 to 450 pages. — [Teachers are advised to give some time to reading French without translation, making sure, by means of questions, that the pupils understand what they read.] — I. *La Belle-Nivernaise* (Daudet), to be used as a basis for composition. — II. One of the following plays: *Mlle. de la Seiglière* (Sandeau), *Les doigts de fée* (Scribe and Legouvé), *Bataille de dames* (Scribe and Legouvé). — III. Either *La mère de la marquise* (About) or *Un philosophe sous les toits* (Souvestre). — IV. Molière: either *Le bourgeois gentilhomme* or *L'avare*. — V. Price's *Choix d'extraits de Daudet*. — SUPPLEMENTARY READING: *La bibliothèque de mon oncle* (Töpffer); *Madame Thérèse* (Erckmann-Chatrian); *Le conscrit de 1813* (Erckmann-Chatrian).

2. COMPOSITION. — Exercises based on *La Belle-Nivernaise* (Daudet): *Exercises in French Composition*, first 25 lessons, with reviews.

3. CONVERSATION based on 1 and 2. — The French language should be used as much as possible in the class-room.

4. GRAMMAR. — Syntax; and, if necessary, reviews by topics.

FOURTH YEAR.²

1. READING. — About 500 pages. — I. *La Mare au Diable* (Sand). — II. Either *La neuvaine de Colette* (Schultz) or Marcillac's *Manuel d'histoire de la littérature française*. — III. *Les précieuses ridicules* (Molière). — IV. Thirty fables by La Fontaine. — V. One play by Racine. VI. One play by Corneille. — SUPPLEMENTARY READING: *Marianne* (Sand); *Dosia* (Gréville).

¹ If it seem desirable to the teacher and the principal, the following course may be substituted for the regular third year's work: a careful study of *Un philosophe sous les toits* (Souvestre) and 40 of Hennequin's *Lessons in Idiomatic French*.

² Classes that are being prepared for college may substitute for the regular fourth year's work a course based on the Harvard admission requirements.

2. CONVERSATION based on 1 and 3. — The French language should be used as much as possible in the classroom.

3. COMPOSITION. — Before Christmas: *Exercises in French Composition* (based on *La Belle-Nivernaise*), last 10 lessons, with reviews. — After Christmas: composition and dictation exercises based on subjects in French literature (furnished by the Director).

GERMAN. — FIRST YEAR.

1. READING. — Brandt's *German Reader*, 75 pages, selected from Parts i., ii., iii., and iv. Advanced beginners will read all of the first three parts (122 pages). It is suggested that from the very beginning as much time as possible be devoted to translation at sight. — SUPPLEMENTARY READING (for pupils or classes that can do more than the required amount): Van der Smissen's *Kinder- und Hausmärchen* (Grimm).

2. GRAMMAR. — First half-year: the active voice of a regular weak verb; the conjugation of *haben*, *sein*, and *werden*; the declension of articles, nouns, pronouns, and adjectives; the simpler rules of word order; the use of the commoner prepositions and conjunctions; the formation of the passive; the conjugation of a strong verb. — Second half-year: Collar's *German Lessons* (Eysenbach), 14 lessons, omitting, if necessary, half of the exercises; the principal parts of at least 50 strong or irregular verbs. Advanced beginners will study also the use of the model auxiliaries.

3. PRONUNCIATION. — Practice in reading and speaking German sentences *immediately after the teacher*. It is of the greatest importance that the pupils' ears and vocal organs be well trained during this first year. Reading aloud should, in general, follow rather than precede translation.

4. COMPOSITION. — Stein's *German Exercises*, about half of Part i.

5. CONVERSATION in connection with 1 and 4: practice in interpreting and constructing simple sentences.

SECOND YEAR.

1. READING. About 260 pages. — [Teachers should insist upon the use of idiomatic English in the translations. It is suggested that as much time as possible be given to translation at sight.] — I. Brandt's *German Reader*, 75 pages, selected from Parts iv., v., and vi. — II. Bernhardt's *Im Zwielight* (Baumbach), Vol. i. — III. Van Daell's *Träumereien* (Leander). — SUPPLEMENTARY READING: *Der zerbrochene Krug* (Zschokke); *Das Herz vergessen* (Putlitz).

2. COMPOSITION. — Stein's *German Exercises*, about half of Part i.

3. GRAMMAR. — Collar's *German Lessons* (Eysenbach), lessons 15–31, omitting, if necessary, three-quarters of the exercises; the principal parts of at least 100 strong or irregular verbs.

4. PRONUNCIATION. — Teachers should be very careful not to let pupils form bad habits of pronunciation. At least a part of the reading aloud should consist of the repetition, by the scholars, of sentences just read by the instructor.

5. CONVERSATION based on 1 and 2. — Aside from set exercises, the German language should be used as often as possible in the class-room.

THIRD YEAR.

1. READING. — About 260 pages. — [Teachers should insist upon the use of idiomatic English in the translations. It is suggested that as much time as possible be devoted to translation at sight.] — I. Bernhardt's *Im Zwielight* (Baumbach), Vol. ii. — II. *Hermann und Dorothea* (Goethe). — III. Schiller: either *Wilhelm Tell* or *Maria Stuart*. — SUPPLEMENTARY READING: Whitney's *German Reader*.

2. COMPOSITION. — Stein's *German Exercises*, Part ii., 25 exercises.

3. CONVERSATION based on 1 and 2. — The German language should be used as much as possible in the classroom.

4. GRAMMAR. — All of Sheldon's *Short German Grammar*.

FOURTH YEAR.

1. READING. — From 350 to 400 pages. — [Teachers are advised to give some time to reading German without translation, making sure, by means of questions, that the pupils understand what they read.] — I. Primer's *Minna von Barnhelm* (Lessing). — II. Either *Die Harzreise* (Heine) or *Aus dem Staat Friedrichs des Grossen* (Freytag). — III. Schiller: either *Maria Stuart* or *Wilhelm Tell*. — SUPPLEMENTARY READING: *Peter Schlemihl* (Chamisso); *Aus neuer Zeit* (Freytag).

2. CONVERSATION based on 1 and 3. — The German language should be used as much as possible in the classroom.

3. COMPOSITION. — Stein's *German Exercises*, Part ii., 25 exercises.

LATIN SCHOOLS.

FRENCH. — FIRST YEAR.

1. READING. — Super's *French Reader*, 150 pages. It is suggested that from the very beginning as much time as possible be devoted to reading at sight. — SUPPLEMENTARY READING (for pupils or classes that can do more than the

required amount): Joynes' *French Fairy Tales*; Lebon's *Abeille* (France); *Peppino* (Ventura).

2. PRONUNCIATION. — Practice in reading aloud. A part of this exercise should consist of the repetition, by the scholars, of sentences just read by the instructor. Teachers are requested to be very careful not to let their pupils form bad habits of pronunciation.

3. GRAMMAR. — The regular and at least 20 irregular verbs. Keetels' *Elementary French Grammar*, at least 18 lessons. It is suggested that French-English exercises be recited with the books closed, the pupil repeating the French sentence after the teacher, and then turning it into English.

SECOND YEAR.

1. READING. — From 250 to 300 pages. — [Teachers are requested to insist upon the use of idiomatic English in the translations. It is suggested that as much time as possible be given to reading at sight.] — I. One of the following books: Russell's *Episodes from Sans Famille* (Malot), *La famille de Germandre* (Sand), *La mère de la marquise* (About). — II. Either *Colomba* (Mérimée) or *L'abbé Constantin* (Halévy). — SUPPLEMENTARY READING: Bôcher's *College Series of French Plays*; Fontaine's *Historiettes modernes*, Vol. i.; *La Belle-Nivernaise* (Daudet); Jenkins' *Le siège de Berlin* (Daudet); Price's *Choix d'extraits de Daudet*.

2. GRAMMAR. — All the commoner irregular verbs. Keetels' *Elementary French Grammar*, at least 34 lessons (including those studied during the first year). It is suggested that the French-English exercises be recited with the books closed.

3. PRONUNCIATION. — Practice in reading aloud.

4. COMPOSITION. — Exercises based on a French text.

THIRD YEAR.

1. READING. — About 300 pages. — I. Either *Madame Thérèse* (Eckmann-Chatrion) or *La bibliothèque de mon oncle* (Töpffer). — II. One of the following books: Warren's *Mlle. de la Seiglière* (Sandeau); *La Mare au Diable* (Sand); *Un philosophe sous les toits* (Souvestre). — SUPPLEMENTARY READING: *Au coin du feu* (Souvestre); *La neuvaine de Colette* (Schultz); *Le conscrit de 1813* (Eckmann-Chatrion); *Le bourgeois gentilhomme* (Molière); *L'avare* (Molière); *Les précieuses ridicules* (Molière); *Andromaque* (Racine); *Horace* (Corneille).

2. GRAMMAR. — Either systematic practice in irregular verbs, or all of Keetels' *Elementary French Grammar*.

3. PRONUNCIATION. — Practice in reading aloud.

4. COMPOSITION. — Exercises based on a French text.

C. H. GRANDGENT,
Director.

SCHOOL DOCUMENT NO. 11 — 1892.

SCHEDULE
OF
PUPILS' WORK,

WITH

DIRECTIONS

AS TO ITS PREPARATION

FOR THE

EDUCATIONAL EXHIBIT OF BOSTON,

AT THE WORLD'S COLUMBIAN EXPOSITION.



BOSTON:

ROCKWELL & CHURCHILL, CITY PRINTERS.

1892.

BOSTON PUBLIC SCHOOLS.

The work to be prepared for the World's Columbian Exposition is embraced in the following Schedule of Particulars, which shall be the basis for future suggestions, directions, and assignments :

A. PRIMARY SCHOOLS.

1. Clay modelling, Class III., Primary.
2. Clay modelling, Class II., Primary.
3. Clay modelling, Class I., Primary.
4. Paper folding and cutting, Class III., Primary.
5. Paper folding and cutting, Class II., Primary.
6. Paper folding and cutting, Class I., Primary.
7. Sewing, Class III., Primary.
8. Sewing, Class II., Primary.
9. Sewing, Class I., Primary.
10. Stick-laying, Class III., Primary.
11. Stick-laying, Class II., Primary.
12. Cardboard construction, Class I., Primary.
13. Observation lessons, Class II., Primary.
14. Observation lessons, Class I., Primary.
15. Drawing, Class III., Primary.
16. Drawing, Class II., Primary.
17. Drawing, Class I., Primary.
18. Copying and dictation, Class III., Primary.
19. Copying and dictation, Class II., Primary.
20. Copying and dictation, Class I., Primary.
21. Simple thoughts suggested by pictures or by observation lessons expressed in writing, Class II., Primary.

22. Stories read by teacher reproduced by children, Class I., Primary.
23. Stories written from pictures, Class I., Primary.
24. Letter writing, Class I., Primary.
25. Number work, Class II., Primary.
26. Number work, Class I., Primary.

B. GRAMMAR SCHOOLS.

27. Lessons on the human body with special reference to hygiene, Class VI.
28. The same, Class V.
29. The same, Class IV.
30. Anatomy, physiology, and hygiene of the human body, Class III.
31. The same, Class II.
32. Observation lessons on plants, animals, or minerals, Class VI.
33. The same, Class V.
34. The same, Class IV.
35. Observation lessons on minerals, Class III.
36. Observation lessons on common metals, minerals, and rocks, Class I.
37. Observation lessons on phenomena of nature, Class VI.
38. The same, Class V.
39. The same, Class IV.
40. Physics, Class I.
41. Language exercises for correctness of form, including spelling, punctuation, capitals, grammatical forms, abbreviations, and choice of right word in particular connections, Class VI.
42. The same, Class V.
43. The same, Class IV.
44. The same, Class III.
45. The same, Class II.
46. The same, Class I.

47. Language exercises for reproduction of matter in pupils' language; as stories retold; supplementary reading reported upon; statements of information gathered by reading or from lectures; abstracts of lessons, etc.; Class VI.
48. The same, Class V.
49. The same, Class IV.
50. The same, Class III.
51. Selections of poetry (or sometimes of prose) written from memory, Class VI.
52. The same, Class V.
53. The same, Class IV.
54. The same, Class III.
55. The same, Class II.
56. The same, Class I.
57. Original composition and letter writing, including narratives, descriptions, and imaginative productions, Class V.
58. The same, Class IV.
59. The same, Class III.
60. The same, Class II.
61. The same, Class I.
62. Written exercises on a poem that has been studied.
63. Penmanship, Class VI.
64. Penmanship, Class V.
65. Penmanship, Class IV.
66. Penmanship, Class III.
67. Penmanship, Class II.
68. Penmanship, Class I.
69. Grammar, Class III.
70. Grammar, Class II.
71. Grammar, Class I.
72. Geography, Class VI.
73. Geography, Class V.
74. Geography, Class IV.

75. Geography, Class III.
76. Geography, Class II.
77. American History, Class III.
78. American History, Class II.
79. Civil Government, Class I.
80. Arithmetic, Class VI.
81. Arithmetic, Class V.
82. Arithmetic, Class IV.
83. Arithmetic, Class III.
84. Arithmetic, Class II.
85. Arithmetic, Class I.
86. Book-keeping, Class I.
87. Drawing, Class VI.
88. Drawing, Class V.
89. Drawing, Class IV.
90. Drawing, Class III.
91. Drawing, Class II.
92. Drawing, Class I.
93. Sewing, Class VI.
94. Sewing, Class V.
95. Sewing, Class IV.
96. Sewing, Class III.
97. Sewing, dress cutting, and fitting, Class I.
98. Wood-working.
99. Knife work.
100. Color work.

C. HIGH SCHOOLS, LATIN SCHOOLS, AND NORMAL SCHOOL.

The work of these schools has not been itemized, but will be arranged in personal consultation with the Superintendent of Public Schools.

DIRECTIONS FOR THE PREPARATION OF WRITTEN WORK FOR THE WORLD'S COLUMBIAN EXPOSITION.

1. *As to the Nature of the Work.* — The subject matter of any single exercise shall be one item or a part of one item in the foregoing Schedule of Particulars. No exercise which aims to cover two or parts of two or more such items can be accepted.

2. The exercise shall be such as to illustrate some part of the work that has been going on this year under the Course of Study; it shall be like, but not identical with, exercises previously given to the same pupils this year; it may be in the nature of an examination covering several lessons, or in the nature of a test exercise for ascertaining the results of no more than a single lesson, provided such lesson be a typical or representative lesson; it may be a supervisors' diploma examination or a teacher's promotion examination; it may be anything the ingenuity of the teacher may suggest in conformity with the positive requirements above made.

3. *Length of the Exercise.* — Exercises should not be too long — in general not longer than can easily be prepared in rough, corrected, and copied upon the prescribed paper in two hours.

4. *Genuineness of Work to be secured.* — From the beginning of the writing of the rough draft to the end of the copying, the pupils should not receive from the teacher or from one another any direction, suggestion, or aid whatever. All necessary directions by the teacher should be given before the writing begins. The following language is quoted from a circular issued by Prof. SELIM H. PEABODY, Chief of the Department of Liberal Arts, World's Columbian Exposition:

"As before suggested, the method of obtaining pupils' work must be intrusted largely to the discretion of the State executive authorities. Whatever method is adopted, much stress should be laid upon the injunction that every item of work presented as the product of the pupils should be absolutely genuine. The interference of a teacher, even to the correction of an obvious mistake, the retouching of a shade in a drawing, the fitting by a shaving of a joint of woodwork, the dotting of an "i" or the crossing of a "t" should be deemed an inexcusable fault; and any work so "improved" should be rigorously rejected. Each item should be forwarded exactly as the pupil left it. No special instruction, practice, or drill should be given to any pupil, class, or school, preparatory to work which is intended for the Exposition. The actual fruits of the regular school system should be presented without being worked up for this special purpose."

5. *Form of Papers.* — The pupils will write on one side of the special paper furnished for the purpose, using ink (except that primaries will generally use pencils), and leaving the margins clear.

The broad margin is to be at the left, for binding; the narrow margin at the right. The general title of the exercise is to be written on the top line of the first page.

Diagrams, sketches, maps,¹ etc., may be placed on the back of the first leaf facing second page of pupil's manuscript. At the end of his manuscript, the pupil will write his name, age, year of the school course (counting from the lowest class primary, which is *first* year, to highest grammar, which is *ninth* year), the name of his school, and the date, in this form:

JOHN WINTHROP,
Ten years old.
Fourth year in the Course.

MAYHEW SCHOOL,
June 10, 1892.

¹ For maps, printed outlines — special edition by D. C. Heath — or pasteboard forms for tracing outlines may be used, the fact in either case being stated.

6. *Selection of Papers.* — The teacher will require his whole division to take part in the exercise ; but will select the best papers, in number not less than six nor more than ten, to send to the Superintendent's office.

7. *The Teacher's Preface.* — The teacher is expected to write a preface, using the same special paper as is provided for the class. This preface is for the purpose of showing what the class papers illustrate. It should begin with a statement of the requirements of the Course of Study relative to the branch of study, and to the grade with which the exercise has to do. It should show how the exercise is related to the whole year's work, and illustrates it ; what the teacher's general method has been, and how the exhibited work illustrates it ;—in a word, the preface should set forth all that an interested stranger might wish to know about the exhibited work and the circumstances of its production. Here is the proper place for recording the questions or the topics set, and the directions given for writing the exercise.


In conclusion there should be a statement in the following form, wherein the proper words will be substituted for those here italicized :

This exercise was required of a class of *so many* members, *so many* being present and taking part. The best *ten* papers are herewith presented. They are absolutely genuine work of pupils in every respect, and have been prepared in obedience to all the rules made by authorities having jurisdiction in the matter.

Anne Hutchinson,
Teacher.

Mayhew School,
Boston, June 10, 1892.

8. *Sending the Papers to Mason Street.* — The papers for each single exercise, together with the teacher's preface, should be placed flat in an envelope or wrapping paper and securely tied. No rolled or folded papers will be accepted. Besides the usual direction outside, there should be the name

of the school or district from which the papers are sent, together with the Schedule Number corresponding to their subject matter, marked within a diamond thus : 

9. *Date of Sending in Work.* — Any work that can be prepared *better* in the autumn than now may be delayed till late in October ; but the work prepared this month and next is expected before June 30.

10. *Manual Training.* — A special circular relating to this branch has been issued by the State Committee. Teachers of Sewing, Cooking, Woodworking, Sloyd, etc., are referred to that circular for specific directions as to the preparation of work for exhibition. Send only excellent work, and not a great quantity of that.

11. *Elementary Manual Training.* — This branch in primary schools is much the same as the paper folding, paper cutting, cardboard construction, clay modelling, sewing, stick-laying, etc., of the kindergarten ; and teachers are referred to the Kindergarten Circular issued by the State Committee for full directions.

12. *Kindergarten Work.* — Follow directions in the Kindergarten Circular issued by the State Committee. Send only work that is distinctly meritorious, and not too much of that.

13. *Clay Modelling.* — Send, securely packed in boxes, *three* pieces of a kind. Send only work that is distinctly meritorious, and in limited quantity.

14. *Circulars* issued by the State Committee on Public Education, World's Columbian Exposition, may be obtained by addressing Mr. S. T. Dutton, Secretary, Sears Building, Room 309, Washington street, Boston. They have been sent to all school principals in Boston for their information and guidance.

15. Specialties not apparently classifiable under any item of the above Schedule of Particulars can be arranged for by

personal conference or by correspondence with the undersigned. All questions relative to Drawing are referred to Mr. Hitchings; relative to Sewing to Mrs. Fifield; relative to Kindergarten work to Miss Pingree; and relative to Physical Exercises to Dr. Hartwell.

16. *Latin and High Schools.* — The head masters and teachers of these schools will observe the foregoing directions so far as applicable. Their attention is also called to a Circular issued by the State Committee containing detailed suggestions. One suggestion therein contained, however, will not be best for this city; where the enormous quantity of work that would be heaped up by accepting the "work of entire classes" seems to forbid our contributing any but "selected work."

All readers of this Circular are earnestly invited to communicate to the undersigned without delay any suggestions that may be helpful in the general enterprise.

EDWIN P. SEAVER,
Superintendent of Public Schools.

BOSTON, May 20, 1892.

SCHOOL DOCUMENT NO. 12—1892.

TWELFTH ANNUAL REPORT

OF THE

SUPERINTENDENT

OF

PUBLIC SCHOOLS

OF THE

CITY OF BOSTON

MARCH, 1892



BOSTON

ROCKWELL AND CHURCHILL, CITY PRINTERS

1892

REPORT.

To the School Committee:

The Superintendent of Public Schools respectfully submits his twelfth annual report.

STATISTICS.

The principal items to be found in the statistical tables appended to this report are here given side by side with the corresponding items from the statistics of former years, to facilitate comparisons.

The whole number of pupils belonging to all the day schools on the 31st day of January, each year:

1888.	1889.	1890.	1891.	1892.
58,471	61,100	60,502	60,994	62,009

Belonging to each grade of day schools January 31, each year:

Normal School:

122	170	178	176	182
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Latin and High Schools:

2,934	3,033	3,090	3,274	3,444
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Grammar Schools:

30,795	31,407	31,347	31,504	31,294
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Primary Schools:

24,620	25,416	24,421	24,462	25,098
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Kindergartens:

—	1,074	1,466	1,778	1,991
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The average number of pupils belonging to all the day schools during the five months ending January 31, each year:

1888.	1889.	1890.	1891.	1892.
58,223	60,126	60,367	60,919	61,661

The average number of pupils belonging to each grade of day schools during the five months ending January 31, each year:

Normal School:

124	153	183	188	197
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Latin and High Schools:

2,975	3,082	3,213	3,322	3,488
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Grammar Schools:

30,840	31,448	31,777	31,675	31,398
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Primary Schools:

24,284	24,467	23,832	24,035	24,682
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Kindergartens:

————	976	1,362	1,699	1,896
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The average number of pupils belonging to the special schools during the time such schools were in session to January 31, each year:

Horace Mann School for the Deaf:

72	76	89	85	87
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Evening High:

1,274	1,473	1,998	2,132	2,148
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Evening Elementary:

2,085	2,330	2,968	3,243	2,848
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1888.	1889.	1890.	1891.	1892.
Evening Drawing:				
557	557	559	628	666
Spectacle Island:				
15	22	22	15	15

PROMOTIONS.

For two years past tables have been constructed to show how many children there were in each grade who had been in that same grade more than one year; in other words, to show the numbers of children who yearly fail of promotion. These tables have drawn attention to a very important matter; for when we find twenty, thirty, and even fifty per cent. of a class failing to be advanced a grade for a whole year in some schools, and no more than five or ten per cent. so failing in other schools, we may feel sure that there is something wrong in the one case or in the other. Information for another such table has been collected this year, but the table has not been printed, because the state of facts disclosed does not differ materially from that of former years. Perhaps a year or two hence a table can be prepared which will show marked changes for the better. There is hope of this because the subject of promotions is this year engaging the earnest attention of the principals. There is no more vital question connected with the internal management of our schools. It is fundamental, and has bearings on many other questions which arise from time to time in public discussions.

Just now, for example, we hear and read much about "shortening and enriching the grammar-school

course," — a question which has been brought forward by an association of college presidents. In the general public discussion of this question, I do not propose to engage through the pages of this report, but merely allude to it now to show how the ground must be cleared of sundry preliminary questions before effective discussion can begin.

Before we can decide wisely about shortening the course, we must satisfy ourselves as to whether it is and is to be permanently necessary for large numbers of our pupils to spend more than a year in each grade, and considerably more than six years in doing a six years' course of study. If we are satisfied that this is not necessary, the reform should begin with our methods and standards of promotion; or with the rule prescribing fifty-six pupils to a teacher; or with the practice of organizing the lower grades in large divisions and the upper grades in small ones; or with the plan whereby a class receives all its instruction in all the different studies and exercises from one and the same teacher; or with the classification which yokes the bright and the dull together for a whole year, compelling the teacher to deal with the *average* intelligence of a class, and to permit the quicker and brighter pupils to take care of themselves or waste their time.

But if, on the other hand, we are satisfied that the present course of study necessitates seven years study with many, and eight or even nine years with not a few, then the course of study is the first thing to be attacked. Or if we find that the trouble grows, not out of the course of study theoretically considered,

but out of the practical interpretation thereof grown habitual in the schools, then this practical interpretation must be changed. Facts bearing on all these preliminary questions will be found in different parts of this report.

Returning now to the statistics of promotion gathered from the Reports on Organization which the principals rendered Oct. 31, 1891, there were found at that date nearly six thousand children who had not been advanced a grade for the whole year, between October and October. Some of these had been advanced "half a grade," and would be advanced another "half-grade" at mid-year; in other words, these were taking a year and a half to do a year's work. Others were so placed that the whole of this year in addition to the whole of last year must be spent in one grade, if indeed they should remain so long in school. Many become discouraged under such circumstances and drop out.¹

¹ In a certain school, which shall not be named, and so recently that the case has not yet lost its point, a second class of sixty pupils was thoroughly taught in all the studies of the year by one of the most able and faithful teachers in this city. The evidence is convincing that all these sixty pupils were well prepared for advancement to the first class. Of course, some were better fitted than others, if fitness be determined by reference to a scale of examination marks; but there was no doubt that the pupils who stood at the foot of that scale would have been much better employed on the new work of the first class than in going over again the work of the second class. Fifty-seven of the sixty returned to school after the summer vacation; but only forty-five were admitted to the first class. That was the limit set for the size of that class in that school. The other twelve were obliged to begin again the work they had entered upon twelve months before, and already done well enough for all practical purposes. Why? Because, under the greatest-good-to-the-greatest-number rule, the second class teacher must adapt his instruction to his forty-eight new pupils just up from the third class, rather than to the twelve old pupils from his last year's class. Why were not these

The six thousand non-promoted pupils were distributed by grades as follows:

GRADES.		Whole number in the grade, Oct. 31, 1891.	Number of these not promoted for one year.	Per cent.
GRAMMAR,	Class I. . . .	2,586	19	0.7
	Class II. . . .	3,664	365	10.0
	Class III. . . .	4,863	552	11.4
	Class IV. . . .	5,769	722	12.5
	Class V. . . .	6,863	901	13.1
	Class VI. . . .	6,698	621	9.3
	Ungraded . . .	1,312	209	15.9
PRIMARY,	Class I. . . .	6,305	173	2.7
	Class II. . . .	7,977	699	8.7
	Class III. . . .	10,460	1,696	16.2
Total,		<u>56,497</u>	<u>5,957</u>	<u>10.5</u>

If these numbers of non-promoted pupils were proportionately distributed among the schools, we might inquire for general causes affecting all schools nearly alike, as sickness, truancy, neglect, dulness, inefficient teaching by substitutes or others. But the distribution is far from proportional; the numbers being in some schools too small to deserve notice, and in others much too large to pass unnoticed. Evidently, then, we are to look, not for general

twelve admitted to the first class? No good reason has yet been discovered. What has been the result? The result has been that these pupils were bored and discouraged. They have dropped out of school, one by one, until at last accounts nearly all were gone.

If such things had never been done save once in one school, there would be no justification for publishing this note; but the case is a representative one, and illustrates a too prevalent practice.

causes, but for peculiarities in the management of the several schools.

To keep the general attention directed to this important matter, it is proposed to ask the principals each autumn, after the organization of the schools is well settled, for a Report on Organization. These reports may be used to record the special circumstances whereby an unusually large number of non-promoted pupils in any class may be explained. Assuming a margin of ten per cent. as sufficient to cover all cases of non-promotion fairly referable to general causes, special explanations would be expected only when the number of non-promoted pupils rose above that limit to fifteen, twenty-five, or even fifty per cent. of the whole number in the grade. And these special explanations should allege something more than the general causes already allowed for in the ten per cent. margin; otherwise the explanation may fail to explain. A few special explanations quoted from this year's reports are here given, to illustrate the kind which do explain.

“The pupils (girls) in Classes II. and III. were in Second Division last year, and were not expected to do the full work of the grades, and most did poorly what was expected. Some had good reasons — sickness, sore eyes, etc. Some came from other schools, and were not prepared for the grade, but on account of age were permitted to try. Those in Class VI. were mostly those promoted to the grammar school on account of age. They were unfortunate in having a substitute a good part of the year. They are by no means yet ready for the fifth class.”

One division of boys has carried the designation Class IV. a year and a half, having entered on the work of that class before they were fully prepared for it. They will do some third class

work before their name is changed. The final result will be three years of the course accomplished in two years' time. [Substance of oral statement made by the master.]

“Insufficient school accommodations. . . . Promotions have been made to suit the capacity of the rooms. For two or three years it has been the aim in the school so to arrange the classes and grading that each teacher should teach only one grade. As a result, promotions have often been made when the pupils were not properly qualified. Many promotions were made in which the work of a whole year was skipped by some of the abler pupils. It was decided, in June last, to keep back those who had been too rapidly promoted, and to abandon the plan of trying to have one grade only to each teacher. Thus the large number of ‘repeaters’ in all grammar classes is, in part, the accumulation of three years.”

“The larger number kept back in grades V. and III. of the grammar is due, in large measure, to the fact that, in the one case, I have but two [fourth] class-rooms for the three Vths, and, in the other, but one second class room for the two IIIs.”

“The fact that we have admitted during the past year about fifty pupils either from a parochial school or direct from Ireland or the British Provinces may account in part for the number of non-promoted pupils. Also, the fact that many of our pupils are out of school at work some months each year may be considered.”

“There are over four hundred boys in this school who were born in lands where the English language is not known, and who came here after they were eight years of age; and a large part of the rest of the boys hear no English at home. We are constantly receiving at the bottom and discharging from all grades — many before they have been in this country a year.”

“There is not a child of American parentage attending school in this district. The inability of the children to speak English.”

“The pupils kept back in Class III. had a substitute teacher most of the year and were not prepared for Class II.”

“The reason why so many were kept back in the second class [grammar] is that they spent too much of the time fooling.”

“Most of the non-promoted in Class IV. spent the year in worrying substitutes.”

“The teacher of the lowest division of that class [fifth] was absent during the entire school year, and the class was not fitted properly for promotion.”

“One of the third classes in the primary school was formed late in October, 1890, and had three teachers during the year. The regular teacher was absent, on account of sickness, for three months. If she had remained, a much larger percentage would have been promoted.”

“The great number of ‘stay-overs’ in the two lowest classes of the primary school is due to the fact that many of the children are taken from school for weeks and months at a time during the cold season.”

“In outlying districts like ours the attendance in the lower primary grades is very irregular during the winter months.”

“The large number of non-promoted in Class III. primary includes those who entered the class in May and June last year. They will be promoted in February.”

“A severe epidemic of measles, the worst in the history of the school, preventing nearly all of said ‘repeaters’ [in the lowest primary grade] from attending school for months.”

The foregoing explanations are not all satisfactory, or ought not to be, to the school authorities. Why should promotion depend on square feet of floor space rather than on intellectual attainments? A supply of substitute teachers able to teach the difficult middle grades of the grammar school ought to be procured, even at considerable expense. The waste of children's time in this part of the course is deplorable, and ought to be prevented.

THE AVERAGE AGE OF PUPILS.

There is usually a good deal of loose talk about the average age of pupils in the different grades of the primary, grammar, and high schools. As nothing has been printed lately to serve directly as a cor-

rective to such looseness, attention is invited to the Table of Average Ages, which will be found in the Appendix, pp. 200, 201. The date of this table is October 31, so that the average ages shown are those of the earlier part of the school year. Similar averages taken in the latter part of the year would be somewhat higher; but how much higher I have not the data to compute. It is not correct to assume that a given lapse of time adds just so much to the average age of a class or of a school. This would be correct only in case no pupils left school during the interval, or in case the average age of those leaving were just equal to the average age of those remaining. But neither of these things happens. The fact is that pupils are constantly dropping out; and it is the older rather than the younger who drop out. Therefore in general a given lapse of time adds less than its full amount to the average age of a class or of a school. This conclusion is strikingly illustrated by the Table of Average Ages just referred to, where the differences between the average ages of successive classes in the same school are seldom equal to a full year, and are often as small as half a year. In schools having large numbers of non-promoted pupils these differences are smaller than in schools where nearly all pupils are advanced a grade every year.

This Table of Average Ages furnishes the data for working out more conclusions than I now have the time to develop.

THE TABLE OF ORGANIZATION.

Another table which exhibits interesting information drawn from the October reports is entitled the Table of Organization, and is printed in the Appendix, pp. 192-199. This table shows the grade and the number of the pupils in each single division throughout the grammar and primary schools.

By *division* is here meant the group of pupils occupying one room and receiving instruction from a single teacher. This description applies universally, with two exceptions: first, the divisions occupying the principal's room usually have two teachers, the master and the first assistant or the sub-master; second, divisions in the primary classes which exceed sixty in number usually have special assistants to help the regular teachers.

By reading the table along the upper line we learn how many pupils in each district have been taken under the immediate care and instruction of the principal and his assistant. The lower lines show how many divisions have been made in each grade and how many pupils are in each division under the care and instruction of a single teacher. Primary divisions in which special assistants were employed are noted in the table.

The table may be left to tell its own story. Allusion shall here be made to only one matter, which former reports have touched upon and which the reader will discover by comparing the size of the lower-grade divisions with that of the upper-grade divisions, and contrasting district with district in

respect to the results of such comparisons. Until the time comes to relieve teachers by giving them divisions of less than fifty-six pupils each, and that time ought soon to come, a little relief can be afforded some teachers by making the numbers in the divisions more uniform.

Indeed, may it not be best to enter on the desired reform at once, with the purpose of carrying it out gradually? Let the reform begin with Class III. primary. This class has the largest divisions; and in them are by far the largest numbers of non-promoted pupils. It may be said with good reason that teaching in this grade requires greater ability in the teacher than does teaching in the grades above. But as superior ability cannot be counted on here more than elsewhere, it would be well to make a corresponding reduction in the number of pupils to be taught. There might be a rule for forty-eight pupils to a teacher in Class III., while the rule of fifty-six remained for the other grades. Such a rule would afford some relief at the point where relief is most needed. Probably the effect of the new rule would be seen at once in the diminution of the number of non-promoted pupils.

TIME TAKEN TO ACCOMPLISH THE GRAMMAR COURSE
OF STUDY.

Each year the question is asked concerning every candidate for a diploma, how long (years and months) since the candidate entered the sixth class of a grammar school in this city? The answers to

this question are recorded on the sheets containing the results of the diploma examinations and the marks for the year's work — the so-called "Z blanks." All the answers recorded in June, 1891, have been consulted, and the results are as follows :

Whole number of pupils examined for the Grammar School Diploma, June, 1891	2,533
Set aside as having entered some class higher than the Sixth, or for lack of information	259
	<hr/>
Leaving to be considered	2,274
	<hr/>
Of these, had finished the course in four years	21
Four and a half years	6
Five years	231
Five and a half years	68
Six years	1,040
Six and a half years	101
Seven years	560
Seven and a half years	62
Eight years	154
Eight and a half years	6
Nine years	22
Ten years	3
	<hr/>
Total, as above	2,274
	<hr/>

Thus it appears that 46 pupils in 100 come through the course in six years, 40 take more than that time, and 14 take less. The average time taken

is 6.35 years. For every pupil who finishes the course in less than six years there are three who take more than that time.

For two-fifths of the grammar pupils "shortening the grammar course" might mean no more than bringing it down to the prescribed six years. This can be done by more careful attention to the matter of promotions; for, in general, those schools in which unusually large numbers of non-promoted pupils are found are the schools in which pupils spend the longest time in completing the course — a result we should naturally expect, and which the returns show.

The causes of long delay in finishing the grammar course are to some extent general in their operation; but for the most part they are special, and peculiar to the management of particular schools. A table showing the facts by districts would afford some striking contrasts; and some of these would occur where least expected. For example, three schools could be named, all mixed schools and all quite similarly circumstanced, in one of which there were scarcely any in the graduating class but took six and a half or seven years to finish the course, and five pupils were reported as having taken nine years; in another scarcely any but took just the six years; and in another a large number who took only five years, and the rest only five and a half or six. Such facts prove that the length of time pupils spend in school depends chiefly on the management of the school; not, as is so often asserted, on general causes, like health, social environment, mental capacity, or moral quality. Nor are the differences between district and district

in respect to the capacity of children for learning so great as some would have us suppose. These minor points are sometimes so emphasized that we forget the main points, which always are the efficiency of the teaching and the management of promotions.

STANDARDS FOR PROMOTION.

To estimate accurately the work done grade by grade in the schools, it is not enough to consult the course of study; for this does not contain explicit definitions of the standards to be reached by the pupils in each grade before promotion to the next grade. The course of study merely states in general terms the kinds of work to be done, and assigns a due proportion of the total school time to each kind. The work actually done, both in amount and in quality, must be learned from other sources, and among such other sources a good one appears to be the questions set for the stated examinations, especially those used in testing fitness for promotion.

In nearly all the high and grammar schools the custom has long prevailed of examining every class, at or near the end of the school year, on the year's work. These examinations are usually in writing; and their results largely determine promotions. The question papers are prepared by the teachers; sometimes by the principal, sometimes by the teacher of a grade above that examined, and sometimes by the same teacher who has done the teaching; not in any case by the superintendent or supervisors. Examinations by the latter come at the end of a whole

course of study, and are used to aid in determining pupils' fitness to receive the diploma or to pass from one grade of schools to another, as from the primary to the grammar or from the grammar to the high. No less than nine-tenths of all the examination questions set for our high and grammar school pupils are set by the teachers.

Now the question papers thus prepared by teachers may be taken as the most accurate available measures of the amount and quality of the work done in each school. For it is the teacher who knows best what the pupils have been taught, and how they have been taught, and what, therefore, they may fairly be expected to answer. The standing complaint about outsiders' examinations is that pupils are questioned about things they have never been taught or about matters too difficult for them to understand. But this complaint does not hold against examinations by teachers. These are sure to be within the range of the teaching, and yet not far within; since every teacher wishes to maintain a standard of examination not much inferior to that of his teaching. Hence it is quite safe to take the teachers' question papers used for the annual promotions as accurate indications of the standard reached by the year's work in the several schools. And a comprehensive collection of such papers arranged by subjects and by grades would probably convey to the studious reader the best general idea of the work accomplished grade by grade under our present course of study.

Such a collection of teachers' question papers has

been in my possession for more than a year. The papers were used in May and June, 1890, for the promotion examinations, and were sent to me by the principals in response to a request for information touching methods of making promotions. The grammar school question papers have been studied with no little care, to the end that the standards in actual use for promotion from grade to grade might be accurately ascertained and described.

The end proposed, however, is a difficult one. Even if one were satisfied with the phrases he had chosen to express his own conception of the standards he had discovered, he might well distrust the power of his language to convey his conception accurately to another. It seems to be a case for concrete illustration rather than for abstract phraseology. It seems better, therefore, to bring forward a representative selection from the papers themselves than to attempt a general description of them or a statement of the standards implied in them.

Accordingly there has been placed at the end of this report (Appendix A) a mass of question papers in language, grammar, spelling, geography, history, mental (oral and sight) arithmetic and written arithmetic, arranged by grades from Class II. to Class VI. inclusive. The papers selected constitute about one-fourth of the whole collection, and are believed to represent fairly the character of the whole. The utmost care has been exercised in this particular. A few papers have been selected to illustrate extremes or peculiarities; but the greater number are of the average character of the whole.

The number of grammar schools represented in the published selection, as well as in the whole collection, is forty. The other fifteen might have been represented, but that, in some, the use of general written examinations at or near the end of the school year for promotion purposes has been discontinued, and from others no question papers were received. Still, the forty schools fairly represent the whole; and papers enough have been given under each branch of study to enable the reader to form a just idea of the prevailing standards.

No papers on elementary science have been printed, because none were sent in; although written tests are said to have been given in a few of the schools. Now elementary science is not a branch which lends itself easily to the method of written examination. Only when it is pursued as an *information* study and not as an *observation* study does it admit such treatment. But the authorities are agreed that only as an observation study has it much value in elementary schools. Therefore we are not to expect many question papers in elementary science, even when that branch shall have received that full attention in the schools which is now earnestly hoped for. The written examination in its usual form is fatal to right methods of teaching observation. Progress in this branch must be tested in some other way.

In physiology, which is pursued in our schools as an information study, question papers might easily have been furnished; but my collection contains papers from only seven schools. There is a like scarcity of papers in drawing and in music.

This scarcity, in the case of drawing at least, appears to be due to the fact that it is not the prevalent custom to examine in this branch at promotion time. As to music, the less of written examination the better; for the questions set can relate only to the technicalities of staff notation, and so will inevitably place the greatest emphasis on the least important part of the instruction, as if we were to examine in reading by testing pupils' ability to spell. But in a number of schools all the classes were examined in *singing*. This practice ought to become universal; and a generous share of the credits ought to be assigned to this department of school work.

The same remark applies to drawing, to elementary science, to sewing, cooking, and all branches of manual training. Pupils should have the best of reasons for supposing that their promotion will depend quite as much on their doing well in these branches as on their doing well in arithmetic, grammar, geography, and spelling. We all know how prone we are either as teachers to teach or as pupils to study with greater zeal those branches in which our work is to be brought to the ultimate test of a written examination, — particularly if that examination be fraught with interesting personal consequences. This consideration is not put forward as an argument for the abolition of written examinations, but as a reason for keeping an even balance among all the branches of school work by assigning to those which are not sustained by the stimulus of written examinations a due proportion of credits to be won through other forms of effort.

This balance is now well preserved, as already intimated, in some of our schools; nor is it wholly neglected in any; yet the matter seems to call for notice just here, partly to show where improvements may be needed, but chiefly to guard readers against the supposition that the question papers printed in the Appendix represent the whole work of the schools. They represent, and are intended to represent, merely the standards of attainment in certain branches of the work. There are rich lines of work which these papers do not exhibit at all, but which, nevertheless, ought not to be overlooked. Some of these will be spoken of later in this report.

On the other hand, the printed question papers may indicate work going on which might better be discontinued. When the time for general declamation about "shortening and enriching" the grammar school course of study shall have passed, and we shall have come down to the business of deciding in particular just what shall be thrown out and what retained, we shall be greatly aided in our work by consulting an extensive collection of question papers; for these will show what may be designated as the *live parts* of the course of study.

It is a common error among educational writers and speakers to assume that all topics embraced under each title in the course of study, that all the complicated puzzles of arithmetic, the abstract technicalities of grammar, or the dreary rubbish of geography, found between the covers of text-books, are really taught in the schools. These question papers show how great that error may be.

There are those who contend that portions of arithmetic now taught ought to be thrown out, to make room for algebra and geometry. There are others who believe that recent reforms have resulted in too much throwing out already. Both parties will be helped by a careful perusal of the question papers. One may discover that there now remain but few topics of arithmetic which are useless or can be treated better by algebra; the other that topics banished as arithmetic may be restored as geometry or algebra; so that one of the proposed "enrichments" amounts merely to a change of names. And so in other branches. Many topics now spoken of as new were in the schools of a generation or two ago under other names or guises.

If attention can be drawn away from printed courses of study and from text-books to the work actually going on in the schools, as shown by examination papers, the current discussions concerning grammar school work will gain much in accuracy and value.

It is no part of my present purpose to comment extensively on the question papers here selected for publication. They shall be left to tell their own story. There are particulars, doubtless, in which some of them are open to criticism; but in the main they indicate sound methods of teaching and sensible views of the purposes of school instruction. The papers have been printed just as written, except for the correction of occasional inadvertencies in point of grammatical form, or the change of a name to conceal the source of a paper.

There is, however, one matter of form which, though regarded by me as erroneous, has been left uncorrected. I refer to a certain use of algebraic signs not in accordance with the rules of algebra. For example, the question

$$3 \times 4 - 5 \times 2 = ?$$

has one answer if the signs be interpreted according to the laws of algebraic notation, but another answer if an interpretation more or less current among teachers of arithmetic be applied. This latter interpretation ought, I think, to be utterly banished. The objection to it is that it is learned in the grammar schools only to be unlearned in the high schools, thereby entailing serious loss of time and more serious mental confusion. It is like the obvious absurdity of learning to spell words one way in the primary schools and another way in the grammar schools. Both ways of spelling might be equally reasonable or unreasonable, but it is deemed important to have only one way universally recognized as the right way. There ought to be only one right way of using algebraic signs; and I am not aware that competent authorities have yet recognized more than one right way.

There ought to have been printed with each question-paper a statement of the time allowed for answering it; but this statement was so frequently wanting in the originals that in the printing the omission of all time limits has seemed best.

As to time limits in general, pretty full information

has been gathered from the letters of principals sent in at the same time with the question papers. Upon this information it may be said that the allowance of time for written examinations widely differs among the schools, being only from half an hour to an hour in some schools, while in others not less than the whole morning session is devoted to a single examination. In one school — to give an extreme case — the time allowed for an arithmetic paper was the entire school-day, both morning and afternoon. The opposite extreme is found in four or five girls' schools, where no written examinations at all are given, promotions being made on the year's record of work, or on the teacher's opinion of the pupil's fitness for advancement, or on both these considerations combined.

The best practice, I am persuaded, lies between these extremes. To be rid of the evils that sometimes grow out of written examinations, it is not necessary to abolish them. That is too much like burning down your barn to destroy the rats. Used with reason and moderation, written examinations are stimulating and helpful — nay, even necessary to fix the best results of teaching. It is only when they are too long or too difficult, or when pupils are harassed by reiterated allusions to the dire consequences of failure that the evil results appear. There ought to be written examinations near the close of the year in all grammar and high schools, for all the classes, and on every branch of study that admits that method of testing and recording pupils' progress. Even the teacher's judgment, upon which so much

dependence is placed and rightly placed now-a-days, needs the aid and guidance of good written examinations. The questions set ought to be reasonable in character and moderate in number. The time required to answer them ought not to be more than an hour for any but the slowest pupils; and one hour and a half would be the limit, beyond which no pupil, however slow, should be allowed to sit. No more than one such examination should be allowed to take place in a single day. These rules I would have applied to grammar and high schools, and to supervisors' as well as to teachers' examinations. For primary schools, the rule should limit the time to a half or three-quarters of an hour. Doubtless these suggestions as to time limits cannot be adopted without considerable changes in the practice of the supervisors and of many teachers; still, I believe the changes ought to be made, and that the reform would be no less beneficial than it would be agreeable to all concerned. Moreover, by requiring due moderation in the use of written examinations, we may forestall a growing popular sentiment, which threatens, unwisely, I think, their utter abolition.

MANAGEMENT OF PROMOTIONS.

Information relative to the management of promotions in the several schools was received at the same time with the question papers, in response to inquiries upon that matter. As already intimated, practice is widely various. Perhaps the most interesting way of presenting this variety of practice will be to give

a series of quotations from the letters in which the principals have described what is done in their several schools.

Here are, in the first place, some passages which describe the prevailing method; that is, the method which, with minor variations, is used in the great majority of the schools:

Annual written examinations for promotions in every branch mentioned in the "Course of Study," similar to those indicated in the papers herewith sent, have been given in this school since its organization twenty-five years ago. When promotions were made twice a year, examinations were made semi-annually. More reliance, however, as a test for promotion, is placed on the pupil's application, and year's work, than on these examinations. But the necessity of preserving the school organization, and especially of having an average of fifty-six pupils to a teacher, often overrides both these considerations and compels the promotion of pupils whether qualified or not.

* * *

It is my practice to examine the first classes of the primary schools and the classes of the grammar school below the third in some branch of study each month; the upper classes less frequently. The marks thus received are counted with those received for the year's work. At these examinations, I ask the questions, and give the class what in my judgment is sufficient time to write the answers. The ground covered at such times in the several branches is the assignment for the month. My former custom was sometime during the month of June to give the teachers sealed envelopes with directions similar to those issued by the supervisors for the first class, but the present course is regarded as valuable because of its stimulating effects upon the pupils. Near the close of the year, questions of a more general character are given, but no examination furnishes a basis for promotion, except so far as it is taken in connection with the year's work.

* * *

Enclosed please find my plan¹ for the year in examinations. During all the months up to May, the tests are given by the teachers. All classes are given tests by me or by my assistant during May and June in all branches mentioned in this paper. The dates for June are decided upon in May. . . . All the tests in this plan are written, except, of course, reading, and generally music, also physiology. Time given for all written tests is as much of a half day as is needed. We intend to make this work systematic, that no worry or anxiety can ensue.

* * *

The enclosed examination questions have been answered in writing. I have had each scholar in school write me a letter, every one of which I have read. I have examined my whole school in mental arithmetic, taking the examples from the mental arithmetic with slight modifications. I have given the examinations to each class myself, and have not preserved a copy of them. The examination questions are always prepared by myself, and modified, if the teacher finds that they are not suited to her class. The pupils are not limited in regard to time. I have also examined my entire class in reading.

* * *

Every class has been examined by means of set questions, to which written answers were required, in every branch of study, except natural science, required by the programme. The questions were made by the teachers and submitted to the master together with the results. The questions were not changed in any case by the master. In each case, the children were allowed all the time they wished in which to answer the questions, and consequently vary greatly in the different rooms. The teacher selected the date and time for the examination; consequently there is a great variety in this respect. This course in the matter of examinations was adopted by me after a great deal of thought and consideration. Its object was to enable me to form a definite idea of each teacher's interpretation of the programme, her mode of instruction and examination. The results enable me to intelligently criticise the

¹ The enclosure was a schedule of dates for examinations through the year, May and June excepted, by which every class appeared to have an examination every week in some one branch of study.

work and to suggest such changes as will be likely to harmonize the work of the different grades. I should not recommend this course on the part of the master for all times ; but by it I have this year been able to secure a specific result, which I think justifies its use.

* * *

Every class is examined during the last ten days of the term in writing, drawing, music, oral, written, and sight arithmetic, geography, reading, spelling, and language. Classes two and three have grammar and history of the United States and class second, physiology. All of these that can be are written examinations. I see every year some pupils who, in taking the supervisors' examinations, are unable to do justice to themselves on account of the time limit. I, therefore, impose no such limitations in my own. These examinations are not for promotion any more than the other three of the year ; nor, indeed, do I bind myself to promote all who pass the four successfully, or to keep back all who do not ; much depends upon day by day performance and other things not necessary here to specify.

* * *

The examinations were begun on April 25th, and continued at intervals of a week or less, till June 13th. Every topic was examined by set questions. In reading, all the pupils were marked by myself. All of the grammar grades were examined. The examinations in a given topic were repeated, five questions only being given at one time. This was done to relieve both teachers and pupils from undue strain at any one time. A choice of questions was also given, as will be seen from the papers submitted. The time allowed for an examination was fixed by the class itself, a show of hands being called for by the teacher after an hour's work. If the reliable pupils wished the time extended, the teacher acquiesced in their judgment, and specified the time for the work to be finished. The primary grades have also been examined and marked in a similar manner.

* * *

The next two extracts refer to a practice which has been adopted in a few schools, whereby the

pupils who have done their year's work well are relieved of examinations at the end, only those whose promotion is subject to doubt being required to take the written test.

I am unable to respond to your request in full. I can only say, first: that the pupils in each grammar grade who have been faithful and constant in attendance are promoted without examinations, the others being examined. This fact is known at the beginning of the year. Second: all of the classes have been examined orally in geography and singing; and by written examinations in arithmetic, oral and written, and language. I am obliged to say, however, that I cannot send you the dates of the examination, because I have not kept them on record and the questions have been destroyed. The time allowed the children for answering the questions has been limited only by the length of the session. The slowest child has not been fettered in this respect.

* * *

The several classes were examined in the following branches of study: reading, spelling, language, geography, penmanship, drawing, written, sight, and oral arithmetic. The second and third classes in addition to the above took physiology and history. All of the examinations mentioned, with the exception of reading, were "made by means of written answers to questions." These questions were given to those pupils whose scholarship and conduct throughout the year had been "unsatisfactory." The remainder of the pupils, making up a large portion of the school, were promoted upon their "year's work."

* * *

Here are added three quotations to show what is done in some girls' schools where examinations for promotion in the ordinary sense have been discontinued.

We have no "examinations for promotion" in this school near the close of the school-year. Promotions in every grade are based

upon the work done from day to day in that grade. We hold examinations regularly during the year, on Friday afternoon. In the principal studies we have an examination every two months.

* * *

Up to date I have not given "at or near the end of the year" extended "examinations for promotion." I gave this year, about the last of May, an examination to all classes on the subject of arithmetic, to find out their standing from the master's standpoint. I rely mainly on the individual judgment of the teachers when promotion time comes. Each teacher makes a list of all her pupils in three parts. The first contains those who have stood head and shoulders above the rest of the class. The second consists of those who are fully qualified for promotion in the judgment of the teacher. The third consists of those who are not qualified. I have found this a good working-plan.

* * *

This school has not, for several years, been examined in the way the circular contemplates. Test exercises or regular exercises are marked from time to time from the early part of the year. The test exercises of the last three months of the year form the main basis of promotion. These exercises are made almost entirely by the teacher. They are, on account of their frequency, corrected mainly by the pupils, the whole class acting simultaneously on a question as the teacher dictates the method of correcting and the value to be assigned to a given question. The report is in per cents. These per cents. are entered in a book. The questions are not kept. They embrace a fair summary of the ground lately passed over. They apply to every subject that we have in hand, even to a dictation exercise. In time, may vary from ten minutes to one hour and a half. Within one week of the close of the year, a check-list is made out as indicated by the standing of the last three months. This is to give every child a fair chance to go forward in the school. Cases needing special mention are so noted at the side of the name. This list is especially useful, as a teacher may get married or be sick at the opening of the new term.

* * *

According to present information, examinations for promotion have been wholly discontinued in none but girls' schools. The practice followed in the Girls' High and the Girls' Latin Schools is described in the following passage, quoted from the principal's letter :

I have to report that we do not have in this building any examinations for promotion. We divide the school-year into five periods of two months each. At some time within each bi-monthly period, we hold an examination on the work covered by the preceding two months, and determine the standing of the pupil for the period in question by the results of that examination as modified by the teacher's judgment. The standing, as thus determined, is recorded in a report, which is sent to the parent and returned signed by him. The average of these bi-monthly records constitutes the standing for the year ; and the year's standing determines the question of promotion. A single report-blank answers for an entire school-year ; and the sixth column (see enclosed blank) affords a place for the year's standing, on which promotion depends.

In general, the foregoing excerpts, as well as the whole body of letters from which they have been drawn, show that good care is taken by the principals and teachers not to oppress their pupils with written examinations. The only suggestion I have seen any reason to make is that some of the examinations seem too long. As to cramming, it seems clear that the methods used in the examinations and promotions give that harmful practice little or no encouragement. There is no evidence that cramming is resorted to as a means of meeting the demands of the examinations.

Having now given such glimpses of our school work as may be had through the question papers, I turn to a side of that work with which written examinations have nothing to do.

MANUAL TRAINING.

The school-year now passing has witnessed a remarkable extension of manual training, particularly in wood-working or sloyd, among the grammar schools. Cooking and sewing, too, have lately received fresh impetus. In the primary schools, the instruction in elementary manual training given last year to the primary teachers by Mrs. Caroline F. Cutler, one of their own number, is already bearing good fruit, and will bear yet more abundantly when adequate supplies of material shall have gladdened the hearts of zealous teachers.

The present, therefore, seems a proper time for gathering into the record something of the history, present state, and prospects of manual training in the public schools of Boston.

SEWING.

Sewing has been taught to all girls in the Boston public schools for many years. It is now taught to every girl in the sixth, fifth, and fourth classes. Since every girl who goes to the public schools at all is pretty sure to go through one or more of these three classes, we are safe in saying that *all* girls receive some instruction in sewing; and nearly all

of them receive instruction three years to the extent of two hours a week. Sewing has been extended to one or more of the upper classes in sixteen schools. It is given in the third class of the Chapman, Dillaway, Everett, Prescott, and Tileston Schools. It is given in the third and first classes of the Bennett, Lyman, and Wells Schools. It is given in all the upper classes of the Bowditch, Gaston, Hancock, Hyde, John A. Andrew, Norcross, Shurtleff, and Winthrop Schools. When the statistics were taken last November, the number of pupils receiving instruction in sewing was, in the first class, 447; in the second, 423; in the third, 1,099; in the fourth, 2,880; in the fifth, 3,471; in the sixth, 3,459; in the ungraded, 446; total, 12,225. Some of these numbers are greater than the numbers of girls in the corresponding classes; but the difference is accounted for by the fact that considerable numbers of *boys* were receiving instruction in sewing. Of boys taught sewing there were in the Edward Everett School, 48; in the Gibson, 113; in the Harris, 20; in the Henry L. Pierce, 119; in the Lewis, 35; in the Martin, 102; in the Mather, 72; in the Mt. Vernon, 28; in the Stoughton, 58; total, 594.

Inquiry as to the nature of the instruction given in classes above the fourth has brought out the fact that there is a remarkable lack of uniformity. This is undoubtedly a consequence of the fact that instruction in the upper classes is of comparatively recent introduction in most of the schools. The following are specifications of the instruction given in the third class of the several schools:

“Drafting, cutting, and sewing; special attention to buttonholes; gathering and sewing of gathers” . . . “Making buttonholes and darning stockings” . . . “Dressmaking” . . . “Instruction same in kind as that in the lower classes, except that pupils in this class are required to baste their own work” . . . “Dress-cutting” . . . “A continuance of the work of the classes below” . . . “General work and sampler work in stitches not previously taught” . . . “Pupils are taught to cut and make all kinds of undergarments and buttonholes” . . . “Work regularly advanced; basting and finishing” . . . “Buttonholes, darning, mending, and making garments” . . . “Cutting, basting, and making; special attention to buttonholes” . . . “Running, felling, hemming, over-sewing, back-stitching, gathering, buttonholes, darning, patching; and cutting, basting, and making simple undergarments” . . . “Same work as in the fourth class except that the garments are usually of better quality, more nicely finished, and the class does this work usually as a whole on the same kind of garment.” . . . “Basting, buttonholes, darning dresses, feather-stitching, hem-stitching, patching, pillow-slips, sheets, shirts, skirts, underclothing” . . . “Calico dresses and underclothing” . . . “Children are perfected in the different kinds of stitches necessary in the completion of various useful garments; but no patch-work nor embroidery.”

Work of the second class:

“Patching, darning, and mending, and review of lower class work” . . . “Samples of all work done in the lower classes and new stitches introduced” . . . “Drafting, cutting, basting, etc.” . . . “Same as in class third” . . . “Same as in class third, also work on dresses and woollen goods.”

Work of the first class:

“Drafting and cutting” . . . “Cutting and making of dresses and undergarments” . . . “Dress-cutting and fitting” . . . “Drafting, cutting, and fitting” . . . “Drafting, cutting, basting, and finishing; practical dressmaking by rule” . . . “Taking measures for dresses, drafting waist patterns;

cutting, basting, and fitting the same by Taylor's system simplified" . . . "Drafting dresses by the Rood magic scale; each girl finally drafting and cutting a dress to fit her own form, which some of them wear before the year is out."

It is obvious from these specifications that the grades of work for the upper classes will need thorough systematizing before sewing can profitably be extended to all the schools of the city. It is true that much has been done during the last few years in grading the course in sewing for the lower classes. The instruction in these classes was first systematized and adapted to school purposes by Mr. Hardon, of the Shurtleff School. Not until this had been done did sewing spread much among the other schools. A similar work now needs to be done for the upper classes.

Touching the history of sewing in the Boston public schools, interesting communications from the masters of the Winthrop and Shurtleff Schools, and from the sewing-teacher of the Gaston School are here added.

The introduction of sewing into the lowest class of the grammar schools in the year 1854 was productive of very little good save as an entering wedge for general industrial training in public schools. This was felt by those having the subject at heart, and, in 1865 or 1866, a lady, widely known since for her active support of practical education, furnished the materials and a dressmaker and a seamstress one-half day each week, for the instruction of a more advanced class in the Winthrop School. I was fully convinced by the results of the utility of such education, and, in 1873, on my application, my sub-committee obtained permission of the Board to extend the teaching throughout the school, — the teacher to give her whole time and to receive equal

compensation with the regular teachers. In April, 1875, a special committee was appointed to exercise general supervision of the work throughout the city, and Miss Lucretia Hale, who has always taken great interest in the instruction, prepared the first official report. The same year the city solicitor gave an opinion that it was illegal for the committee to spend money for sewing, and the teachers were consequently suspended from most of the schools. Ladies came to the rescue, and the salary of the Winthrop School teacher was paid by them, until the Legislature in 1876 passed an act authorizing such instruction. As there was no competent authority to examine the work of the children in the several schools, ladies volunteered in different sections of the city, and a comprehensive statement of the situation in each school was forwarded to Miss Hale, and was embodied in her report. When the first exhibition was given in the Winthrop School, to which the School Committee and the masters of girls' schools were invited, and which they generally attended, Superintendent Philbrick, who was present, pronounced it a revelation in education; for the children in every room were sewing, and those in the first class were drafting patterns and cutting dresses from measurement; and all this instruction had been given without any detriment to the regular branches of study deemed essential. Mr. Philbrick was always afterwards an earnest promoter of the cause. At the Centennial Exhibition in Philadelphia there was an exhibit of sewing, and at every prominent exhibition since, both at home and abroad, in New Orleans, in Paris, twice, where a gold medal was received for sewing and drawing, and in Vienna, Boston has been represented in the department. The introduction of sewing into many other cities and towns, notably New York, Philadelphia, Washington, Baltimore, and Cambridge, Somerville, Springfield, New Bedford, Fall River, Lawrence, and Newton, in our own State, is directly attributable to inspection of the work done in the Boston schools. More than one thousand girls have been graduated from the Winthrop School, with rules and competent instruction for dressmaking.

ROBERT SWAN,
Winthrop School.

Sewing was called for by a vote of the School Committee some years anterior to my mastership. In 1865, when I became master of the Bigelow School, — then for boys and girls, — the sewing amounted to exceedingly little. During my mastership it was not greatly improved. The woman at the head of it had no organizing power or energy, and my hands were full with a district now embraced in the Andrew, Shurtleff, and Bigelow. When we came to the Shurtleff, in 1869, we took a start that meant business. First, every girl in the sixth, fifth, and fourth classes was to sew, unless eyesight or other affliction forbade. There was some opposition to this, and a wish of some also to be excused on “holy days.” This I fixed with the priest near by. That trouble has not appeared except once or twice for years. Second, we were bound to have no lost time or lost lessons by the girls present. To this end every girl made a bag to keep all the materials in. Then we procured large baskets to hold the sewing of each room. The sewing could thus be distributed and taken up in two or three minutes and set away for next time. A list of the things necessary to each girl was made, small in number, but insisted on. She could thus go to work at once. Then we came more to insist that each piece of work should stay at school until finished. There were sometimes proper exceptions to this. Then, to provide for cases of great poverty, I furnished a few materials in the hands of the sewing-teacher. Then we succeeded in getting a small allowance from the city for this purpose. It averaged about \$12 per annum. We can't go above \$18. To steady and stimulate interest, I personally invited well-known ladies of South Boston to inspect the sewing. I had given previous notice to that effect to all the sewing pupils. It had a great effect, for their daughters were in school and doing some of the best work, and it killed the notion somewhat entertained, that we were trying to provide for a seamstress class.

This was the beginning of the sewing exhibition. In a couple of years, this kind of exhibition was added to, by putting with it all school work and working hard to get a great attendance of parents, superintendent, and committee, — we had no supervisors. It was a great success. The next year, or second year, it was adopted at the Lincoln, and in four or five years by the

School Committee for the whole city. To yet further encourage the sewing, we began, I think in 1881, to keep an account with every girl of work done, and at the "parents' day" to show a tabulated statement, nailed up in several places, of the work of each class. Miss May, Miss Peabody, and others adopted this, added to our general plans, and required conformity throughout the city. About twelve years ago I persuaded the committee to carry sewing into the third class; about eight or nine, into the second class; and into the first, drafting and cutting by the "Rood Scale." Earlier than this the matter had gone to the top of the Winthrop, though, as it appears to me, with not so good a system of drafting and cutting. This was the beginning of the "Rood" system in the Boston schools. For all the success we have had, the effort, head, and time of our sewing-teacher have been a *sine qua non*. Had she not had business capacity, and system, the results would have been small indeed. She had been with us about twenty-three years. A large part of the above was true some seventeen or eighteen years ago, and was detailed to the Boston masters when they met in the chamber of the Common Council. It was much opposed by a few. Times have changed.

H. C. HARDON,
Shurtleff School.

In regard to sewing, I cannot do better than to send you a paper prepared by our sewing-teacher, giving something of a history of the work, and also an outline of what we are doing. The lessons in cooking are made interesting and profitable to the girls. Many of them are very helpful to their mothers, and have laid a foundation for a future of greater usefulness than could otherwise have been possible.

THOMAS H. BARNES,
Gaston School.

A PAPER READ AT A MEETING OF THE TEACHERS OF SEWING IN
BOSTON, OCT. 4, 1890.

It is now nearly fifty years since sewing was first introduced into the public schools of Boston. The developments were slow at first, owing to a lack of interest in the community. During the

last twenty-three years, Mr. Swan, of the Winthrop, and Mr. Hardon, of the Shurtleff School, have been the kind friends of the sewing-teachers. These wise, inspiring masters have helped the teachers to systematize the work, and, with their words of encouragement, it has gone forward with marvellous rapidity. They introduced exhibitions of sewing, to be given yearly, in which every girl was to be represented. These exhibitions have proved very helpful to the teachers, as they have enabled them to meet the parents and to know that their work is being appreciated. I have always found the sewing-teachers fully awake to the responsibilities resting upon them. They are thoroughly interested in their work, and are giving a great deal of time outside of school hours to the preparation of it. Going from room to room, as most of us are obliged to do, some of the sewing-teachers are requested to take charge of the discipline of the class. Happily, we do not all have the same things to contend with in this way. I always feel that I have more than wasted the time, if, while I have been giving individual instruction, the rest of my class are not occupied with their sewing. It is like a lost opportunity. An hour in which I had a mission to fulfil is gone, and will have to be reckoned in with the year's work in that class. We go from one room to another, and are striving to give faithful instruction in each. This makes us spring to the work every hour, and all of our lessons are difficult ones. It is important that we should become familiar, not only with the features, but also with the name of every pupil. To know what each girl should be expected to do, we want to come into close and sympathetic contact with her. We read and study all the books we hear of which treat of the best method of teaching children how to sew. We attend fairs or exhibitions of any kind where industrial work is exhibited, and we are always glad to learn from sister schools in other countries. We are struggling to compete with teachers in other cities who give daily lessons to classes of twenty-five girls, while we are teaching, or trying to teach, classes numbering about sixty girls in less than as many minutes. Every girl is required to sew, and in our fourth, fifth, and sixth classes we give two hours' instruction a week. In the second and third classes one hour is required, and in some schools sewing is carried into the first class. In

schools where there is no other manual training, the boys are taught to sew. There are between six and seven hundred pupils intrusted to the care of one teacher of sewing in some of our large schools. The work is enormous, and grows at times beyond conception. The constant pressure is so great, in trying to do more in a given time than can be done properly, that our work is often unsatisfactory to us as teachers. We must never allow ourselves to grow nervous and agitated if we wish for good results. We thoroughly recognize the educational value of sewing as a part of manual training, but we believe also in the practical application of it as early as possible. When the little ones first come to us for instruction, they are taught to use the needle and thimble, and as soon as practicable they begin to sew on something useful. We find that in order to make them thoroughly capable and competent to do their own sewing, they should be taught to cut and prepare the work. As the girls in the second and third classes attain to a greater degree of proficiency in the use of the needle, we can teach them many things that it would be impossible for younger scholars to understand. All the stitches, including buttonholes on both cotton and woollen goods, darning, patching, and mending of all kinds, must be well and carefully taught. We are sending into the homes in this city thousands of well-made garments every year. Every accomplishment a girl possesses is one thing more towards making her a useful woman; and it is of great benefit to her to be taught to sew and cut and make her own garments properly. Lastly, the girls in the first class are taught a system of dress-cutting whereby they can take measures, draught, cut, and fit a waist for themselves or any member of their family. This is of inestimable value to them. It is not unusual for girls to graduate from our grammar schools in dresses that have been cut and made throughout by themselves. Every year we are advancing, but it will be long before we can attain to our ideal. Many of our girls come from the homes of the poor, and, as each girl supplies her own material to work on, the cloth is often so thin that it would be impossible for a skilled seamstress to do fine work on it. This should be considered in judging the work. Teachers that have schools in the poorer localities cut and fit a great many dresses for the girls to carry home to make.

These girls, having been in school the twenty weeks required by law, are now going to work in one of our large stores. Coming into such close contact with our scholars, some of our teachers are being continually called upon to do work of this kind. It is purely missionary work, given in a good cause, and whatever service we can render along this line must be given in connection with our daily duties. We must not forget, however, when we are striving to fill every hour with the duty it presents, that the sewing-teachers are doing a vast amount of work, and their influence is being felt for good throughout the city.

MARY E. PATTERSON,

Teacher of Sewing, Gaston School.

COOKING.

Cooking has been a branch of instruction in our public schools since the autumn of 1885, when the cooking-school in the Tennyson-street School-house was accepted by the School Committee from Mrs. Hemmenway, and established under the name of School Kitchen No. 1. Since that time, six more school kitchens have been established in different parts of the city; and it is now proposed to add four more next September. Then there will be eleven school kitchens, accommodating all sections of the city.

The instruction in cooking, unlike that in sewing, must be given in rooms specially fitted up and furnished for the purpose; and so it becomes necessary for the girls to leave their usual school-rooms and visit the school kitchens for the special instruction there given. This they do in detachments of from twenty to thirty girls at a time, — some schools sending only one detachment, others as many as three or four. The lesson occupies two hours — the best

part of a morning, or the whole of an afternoon session.

From returns made in November, it appears that all the girls' schools were sending some of their pupils to the school kitchens, as were also all the mixed schools except the Bennett, Henry L. Pierce, Mt. Vernon, Stoughton, Tileston, and Gibson. These, however, will be provided for in September. The girls receiving the cooking instruction were for the most part members of the second class; girls from the first class were reported in the Adams, Bowdoin, Chapman, Emerson, Hancock, and Lyman districts; girls from the third class were reported from the Gaston, George Putnam, Hyde, John A. Andrew, Shurtleff, and Winthrop districts. In the Hyde and in the Winthrop districts the number of girls belonging to the cooking classes was remarkably large. They came from grades as low as the fourth class.

From a summary of the reported statistics, it appears that 1,497 pupils have received or are receiving instruction in cooking during the current school year. Adding to this 3,986 pupils now in school, who have received this instruction in past years, we have a total of 5,483 pupils now in school, who are or have been members of the cooking classes. These pupils are mostly girls; but there are a few boys: as in the Adams School, 9; in the Edward Everett, 6; in the Eliot, 16; in the Emerson, 3; and last year in the Lyman, 41. For the greater part of the schools, the instruction in cooking runs through the whole school year; but there are still

a few schools in which the course is limited to half a year. It is expected, however, that hereafter the cooking course will run through the whole year in all the schools.

Miss Annabel G. E. Hope, the teacher first appointed to take charge of School Kitchen No. 1, now exercises supervision over all the school kitchens. Since she assumed this last duty, the instruction has received distinct impetus and improvement.

All who are acquainted with the history of the introduction of cooking into the public schools of Boston will unite in the testimony that to Mr. Robert Swan, master of the Winthrop School, is in large measure due the success which has been achieved. This gentleman, so well known throughout the country for his long continued and efficient labors in behalf of sewing as a branch of public school instruction, has labored no less assiduously in behalf of cooking. At the opening of the Food and Health Exhibition, which occurred in this city in October, 1891, Mr. Swan made an address which contained a carefully prepared historical statement concerning the earlier and later efforts made by himself and others to introduce cooking into the public schools. With his kind permission this valuable address is here printed in full:

Instruction in cooking for public school children was first given under the auspices of ladies connected with the Young Women's Christian Association. In this advance in practical education, as in sewing, woman was in the van. It was on petition of 3,947 women of Boston, in 1854, that sewing was introduced

into the city ; and the munificence of a lady, some ten years afterwards, led to its present acknowledged importance as a factor in education.

The kitchen of the Young Women's Christian Association, in Warrenton street, was offered for the use of a class. Mrs. Webb, a pupil of Miss Parloa, was engaged as teacher, and application was made to the principal of the Winthrop School to furnish the pupils — beneficiaries, I must call them. Twelve girls from the first class, among the very best, were sent to take the lessons, on Saturdays, that the instruction might not interfere with the school regulations. The result was most satisfactory. At the close of the course, twelve lessons, an exhibition was given — feast would be a better term. Each girl prepared a dish at home ; the table was laid in the kitchen where the lessons had been given ; and the ladies interested, with their friends and the principal of the Winthrop School, partook of the dinner, and were entirely convinced of the practicability of the instruction for public school children.

Two questions probably suggest themselves : When was this class taught? and, more important, Who defrayed the expenses?

It was in the winter of 1880, and the Hon. Alpheus Hardy was the benefactor, he having furnished \$50 to compensate the teacher.

And I would like to show just here how the sewing in the Winthrop School sowed the seed for the new plant. Mr. Hardy had taken a lively interest in the sewing and had advised in the selection of the teacher, Miss Isabella Cumming, whose sagacity and skill have been so largely instrumental in making the work a success, not only in this city, but throughout the principal educational centres of the country ; and, when the new idea was suggested, he was ready to supply the means and knew where to find the girls for the experiment. The memory of Mr. Hardy will be cherished for this good work, in addition to the many accredited to his useful life.

Another class was taught in the same place in 1881 ; but in 1882 it was decided to charge a small tuition fee ; and that experiment was not successful, and the work came to an end, apparently.

In 1883, at a public meeting in Tremont Temple, held to increase the interest in the North Bennet Street Industrial School, whose excellent work at the North End is so well known and appreciated, and in whose kitchen so many girls in that vicinity have since received instruction, it was urged by one of the speakers that the needs of the community required public school kitchens, the necessity for such teaching was shown, and the plan for central kitchens to accommodate girls was outlined for several schools.

In the summer of 1885, a Vacation School, supported by Mrs. Hemenway, was established in the Tennyson-street building. Miss Amy Morris Homans designed the kitchen, which was fitted up in the basement, the only place that could be utilized for the purpose; and here came into being the germ of the first public school kitchen in America.

It is not necessary to describe the arrangements of the room; everything that wealth could supply and ability suggest was tendered, without money and without price, to such pupils of the Winthrop School as desired to attend. The success was phenomenal; and, at the reopening of the public schools in the fall, when Mrs. Hemenway expressed her willingness, her desire, to continue the benefaction, the committee, after a full hearing on the subject, granted the permission. Miss Amy Barnes and Miss Annabel G. E. Hope took up the work in October, and it devolved upon myself to draw the rules for the conduct of affairs, and to suggest a name for the school, having full power with but one proviso, that there should be no reference to the lady whose generosity, so frequently manifested in the interest of the public school children, had made the school possible. "Boston School Kitchen No. 1" was decided upon, — the first in the city, the first in the country; and the school committee has adopted the plan of designating each successive school established by them in its numerical order.

The Everett, the Franklin, the Hyde, and the Winthrop, together with a few pupils from the Horace Mann School for Deaf, made up the quota of pupils; ten classes of fifteen each, or one hundred and fifty a week; a session corresponding with the respective school session being given to a class.

School Kitchen No. 1 was supported by Mrs. Hemenway for three years. In the beginning each scholar cooked, by herself, every dish according to the programme, and was allowed to purchase, to take home, the product of her lesson, at cost of material. Skilled cookery was thus introduced into many homes, and a new order of living inaugurated in a portion of the community. The children were required to cook corresponding dishes at home, and report the result at school, to be accredited to them as a part of what was accomplished. During the six years of the school, 1,600 girls have cooked, at home, 152,621 dishes. Could any education more profitable be disseminated among the people?

At the close of one term, a series of dinners was given, each class cooking the repast, laying the tables, and serving the guests. To these dinners, the members of the School Board, superintendents of schools from other cities, and prominent educators from various walks in life, were invited, and responded generally to the invitation. The kitchen in the basement was graced by assemblages of rare intelligence; and there could be but one verdict, — a new revelation in public school instruction, — the school kitchen was an established fact. Six courses were served in their order, Mrs. Hemenway presiding, with the master of the school as her principal guest.

There was one unusual feature at these parties — the cost of the dinner was conspicuously marked on the blackboard, that the ten guests might see that they were sumptuously entertained with soup, fish, roast, salad, pudding, and crackers and coffee, at a total cost of \$1.86; and the children of the class partook of the repast after the company had departed.

Physicians who were present declared that the knowledge acquired in the school would enable children to prepare suitable nourishment for invalids that would be the means of saving many lives.

Public-spirited citizens in Jamaica Plain, believing in the new departure, and not caring to wait for action by the School Board, contributed the means for School Kitchen No. 3, and tendered the use of it to the schools in that vicinity. Thus one of the outlying districts was among the first to receive the benefit.

In 1888 the city assumed the charge of the schools, having in

the meantime established similar classes in South Boston and Roxbury, followed later by Kitchens 5, 6, and 7, in Charlestown, Allston, and East Boston.

In School Kitchen No. 1 alone the course of twenty lessons has been given to 1,800 pupils.

Under the city's administration three girls work together, thus saving three-fourths of the cost of material and gas. Three of the class are now engaged as housekeepers, making the fire, scrubbing, and doing general housework. Members of the class alternate in this duty. The scholars have a small portion to eat of the food cooked, that they may know whether what they prepare at home has a similar taste.

Eighteen hundred visitors have been received in School Kitchen No. 1. They have come from all parts of this country and from even as far away as Australia. Diagrams of the kitchen have been taken, for the establishment of similar plants in other places.

Mrs. Hemenway has also established a "Normal School of Cookery" to supply competent teachers for other cities where the school kitchen has been adopted.

A history of this department of education would be incomplete, did I not mention the name of James S. Murphy, Esq., who, as a member of the School Board and chairman of the Committee on Manual Training at the time of the inception of the idea, exerted all the influence of his position to aid in the establishment of these schools. Their success is largely due to his hearty cooperation.

Thus have I recorded the history of school kitchens as a part of manual training in our city. I fain would speak, did time allow, of the effect of such teaching on the children and the homes; how disorderly girls are humanized and refined, and those backward in learning are enabled to show proficiency in this essential work in life, and thus to respect themselves and be respected by their companions.

Only 6 of these 1,800 pupils from the different schools have been suspended for improper behavior. This is a sufficient commentary upon the influence exerted.

I should be obliged to write a book to express all that I feel in regard to this work.

ROBERT SWAN,
Winthrop School.

A few passages from the letters of other masters are here added for the interesting matter they contain.

By permission of the Committee on Manual Training, cooking is taught in this school to girls in the third class. Our cooking school in this building opened in November, to which I send four classes of twenty-one pupils each, for the remainder of the year. Before this year, we sent two classes of fifteen girls each to the Tennyson-Street Cooking School the first half year and the same number the last half. While good work was done, the distance was too great and the time, half a year, was too short. If the rule as to the grade or grades from which scholars shall attend cooking schools could be changed, and the selection be left with the principals, I think it would be an improvement. I should like to send a few pupils from both the fourth and fifth grades to the cooking class in future. Nicoline Birkland, age fourteen years, now in a cooking class, is a case in point. She entered my primary school last May, from Sweden; could not speak a word of English; was admitted to the grammar school in September; was promoted to the fifth class in October and to the fourth in February, — still talked very little. She was prevented from leaving school to go out to service by being allowed to join the cooking class for the year. Sewing was introduced into the Sherwin School when the school was organized in 1881. It was taught only in the three lower classes. The results were good and only good. The interest in sewing on the part of parents and pupils constantly increased. It was introduced into the three upper classes last year; the results so far are satisfactory. We think sewing and cooking have come to stay. They require considerable time and add in some cases to the length of the course; the time is well spent. Sewing takes two hours a week for three years and one hour a week for three years. Cooking, according to the proposed plan, will take twenty half days of each girl's school life. She is taught to keep a neat kitchen, to waste nothing, to do plain cooking, to set and serve a table properly.

S. C. STONE,
Hyde School.

The Hancock School was the second school to introduce sewing into the upper grades, and the first to establish regular instruction in cookery for the pupils of the first classes of the grammar grade. At first the work was voluntary on the part of the pupils, but there have never been any vacancies in the classes in cookery. In 1885, only one girl in the graduating class confessed that she did something in cookery at home; to-day every girl in first class prides herself that she can and does do much of the cooking at home. Every girl in the graduating class last year cut, fitted, and made a dress for herself and wore the same at our public day exhibition. It is hoped that very soon the sewing begun in the Kindergarten will be continued through all of the primary grades.

S. H. DUTTON,
Hancock School.

In my opinion, teachers of cooking should be selected with as much care as teachers of any other subject, for they have to do with what might be termed the corner-stone in the foundation of home happiness and comfort, and have numberless opportunities of indirectly training their pupils in domestic economy and the management of the household.

FRED O. ELLIS,
Norcross School.

Cooking was first taught to our pupils in the year 1886, when twenty girls from the first class received instruction at the North Bennet-Street Industrial School.

W. B. ATWOOD,
Frothingham School.

The following is the list of the existing school kitchens and their locations:

- School Kitchen No. 1; Starr King School, Tennyson street.
- School Kitchen No. 2; Drake School, South Boston.
- School Kitchen No. 3; Bowditch School, Jamaica Plain.
- School Kitchen No. 4; Harvard School, Charlestown.
- School Kitchen No. 5; old building of the Roxbury High School.
- School Kitchen No. 6; Lyman School, East Boston.
- School Kitchen No. 7; Hyde School, Hammond street.

The following will be open in September :

School Kitchen No. 8 ; Harbor View street, Dorchester.

School Kitchen No. 9 ; Henry L. Pierce School, Dorchester.

School Kitchen No. 10 ; Allston.

School Kitchen No. 11 ; Brighton.

WOOD-WORKING OR SLOYD.

This branch has been greatly extended in our schools during the present year. There are now upwards of two thousand pupils receiving shop instruction, mostly in wood-working. But the reported number includes a few boys, from the Eliot and Phillips Schools, who have been learning leather-work; and some more from the same schools and from the Harvard, Emerson, and Prescott Schools, who have been learning printing at the North Bennet-Street Industrial School.

The instruction in wood-working is given at six shops in different parts of the city and is of two kinds: first, the Swedish sloyd in which Mr. Gustaf Larsson is the leader, and second, the so-called Russian system in which Mr. Frank M. Leavitt and Mr. B. F. Eddy are leaders. Of these three gentlemen only Mr. Leavitt is paid by the city. The others are in the employ of Mrs. Shaw.

Mr. Larsson, with his assistants Miss Bond and Mr. Sandberg, have this year been giving instruction to classes of boys from the Quincy, Rice, Brimmer, Dwight, and Prince Schools. All these boys are from the second class of the schools named.

Mr. Larsson has for several years past been giving instruction in Swedish sloyd privately to those public

school teachers who choose to take the trouble to attend. The seed thus sown is beginning to bear fruit. Several of his pupils have received appointments during the past year as assistants to himself and to other teachers of manual training. It now seems clear that if wood-working is introduced into the grammar schools as a regular branch of instruction in each grade, the female teachers will be able to qualify themselves for giving that instruction.

Another centre of shop instruction is in the Eliot School, Jamaica Plain, in charge of Mr. Leavitt. This shop receives boys from the first, second, third, and fourth classes of the Agassiz School and from the first and second classes of the Lowell School.

A third centre of shop instruction, also presided over by Mr. Leavitt, but in immediate charge of his assistants, Miss E. A. Pope and Miss E. G. Smith, M.D., former pupils of Mr. Larsson, is in the old high school building in Roxbury. This shop receives pupils from the Comins, Martin, Dearborn, Hugh O'Brien, George Putnam, Sherwin, and Dudley Schools. All these are from the second class, except a few who are from the third class.

The Industrial School at North Bennet street has been for many years a centre for manual and industrial training. As is well known, this school is a private benevolent enterprise supported chiefly by Mrs. Shaw. Interesting educational experiments of all sorts have here been made; and much has been learned therefrom as to the possibilities of manual training as a branch of public instruction. Large numbers of boys and girls from the Eliot and Hancock

Schools have taken part in these experiments ; and of late years pupils have come also from the schools in Charlestown and East Boston. The city has not yet adopted the manual training department of this school. Mr. Eddy has been teaching wood-working to boys from the Phillips, Bunker Hill, Eliot, Prescott, Frothingham, Harvard, and Warren Schools following the Russian system of shop work considerably modified by the suggestions of his own experience. These boys, like those under Mr. Larsson and Mr. Leavitt, come chiefly from the second class. Mr. Walter S. Dodd, in the same place, has been teaching Swedish sloyd to classes from the Phillips, Bunker Hill, Eliot, Chapman, and Warren Schools. In this same school, moreover, leather-work (the making and repairing of shoes) has been taught to some boys from the Phillips and Eliot Schools by Mr. Downer ; and printing has been taught to boys from the Phillips, Eliot, Emerson, and Prescott Schools by Mr. Hull. In the printing class are included three girls from the Harvard School. All this instruction has been accepted as a free gift from the managers of the North Bennet-Street Industrial School.

An important experiment has been undertaken in South Boston for the purpose of proving whether shop instruction can be successfully given to whole classes ; that is, to fifty or sixty pupils at once. This experiment has been intrusted to Mr. F. W. Kendall and his assistants, Miss Freeman and Miss Shove, who receive classes from the Bigelow, Lawrence, Lincoln, Thomas N. Hart, and John A. Andrew

Schools. These boys come from the first as well as the second classes of the schools named. The results of this experiment will go far to settle the question whether shop work can conveniently become a regular branch of grammar school instruction. At this time it is enough to say that there seems to be every prospect of favorable results. Miss Shove and Miss Freeman were regular teachers in the schools before taking up this special work under Mr. Larsson. What these have done others may do; and so in time every school in the city may have teachers ready to teach wood-working or sloyd.

Finally there is a centre of shop instruction in the Austin Primary School building, Paris street, East Boston, in charge of Miss Celia B. Hallstrom, who receives classes from the Adams, Chapman, Emerson, and Lyman Schools; the school last named sending fifteen girls. These pupils, like those in South Boston, come from both the first and second classes of the schools named. The girls are said to be in no respect inferior to the boys in their work at the carpenter's bench. Miss Hallstrom is also a graduate of Mr. Larsson's normal classes.

Mention should be made of the fact that in the Lowell School there are four divisions in the fifth and sixth classes taught elementary manual training by their regular teachers. This consists of a sort of work known as "knife-work" performed upon thin wood and cardboard, the like of which has been practised in the public schools of Springfield, Mass. Also Miss Ella L. Burbank, of the Brimmer School, has this year been teaching her own class, the third, in sloyd, as she learned it from Mr. Larsson.

An important inquiry made of the school principals was this: Has the instruction in sloyd, or light tool-work or carpentry, been required of all members of the class, or are the parents asked to make a choice in the matter? The answers to this question showed that all members of the class were required to take that instruction in every school where it was taken at all, except two. In these two, parents were requested to express their choice in the matter, and did so.

Another inquiry was made for the purpose of learning whether drawing was made a part of the sloyd instruction by all the teachers of sloyd. The answers showed that drawing was made a part of that instruction, save in a few instances. Just here the remark may be made, that when wood-working becomes established as a regular branch of the grammar school instruction, this and the instruction in drawing will need to be coördinated and harmonized in order to prevent a possible waste of time by duplication of teaching. The School Committee of Brookline, Mass., has put the whole time devoted to drawing, together with that devoted to shop work, under one head and called it all manual-training time. This arrangement appears to be an advantageous one. Some such arrangement we must probably make before long in Boston.

This division of my report may best be concluded by giving a varied and interesting assortment of information and opinions culled from the masters' reports.

Color work with brush is going on in the fourth classes by the boys, while the girls are sewing, 75 boys. Color work with brush is taken by all the pupils of the third classes, 100. In the color work, designs are drawn with instruments, and colored, careful attention being given to harmony of color. We have no doubt of the intellectual value of all our manual work. In the sixth classes, boys work two hours a week at light tool-work, and the girls sew. In the fifth class the same is done. In the fourth classes, boys work at color work and the girls sew. In the third classes, both boys and girls work at color work two hours a week. In the second class, boys do carpenter work, and the girls cook. In the first class, boys do carpenter work, and the girls construct from cardboard. The whole grammar school has two hours a week in manual training, except that the girls in the first class do not have so much. The first class girls need something different.

DANIEL M. JONES,
Lowell School.

Manual training in the form of wood-work combined with drawing has now been a part of every pupil's education in the upper grades of the Agassiz School for three years. The time is too short to speak in a dogmatic manner of the effect of such training, but I think I can discern the following good results: First, a distinct gain in accuracy, not only the habit of doing work more accurately, but also a better appreciation and knowledge of what accuracy really means. The constant use of the slate pencil and the lead pencil, whose records are so easily changed or destroyed, leaves many, if not most, of our pupils without any adequate conception of the fact that accuracy is necessary or desirable. Manual training counteracts this tendency immediately and pointedly; for unless the pupil is accurate, he finds his piece clumsily and loosely constructed, perhaps his labor lost and his materials spoiled, while a piece of good work either his own or his classmates prompts to greater effort and sets a higher standard for the future. Second, this makes the pupil more thoughtful. Third, it makes him more attentive. Fourth, it makes him more observant. Fifth, the good effect of this training is quite noticeable in drawing and in arithmetic, especially in the subjects of mensura-

tion and square root. Sixth, it has given certain boys an increased interest in school.

JOHN T. GIBSON,
Agassiz School.

In 1889 a room in the Smith-street Primary building was fitted up by the School Committee, and all necessary tools, benches, and appliances were procured for manual training in wood-work. Through the liberality of Mrs. Shaw, Mr. Everett Schwartz, a graduate of Herr Solomon's school at Nääs, Sweden, was secured to give instruction in sloyd. Twenty pupils from every grade in the grammar school received instruction in lessons of two hours each once a week. The models first used were those of the Nääs School, but these were soon changed; and during the two and one-half years the school was open, the series of models underwent several modifications. Drawing was a prominent feature after the first models were changed. Several classes of girls from the upper grades received instruction and were much interested in the lessons. Their work was of as high merit as that produced by the boys. In 1891 Mr. Schwartz was elected instructor of manual training in the public schools of Waltham, and a satisfactory teacher was not secured to fill the vacancy. The school was closed and the plant removed in 1892 to the old High School building in Roxbury. In 1889 a cooking school was opened in the Phillips-street Primary building; and was continued there until 1892, when it was removed to the old High School building. Classes of boys took lessons in cooking with gratifying results.

M. T. PRITCHARD,
Comins School.

I heartily approve of the manual work. It is educational and disciplinary, and I think it has a moral influence, as the results present an object lesson, in wrong or right doing. In my judgment the pupils accomplish as much intellectually as they would if the whole time were employed in the regular studies. Teachers approve of it, pupils enjoy it; only one boy out of ninety-four says "I don't like it." More work could be done in the class-rooms if tools and materials were furnished, and the teachers interested

and qualified for the work. A set of sloyd-knives has been procured for the third class, and some excellent work is being done under the direction of the regular teacher, Ella L. Burbank. Every pupil in a class should receive instruction. The plan of teaching a part of the class, or making it optional with the pupils, is unsatisfactory and not productive of the best results. Five teachers in the Brimmer are taking the Normal Course in sloyd work under the direction of Mr. Larsson.

Q. E. DICKERMAN,
Brimmer School.

If material and instruction to the grammar teachers could be furnished, the Lyman grammar teachers would do any or all of the kinds of manual training outlined by the "Course of Study." It would be an easy matter to outline still other work in this line; but it seems useless, until material and instruction are furnished, to carry out work already outlined. Seven girls of the first class are taking dressmaking and drafting, as they prefer it to sloyd. All the girls of the second class continue cooking, so there is no sewing work done in that class this year.

A. H. KELLEY,
Lyman School.

The present plan of sending our entire class to the Manual Training School meets with my hearty approval. I am much pleased with Mr. Leavitt's plan. It is the most feasible and satisfactory I have seen. Another year the instruction should be somewhat extended. My primary teachers have done and will continue to do, with one exception, as much of the work in manual training, as seems compatible with general progress in school work. I understand that is the desire of the committee.

FRANCIS A. MORSE,
Sherwin School.

In this district the experiment of teaching sixty pupils at one time in sloyd has been successfully tried. Only the first sloyd models have been tried so far; and so it is too soon to declare that so large a number can be continued through the course; but

the present indications favor the opinion that it will be a success in the end.

F. H. RIPLEY,
Bigelow School.

I wish light tool-work could be introduced into all grades of the grammar school, or at least into all grades above the fifth. I wish also that a room might be fitted here to accommodate fifty pupils and a teacher appointed to give instruction in sloyd, or light tool-work. I usually have ten divisions above the fifth grade. The regular teachers would, in a short time, be able to assist the special teacher in giving instruction to their respective classes. In one end of the school-yard, a one-story building with a monitor roof could be erected and fitted up to accommodate fifty pupils. There is abundant room in the school-house basement, which would adjoin and be connected with the room I ask to have constructed, for lockers and for storage purposes. This basement is dry and well lighted. Unfortunately it is low studded, seven feet, otherwise it would be a superb place for manual training.

AMOS M. LEONARD,
Lawrence School.

I think it is desirable to have instruction in sloyd given in the third classes of the grammar schools.

JOSHUA M. DILL,
John A. Andrew School.

In mixed schools there should be some proper mechanical work laid out for the boys in the sixth, fifth, and fourth classes while the girls are sewing. I am not at present able to suggest a plan to bring about this much-desired result.

F. F. PREBLE,
Adams School.

One lesson a week is given in leather-work to twenty-one boys of the second class, eighteen boys of the third class, thirty-five boys of the fourth class, twelve boys of the ungraded class, — total, eighty-six boys. Instruction in printing is given to six-

teen boys of the first class, twenty-six boys of the second class, eighteen boys of the third class, twenty-eight boys of the fourth class, — total, eighty-eight boys. Instruction in leather-work and printing has been given my boys for the last six years to about the same extent as at present. Nearly all the boys in the first, second, and third classes receive manual training in various classes. Boys are allowed to choose the kind of instruction so far as possible. Parents rarely object. When they do, their boys are not allowed to receive the instruction.

S. HARRINGTON,
Eliot School.

The second class is divided into two classes in carpentry, one in printing, and one in leather-work. Carpentry by Messrs. Eddy and Dodd; printing by Mr. Hull; leather-work by Mr. Downer. It has been a source of regret that no provision could be made for the first class also. The work is beneficial in every way to the older boys; and I should be glad to have it extended much further.

ELIAS H. MARSTON,
Phillips School.

I am a practical printer, and should be glad to give instruction in this school if I could be furnished with material.

J. WILLARD BROWN,
Emerson School.

Manual training is greatly needed in this school, not so much for the good boys of the second class, as for the bad boys of the ungraded class, who care not for books, and can be educated only through their fingers and eyes.

CHARLES F. KING,
Dearborn School.

I should like to take some form of light wood-work in the third class. Sewing in the sixth, fifth, and fourth classes, wood-work in the third class, cooking in the second class, and cutting and fitting in the first class. [A girls' school.]

CHARLES W. HILL,
Bowditch School.

There has been no cooking-school that could be conveniently attended by our pupils, until a few weeks ago. Next year all, or nearly all, the girls who are permitted to go will probably attend. Next year it is expected that there will be a carpentry school which boys can attend, and they will without doubt go.

HENRY B. MINER,

Edward Everett School.

There is now a teacher's "Sloyd Class" in this building, and we hope to commence teaching it to the pupils at the beginning of next year, and perhaps before. Also, it is possible that we may send a class to the "Cooking School" at the Henry L. Pierce School in the autumn.

H. M. GEORGE,

Tileston School.

ELEMENTARY MANUAL TRAINING IN THE PRIMARY SCHOOLS.

The instruction embraced under this head for primary classes, and mentioned in the "Course of Study," consists of clay-modelling, paper folding and cutting, sewing, stick-laying, and cardboard construction. This work is substantially kindergarten work continued into the primary grades. Recent inquiries addressed to the teachers, for the purpose of ascertaining how far this work had been carried out in its several branches, have brought forth quite definite information. It is found that clay-modelling has been taught during the first half of the present year by all the primary teachers in thirty-three districts; and by some of them in all the other districts save three. Paper folding and cutting has been taught by all the primary teachers of thirty-seven districts; and by some of the teachers

in all the other districts save two. Sewing, stick-laying, and cardboard construction have been taught by only a few of the primary teachers. These few have been so enthusiastic in their desire to enrich their teaching, that they have purchased with their own money the necessary material to do the work. I desire to bestow the heartiest commendation upon such teachers; yet I should be ashamed to appear for a moment to suggest that teachers should be expected to spend one cent of their hard-earned wages to supply material which ought to be furnished by the city. It is, therefore, gratifying to be able to say, that ample provision has now been made by the Committee on Supplies for providing the material necessary to a proper carrying on of this work in future; and all a teacher will need to do hereafter will be to order the material designated as appropriate to her grade.

The answers to my last inquiry (what is proposed to be done in the second half-year, etc.) show a universal readiness to do all the work required by the Courses of Study, provided the necessary material can be furnished.

To complete the record, it may be stated that sewing was taught during the first half of this year in the Allston district by one primary teacher; in the Chapman district by six (all); in the Comins by two; in the Gaston by two; in the Hancock by three; in the Harvard by four; in the Lowell by sixteen (all); in the Minot by two; in the Norcross by three; in the Phillips by two; in the Stoughton by two; in the Tileston by one; and in the Win-

throp to all primary classes by the regular sewing teacher. Stick-laying was taught by all the primary teachers in fourteen districts; and by some of them in twenty-six districts; but by none of them in fifteen districts. Cardboard construction was taught scarcely more than sewing. It was taught by all the primary teachers in the Chapman, Charles Sumner, Hyde, Lowell, and Tileston districts, and by one or two in the Bowditch, Franklin, Gaston, Harvard, and Hugh O'Brien districts. In all the remaining districts this branch of work was untouched.

For the primary teachers, this record of a first year's work in manual training is highly creditable. Next year's record will doubtless be no less so; while the results in children's work will be far more abundant and excellent. We have but just begun to realize the possibilities which this new line of instruction may open to us.

CONCLUSION.

In bringing this report to a close, it may be well to advert in a few words to its main purpose; which is not so much to express a critical estimate of the matters touched upon, as to communicate a mass of information concerning the history and present condition of our school work. This information is offered as raw material for the manufacture of views and opinions, or as a useful contribution to current educational discussion. Educational discussion is going on all the time both in school circles and in the community outside; but there is no greater need

than that discussion should proceed upon full and accurate information. Inasmuch as such discussion turns largely upon those features of the school system which are susceptible of improvement, the information thus drawn out is apt to wear the aspect of unfavorable criticism ; but it is unfavorable criticism in appearance only ; the great underlying fact being that the system itself is strong and active and fruitful of good results. It is a sign of vitality and health in the system that it should be constantly mending its imperfections, mending them even under public observation. In the matter of promotions, for example, with which this report has so largely dealt, it is not that the whole system is wrong, but that it needs readjustment here and there to changed conditions. A graded school system is not a piece of mechanism that can be wound up and set a-going so as to work out precise results like a clock ; it resembles more a living organism, requiring constant attention to all external conditions affecting its health and functional activity.

That our school system is producing most precious results on a large scale is a fact well known and universally gratifying in this community. The year past, in particular, has been characterized by harmony and efficiency in all branches of administration and instruction. It is believed that the well-worn phrases *our schools were never in a better condition*, etc., can be used to-day with full justification. Certainly they are worthy of the great confidence reposed in them by a generous and a critical people.

Just now we hear the notes of preparation for

the world's great fair at Chicago. The most significant part of that great exhibition of the world's forces and products will be the department devoted to education, the controlling force of all. Massachusetts and Boston, like all other States and cities, will be expected to exhibit, so far as such an immaterial thing can be exhibited, their education. Our city has won honorable recognition for the excellence of her educational exhibits at other times and places. This very recognition is the strongest, nay, the conclusive reason why she should contribute of her best to the educational exhibit in Chicago. Nor need we indulge any misgiving as to the character and quality of the contribution which is possible for her to make. In all lines of school work, in all matters of school organization, administration, and instruction, Boston can make a most interesting and creditable showing ; and I believe that the intelligence and enthusiasm of her teachers can be counted on to bring forth such manifestations of excellence that our city's educational reputation shall suffer no detriment.

Respectfully submitted,

EDWIN P. SEAVER,
Superintendent of Public Schools.

APPENDIX A.

EXAMINATION PAPERS.

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EXAMINATION PAPERS.

*** Each paragraph is a single question paper.

GRAMMAR AND LANGUAGE. CLASS II.

1. Write a sentence containing a proper and a collective noun. 2. Sentence containing a personal pronoun, third, singular, nominative, and one first, plural, objective. 3. Sentence containing relative pronoun, nominative. 4. Sentence containing the word "that" twice, but each being a different part of speech from the other. 5. Sentence containing the word "iron" twice, but each being a different part of speech from the other. 6. Sentence containing an irregular intransitive verb. 7. Sentence containing an irregular transitive active verb. 8. Sentence containing a regular intransitive verb. 9. Sentence containing a regular transitive plural verb. 10. Sentence containing a coördinate and a subordinate conjunction. 11. Sentence containing the word "down" twice, each being a different part of speech from the other. 12. Complex sentence containing an adjective clause. 13. Sentence in which a preposition shall be followed by two personal pronouns connected by a coördinate conjunction. 14. Sentence containing an adjective in the superlative degree. 15. Sentence containing a transitive passive verb, past perfect, indicative. 16 and 17. Write plural of *knife*, *potato*, *ally*, *alley*, *box*, *sheep*, *radius*, *brother-in-law*. 18, 19, and 20. Principal parts of *blow*, *catch*, *come*, *feel*, *go*, *lay*, *grow*, *sink*, *throw*, *hurt*.

1. Mark the sounds of the vowels and the accent of *pretend*, *day-time*, *democrat*, and *abode*. 2. "There was a man in our town and he was very wise." Analyze in full. 3. "Mr. Goodnow will provide the supper on that occasion." Write the sentence making the verb

passive. 4. "The General noticed that his men were nearly exhausted." Mark the clause and state what kind it is. 5. Give reasons for all the marks of punctuation in the following sentence: "Fire, if *you dare villains!*" hoarsely shouted the *people*. 6. Copy the following sentence and supply the punctuation and capitals: *george said the old man suddenly interrupting would you like to drive the carriage a two seated beach wagon.* 7. Give the part of speech and the construction of the italicized words in the two preceding quotations. 8. Write the analysis of the following in full: "No one took any notice of the report, until the soldiers were startled from their quarters by the report that the town was in flames." 9. Give the voice, mood, and tense of the verbs in 8. (The above were not given by the Master, and he considered them too difficult, especially No. 9.)

1. "'Tis distance lends enchantment to the view,
And robes the mountain in its azure hue."

What kind of a sentence? How many clauses? Synopsis of verb *lends*, indicative mood, first person, plural. Parse *its* and *mountain*.

2. Write a complex sentence and name the subordinate clauses. 3. Write a sentence with the verb *go* in the potential mood, present-perfect tense. 4. Write the following in prose:

- "Now came still evening on, and twilight gray
Had in her sober livery all things clad."

5. Make a receipted bill to John Stone for ten articles bought in a grocery store, or to Mrs. J. Jones for ten articles in a dry-goods store. 6. Answer an advertisement of Jordan, Marsh, & Co., for a book-keeper, or apply for a position as such. 7. Write a sketch of the poet whom you have studied this year and give a quotation from one of his poems.

1. Dictation: Mary, did you remember that letter? No, Emma, I didn't. Shall I return for it now? It is too late. How very careless you are! 2. What is an auxiliary verb? Name three auxiliary verbs, and state what they indicate in connection with other verbs with which they are used. 3. Write a sentence with the verb *prepare*, in the passive voice. Change your sentence so that the verb shall be in the active voice. 4. Name and define the properties of verbs. 5. Name the "principal parts" of the verbs, *fly*, *do*, *study*, *buy*, and *learn*. 6. Write a sentence containing an adjective, an adverb, and a conjunction. A second containing a relative pronoun. 7. Compose a sentence, using the verb, *grow*, in the indicative mood, future-perfect tense. A second containing the verb, *see*, in the potential mood, past tense. 8. How are adjectives of one syllable generally compared? How are ad-

jectives of more than one? Compare *good, worse, more, careful, and pitiful*. 9. Analysis: John lost his book while he was returning to school; but his sister found it again. 10. Composition: Write a letter of application for such a position as you would like, stating why you would like it, and the qualifications you have for performing the duties of the position.

1. Write a complex sentence. Express the same thoughts with two or more simple sentences. 2. Write another complex sentence. Express the same thoughts with a compound sentence. 3. Define a relative pronoun and illustrate its *two* offices. 4. What parts of speech admit of change in form to express grammatical properties? 5. Show the difference in the use of *who, which, and that*. 6. Name the compound personal pronouns and tell in what cases they are used. 7. What is the passive voice? What verbs take that form? How is it made? 8. The sudden and distressing death *of his wife by fire* had something *of the same influence upon his work* as the death *of Bryant's wife had upon that poet*. 9. Name each phrase, tell what kind and what it modifies. 10. "When will school close?" said Mary. Analyze. 11. Write one verse of some poem which you have learned during the year, give the title and author's name. (Omit any one of the first six.)

1. Analyze the following from "The Deserted Village":

"His ready smile a parent's warmth expressed;
Their welfare pleased him, and their cares distressed;
To them his heart, his love, his griefs, were given;
But all his serious thoughts had rest in Heaven:
As some tall cliff, that lifts its awful form,
Swells from the vale and midway leaves the storm,
Eternal sunshine settles on its head."

2. Parse these words: "smile," "parent's," "tall," "midway," "them," "were given." 3. Read carefully "The Fiords of Norway," in the Fifth Reader, and then write a description of the same from memory. (The teacher may place a set of topics on the blackboard to assist the pupil's memory.) 4. A letter.

1. Mary came home promptly and pleased her mother. Indicate the parts of speech. Decline the pronoun. 2. Punctuate properly: John come here Did you hear me Remember the old saying A stitch in time saves nine. 3. Correct these expressions, if they are incorrect: The men's apartment. The childrens' room. The four sheep's fleece. The ladies' basket. The small monkeys' intelligence. 4. Write the plural of these words: this, fox, turkey, tooth, mouse, himself, it, fish, couple, index. 5. *While I remain in the country this summer, my time will be mainly occupied in active recreation with an*

occasional review of my studies. Name the entire subject of the foregoing sentence. Analyze the clause. Select the nouns and dispose of them. Name the adjectives and dispose of them. Dispose of the adverbs. 6. Correct the following sentences, if they need correction, and underline words changed: A lot of horses are running wild. He has promised to learn me to skate. These kind of apples are excellent. The city lies among two rivers. The stream flows silent on.

1. Name the parts of speech in order in the following sentence: "Can you tell me who sent that book?" 2. Give the antecedent of "me" in the sentence in number one. The antecedent of "who." 3. Parse the words of this sentence in full. 4. How do we form the plural of words ending in "y"? Write the plural of *fly, valley, lady, chimney.* 5. Give the feminine form of *lion, hero, widow.* 6. Decline *I, you, it, who, woman.* 7. Compare *great, late, much, well, square.* 8. Give the perfect participle of *go, fly, learn, set, write.* 9. Write three sentences each containing a transitive verb and underline the verb. 10. Change these same sentences to the passive form. 11. Write on the board for correction: georges father give him a sent. Hes to tired too play base ball? Each bought them a new hat Why must I suffer all this! It was him that did it. That class of boys are going home. 12. Dictate: After a stormy night, a father and his son went out to see what damage had been done by the storm. The son said "Look, father! there is that strong oak lying yonder on the ground, while the slender willow stands upright as ever." The father replied, "My son, the oak was destroyed because it fought against the storm; while the willow, by yielding, to the gale, avoided its fury and still lives." This fable teaches that *it is better to bend than to break.* (Correct for capitals, spelling, and punctuation.) 13. Write a letter. The subject of the letter will be "Vacation." The boys may tell what they would like to do or what they propose to do.

1. Write a sentence containing a relative pronoun and underline the pronoun. 2. Write a sentence containing the plural of *box.* 3. Write a sentence containing the possessive plural of *lady.* 4. Write a sentence containing the possessive singular of *goose.* 5. Write a sentence containing the feminine of *boy.* 6. Decline *I.* Decline *he.* 7. Write a sentence containing the objective plural of *me.* 8. Write a sentence containing the verb *recite* in the present perfect tense, active voice, and a noun in the objective case. 9. Change the sentence so that the verb will be in the same tense, and in the passive voice. 10. Charles will have recited his lesson at half-past ten tomorrow. Underline the verb and give the tense. 11. What is tense? 12. Give the principal parts of the verbs *blow, drive, freeze, see, take.* 13. Compare *good, little, industrious.* 14. Write a sentence containing the adjective *good* in the

superlative degree. 15. Name the parts of speech in the following sentence: The carriage which brought us has returned.

1. Reproduction by the pupils of the poem of "Perseverance" by Eliza Cook. This was read to them twice by the teacher. 2. Analyze by diagram the following sentence: "To him, who in the love of Nature holds communion with her visible forms, she speaks a various language." 3. "Sir Christopher Wren, who was the architect of St. Paul's of London, which was built after the great fire of Charles II's reign, died at the advanced age of ninety one, on the completion of the church which is a monument to his fame." How many independent statements and how many clauses does this sentence contain? Name the proposition of each. 4. Give an example of a simple, complex, and compound sentence designating each. 5. What is a transitive verb? An intransitive verb? Illustrate by sentences. Write a sentence containing a verb used transitively, and another sentence containing the *same* verb used intransitively. 6. Change the voice of the verbs, as far as can be done, in the following sentences: The tree was shaken by the wind. She will arise early to-morrow morning. I will send the messenger as soon as possible. Some very common specimens were shown to us. Mary has bought me a basket of flowers. 7. Give the possessive singular and the possessive plural of the following words: *wolf, turkey, deer, colony, and child*. 8. State the mood and tense of the following verbs: *had said, might have said, will say, if I say, and to have said*. 9. What is a passive verb? How is the passive voice formed? 10. Give all the participles in the active voice of the following verbs: *lie* (to recline), *lie* (to tell a falsehood), and *lay*. 11. Give the construction of the italicized words in the following sentence: "An old *clock, that had stood for fifty years in a farmer's kitchen, early one morning before the family was stirring, suddenly stopped.*"

GRAMMAR AND LANGUAGE. CLASS III.

1. Dictation. "Maud Muller" is the name of a poem written by John G. Whittier. "I'd rather be right than be president," were the words of Henry Clay. 2. (a) Combine the following into one sentence: *Boston is the largest city in New England. It is the capital of Massachusetts. It is the metropolis of Massachusetts.* (b) Use *to, too,* and *two* in one sentence correctly. 3. Imagine you have lost your pocketbook; write a proper notice concerning it for the morning paper. 4. (a) Write a sentence in which the simple subject is modified by an adjective, a possessive noun, and a noun in apposition. (b) Write a sentence in which the simple predicate is modified by an adverb, and an adverbial phrase. 5. (a) Give the meaning of the following abbreviations.

viations: A.D., C.O.D., A.B., Lieut. (b) Give the meaning of the suffixes *-ful*, *-ness*, and *-less*. Illustrate each. 6. Write the heading, salutation, and subscription of a letter to a friend. 7. Analyze this sentence: The tall oaks, the kings of the forest, wave their branches gracefully in the cold March winds. 8. Correct the following: The cattle were drove to pasture. Tell them to set still. Being weary I laid down and ris, much refreshed. 9. (a) Use *sail* in a sentence as a verb and as a noun. (b) Use *oil* in a sentence as an adjective and a verb. 10. To what part of speech does each of the italicized words belong in the following: *Nature* had put on a coat of *many* colors. The crime was *great* and the punishment *should* be severe. The gentleman *whose* company we expected did not come. Give the verbs in the last sentence.

1. What is a personal pronoun? 2. What is a relative pronoun? 3. Correct the following, and give reasons for corrections: Which is her? 4. Tell three ways by which gender of nouns is expressed. Illustrate each. 5. Decline *mercy*. 6. What degree of comparison is used in each of the following: (a) This is the least sensible plan. (b) He is the better scholar? 7. When should each be used? 8. Write a sentence in which are used, an adverb of time and another of place. 9. Analyze: "Two tired horsemen rode slowly up the hill to the bubbling spring." 10. Parse *rode*, *tired*, *slowly*, *up*, and *bubbling*. *Composition*. Write in your own words, "The Legend of Bregenz."

1. Pupils to have fifteen or twenty minutes to study the story of "The Valley Brook," lesson 66 of the Reader. Then to close the book and write the story in their own words, making it good prose. 2. "Wanted a young lady in a photographer's studio. Must have a good business and artistic talent and come well recommended. Address 154 Tremont Street, Room 15, Boston, Mass." Write such a letter as you would send if you wished to secure the place. 3. Lesson 79, Reader, — "Ichabod Crane's Ride." First paragraph. Make lists of ten nouns and five verbs in the paragraph. Which of the nouns are in the nominative case? Make a list of five adjectives and tell the degree of comparison. Change the first sentence in the paragraph to one that asks a question. Analyze the last sentence in the paragraph.

1. What is Language? 2. The beautiful flowers of spring. Is this a sentence? Why? 3. (a) Change the following sentence, making the subject plural: *That man worked ten hours a day*. (b) Change it so it shall express future time. 4. Write an interrogative sentence containing a noun in the plural possessive. 5. What is an adjective phrase? Give a sentence containing one and tell what it modifies. 6. What is the predicate of a sentence? Write a sentence and underline the predicate. 7. How may the predicate be modified? 8. How

may the subject be modified? 9. Write a sentence in which there is a quotation. 10. (a) Name the parts of speech in, and (b) analyze the following sentence: The spots on the sun are seen through a telescope. 11. Change three stanzas (12 lines) of poetry into prose. Subject—“Kindness.” Found in Franklin Fifth Reader, page 65. 12. Dictation. Taken from Metcalf’s Language-Exercises, page 43, Lesson II.

“We scatter seeds with careless hand,
Shall we ne’er see them more?”

1. What kind of a sentence is each of the above? Name the subject and predicate of each. 2. Analyze the last sentence. 3. Parse *we, shall see, hand*. 4. Compare *more, careless, next, late, worse*. 5. Name the phrase in the first sentence. What does it modify? What is a phrase? 6. Name the parts of speech. Make a sentence containing four different parts of speech and designate each part. 7. Combine each of the following pairs of sentences by means of conjunctions or pronouns. (1) The boy was ill. He is better now. (2) You are tired. You may rest now. (3) He spoke the truth. He was not believed. (4) The rain stopped. They resumed their journey. (5) The men came here. He went away. 8. How do you form the possessive singular, possessive plural? Make a sentence containing a noun in the possessive singular. One containing a noun in the possessive plural. 9. Write a note to Mrs. Mary Dunton requesting the loan of the book “Little Women.” Make the note in the third person. 10. Write a letter to Mr. Marvin telling him of your plans for the summer. You will be marked on the form of your letter, composition, spelling, punctuation, neatness.

1. Give and illustrate two rules for forming the plural of nouns. 2. Do verbs have number? If they do, illustrate. 3. Give the case of each word italicized. (1) The boy came to thank his *host*. (2) The *ladies’* bonnets were *gay*. (3) Fannie, have *you* learned your lesson? (4) Fannie told her brother *John*, that she had learned it. 4. Write from dictation: The principal asked “What average did your class get in Language?” 6. Analyze the following sentence: “The rice plant is said to have been accidentally obtained out of the cargo of a vessel from Madagascar.” 6–10. To write a page or more on one of the following subjects: Brazil, Bones, George Washington, Drawing, A Journey.

1. Dictate: “Oh, father,” said Robert, laughing, “I thought that you were going to start when the sun began to rise!” “And so I am,” answered his father, as he untied the boat. “We will be off at once, for the fish must be waiting for us.” “I think that they did not sleep much if they are waiting for us so early,” said Robert. 2. Words to be given to the pupil to be put into sentences: *artificial, remainder, ostrich, forbidden, vinegar*. 3. Write a letter to some one in Chicago who has

never visited Boston, telling something about the city, its situation, and some points of interest here worth visiting. 4. Analyze: In the corner of the room, his scarlet robes thrown carelessly upon a chair, sat the king. 5. Parse each word in the above. 6. Decline: *lion, us, child, potatoes, lady*. 7. Compare: *brightly, famous, sweet, beautiful, noble*. 8. Supply the omitted words in the following: Every person should remember that——may need help at some time. Let each pupil wipe —— shoes. [Interrogative pronoun] did you meet? 9. Write from memory not less than two verses you have learned during the year.

1. Dictate the following: mark for spelling, punctuation, etc.

“ Give me of your bark, O birch-tree,
 Growing by the rushing river
 Tall and stately in the valley.
 I a light canoe will build me
 That shall float upon the river
 Like a yellow leaf in autumn.”
 Thus aloud cried Hiawatha
 In the solitary forest,
 And the tree with all its branches
 Rustled in the breeze of morning,
 Saying with a sigh of patience,
 “ Take my cloak, O Hiawatha.”

2. Who is speaking? Where is he? What part of the day is it? For what is he speaking? For what does he ask? What use will he make of it? What noise does the tree make in replying? What does the tree call its bark? 3. Select from the dictation five nouns and five verbs. 4. Select the pronoun in the first line, tell its case and write its plural number. 5. Select the first pronoun in the fourth line, tell its case and write its plural. 6. Select five adjectives and tell what each describes. 7. Express in one word how he wants the canoe to float. 8. Use the adjective for the phrase “of patience.” 9. Write a letter to your teacher telling her how you spent the 17th of June and why you had a holiday.

Language. 1. Write a brief account of the poem “Evangeline.” 2. (a) Give your opinion at length of the poem as a whole. (b) What quotation, comparison or description impressed you most? 3. Correct and punctuate the following: I met dr. black this morning who said have you recovered from your cold I told him that I had but that my mothers head still ached. he asked me to come to his office on dean street but I said I do not know where it is dont you said he then I will show you. I then went there for some medicine for my mother. 4. Write a note of more than four lines asking me to excuse you for an absence. (To be marked for arrangement, expression, capitals, and punctuation.)

5. Punctuate the following : A long dreary dark road brought Mary our young friend to the end of her dusty and tiresome journey. *Grammar.* 1. *Many scholars of this room who come regularly and punctually recite well.* Write over each word what part of speech it is. 2. Write a sentence containing a transitive verb expressing present time, and tell why it is transitive. 3. How many kinds of pronouns are there? Give an example of each in a sentence. 4. How many kinds of sentences are there? Give an example of each. 5. In what ways may the subject of a sentence be modified? Give an example of each. 6. In what ways may the predicate be modified? Give an example of each. 7. What is an abstract noun? Write a sentence containing one. 8. Write a sentence and put the noun *baby* in the objective case. Write another and put the noun *baby* in the nominative case. Write still another and put *baby* in the possessive case. 9. Define: pronoun, adverb, preposition, adjective, verb. 10. Analyze the following sentence: Brightly the sun rose over the beautiful valleys.

Dictation. The island which Columbus first discovered is called San-Salvador. Captain John Smith thought he might find the Pacific Ocean, by sailing up the Chesapeake Bay. Miles Standish first reached land at Cape Cod. The Narragansett Indians were enemies of Massasoit. William Penn, who founded Pennsylvania, was born in London, England. Which do you like best Physical or Political Geography? Manly tenderness has a peculiar charm. Sir Walter Raleigh's shrewdness, has ever been considered gallantry. They now proceeded cautiously forward dodging from cover to cover. As he emerged from the thicket, his attention was occupied in an unexpected manner.

O, for boyhood's time of June,
Crowding years in one brief moon.

Grammar. 1. "A welcome rain refreshes the thirsty flowers." What kind of a sentence is this? How is the subject modified? How is the predicate modified? 2. Punctuate the following sentences: The head of the family Mr. Brown is a grave sedate man. Gold silver copper iron and lead are found in that country. 3. "A grand stately lady with a sweet face bent over the injured boy." Name the adjectives in the above sentence, and tell what words they modify. 4. "John wrote an invitation." Put this sentence in the form of a question. In the form of a command. 5. "John's father managed his boat skilfully." Analyze this sentence.

GRAMMAR AND LANGUAGE. CLASS IV.

1. Dictate: Henry's teacher sent him to a store on Washington St. 2. Dictate: "I expect to be promoted," said John. "Is the examination hard?" said the boy. 3. Dictate a letter of lines enough to illustrate address, date, and spacing. 4. Use in sentences these words: understand, industrious, teacher, tries, believes. 5. Put into one sentence the following: There was a strong wind. It destroyed buildings. It tore down trees. 6. Write the abbreviations for morning, pound, Massachusetts, debtor, November. 7. Correct: Henry and me went to the store. Who did you see? It was me. Them bundles was his. 8. Write a declarative sentence. Change it into an interrogative sentence. 9. Ask one question about this school, and answer it. 10. Neatness, etc.

1. Write these sentences: Is there no remedy? Occupation is indispensable to happiness. The captain never permitted danger to destroy his judgment. After *an* hour's sailing we completely lost sight of the *Indian* canoe (or *English* vessel), even through the field-glass. *His* friend, the musician, seated himself before the piano. At eleven o'clock, the thermometer indicated intense heat, *and* we gave up the game. 2. See that your capital letters are in the right places. 3. See that your punctuation is correct. 4. Analyze the fifth sentence. 5. Parse *musician* in that sentence. 6. Parse *lost* or *indicated*. 7. State the part of speech of each word italicized. 8. Of what case is *we*? *Hour's*? *Happiness*? 9. Mention a phrase in any of the sentences above.

1. Tell two important things you have learned about the care of your bodies. 2. Name three minerals which you have studied during the year and write two sentences about one of them. 3. Write a brief description of your school building. 4. Write ten abbreviations and tell what they stand for. 5. Write words of opposite meaning to the following: *unfaithful*, *early*, *displease*, *north*, *many*. 6. Write a synonym for each of the following: *talk*, *tiny*, *mild*, *increase*, *needy*. 7. Dictate: One Saturday last February, Rachel's mother took her and her cousin Elizabeth to the Art Museum. While they were examining some of the Egyptian mummies the Rev. Dr. Alden entered with his little niece Alice. 8. Write from memory one verse of any poem which you have learned during the year. Write the title of the poem and the author's name. 9. The *next morning* the *same man* called *again*. One day, *two* wild-looking *young* men came out of a *tavern*. Transpose if necessary, and separate subject and predicate in the above sentences. Tell what parts of speech the italicized words are. 10. You have just had a birth-day and received several presents, one of which was given by a cousin living in New York. Write your

letter of acknowledgment, naming some of which you prize the most and why.

1. Dictation: "I didn't think" said Miss Smith, "that Dr. Brown knew the lady's name." There were gentlemen's umbrellas and ladies' parasols on the table till eight o'clock. Did the soldiers pay too much for their pens, ink, and paper? 2. Rewrite the following, using *yesterday* instead of *to-day*: He sees many ships to-day. We bring our books to school to-day. Mary does very well to-day. She teaches her brother to-day. 3. Words to be given in sentences (only the words to be written): height, doesn't, innocent, sun, fierce, wrists, ankle, obliged, scene, syllable, careful, excellent, groceries, Mediterranean, Chinese, purchase, permit, island, consent, divide. 4. Words to be given: the pupils to put them into sentences: yours, prepare, auction, until, forbidden. 5. Write a letter dated in this city, to-day, to tell a friend about a visit to the Public Garden or some other place with which you are familiar. Before writing the letter arrange three topics on which to write.

1. Write on the board for correction: new york the Largest City in america. I cant do as i wish.— can you. Georges farther give him a scent. hes to tired too play base-ball? Their wasn't anybody at home. Each bought them a new hat. 2. Read once through, then dictate without repeating: The silk-worm, which is a kind of caterpillar, belongs to the insect tribe, and feeds upon the leaves of the mulberry-tree. It spins threads of silk in the form of cocoons. Of these threads many of the fabrics used for clothing are made. How strange! Ladies' beautiful silk dresses are the product of an ugly worm. (To the Teacher. Correct for capitals, spelling, punctuation. You may give the children the words "cocoons" and "fabrics" if unfamiliar.) 3. A letter is to be written upon the subject of "Vacation." The boys may tell what they would like to do, or how they propose to spend their time during July and August.

1. The boy's dog barked at an old man. The man said, "If you let that dog bite me, I will kill him to-morrow." 2. "Shall we have a school the 17th of June," asked James. Require inferences to 3 and 4. 3. If you should see a large black cloud in the west, what would you infer? 4. Suppose you should see a broken carriage on the side of the street, what would you infer? 5. What are the name words in your answer to number 4. 6. Name ten words that express quality. 7. Write as short a letter as you can to a friend, saying that you are going to visit him and spend the summer. 8. What are you going to do to-morrow? 9. Describe the weather for the past week. 10. Write any fact in geography.

1. Write a note accepting an invitation to a lawn party. 2. Draw a rectangle to represent an envelope and address it. 3. Write correctly the following sentences: He gave some to Mary and I. I haven't got no pencil. She don't know her lessons. Every boy brought their marbles. Was my examples wrong? Me and him stayed to school. Miss Clark learned us our lessons. 4. Write the following sentences correctly after omitting the italicized word: *I have* seen the book. She *has* done her task. He *will* sell the fruit. 5. Substitute *we* for the italicized words in the following sentences: *He* was hungry. *She* has some fruit. 6. Give five rules for the use of the capital letter. Give an example of each. 7. Separate into sentences: The capital of the United States is Washington it is in the District of Columbia on the Potomac River although not the largest it is one of the most beautiful cities of America almost in the centre of it is the capitol building from which the broad avenues of the city radiate like the spokes of a wheel from the hub many of these avenues bear the names of states such as Massachusetts and Pennsylvania Avenues. 8. Separate the following words into syllables: vacation, unit, president, broad, opinion, satisfactory, enough, ought, permission, fertile. Dictation: Nan and Bess walked along together with their arms around each other. Gus and Ned were just behind them. "Just look at those horse-chestnut trees, all covered with blossoms" cried Ned. "Aren't they grand old trees?" "What do they make you think of" said Nan. The children looked intently at the trees, Presently Bessie's face lighted up, and she exclaimed, "Oh, I know. It's like a Christmas tree."

1. Write the very best letter that you can in answer to one of these advertisements following the rules you have learned in regard to spacing, capitals, punctuation, etc. When finished fold properly and address. 2. Write to Wm. Constable & Co., Broadway, New York City, asking that some samples of dress goods be sent to your address: Give them some idea of the kind wanted. Wanted. A boy in a hardware store to learn the business. Must be honest, willing to work, and ready to give up the use of tobacco if desired. Address Frank Privington & Co., 375 Franklin St., Boston, Mass. Dictation: Lettuce, tea, coffee and sugar are sold by Mr. Brown's clerk. "Did you receive a message" asked Fred. "No" replied his aunt, "but I hope to hear soon." "Was Capt. Johnson's cousin at Dr. Brown's office?" said Gov. Ames. When James came here he gave me a box and said, "Please do not open this at present." "What is in it asked Annie?" Write the correct form of each sentence: Will I read this lesson? Aint I going to be dismissed. Can I bring my book home? [asked in a school-room]. He wished to come but he would not be left.

1. If you like your school, tell in your best language your reasons: or if you do not like it, tell very politely your reasons for that. 2. Write a sentence asking a question, then tell the subject and predicate. 3. Define a noun, pronoun, adverb, verb, and mention one of each kind. 4. Correct: *g* Washington did not believe in laying. but all ways told the trooth? 5. Correct this sentence using the fewest words: I haint got no knife. 6. Write a letter to a friend telling about school matters, home news, and plans for vacation.

1. What is a polysyllable? Write one. 2. Write a word containing a diphthong. 3. Write a word containing a triphthong. 4. Write two words each having a prefix. 5. Write a word having a prefix and suffix. 6. Write an imperative sentence. 7. Form plurals of *beauty*, *attorney*, *monkey*, *butterfly*, and *pulley*. 8. Dictate: Hark! hark! Is that the fire alarm? 9. Punctuate: Father said My son I hope you will always be truthful and honest. 10. Dictate: The gentlemen's hats and ladies' bonnets were on the table. 11. Write a letter to some friend stating that you have received a present of a book, naming the title, in which you were much interested; and offering the loan of it to your friend.

1. Dictate: Flies' wings are gauzy. "Father" said Fred, "did you bring me a pair of skates from Chicago?" 2. Change to plural the words italicized. Couldn't *that* boy find his marbles? Do you think this *girl* will harm the *egg* in the bird's nest? 3. Correct the following: Mother said John do they have boys mens and ladies boots for sale at R. H. Whites? I think they have John replied his mother do you need a pair. 4. Write the plural of *potato*, *thief*, *lady*, *monkey*, *goose*. 5. Correct: was you to home last evening. It was me who done it. They won't give me no more money. 6. Write the plural possessive of *man*, *child*, *ox*, *hero*, *city*. 7. Write a short statement about Hygiene. 8. Dictate, (Metcalf's Lang. Book Page 43.) 9 and 10. Write a few sentences about Our School Flag, or a story from memory.

GRAMMAR AND LANGUAGE. CLASS V.

1. Letter writing. Write a letter to some one you know who has never been to this school. Describe the yard, the house, and your room. Tell her what you do in school, what studies you like, and whether you expect to be promoted. You may also write, if you wish, about the banner and stars. 2. Proverbs. Each pupil may write one or two proverbs learned this year. She may write what she thinks one of the proverbs means and what we ought to learn from it. If it has been of any use to her she may write about that. 3. Story writing.

The teacher will read slowly and distinctly and repeat once the story on page 138-41 of the Child's Life Book. After which the pupils are to write from memory giving the story in their own words.

1. Dictation: Ned gets up at six in the morning (a.m.) and goes to bed at eight in the evening (p.m.). Gen. Parker, Capt. White, and Dr. French all live on Chestnut Ave. Where is this boy's hat? Where are those girls' books? 2. Write in words $\frac{1}{2}$ of $12 = 6$; $\frac{1}{6}$ of $18 = 3$; $4 \times 6 = 24$. 3. Write a letter to your friend in the country inviting him to spend Saturday with you. Tell him what games you will play, and when and where you will meet him. 4. Write a little story explaining this proverb, or tell in your own words what you think it means: "When the cat's away the mice will play." 5. Write these words in sentences: groan, grown, heard, herd, peace, piece, berry, bury. 6. Write from memory a stanza of poetry.

1. Reproduction. "How Hans was Promoted." 2. Dictation: James and Henry went to Dorchester to visit Uncle Charles and Aunt Mary. The boys live on Fourth Street, and they had to start very early in the morning to catch the eight o'clock train, from the Eastern Station. When they reached Dorchester, their Cousin Will was at the station to meet them. It took about ten minutes to go to their uncle's house. They had been in but a few minutes when their cousin said "Don't you want to come out and have a game of ball?" "Oh yes" answered the boys. They played till dinner time. After dinner Aunt Mary said "Now children let us get ready and we will go to the theatre." After the play was over they started home and reached there just before supper. 3. Letter: Description of your snow-man, — when you made him, who was with you, how you made him, how he amused you, how long he lasted, what became of him.

1. Dictation: "I am so glad vacation is coming," said Harry Brown to his little sister, Jennie. Harry had planned to go to his Uncle John's house for a good long visit, and he was in high hopes of a good time. There were boating, fishing, swimming, and many other things for him to enjoy. Jennie had had no share in his plans, and she was very sad when she found this out. So she said, "Can't you take me with you to Uncle John's?" But Harry said, "Girls don't know how to fish or swim or row, and you would be in the way of all my fun. No, you cannot go." Don't you think Harry was a very selfish boy? 2. Dictate the following sentences: Harry's father was a Boston merchant. Jennie called her doll "Topsy." "What's your name," asked the new boy. Have you ever seen the flowers in the Public Garden? 3. Make a sentence with each of the following words: brave, school, painter, hurry, sun. 4. Make a sentence telling what a farmer does, a blacksmith, a carpenter, a mason, a doctor. 5. Tell in a sentence

your name, age, residence, the school you attend, and your class. 6-10. Write a letter to Mr. Principal, telling him about what you are going to do this summer. Pay attention to the form of your letter, punctuation, spelling, writing, etc.

1. Make three sentences, putting two or more of these words and other words in each sentence: green, there, gold, with, were, hung, bells, little, apples. 2. Put into two sentences the plural of *baby* and *is*. 3. Fill up these sentences: He _____ kindly. I _____ John _____ yesterday. "I will go," _____ . 4. Write in your own words:

"I hear in the chamber above me
The patter of little feet,
The sound of a door that is opened,
And voices soft and sweet."

5. Draw lines under the nouns or name-words in the following: The boy threw a ball. I have ten cents. Where is Mary's book? 6-10. Write a letter to your teacher from some country far away. (Spelling marked on this letter.)

1. Dictate: My teacher's mother's name is Mrs. Brown, and she lives on Dorchester Avenue, South Boston. 2. Dictate: Franklin Intermediate Reader, pp. 130 and 131, paragraphs 19-22. 3. Make sentences using the following words: business, hospital, promptly, its, doesn't. 4. Make the italicized words plural: The *child* has lost its *knife*. The *lady* is telling the man what she has seen. 5. Make singular: The thieves stole the loaves of cake. The policeman drove the oxen to the pond where the geese were drinking. 6. Write a letter about some city you have visited or some journey you have made. 7. Write two stanzas of poetry from memory.

1. Dictate: When our parrot sees the postman coming she says "Letter for Polly." 2. Dictate: "Spring is coming," said little Jack, "for I saw a flock of wild geese go north to-day." 3. Correct the following sentences: Is them clothes dry or only froze? He didn't do nothing. He will never be no taller. Will I close the door? The room is fifteen foot square. Him and me seen them as they were a coming. 4. Change the following sentences to mean more than one and punctuate them: The sailor's face was frozen. The child's top spins easily. 5. Change the following sentences to denote ownership: The wing of the eagle is long. Are the wings of the butterflies pretty? 6. Write four lines of poetry from memory. 7. Write a letter on one of the following subjects: To a schoolmate telling him your plans for future life. To a classmate who has been detained from school by illness. 8. Apply for a situation to work. 9. Write about your science lessons.

1. This letter was written on the blackboard and the pupils asked to answer it, the heading omitted :

BANGOR, MAINE, June 16, 1890.

DEAR COUSIN: I have been sawing wood to-day for father. Do you ever do such work? I expect to come to Boston in August. Will you meet me at the depot? To-morrow is Charlestown's great day. I suppose you will have a fine time over there. How far is Bunker Hill monument from your house? I should like to see it very much and go to the top of it, for the view must be grand. Have you been to the top of it? I am anxious to see Boston Common, too. I wish you would write and describe it to me, and what games the boys play there. Are your examinations all through? How soon do you have vacation, and where are you going this summer? Please write to me a long letter, telling me all about it.

Your cousin,

HENRY WOOD.

GRAMMAR AND LANGUAGE. CLASS VI.

1. Write these sentences: (1) Is that your axe? (2) They thought he was innocent. (3) The florist says I may gather some pond-lilies. (4) Has Jane found her bracelet? (5) We should be truthful. (6) Have you money enough to pay now? (7) No, please wait until to-morrow. (8) February has twenty-eight days. (9) The thief stole my new coat. 1. See that your capital letters are in the right places. 2. See that the sentences are punctuated correctly. 3. Which words in the fourth and eighth sentences are proper nouns? 4. Which word in the ninth sentence is an article? An adjective? A verb? 5. What is the subject of the eighth sentence? The predicate? 6. Write properly the abbreviation for February. 7. Which sentence is the answer to a question?

1. Write on the board for correction: New york is the largest City in America. i cannot do as i wish. can you. Johns father gave him a scent. The babys cant walk. 2. Read once, then dictate without repeating: Fred found a bird's nest with four eggs in it. The birds flew around his head, as if trying to tell him not to touch their nest. Fred knew what they meant and walked on to the sea-shore. N.B. Correct for capitals, spelling, punctuation. 3. Write a letter upon the subject of "Vacation." The boys may tell what they would like to do, or how they propose to spend their time during July and August.

Read to the class the story entitled "The Sheep," in Barnes' Second Reader. Class to write the story from memory on their papers.

1. Dictate: Dr. West's house is on Chester Park. His son Johnny has a kitten named Snowball. One bright June day while she was sitting on the fence, she saw Mary Jane, the cook, place a pan of milk on a low window-sill. 2. Finish the above story in an interesting way. 3. Correct the following sentences: There was ten boys who knew their lessons. This pen is know good. I seen him when he done it. I and my sister went to cambridge. Is the dogs leg hurt 4. *A, an, learn, teach, broke, broken.* Select one of the above words for each blank in the following sentences and finish the sentences: Will you — me to do — example. I have — my pencil. 5. For what words do the following abbreviations stand: M.D., P.M., A.M., Co., Gov.? 6. Write a letter to some boy-friend asking him to join the ball team to which you belong. Tell him where you practise, the names of the other boys who belong, and what success you have lately had. Or, invite your friend to come and see your garden. Tell him what you have planted or set out, something about its size, and what care you take of it. (Omit the 3d, 4th, or 5th, if you choose.)

1. Write an interrogative sentence. 2. Give five abbreviations and what they stand for. 3. Give the rules for capital letters. 4. Write the plural of *clock, bench, daisy, knife, foot.* 5. Write a sentence with three capitals in it. 6. Dictate: Do you know whether Dr. Brown lives in Park Sq. or on Tremont St.? 7. Correct these sentences: Charles ain't got no money. There is three boys late. I seen him do it. 8, 9, 10. Write what you can about the flag on our school-house.

1. What is the abbreviation for doctor? What is the abbreviation for mister? What is the abbreviation for afternoon? What is the abbreviation for forenoon? 2. Make a period. Make a colon. Make a dash. Make a caret. Make quotation marks. Make a semi-colon. Make an exclamation point. Make an interrogation point. Make a comma. Make a hyphen. 3. Dictation:

Oh, tell me pretty river,
Whence do thy waters flow?
And whither art thou roaming,
So pensive and so slow?
" My birth-place was the mountain;
My nurse, the April showers;
My eradle was the fountain,
O'er-curtained by wild flowers."

1. Write a short letter. 2. Write a verse in poetry you have learned this year. 3. What is a diphthong? A triphthong? A monosyllable? A dissyllable? A polysyllable? Give an example of each. 4. Write a short sentence containing an apostrophe showing ownership and one

showing contraction. 5. A Man o' war's man. Explain the use of both apostrophes. 6. Punctuate the following: Take him to the post Dolphine said Mrs. Damrell quickly.

1. Tell what you know about the use of different kinds of punctuation marks. 2. Suppose you go to a store, kept by Mr. Allspice, and order five different kinds of groceries: write what you would say to him, first calling him by name. 3. Write down some things which you wish you had not done in school this year. 4. Reproduce from dictation a selection.

1. Copy the following sentences, correcting all errors: mister smith at one time was governor of mass. William rode from saint petersburgh to lake ladoga. When he saw the emperor he said is his name alexander. 2. Dictate: The children's tickets have come. One boy's marbles were lost. A lady's shawl. The men's shovels. Jame's books. 3. Write the names of five rivers and five different kinds of grain. 4. Correct the following sentences: I can't write good. I can't hardly hold my pen right. My ears was almost froze. He hadn't ought to do it. 5. Write me a letter about an imaginary journey to some foreign country.

1. Correct: There was several boys in the street. John and James goes to school every day. I can't never find him. He done well in his lessons. I seen him do it. 2. Fill each blank with *there* or *their*; *to*, *too*, or *two*: ——— was ——— big a load for ——— horses ——— draw ——— furniture up the hill. 3. Fill the blanks with one of the words, *is*, *was*, *are*, *were*, or *will be*: Every pupil ——— in school to-day. All the pupils ——— in school yesterday. All ——— in school to-morrow. There ——— a good many out to-day. 4. Give Dictation Exercise. 5. Let the pupils read the story of "Lucy Gray" (page 155 of the Reader), and after studying it, let them write out the story in their own words. 6. Write a letter from a farm-house in Vermont. Journey by boat or rail, situation of the house and barn, the family of the farmer, cattle, horses, sheep, etc., haymaking, fishing on a rainy day, other suggestions, starting for home. 7. Punctuate: Where shall I sit said the new boy when he came to school You may take the front seat said the teacher and I hope you will like the school. 8. Tell something about the poet John G. Whittier. Give a quotation from one of his poems.

SPELLING. CLASS II.

Neighborhood, amazed, separation, answering, purchasing, receiving, cheerfully, inquiring, concealed, intelligence, suitable, deserved, provisions, mysterious, hesitate, vehement, release, mechanic, conductor, discouragement, wholesome, rheumatism, curiosity, distinctly, commerce.

Authority, inflammation, necessary, separation, destination, disobedience, doubting, climbing, condemn, Egyptian, Afghanistan, Alleghany, despair. The water which leaks from the vessel is green as a leek. Of course it was made of coarse cloth or it would not tear going through the tares. Mr. Wright did not think it was right to write on the rite of baptism. He rode to Chelsea on the old road, and rowed the boat.

In our school the boys like *avoirdupois weight* better than *apothecaries*; they mix up the *definition* of the *circle* with the *circumference*; but they never forget to reckon the *interest* on the *principal*, to make an *indorsement*, or to write the *formula* on a *promissory* note.

During Washington's administration several new States were added to the original thirteen. The legislature treated the demands of the settlers with *contempt*. Tennessee came into the Union in 1796. Congress passed an act establishing an "Electoral Commission." It consisted of five *senators*, five *representatives*, and the *justices* of the *Supreme Court*. Separate, village, respiration, equivalent, era, malice, magazine, suspicion, perfume, tortoise, biscuit, capillaries. Dictate the sentences and mark the italicized words. Pupil to write the whole sentence.

Vienna, exterior, rheumatic, rotary, to-morrow, rhinoceros, suicide, cuticle, dimmest, residence, quinine, heifer, longitude, guidance, netting, obliquely, shoeing, Marseilles, Mozambique, accommodate, answered, marriage, Whittier, passenger, earlier.

Sensibility, skilful, daisies, solicitous, architects, pieces, beggars, principal, skeleton, collar, handkerchief, sufficient, laughable, pygmy, delicious, ambassador, travelling, column, pickerel, anticipate, magnificent, possible, trough, firmament, drapery.

Besiege, February, physician, chimney, nephew, beefsteak, stomach, circus, until, believe, mischief, neighbors, lawsuit, finally, forehead, regiment, marriage, soldier, pearl, schooner, indorsement, camphor, iceberg, suspicious, celery (plant).

1. The committee appointed to draw up a Declaration of Independence were Thomas Jefferson, John Adams, Benjamin Franklin, Roger Sherman, and Robert R. Livingston. 2. Alexander Hamilton, Secretary of the Treasury, believed that the federal government ought to assume the State debts contracted during the Revolutionary war. 3. He smote the rock of the national resources, and abundant streams of revenue burst forth. 4. The United States, like all other commercial nations, had hitherto paid tribute to the Barbary States for the security of their commerce in the Mediterranean Sea.

5. "Better to weave in the web of life a bright and golden filling,
And to do God's will with a cheerful heart, and hands that are
ready and willing,

Than to snap the delicate tender threads of our curious lives
 asunder,
 And then blame Heaven for the tangled ends, and sit and grieve
 and wonder."

Crickets *chirp*, nuts for *squirrels*, *venomous* serpent, *inflammable* oil, *fleecey* snow, *courteous* demeanor, *abbreviate* words, lost *umbrella*, *too* loosely fitted, *briefly* described, *annoy*, *Italian* scenery, *ferocious* beasts, almost *persuaded*, *sincere*, *ducks'* eggs, *irregular* verbs, *steak* (of beef), *wholly* wrong, *increase*, *scarcely*, *thorough*, *qualify*, *participle*, bouquet of *lilies*, *vinegar*, *echoing* woods, *twelfth* page, *brier* bushes, *balance*, bushel of *pease*, *sunnier* side, tell *their* story, *excellent* work, cut *off* threads, *commas* and colons, *pretty* pictures, *parallel* lines. Tell what *purrs*, *bee* buzzes, *humming* bird, *gape* or *sneeze*, *altogether*, *uncivil*, *garret* window.

For *breakfast* we have *oatmeal*, *porridge*, *biscuits*, *doughnuts*, *cheese*, *beefsteak*, *sliced* potatoes, and *tea*, *coffee*, or *chocolate*. For dinner we often have *vegetables*, including *cabbage*, *cucumbers*, *asparagus*, or *spinach*, *onions*, *squash*, and *canned* corn. We *also* have either *rhubarb* or *currant* sauce.

Cruet, sieve, tureen, ceiling, rancid, juicy, vicious, avenue, nausea, plateau, conceit, supersede, mortise, surplice, cudgel, icicle, rinsing, mucilage, plaguing, really, poultice, hygiene, cinders, crevice, caoutchouc. Nihilists have issued a manifesto in Russia. Gibraltar has a quarantine against Valencia. Illegally circulated notes in Argentine are to be cremated. A movement is reported to be on foot to export Egyptian cotton to Massachusetts. Diphtheria is prevalent in Blackstone. Proposals for improved sewerage are to be opened at City Hall to-day. Negotiations with a view to the removal of the German embargo on American pork are in progress. The Japanese will hold their first parliamentary election July 1. News has been received of an uprising against the provisional government of Brazil.

Words to be given in sentences, the words only to be spelled: sympathy, pleasure, telegraph, condemn, resign, appearance, fulfil, Massachusetts, respectable, rotation, umpire, enemy, suspense, attack, prevail, compelling, whether, preparation, immortality, ferocious.

Dictate the following, taking one off for each misspelled word: Washington, June 4, 1890. A systematic effort is being put forth to create the impression that this Congress has already formulated a sufficient number of bills relating to pensions, public buildings, and new ships to exhaust all the money in the treasury. The principal object of these wholesale statements is to prevent any tariff legislation looking to a reduction of the revenue. These allegations have no foundations in

fact, and it is not the purpose to pass any unnecessary legislation making large appropriations. It was expected that Congress would be very liberal in appropriating for the improvement of fortifications, but it is learned that there will be given only a sufficient sum to keep the present establishments in repair.

“ Press on ! there’s no such word as fail !
 Press nobly on ! the goal is near !
 Ascend the mountain ! breast the gale !
 Look upward, onward, — never fear !

Why shouldst thou faint ? Heaven smiles above,
 Though storm and vapor intervene ;
 That sun shines on whose name is Love,
 Serenely o’er life’s shadowed scene.”

I live in Ward twenty-two, Roxbury District, City of Boston, County of Suffolk, State of Massachusetts. The Mayor of this city is Thomas N. Hart, the Governor of this state is J. Q. A. Brackett, the President of the United States is Benjamin Harrison.

Electricity is a wonderful power. The physician visited the sick man. Booth assassinated Lincoln. The dictionary is a useful book. Punctuality is an excellent virtue. His scholarship was the result of effort. The alphabet contains twenty-six letters. The exhibition was enjoyed by all. He did the work thoroughly. We have learned the abbreviations. Antecedent, analysis, vowels, consonants, syllables, composition, phrases, divisor, indorsement, alcohol, physiology, digestion, Massachusetts, Yokohama, Rio Janeiro.

SPELLING. CLASS III.

Quarrel, neighborhood, screamed, meant, journeyed, laughter, trespass, perceived, delicious, raisins, cushions, experiment, serious, millions, handkerchief, anchored, enormous, citizens, shrewd, roguish, mysterious, shepherd, nestled, luncheon, mortgage.

The *Declaration of Independence* was adopted on *The Fourth of July*, 1776. The capture of *Philadelphia* immediately followed the defeat of the *American Army* on the *Brandywine*. The *British* destroyed some *military* stores at *Concord*. The *cavalry* made a *brave attack*. The *carriage* was drawn by two *beautiful* horses. The *principal* said that the *principle* in our *arithmetic* lesson was not understood. The *numerator* and *denominator* are called the terms of the fraction. There are *forty-nine* girls in the class. *Alcohol* is *poisonous* to the human *system*. A *declarative* sentence can be changed into an *interrogative* sentence. (Dictate the sentences. Mark for spelling the italicized words. Pupils not to be informed which words they are to be marked for.)

The bones all united form the *skeleton*. Write the *analysis* of a *declarative* sentence containing a noun in *apposition*. The prairies are west of the Appalachian Mountains. Most of the *colonists* came to this country for *religious* freedom. John Q. A. Brackett is the *governor* of Massachusetts. Great *Britain* ranks first in the production of coal and iron. Temperature, peninsular, revolution, physiology, denominator, multiplication, solidity, shoulders, Caribbean, Worcester, composition, fibres, nervous, possessive, Puritan.

Dictate the following, taking one off for each misspelled word: "More than one hundred years have passed since the 'Boys of '76' shouldered their muskets and fought for their liberties. The sufferings, hatreds, and barbarities of that struggle, all have passed away; but the story of the struggle, the patriotism, the self-denial, the heroism, and devotion will never be forgotten. After fighting more than seven years, after suffering untold hardships and privations they obtained their liberties, established the United States as a nation, and secured to mankind a government of the people and for the people forever."

"The proudest motto for the young,
Write it in lines of gold
Upon thy heart, and in thy mind
The stirring words enfold,
And in misfortune's dreary hour
Or fortune's prosperous gale,
'Twill have a holy, cheering power —
There's no such word as fail."

Height, doesn't, acceptable, seen, ferocious, wrists, ankle, almanac, scene, syllable, wasteful, excellent, groceries, Mediterranean, Chinese, pumpkin, permit, concern, subtract, divisor. Give the words in sentences, the pupil to write the word only.

Emigrants, fugitive, wampum, blamable, fertility, secede, ellipse, obliging, tenement, precinct, parallel, muscle, appetite, irrigate, strategy, malice, anchor, rigging, audience, register, traitor, juicy, durable, legible.

For breakfast we have *oatmeal*, *porridge*, *biscuit*, *doughnuts*, *cheese*, *beefsteak*, *sliced potatoes*, and *tea*, *coffee*, or *chocolate*. For dinner we often have *vegetables*, including *cabbage*, *cucumbers*, *asparagus*, or *spinage*, *onions*, *squash*, and *canned* corn. We also have either *rhubarb* or *currant sauce*.

Colonel Brown and Lieutenant Smith visited the *squadron* in the *Mediterranean*. *Kerosene*, *petroleum*, and *anthracite* coal are important *articles* of commerce. *Analysis* is the *separation* of a sentence into its *elements*. The action of the *muscles* is *controlled* by the *nervous system*.

The *Portuguese* and *Spaniards* are dark *skinned* people. Conceit, massacre, scalloped, ellipse, fragile, cologne, militia, salable, seized, grievance, flexible, crystallize, chandelier, special, prose, miscellaneous, thievish, contagious, stopped, courageous, centuries, telephone, courtesy, ceased, doesn't, poisonous. Write these sentences on the board. The scholars copy, selecting the correct words from the parentheses: The doctor visited his (patients, patience.) Russia (formally, formerly) owned Alaska. (There, their) is a (surplus, surplice) in the treasury. Mr. Roberts keeps a (stationary, stationery) store. Congress is in (cession, session). Do not (alter, altar) your examples.

The following words were chosen from the Fifth Reader: capacity, necessity, grieved, recreations, sanctuary, aerial, service, solemn, sauntering, laziness, benighted, believed, patient, avenues, maiden, celestial, wrinkled, currents, deciding, scarlet, buoyant, excellent, trophy, instalment, indescribable, treasures, merriment, curtains, iceberg, February, ambitious, tea-table, piano-forte, neighbors, counterfeit, halcyon, meadows, perplexed, apparition, canoes, miracle, prophet, pomegranite, delicious, mastiff, experiences, enthusiasm, fortuitous, chaise, melancholy.

Wrinkle, pacify, mackerel, shoes, icicle, weaving, umbrella, quarrel, hymn, possible, edging, delicate, Tennessee, describe, parallel, Vienna, victuals, minute, Solomon, Florence, vulture, uselessly, forbearing, straight, eyesight.

Curtain, February, physician, chimney, nephew, beefsteak, stomach, circus, until, believe, mischief, neighbor, lawsuit, persevere, forehead, regiment, marriage, ventilate, pearl, schooner, indorsement, treason, camphor, suspicious, celery.

SPELLING. CLASS IV.

Business, cinnamon, circle, money, parlor, parallel, biscuit, fruit, believe, Wednesday, February, choose, many, goes, does, dollars, women, valleys, peninsulas, island, trouble, lose, chocolate, which, whose.

Gazing, chimneys, merriest, tornadoes, utterance, rhyme, raspberry, saleratus, catechism, atmosphere. That is a well *bred* boy. This is a good *site* for a house. That gun has a six-inch *bore*. The camel has a rapid *gait*. Help me to *wring* the clothes. "The Indians were completely deceived and there was not a shot fired. The heroines retrace their steps. A sheet of living flame from the garrison, and the shrieks of the wounded Indians proclaimed the safety of the women and the triumph of the white men. Insane with wrath to be thus outwitted, the foe rushed from his covert, upon the rifle of the pioneers."

Make sentences for the class using the following words, the class to write the word when it is given the second time: cellar, seller, shoeing, judgment, larceny, grocery, obeying, forgetting, pencil, thralldom, enrolment, tomatoes, kill, kiln, colonize, realize, telescope, milliner, artillery, cannibal, barricade, gossamer, citizen, edifice, parable, palate, palette, pallet, manuscript, statuary, caution, pension, ancient, vaccination, separation, succession, conscience, conscious, musician, charade, billion, sphere, cipher, liquid, conquer, warrior, session, cession, sweet, suite.

Partridge, caterpillar, mackerel, halibut, chestnut, squirrel, giraffe, kerosene, check-rein, century, surloin, biscuit, scissors, lettuce, dandelion, onion, pansy, raspberry, mullein, silesia, delaine, agate, milliner, apothecary, crystal.

Civility, answered, village, inquire, beautiful, farther, handsome, otherwise, believing, neither, purchase, kitchen, service, discharge, suited, father, preparation, answering, cheerfully, courage, dreadful, amazed, monstrous, neighbor, possible.

Gingham, picture, porpoise, mouldings, fortnight, brackets, skilful, squirrel, cargoes, special, faithful, instalment, quarrel, equal, forbear, ability, survey, chimneys, bounteous, obloquy, enviable, judgment, revengeful, courageous, rescue, excusable, peruse, grieve, camphor, liniment, partridge, mackerel, mahogany, panther, saddle, chocolate, clapboard, thanksgiving, centennial, biscuit, custard, cushion, geranium, asparagus, cassimere, photographer, glycerine, pneumonia, ceremonial, peaceable.

Awkward, massacre, discipline, slaughter, business, privilege, poultice, alcohol, glycerine, abscess, lettuce, bureau, centennial, vinegar, mahogany, echoes, victualler, parallel, apology, ceremony, remedy, noticeable, courageous, sensible, college.

Eclipse, censure, courageous, singeing, obliging, forcible, grocery, ceremonial, sensible, turkeys, convey, sloppy, pulley, apologues, alley, peaceable, console, commerce, Scottish, receipt. What does the suffix *-less* mean? What does the prefix *un-* mean? Use "*cellar*" and "*seller*" in the same sentence. Use *country's* in a statement. Use *Henry's* in a question.

Partridge, fragile, skirmish, creak (define), ditching, screeched, orchards, fleecy, churlish, unskilful, lengthen, chocolate, twinkle, mucilage, traitor, dragon, poison, masculine, calves, mortgage, tortoise, deluge, baggage, noticeable, recital.

Closet, furnace, curtain, precipice, Massachusetts, January, chalk, button, meadow, molasses, lamp-post, oyster, stomach, laugh, pear (fruit), ache, chimney, cushion, circus, nephew, balcony, vinegar, shoulder, beefsteak, bedstead, fraction, purchase, oblige, grateful, de-

sert, father, chair, language, scissors, sewing, pair, island, peninsular, auger, behavior, sorrow, excellent, diameter, tongue, afternoon.

The Atlantic Ocean is between North America and Europe. West of the Rocky Mountains the surface of the land is very high. The Alleghany Mountains are celebrated for coal, iron, and petroleum. The coldest country in North America is Greenland. The largest cities of the United States are New York, Philadelphia, Brooklyn, Chicago, Boston, and St. Louis. The highest peak in the New England States is Mount Washington in New Hampshire. The farm products of Vermont are hay, potatoes, grain, and vegetables. The northern part of Maine is covered with pine forests. New England has long been noted for its manufactures. The academy which Frank attended was two miles off. They seized him and hurried him before the magistrate.

For *breakfast* we have *oatmeal, porridge, biscuit, doughnuts, cheese, beefsteak, sliced potatoes,* and *tea, coffee, or chocolate.* For dinner we often have *vegetables, including cabbage, cucumbers, asparagus, or spinach, onions, squash,* and *canned corn.* We also have *either rhubarb or currant sauce.*

The best vinegar is made of pure cider. Good yeast bread is moist and wholesome. Syringas and lilacs make a fragrant bouquet. Rinse out the bowl that contained the medicine. A Newfoundland dog is cautious and intelligent. The indolent girl has a poor average. What is the difference in latitude between San Francisco and Quito? She failed on unit and factor in my spelling examination. Manners, door-knob, lettuce, raspberry, expense, palace, measles, flannel, scissors, knuckles, muscles, nuisance, parallel, firm, hemmed, bureau, cambric, Rio Janeiro, Benjamin, obliged, immediately, British.

Words to be given in sentences, words only to be spelled: latitude, citizen, celery, telegraph, cinnamon, innocent, piazza, appreciate, gossamer, average, equivalent, European, ancient, avalanche, atmosphere, cologne, machinery, kerosene, centennial, lettuce, handkerchief, diphtheria.

Dictation. 1. Why do we like to *listen to fairy tales?* Is it not that things *happen so suddenly, so strangely, and without man having anything to do with them?* In fairy-land *flowers bloom, castles and palaces* spring up in a single night, and people are carried *thousands of miles* in an instant by the *magic of a fairy's wand.* But the wonders of fairy-land are not *equal* to those of the world in which we live. There are real fairies all *around us,* and they are many times more *wonderful* than those of the old fairy tales.

2.

WEDNESDAY, June 18, 1890.

Dear Aunt Sarah: *Tomorrow* is my *twelfth birthday.* Do you remember when you were *twelve years old?* I am to have a party on the

lawn; and we are to play *games*. I *expect* to have a good time. I wish you could come over, but I *suppose* you are *too* ill to leave your room. I will tell you all about it when I see you.

Your loving *niece*

FANNY.

3. "A *little* word in *kindness* spoken,
 A *motion* or a *tear*,
 Has often *healed* the heart *that's* broken
 And made a *friend* *sincere*.
 Then *deem* it not an *idle* thing
 A *pleasant* word to *speak*;
 The face you *wear*, the *thoughts* you bring,
 A heart may heal or *break*."

The *Portuguese* took *possession* of the eastern part of South America. The good scholar is allowed *privileges*. The sun is above the *horizon*. When she *loosened* his collar the dog felt more *comfortable*. James *suggested* that we sell the *vegetables*. A *neighbor* came to the *rescue*. *Appalachian*, *orchestra*, *recognize*, *familiar*, *fraction*, *difference*, *veins*, *educated*, *frightened*, *communication*, *unconscious*, *sensible*, *release*, *denominator*, *Mediterranean*.

Salve, *civil*, *auction*, *idea*, *oblige*, *believe*, *column*, *forgotten*, *exceed*, *rinse*, *Connecticut*, *average*, *Switzerland*, *women*, *mamma*, *niece*, *orphans*, *patient*, *cancer*, *reason*, *Henry's*, *orchard*, *theirs*, *weight*, *waste*.

SPELLING. CLASS V.

Separate, *eighteen*, *friend*, *Wednesday*, *sponge*, *whether*, *patient*, *beautiful*, *road*, *hear*, *know*, *February*, *scholar*, *knife*, *Massachusetts*, *too*, *right*, *their*, *receive*, *kitchen*, *believe*, *niece*, *nephew*, *source*, *until*.

Gazing, *chimneys*, *merriest*, *arrest*, *screech*, *pheasant*, *fissure*, *saleratus*, *Delaware*, *tornadoes*. That was a sharp *peal* of thunder. This is a good *site* for a house. The sexton *tolled* the bell. The camel has a rapid *gait*. Help me to *wring* the clothes. "The Thunderbolt was nearer to the spot where Tim had disappeared than the Zephyr, but her crew was utterly paralyzed by the event and unable to render the slightest assistance. The Zephyr's crew, though affected somewhat as the Bunker's were, used their oars skilfully and with energy. The presence of mind which Frank displayed inspired them with energy."

Meadow, *chestnut*, *apron*, *laugh*, *trout*, *beech*, *scythe*, *nephew*, *cousin*, *subtract*, *sincere*, *uncombed*, *generous*, *February*, *ninety*, *satchel*, *nonsense*, *lilac*, *loiter*, *separate*, *necessary*, *Wednesday*, *errands*, *meant*, *scissors*.

Farther, handsome, somewhat, distance, women, height, pigeon, beautiful, anything, raising, surprise, famous, kettle, forest, inquire, breakfast, boiling, noises, sugar, village, family, parties, answer, carriage, civil.

Wreck, orchard, symbol, perceive, privilege, pair, servant, wrestle, burial, surface, seem, knowledge, always, ring, biscuit, business, minute, sympathy, mountain, carriage, Christmas, caught, naughty, medicine, traitor, language, pencil, calmness, rudely, mucilage, crystal, surely, deceit, mystery, tortoise, bruise, presence, squander, lawyer, obtrude, rumor, drawing, journey, virtue, pursuit, mildew, costume, coward, pronounce, thieves.

God has given the *reindeer* to the *Laplander*, and the *camel* to the *Arab*. The great heavy *buffalo* ran through the *village*. I could not eat the *potato*. When the Esquimau wants to go on a *journey*, he has to be drawn by dogs. Do you understand *decimals*? Ebony, furs, ivory, crocodile, Chinese, ostrich, Sahara, peninsula, chestnut, engine, projection, herrings, division, frightened, attic.

Words to be given in sentences, the words only to be spelled: parcel, grammar, surface, weapon, furniture, rinse, juice, crystal, scythe, hammock, lengthen, carriage, receipt, belief, unwilling, woollen, skilful, struggle, plumber, mortgagage, business, medicine, promise, massacre, quadruped.

I study *geography*, *arithmetic*, *language*, *writing*, and *science*. Many *scholars* hold *their* hands *right* when they write. The *penholder* is held *between* the *thumb* and *second finger* and the *wrist* is flat on the desk. John *always* *copies* his *sentences* *accurately*, *studies* his *lessons* *thoroughly*, and keeps his *knife*, *pencil*, and *scissors* where they belong.

Thursday, forty, patient, niece, nephew, saucy, abrupt, squeeze, disease, jewelry, shriek, pursuit, despair, pleasant, grievous, among, roguish, loosen, coral, Roxbury, Mediterranean, handkerchief, writing-books, mamma, tongue.

Closet, furnace, curtain, precipice, Massachusetts, January, chalk, button, meadow, molasses, lamp-post, oyster, stomach, laugh, pear (fruit), ache, chimney, cushion, circus, nephew, balcony, vinegar, beef-steak, shoulder, bedstead.

First twenty-five words given in sentences, but words only written. Last twenty-five words given in sentences, but sentences written and words italicized. Calmness, unlovely, chocolate, naughty, Christmas, sword, medicine, knot, sleigh, biscuit, lesson, oaken, language, sausage, cottage, beggar, acre, heathen, mischief, lettuce, palace, wretch, chalk, chestnut, vineyard. A *mead* is a meadow. A *meed* is a reward. He *might* have done it. A *mite* is a small insect. They *missed* their way. A *mist* hung over the river. I have a *nose* on my face. He *knows* he

can do it. *No*, you cannot go. I *know* who did it. He has *mown* the grass. We *moan* when we are in pain. She had a *pail* of water. The girl was *pale*. *Paste* is used for sticking. He *paced* several yards. *Paul* is a man's name. A *pall* is a covering. *Peel* that orange. I heard the *peal* of the bells. The man paid a *poll* tax. He had a long *pole* in his hand. I have a *pair* of gloves. He was eating a *pear*. He took a knife to *pare* his apple.

Dictate the following: Mark only the italicized words: *Evil thoughts* are *worse enemies than lions and tigers*, for we can *keep* out of the way of *wild beasts*, but bad thoughts, if we give them place, will go with us *everywhere*. The cup that is *full* will hold no more, and if our hearts and heads are *kept* full of good thoughts, bad ones will find no *room*.

THURSDAY, June 19, 1890.

Dear *Cousin* Edward: *Vacation* will *begin* in a few days. *Good-bye* to *school* for *two months*. Father has *promised* to let me make you a long *visit*. I am *planning* what we shall do when I arrive at your home. We will go *fishing* at *least* once a *week*. I hope to have better *luck* than I had last time I went fishing.

Your *loving* cousin,

JOHN.

Suppose your task, my little friend,
Is very hard to get,
 Will it make it any *easier*
 For you to *sit* and *fret*?
 And wouldn't it be *wiser*
 Than *waiting* like a *dunce*
 To go to *work* in *earnest*
 And *learn* the *thing* at *once*?

He has built a handsome house. The carpet had a bright border. The Chinese have many queer customs. They said something to the owner of the boat. There were two pairs of gloves and a straw hat to be bought. "Good morning, Mrs. Brown," said the doctor. James have you finished your work? There was the robin's nest directly over their heads. Where is the yesterday's paper? Geography is easier than arithmetic. The government of the United States is republican. Boston is the capital of Massachusetts.

It is (too to two) much to expect of (two to too) boys. The teacher wishes her pupils to stand in a (straight strait) line. When found the (pair pear pare) had a pleasant flavor. "Your (fare fair) if you please," said the conductor. Dwarfish, sottish, shrewdness, unskilful, cudgel, stencil, scandal, foible, chuckle, tickle, populace, coinage, visage, heritage, mucilage, visor, discipline, thorough, buoy.

Guilt, insect, greedy, glance, fourteen, oyster, exeite, purse, pudding, triumph, violin, happier, Cambridge, carrying, cushion, prudence, Annie, rhubarb, vinegar, choice, nation's, written, would, muscle, shoulder.

SPELLING. CLASS VI.

1. Gazing, 2. chimneys, 3. merriest, 4. fatter, 5. tornadoes, 6. arrest, 7. screech, 8. counterfeit, 9. guinea, 10. grieve, 11. carriage, 12. sieve, 25. A sweet bouquet of June roses stood on the teacher's table, put there by some of her loving pupils. After the lesson had been recited, and before the scholars were dismissed, she told the children to put away their books quietly and give her their attention. They obeyed cheerfully.

Meadow, chestnut, apron, laugh, trout, breech, scythe, nephew, cousin, subtract, sincere, uncombed, generous, February, ninety, satchel, nonsense, lilac, laughter, separate, necessary, Wednesday, errands, meant, scissors.

Woman, distance, eyes, somewhat, spoken, basket, pleased, stopped, father, obey, across, suppose, bravely, handsome, always, stars, open, cotton, chair, farther, faint, forget, eight, spread, thought.

Scant, spell, depth, scrub, quench, skulk, bathe, dwarf, scratch, scarf, clothe, don't, prize, glimpse, shrewd, wharves, eighteen, Wednesday, nonsense, judgment, pity, loiter, progress, oblige, displease, school-room, decide, lonesome, beneath, daisy, frequent, basement, needle, shriek, mantel, bridge, sofa, laugh, kitchen, iron, patient, shan't, pocket, chestnut, tongue, generous, niece, scholar.

Early Monday morning, I get ready for school. On that day I *study my lessons* and *recite* them to my teacher. On *Tuesday*, *Wednesday*, *Thursday*, and *Friday*, I go to school and *learn* my lessons. I study *reading*, *writing*, *spelling*, and I know how to *add*, *subtract*, *multiply*, and divide. I have in my desk a *slate*, two *pencils*, a *ruler*, and my *books*.

My dear *Grandfather* :

I am trying to be good in school and at *home*. Some of my *school-mates* are *saucy*, *lazy*, *rude*, and *dishonest*, but I try to be *honest*, *gentle*, *polite*, *well-behaved*, and *respectful*.

Your loving

JOHN.

“ In the *sun*, the moon, the *sky*,
On the *mountains*, wild and *high* ;
In the *thunders*, in the rain,
In the *grove*, the wood, the *plain*,
In the little birds that sing,
God is seen in *everything*.”

Cease, afraid, Pacific, silence, stretched, oceans, covered, disobeyed, mother's, rogue, bitten, eastern, wrote, breath, dozen, bonnet, ghost, skipping, sailors, multiply, seventeen, twenty-five, died, December, autumn.

Niece, present, February, scythe, shriek, oasis, raisin, sieve, glimpse, hemisphere, scowl, scour, scrawl, dense, whirl, volcanoes, breathe, shrewd, patient, business, commerce, North America, grandfather, vulgar, tongue.

Words pronounced by teacher — pupils write : Wednesday, February, niece, lawsuit, beauty, goodly, skein, postage, postscript, loafer, displeasure, nickel, witness, robin, lilac, suburb, loiter, parade, portrait, speech, charcoal, disease, type, climax, jewsharp, mildew, minute, picnic, raiment, greyhound. Words placed on the board to be written in sentences : bread, ball, beach, break, bear, beet, blue, bays, bee, buy, Ann, ail, sent, climb, coal, coarse, sent, sell, seed, back.

Father locked the door. Gas gives a bright light. The basket was filled with peaches. The wind blew the chimney down. Her dress was made of silk. Kindness makes friends. They are building a new house. The fishermen are mending their nets. There were two carriages at the door. We took our friends to see the painting. The rose is a beautiful flower. John was too careless to make an excellent scholar.

Closet, furnace, curtain, perfectly, precipice, Massachusetts, January, chalk, button, meadow, molasses, lamp-post, oyster, stomach, laugh, pear (fruit), ache, chimney, cushion, circus, nephew, balcony, vinegar, shoulder, beef-steak, bedstead, fraction, purchase, oblige, grateful, desert, father, chair, language, scissors, sewing, pair, island, peninsular, anger, behavior, sorrow, excellent, diameter, afternoon, tongue.

George and Mabel are going to Europe. Joseph carried a satchel. It was a senseless idea. The woman had a cinder in her eye. I am truly your friend. Do not yawn so. Charcoal, notice, exceed, erase, lilac, frolic, lobster, nickel, credit freshet, chisel, tariff, compel.

Words to be given in sentences, only the words to be spelled : Wednesday, robin, daisy, bowl, circular, loosen, saucer, busy, minutes, grocer, violets, answered, whether, sweeten, earnest, thousand, dividend, oblige, picture, neither.

Charles' cousin went across their field, though he saw "No passing through" written on a sign-board. Last Tuesday, Mr. Messer's grocery-wagon was caught in the rain, and in turning a corner the tea, coffee, cocoa, and other groceries were thrown out into the mud, so that the clerk threw some articles into the ash barrel.

The new scholar took a sail on his raft. Have you any more beautiful flowers? Last Wednesday the ship returned from a journey to the Arctic Ocean. Breathe, sneer, spider, buffalo, handsome, Europe, touch, bought, peninsular, question, sugar, coward, sentence, bathing, clothe.

They sailed straight through the narrow strait. The wind blew the

blue waves. Ladies' shoes. Men's hats. Boy's yard. A boy's hat. I'll (for I will). Europe, Plymouth, Connecticut, Wednesday, February, English, autumn, honest, knife, mischief, separate, destroy, pretty.

GEOGRAPHY. CLASS II.

Name the New England States and give a leading city in each. What is the leading city of the Western hemisphere? Why? Tell about the surface of the Atlantic Slope. How does the surface of the Pacific Slope differ from it? Start from Cape Ann with a cargo for Cork. Tell how you would go, and what your cargo would consist of going and returning. Take a trip from San Francisco to Paris. Route? What articles might you bring home? How do messages come quickest to us from Europe? Where do they start and what place do they first reach? In what places are the following articles best grown: cotton, olives, pine, mahogany, oranges, ginger, molasses, maple sugar, coffee, resin? What interesting animal in Switzerland? Lapland? Florida? California? Canada? What minerals in Pennsylvania? England? Austria? Nevada? Where are the places? Where are the best fisheries in North America and Europe? Give two reasons why Southern Europe is warmer than other countries in the temperate zone?

Describe the three most important rivers of Africa, and state any interesting facts about any of them. Name the mountain systems of Asia. Give the physical features of South America. Describe, by topics, any two of the following countries: Brazil, Egypt, Hindoostan, China.

State latitude and longitude of Boston. State where the sun will rise, how many degrees from the horizon will it be at noon, and where it will set the day after school closes. Give two reasons why we are having the warmest days of the year. Give the causes of the change of seasons. Name five natural advantages of San Francisco; of New York. What season is it now at Buenos Ayres? Mecca? Zanzibar? Japan? Cape Town? Name five animals peculiar to North America. Name five animals peculiar to South America. Locate five natural wonders of the United States. Locate five artificial wonders found anywhere in foreign lands. Name five places in New England having excellent water power. Name five counties of Massachusetts, naming your own first. State where the following things are found and what they are used for: guano, hemp, poppy, logwood, jute. Name the best working animal in the United States; in Mexico; in Chili; in Greenland; in Lapland; in India; in Japan; in Central Asia; in Barbary States; in Central Africa. State what each of the following is, or what it resembles, and where it lives: coyote, gnu, cobra, chamois, dwarf.

If the circles of the earth are imaginary, can they possibly be of any use? If so, what? When we speak of the "winter solstice," do we refer to the sun? If so, in what respects? Meaning of the expression "tropical countries"? Which tropic crosses Asia? Is the most of that country north or south of that tropic? In what zone is Oceanica located? In which island of Oceanica are the largest rivers? Describe with care either the mountain or river systems of Asia. Tell the differences between the countries of Japan and China. Tell in what respects the people of these two countries are similar? Name the exports of China. Principal cities of China. If you were to be sent as a missionary, to which country would you prefer to go, to the interior of Africa or to Asia? Why? Map of South America.

Write what you can about the resources of Brazil. Tell for what noted, and give the location of the following cities: Para, Maranhão, Pernambuco, Bahia, Rio Janeiro. In how many ways can the people of the United States communicate with Brazil. Tell something of the recent explorations made by Stanley in Africa. Describe the physical features of the Congo Free State. Briefly name some of the animals peculiar to Africa. Some of the noted productions. Some of the minerals. Describe the Sahara briefly. Tell what you can about the people of India or China or Japan. (Manners and customs.) Into what three systems may the principal rivers of Asia be divided? Tell the location of any two of the following cities, and mention for what each is noted: Muscat, Calcutta, Singapore, Yokohama, Maimatchin. To make the shortest journey around the world what would be your route? Name all the places at which you would be most likely to stop.

Name the divisions of the Great Central Plain of South America, and describe each of them. Name the highest ranges of mountains in the world, and tell the direction in which they extend. Name the river systems of Asia and an important river in each system. To whom is Jerusalem considered one of the most interesting cities in the world? To whom is Mecca considered the most interesting? Why? Give a short account of China proper. What government in Asia has sent a number of young men to the United States and Europe to be educated? Describe the Nile River. What great explorer has lately returned from Africa? Australia is a colony of what government? What are the chief productions of Australia?

In what zones is Asia? Australia? Malaysia? What does Highland Asia comprise? Name an important city of and one export from each of the following places: Turkey, India, Japan, China, Australia, Malaysia? Compare the surface of Asia with that of the other grand divisions. Describe the Ganges. Give the situation of the Sandwich Islands, the most important seaport, and a description of the surface.

Describe the vegetation of Australia. What are marine currents? How are they caused? Upon what waters would a vessel sail from Boston to Mocha, and what would be the return cargo? In what ocean is the Gulf Stream? The Japan Current? Where are the Monsoons?

What causes "day and night"? "Change of seasons"? When is the sun vertical at the equator? What are these dates called? When occurs the longest day in the northern hemisphere? The shortest? Which is the greater distance, 10° East of Boston or 10° North of Boston? Why? Name the tropics and tell where each is situated. Give reason for the location. Name and locate five important seaports of South America. Name three articles of commerce produced in South America, and name a port from which each might be exported. What is the source of the Nile? How is the Nile valuable to Egypt, and what important towns are on its banks? State three interesting facts about Australia. Name and locate three important towns in Australia. On the outline map (Asia) indicate the principal border waters, rivers, mountains, productions, and towns.

(Outline map of Africa given.) Locate five productive regions on the map, naming the products. Locate five important rivers on the map. Locate five of the leading cities or towns upon the map. Describe the surface of Asia. Describe the climate of Asia. Describe the people of Japan.

Give the latitude of Capes Mattapan, Agulhas, Roumania, North, and Gallinas, and the longitude of Capes Guardafui, East, Parina, Verd, and St. Rouque. Compare Europe and Asia in size, outline, surface, and drainage. Write about the climate of South America. Give the title of the ruler in each of the following: Russia, Japan, Persia, Bolivia, Great Britain. Into what do the following rivers flow: Loire, Lena, Zambesi, Magdalena, Oder? Name the principal wild animals of Africa. Name the government and capital of each of the following: China, France, Austria, Brazil, Chili. Locate Montevideo, Bombay, Manchester, Cairo, Marseilles. Name two principal exports from each of the following: Canton, Para, Liverpool, Cape Town, Smyrna. To whom do the following islands belong: Ceylon, Sardinia, Canary, Hainan, Madeira? Describe the water route from Calcutta to Malaga. Draw a map of Europe, showing its mountains, drainage, cities, and animals. (Omit any two of the first eleven.)

Draw a map of either South America, Asia, Africa, or Australia. Indicate on your map the mountain systems, principal rivers, and important cities. Write upon the map the names of the principal vegetable and mineral products and of the important animals, showing by the position of the product the locality where it is found.

Locate and tell for what noted: Rio Janeiro, Cairo, Hong-Hong,

Manilla, Melbourne. Name five important animals of Asia and tell something about each one. Name and describe two African rivers. Give five important vegetable productions of South America and tell whence obtained. Give ten large bodies of water around Europe. Locate: Lake Baikal, Lake Titicaca, Albert Nyanza, Lake Tangangika. Locate: Kilinea, Njaro, Mt. Everest, Mt. Aconcagua. Name the chief groups of Polynesia. For what is Egypt noted?

In what ocean was a vessel wrecked that was lost in Lat. 20° S. Lon. 80° E.? Mention five important influences of climate. Which would be the longer, a journey of ten degrees west of Boston, or of ten degrees north? What is the season in Chili in June? Name the ports and exports of South America which affect the Boston market. Describe briefly any one of the following: Llanos, Selvas, Pampas. What is the government of Australia? Locate the two most important cities of Malaysia. Write briefly upon any one of the following: Soudan, Sahara, Nile River, Caravan trade of Africa. To what countries would you go for diamonds, pearls, opium, coffee, and ivory? Locate Honolulu, Singapore, Hong-Kong, Yokohama, and Melbourne. Sketch an outline of Asia. Indicate upon your map the mountain systems and river systems, four important seaports, and two inland cities or towns.

Map of Asia: Countries, Cities, Mountains, Rivers, Surrounding Waters. What races of men are found in Asia, and what nations belong to each? Tell what you know about the Congo River Free State, and give an account of Stanley's explorations. What three divisions in Oceanica? Write upon the following topics with regard to each division: Surface, Climate, Productions, Inhabitants.

Name ten exports of South America with the cities from *which* and *to* which they are sent. Compare the climate of Japan with that of India. Tell what you know about the following: Celebes, Lassa, Ararat, Ceylon, Pekin. Draw a map of India. Represent on it the rivers, cities, and productions. Name the river basins of South America. Name and locate three lakes of Asia.

Draw an outline map of Asia. Indicate upon the map the mountain systems and the principal rivers. Write the names of the surrounding waters on the map. Name the countries of Asia and tell something of their government. Write on the map the names of the characteristic plants and animals of Asia in their proper places. Locate on the map three important seaports of Asia, tell to what country they belong and in what their commerce chiefly consists. Give the course of a vessel from Bombay to Liverpool, naming the probable cargo, the waters passed through, the general direction of the voyage, and the nearest lands passed. If you were to run a steamship line between Boston and South America, what would be your South American port of entry? Why?

Write a list of five principal countries of South America and opposite each its capital. Locate four capes of South America. What country has changed its form of government during the last year? Write what you know about it. Where is the "Holy Land"? Write five lines about it. Make a map of India. Locate Calcutta, Madras, and Bombay. Beginning at the north, name in order the seas off the eastern coast of Asia. Name in order, beginning on the east, the countries of Africa bordering on the Mediterranean Sea. Locate three rivers of Africa. Give a list of the most important productions; four of Asia, three of South America, and three of Africa. In which country would you prefer to live? Give three or more reasons.

GEOGRAPHY. CLASS III.

How do North America and Europe compare in size? With which two of the divisions of North America do the people of the United States have the most intercourse? How many railroad lines from the Atlantic to the Pacific? How many miles across our country from east to west? Name three large cities of the United States east of the Alleghanies. Name three large cities of the United States west of the Rocky Mountains. Where are the lumber districts of the United States? Where are the grain districts of the United States? Where are the cotton districts of the United States? Which two states produce tobacco extensively? What are the agricultural productions of Mexico? What are the mineral productions of Mexico? Name the important seaports of Mexico. What can you say of the climate of Mexico? Name the Greater Antilles. Describe the Bahamas. Name four exports of the West Indies. Name two important cities of the West Indies. Name the empires of Europe. Name the Republics of Europe. Where in Europe can you find people who belong to the Mongolian race? Name three lakes of Europe. What is meant by the term "British Isles"? What is meant by the term "British Empire"? Name two rivers of England. Name three manufacturing cities of England, and tell for what manufactures each is noted. Name the vegetable productions of Russia. Name the manufactures of Italy. Name two cities of Europe that have about the same latitude as Boston. Name four wine producing countries of Europe. Name two noted grain exporting ports of Europe. Which country produces quicksilver? Name two rivers of France. Which country produces salt extensively? Name, beginning at the west, the chains which form the great mountain system of Europe. Name the four largest rivers of Europe. Locate the following cities: Naples, Cadiz, Lyons, Limerick, Dresden. Tell for what each of these cities is noted.

What is the cause of day and night? Why is it so much warmer in June than it is in January? What is the season of the year in the South Temperate zone at the present time? Why are the days of June so much longer than the days of January? What is foreign commerce? Manufacturing? Name some of the principal cities of the Western States engaged in foreign commerce. What are the leading exports of the United States? Why are these things exported? Name the capital and some of the most important towns and cities of New York and Ohio. Name the five great powers of Europe, with the capital city of each. Why are the following cities noted: Paris, Liverpool, Manchester (England), Venice? In what part of Europe are oranges and lemons produced? Hemp and flax? Give the two chief republics of Europe.

How do the mountain systems of Europe compare with the mountain systems of North America? Describe the climate of southern Europe. Name the leading productions of the different sections of the United States. Name and locate five leading commercial cities of Europe. Name five leading occupations of the United States, and tell where carried on. Go from Constantinople to Portland, — locate each, — name the waters you pass through and exchange products.

Draw the maps of North America or of Europe [half the pupils, sitting in alternate rows, taking the first and the others the second]. Indicate on the map the principal mountain systems, rivers, lakes, and four cities. Name the surroundings of the grand division drawn. Describe the surface. Describe the climate. Describe the vegetation. Name the animals. Mention the resources. Name the inhabitants. Describe their occupations and social condition. Describe two capitals of the grand division drawn.

Describe North America, using the topics you have been accustomed to use. Give the large cities of Europe, locating them. Name some of the exports of Russia. Name some of the exports of France. Which country of Europe would you prefer to visit, and why? Which country of Europe is the most important in trade and commerce; and through what cities is the trade carried on?

Locate Dover Strait, Gulf Bothnia, Crimea, Ural Mountains, Hebrides, Albemarle Sound, Cape May, Buzzard's Bay, Lake Winnipeg, Puget Sound. Describe the Rhine, Vistula, Shannon, Merrimac, James. Locate Florence, St. Petersburg, Berlin, Portsmouth, Antwerp, Cincinnati, Pittsburg, Springfield, Vera Cruz, Charleston. Name an export of Liverpool, Belfast, Geneva, Dantzic, Lyons, Philadelphia, Savannah, Fall River, Halifax, St. Louis. Name the republics of Europe. Name the absolute monarchies of Europe. What countries of Europe are inhabited by the followers of the Greek Church? What are the chief occupations of the people of the British Isles? Name the European pos-

sessions of Great Britain outside of the British Isles. What are the two chief products of the United States? What part of the United States produces the greatest amount of lumber? What state produces large quantities of copper? What is the chief business of the people of Massachusetts? Of Iowa? How many states in the Union? Name the states that lie wholly or partly in the Great Central Plain. Describe the climate and people of Mexico and Central America. Write about Holland. Describe the government of the United States, and tell the difference between a state and a territory.

Draw an outline map of Europe. Draw upon the map the principal mountain and river systems, writing their names in their proper places. Write on the map in their proper places, the names of the chief vegetable and mineral productions. Name the three most important countries in Europe and their capitals, and tell something of their form of government. Name three important seaports of Southern Europe, tell to what countries they belong, and in what their commerce chiefly consists. Mention any line of steam-ships plying between Boston and any European port, and tell something of the cargoes each way.

Describe the course of the Mississippi river. Name its chief tributaries. Name five states bordering on its banks. Describe the course of the Rhine river. For what is this river principally noted? What nation controls the greater part of it? Name and locate the largest city in the south of the United States. In the West. On the Pacific coast. On the Atlantic coast. What are the Great Powers of Europe? In what part of Europe is each? Give their capitals. Where in the United States is the wheat section? Coal section? Iron section? Cattle section? Timber section? What articles does the United States buy of Spain? France? Germany? England? Switzerland? What are the chief exports of the United States to Europe? What is the capital of the United States? Locate it. Who is President of the United States? Governor of Massachusetts? Mayor of Boston? Describe the climate of the United States. A ship goes from Boston to Odessa, through what bodies of water does it pass? Name five seaports it could stop at on its voyage home and what articles it might get at each seaport. Draw a map of any state in the Union. Locate its capital and chief towns and principal physical features. On the outline map given you locate and name the surrounding waters, the rivers, the lakes, the mountain ranges, the peaks and the valleys of Europe. Locate where there are found the important vegetable productions. Locate and name ten important cities of Europe, and beside three of them place their exports. On your paper, give a good description of the German Empire, using the following topics: The States, The Government, The Ruler, The Prime Minister, The Army, Educa-

tion, Occupations of the People, etc. Either (a) What is rain, from what source does it come, of what use is it, and where does it finally go? or (b) name the rulers of England, France, Belgium, Italy, and the United States.

Where is the lumber region of the United States? Where is the grain region? Where is the cotton region? Where is the sugar region? Where is the coal and iron region? How many States are there? Name those on the Pacific Ocean. Name those on the Atlantic Ocean. Name and locate five important seaports of the United States. Name and locate five important cities on rivers of the United States. Name and locate five important cities on lakes in the United States. Bound Massachusetts and name six of its fourteen counties. Name fifteen countries of Europe. Name one city in each of these countries. Name and locate five rivers of Europe, giving a city on each if you can. A yacht starts from Odessa and sails to the North Cape, keeping quite near the coast. Through what waters will it sail? Name ten cities at which it might stop.

Write upon one of the following: The climate of North America, The surface of North America, The climate of Europe, The surface of Europe. Name and locate ten cities of Europe and give some item connected with each, as productions, or some event or point of interest. Name countries of Europe which are republics and those of North America that are not. Write upon one of the following: Great Britain, Germany, France, Russia; with regard to government, industries, education, character of people, cities, and any other points of interest. Name provinces of British America. Give capital and other important cities. What is the government? Who is the ruler? What are the principal sources of wealth? Name the present ruler of Russia, France, Germany England, and United States. Which of the United States are still territories? In what state or territory is each of the following: Buffalo, St. Louis, Cleveland, Minneapolis, Kansas City, Denver, Detroit, Savannah, Memphis, Mobile? What do you know of the former and present government of Mexico? Name three or more cities of Mexico. What do you know of the character of the people and the general condition of the country, as to manufactures, government, schools, etc.?

Compare the climate of Mexico with that of the British Provinces, as you pass from the eastern coast across to the western coast. Go by water from Montreal to Vera Cruz and load the vessel for its return trip at the latter city. Account for the difference in climate on the Pacific Slope and on the Pacific Highlands. Write all that you can upon the European Plain. Name the Great Powers of Europe, giving the capital of each. Compare the climate of eastern and western Europe, giving

the agencies that produce the climate of each section. Account for climate of Southern Europe. What mountains form a water-shed for the Danube, Rhine, Rhone, and Po? For the Colorado, Nebraska and Arkansas. What mountains in Europe correspond to the Appalachian mountains? In what ways do the mountains of Scandinavian peninsula resemble the Alps? Compare rivers of Europe and United States, giving reasons for the difference. Describe the longest river of Europe and of the United States. Describe France, Russia, and Germany. Name two places in Europe and two in United States where coal, iron, grain, sugar, are found. Where in Europe do you find glassware, linen, watches, silk? Where in United States do you find rice, tobacco, copper, petroleum? Locate and tell why important, Havana, Halifax, Worcester, Pittsburg, St. Louis, Havre, Waterloo, Liverpool, Venice, Odessa. On an outline map of Europe name the border seas of Europe. Name the most northern, southern, and western points. Locate Canada, Sicily, Corsica, Balearic, Loffoden Islands. Locate the mountain systems and chains. Draw the Volga, Don, Danube, Rhine, and Rhone rivers. Locate Berlin, Paris, St. Petersburg, Rome, Athens, Constantinople, London, Brussels, Vienna.

Why can a person standing on a beach see the water for a distance of only about three miles? Write on the motions of the earth and their effects or results. What is meant by the expressions "42° North" and "71° West"? About where in the United States would that location be? Write about rivers, telling how they are formed, what causes their waters to move, where they end, "right bank" how they are useful, and mentioning some large rivers in the United States. Write about either the British Isles, or the Alps. Tell all you can about the fruits of the Mediterranean countries. Choose a city of Europe and give a description of the same, as if you were there. Map of North America.

How many states in the United States? Name those which border upon the Gulf of Mexico. Name the four last admitted to the Union. What are the principal productions of the northern part of the Mississippi valley? Of the southern part? Why the difference? Name and locate five important cities in Massachusetts, and mention one thing for which each is noted. Mexico: write briefly about its surface, climate, people, and seaports. Into what waters do the following rivers flow: Rhine, Loire, Tagus, Danube? Locate the following cities: Liverpool, Bordeaux, Moscow, Dresden. What waters separate England from France? Spain from Africa? Italy from Turkey? Name the five most important countries of Europe and one city in each. Select one of the five countries you have just named, and describe its surface, rivers, and climates; the people and their occupations and government.

Compare the climate of North America with that of Europe in the same latitude, and give the causes for the difference. Compare the eastern and western coasts of North America, and give the causes for the difference. Name the "Five Great Powers." Give the capital of each. Name an important commercial city of each. Give the title of the ruler of each. What governments are represented in Europe? Name the countries belonging to each government. Tell in what the difference in government consists. Name five articles that are exported from Europe to America. Name five that are exported from America to Europe. In what do European commercial facilities consist? Name five commercial cities of Europe in addition to those already named. Name five navigable rivers. Name five indentations. Name five islands on its coast. Of how many states does the United States consist? Of how many territories? What states have been recently admitted? What territory is entirely out of the boundaries of the United States? How did we obtain it? Into what sections are the states of the United States divided? Which sections are principally engaged in agriculture? In manufacturing? In commerce? In fishing? In mining? Which is the largest city of the United States? What is the greatest manufacturing city of the United States? Which exports the most rice? Which exports the most cotton? Which exports the most oysters, beef, pork, lumber? What city is called the "Queen City"? The "Quaker City"? What other countries of North America are republics? Of how many states do they consist? To whom did they formerly belong? How do their inhabitants and occupations compare with those of the United States? Name some of the important cities of each. Name three exports of each. What countries of Europe have possessions in America? What is the government of these colonies? Name some of their exports. Some of their chief cities.

GEOGRAPHY. CLASS IV.

Explain the causes of the north-east trade wind. When the sun is vertical at the Tropic of Capricorn which pole is turned towards the sun? Give the three causes of the change in seasons. If a person lives in 0° latitude and 0° longitude, where is he? If you lived in Quito, how many times in the year would you have a vertical sun, and in what months? When are the days and nights equal all over the earth? Across what ocean do the monsoons or season-winds blow? What causes day and night? What two motions has the earth? At what time of the year is the sun farthest from our zenith at noon? At that time, where, on the earth, is the sun vertical? Where is there no sunlight at this time? Where is the day longer than the night? Imagine

yourself on the Tropic of Cancer June 20, where in the sky would the sun be at noon? Why is there not a hot climate near the poles during the long summer? Name the political divisions of North America. Where is Quebec situated, how built, and famous for what? Name ten large rivers of North America. Name the five great lakes, and tell one thing about each lake. Where are the largest coal and iron mines in North America? The largest gold and silver mines? What large city in the midst of the coal and iron district? Name the political divisions of South America. Tell all you know about the history of Brazil. Describe the surface of Bolivia. What is the climate of the northern part of Brazil? Give reasons for it. Name the islands around South America.

Where are furs obtained? Spices? Coffee? Coral? Are the following mineral, vegetable, or animal: cigars, coffee, coral, sponges, salt? If you lived on the equator, how long would the days and nights be? How long, if you lived at the north pole? Is the sun ever over our heads at noon in Boston? Explain. What makes it hot near the equator? How far north would we have to go to reach the temperate region? What makes the sun rise in the morning? Does the north star rise or set? Name five interesting cities of Europe. Write something about each that you think interesting. Where are Lakes Nicaragua, Athabasca, Titicaca? Make a picture of Makenzie River and its lakes. Write their names and tell where a boat might start to pass through them all. What are the great river basins of South America? Name the countries situated in them. Make a picture of the Mississippi and its branches. Write their names and locate any cities on them. Name any five lakes you may know; tell where they are. Name five islands on the coast of North America or South America, and tell what is found on them that is of use to us. Name all the mountain chains of South America, and tell anything you have learned about them.

What time in the year does the school-house cast the longest shadow at 12 o'clock noon? In what direction does the shadow fall? What is the position of Europe in relation to the other continents? Describe the Pacific Highlands of North America. Describe the Great Central Plain. How does the climate on the east coast of North America compare with the climate on the west coast of Europe? Describe the largest river basin in the world. Name three large rivers in Europe which have their head-waters very near each other, and tell in which direction they flow. Why have the shores of the Mediterranean a warmer climate than the regions north of the principal mountain system in Europe? Over what bodies of water would you pass, in sailing from London to Constantinople?

Describe the motions of the earth. What causes day and night?

Bound North America. Name its divisions and their capitals. Name the mountain systems of North America and the river systems of South America. What are the chief industries of New England? Name the oceans and seas of Europe. Name the chief exports of Central Europe, and the chief exports of Southern Europe. Give latitude and longitude of Boston. What are the causes of the change of seasons?

How many states and territories in the United States? What are the chief physical features of the United States? Which part of the country contains the highest land? What is there peculiar about the climate of this high land? Give the leading agricultural products of the northern part of the Mississippi valley. The chief agricultural products of the central part of the same valley. The chief agricultural products of the southern part of the same valley. Name six large cities of the United States engaged in foreign commerce. Why is grazing an important occupation in the region just east of the Rocky Mountains? In what parts of the United States would you expect to find mineral products, and why? Give the capital and the largest city of Ohio. What is wind? The chief cause of wind? Why is Boston a large city? (or what advantages has Boston to make it the leading city of New England?)

What is latitude? What is the latitude of North America? What is longitude? What is the longitude of South America? Name five large river systems of North America and three in South America. Where in South America is there no rain, and which part has most moisture? What are the most important productions in the central part of North America? What in southern Europe? Name five animals in the frigid belt of North America. Name some wild animals in South America? Where will the sun be vertical Saturday, June 21st? How will the nights be in the Northern Hemisphere? Where will you find continuous night? How far will the sun's rays reach that day? Name five large cities of Europe. Name the most southern cape of South America, and the most western of North America. Name the chief seaports of South America and the largest city of Europe.

Where is Europe? In what direction from North America? From Africa? Bound Europe. Name the countries of Europe. Draw an outline map of North America. Indicate on the map the mountain systems and the principal rivers and lakes; and write their names in their proper places. Write on the map the words coal, iron, wheat, cotton, tobacco, fruits, garden vegetables, and manufactures, to indicate in what parts of North America these products are found. Locate on the map the following cities: New York, New Orleans, San Francisco, Chicago, and Montreal. What natural advantages have New York and Chicago? Tell about the great grain regions of North America, and name the chief productions of Europe found in the same latitude.

What is meant by exports, occupations, commercial cities, productions, fertile, level, mountain range, barren, climate, sections, latitude, a watershed, luxuriant, population, emigrant, area, desolate waste, eternal snows, amphibious? Name four metals. Name five important exports and five important imports of the United States. Name five articles manufactured from animal productions. Name a city in each of the grand divisions you have studied that exports large quantities of wheat. Describe the climate of Europe. Name a city of Europe famous for its art galleries, one noted for its cutlery, one for ship-building, one for silks, and one for wines. Why can grains be cultivated farther north in Europe than in any other grand division? How does Europe compare with the other grand divisions in regard to size? Population? Name three principal rivers of South America. Three large plains. Name four cities of South America. What causes day and night? What causes change of seasons?

Two boys, one living on the Equator, the other in Boston, walk one degree north; do they travel the same distance or different distances? Why? When were day and night last equal in Boston? When were day and night last equal in England? When were day and night last equal at Cape Horn? When does Boston have its longest day? When does Cape Horn have its longest day? What important circles cross North America? What is latitude? Latitude of North America? Name two great circles. What is longitude? Longitude of South America? In what zone does the greater part of North America lie? In what zone does the greater part of South America lie? In what zone does the greater part of Europe lie? Name southern cape of Europe. Name western cape of Europe. Where would you find the days 24 hours long June 21st? When will your shadow fall towards the south in Boston? What makes the western coast of North America warmer than the eastern coast in the same latitude? Causes of fog around Newfoundland? Locate an important city in South America. Locate an important city in Europe. Locate an important city in North America. What city of South America is near Tropic of Capricorn? What city of North America is near the Tropic of Cancer? Name five important exports of South America. Name five important exports of North America. Name largest river of Europe. Name highest mountain of Europe. Name three facts about the Gulf Stream, telling the work it does.

Draw a map of South America and indicate its mountain systems, plains, rivers, capes, these cities: Rio Janeiro, La Guayra, Para, Guito, Valparaiso, Buenos Ayres. Indicate the regions where the following products are found: diamonds, rubber, hides, horns, wheat. Name the commercial centre for the grain-growing district of the United States; for the manufacturing districts; for the cotton-growing districts; for the

precious metals districts; for the coal and iron districts. What is climate? Name three things which influence a climate. Which coast of North America is the warmer, the eastern or the western? Europe: name its principal mountain system; locate its principal central plain; name its largest city; its largest country; its longest river. What is a water-shed? Name two in North America. What is a delta? Tell where one is to be found. What is a river basin? Name the largest one in North America. When does the sun rise in the east? When north of east? When south of east? Two ships start from Marajo at the mouth of the Amazon, one sailing due north ten degrees, and the other, due east ten degrees, — which ship sailed the greater distance in miles? Two men start from Boston, one travels due south ten degrees, and the other due west ten degrees; which man travels the greater distance in miles?

Describe the motions of the earth. To what country would you go on July to see the “midnight sun”? Name the political divisions of North America. Tell what kind of a government the most important division has. Locate the following cities, telling what state or country they are in and what body of water they are on; also, one article of export from each: London, New Orleans, San Francisco, Rio Janeiro, Valparaiso. Name one large river, two important cities, four important products, of the Great Central Plain of North America. What bodies of water are the northern and southern boundaries of this plain? What are the Selvas? What river basin here? Describe it. What city near its mouth? Two wild animals and three important products of this region. Compare the lake systems of North and South America. With what countries are these names connected: Pizarra, Alexander Selkirk, Gen. Bolivar? Name a great group of islands between North and South America. Which is the largest of the group? What important city on this island? To what country do Greenland and Iceland belong? Which is the warmer of these countries? Name an important city on either of them. Tell something about the interior of Iceland. What animal is very useful to the people in Greenland?

Name the zones and give the boundaries of each. What is latitude? On what is it measured? What is the latitude of the Tropic of Capricorn? What is the latitude of the north pole? Name some grand division that you have studied that is partly in north and partly in south latitude. Name the seasons of each zone. What is the longest day in the year in places north of the equator? Where is the sun on that day? What can you say of the length of days and nights at the equator? Name five animals, five minerals, and five vegetables of North America. Locate the following cities and name an important export of each: Rio Janeiro, Philadelphia, New Orleans, Buenos Ayres,

Chicago. On what bodies of water would a vessel sail carrying a load of grain from Odessa, on the Black Sea, to Dantzic, on the Baltic Sea? What peninsulas and capes would you pass sailing from Hudson Strait along the coast of North America to the Gulf of Mexico? Write on the vegetation of South America. Name the largest river of North and South America and two tributaries of each. Into what bodies of water do the following rivers flow: Magdalena, San Francisco, Ottawa, Danube, Colorado? Name the grand division to which each belongs. Name the principal mountain system of North America, South America, and Europe, naming the highest peak in each. What is the character of many of the South American peaks? Which has the warmer climate for the most part, North or South America? What parts of South America have very little moisture?

In what direction will the gate-posts at the entrance to the school-yard cast shadows at 4 o'clock P.M. January 1st? July 1st? On which date will the shadows be the longest? Name and locate eight cities of South America. What do we mean when we say that Boston is in Longitude 71° West, and Latitude 42° North? How many degrees wide is each zone? Name the strait between North America and Asia; between Europe and Africa; between England and France. Name two isthmuses, and tell what each connects. Name the grand divisions in the order of their size. Name and locate three large seas. Where do we get kerosene? iron? coal? hides? silk? pepper? Name five cities in Europe. Draw an outline map of North America, and locate on it the principal mountains, rivers, and towns.

How many degrees in a circle of the earth? How many (about) miles (common) in a degree on the equator? What are the uses of parallels and meridians? How many degrees from the north pole to the south pole? If Boston is 71° west of London, what is the distance in miles between those cities? San Francisco is 122° west of London. How many miles is it from Boston to San Francisco? What causes wind? Where do the trade-winds blow? Name five of the principal industries or occupations in the United States, and state where each is carried on extensively. State whether the following come from animals, vegetables, or minerals: salt, pepper, vinegar, pickles, butter, bread, steak, common shoes, rubber shoes, an overcoat. What is the best place to find each of the following things: sweet potatoes, vanilla, ivory, coal, mahogany, dates, copper, silk, spices, kerosene oil? Where in the United States is the most wonderful valley? the most wonderful cañon? the most wonderful waterfall? the most wonderful park? the most wonderful springs? Name any five foreign cities, and state for what each is celebrated, or why it is important. Write a good account, ten lines at least, about the most interesting thing you have studied in geography this year.

What does the rotation of the earth cause? What does the revolution of the earth cause? What are great circles? small circles? What is a meridian? What is a zone? Name the zones. Draw a circle, and in it draw the zones, tropics, equator, polar circles, mark the width in degrees of each zone. Which has the greater area South America or Europe? Which has the larger population? larger cities? What kind of government does each of the countries of South America have? Name three different kinds of government in Europe. Name the principal border waters of Europe. Of South America. Give the position, government, title of ruler, capital, chief cities, and principal productions of any country of Europe. Give the same of any country of South America. Name three islands of Europe, three of South America, two capes of Europe, and two of South America. Locate the capes. Name five important productions of Europe that are brought into this country, and five important productions of South America that are brought into this country. If you were to visit Europe this summer what countries would you like to visit? Why? What cities? Why? Tell from what port you would sail, and at what port you would arrive.

On the outline map before you, indicate the mountain systems and river systems, the larger lakes, the principal seaports, and inland cities, writing the name of each. On the same map, locate by name, the staple vegetable and mineral productions, and the characteristic animals. What is meant by latitude? Longitude? Greatest number of degrees of each a place may have? What place has neither latitude or longitude? Tell what you understand by Selvas, Llanos, Pampas. What change has recently taken place in Brazil? What and where are the following: Buenos Ayres, Montreal, Aconcagua, Sitka, Madeira, Marajo, Black Hills, St. Clair? Ship a cargo of goods from Rio Janeiro to New York; what articles would be sent, and through what waters? Topic: Races of men.

Spell Brooklyn, Frigid, Caribbean, Massachusetts, Behring. Name five productions of Southern Europe. Name five islands in the Mediterranean Sea. Name two groups of lakes in Europe. In what zones is North America situated. Name five bodies of water on Eastern coast of North America. Name the five great lakes of North America. Name five rivers of North America. Name the continents in order of their size. Name three plains of South America. Near what river is each? State five things in which South America and Europe are unlike. Why are there so few wild animals in Europe? Describe the Esquimaux, Chinese, or Swiss. Name the highest mountain peak in the world, and tell in what range it is. What peninsulas on the western coast of North America? Why have the western shores

of Europe a milder and more moist climate than the eastern shore of North America in the same latitude? Name three animals of each grand division. Give the extent of each mountain system in North America. Name five mountain ranges of Europe. Copy the following and tell what each is: Havana, Thibet, Ceylon, Horn, Quito, Danube, Calcutta, Yukon, Aconcagua, Pekin.

What are meridians? Parallels? Their use? What motions has the earth? What are their effects? Name the zones and the circles which bound them. Name the mountain systems of North America, and describe the Great Central Plain. Where are the grain regions of North America? Where is gold found? South America: Name the zones in which it lies. Name five of its vegetable productions and three mineral productions. Name ten seas, gulfs, and bays lying along the coast of Europe. In what direction does the principal mountain system of Europe extend? Name in order its principal chains. What lands are separated by the Strait of Dover? by the Strait of Gibraltar? Compare the surface, climate, and productions of Europe and South America. In what are they alike and in what do they differ? Name the most important ocean current in the world; describe its cause and effects. Write anything interesting you know about it.

What causes "day and night"? What do we mean when we say that Boston is in Longitude 71° West and Latitude 42° North? Name the straits between Asia and North America; between Europe and Africa; between England and France. Name the Grand Divisions in order of size beginning with the largest. Which Grand Divisions are crossed by the Tropic of Cancer? Name three large seas and tell where they are. Name three large gulfs and tell where they are. Where do we get iron? kerosene? hides? silk? pepper? Name the "states of society" and a place where each may be found. On the outline map (North America) indicate the principal mountains, rivers, and towns.

What section of North America has the largest population? Compare the Rocky and the Alleghany Mountains. Name two lofty peaks in each of these ranges. From where do we get our coal, iron, and copper? What important manufacturing is carried on in Boston? Name three kinds. What are some of the important places a traveller by railroad would pass through in going from Boston to St. Louis? What is meant by the term "Zone"? Explain "Rotation of the Earth." Tell what results therefrom. Write your teacher a letter from San Francisco or Chicago.

GEOGRAPHY. CLASS V.

What is the climate of the United States? Name the two largest cities. What are some of the productions of the cold belt? Of the warm belt? Name five large rivers. Give the capital of this country. Climate of southern Europe? Why? What noted mountains in this part of the continent? In which country is the great plain of Europe? Name some of the waters around Europe. Two important cities. Give some of the peninsulas of Asia. What curious people live in the eastern part of this continent? Name some of the productions of southern Asia and the East Indies. Climate of Africa. Large desert there. What keeps Egypt from being a desert? Name four large rivers of this continent.

What ocean north of Europe and Asia? What sea south of Europe? What is the climate of Northern Asia? What is the climate of southern Asia? Over what waters would you pass in going from the Mediterranean Sea to the Indian Ocean? Name four large islands southeast of Asia. Name some of the most important products of these islands. Where is the river Nile? In what direction does it flow, and into what body of water? Where is the Congo River? Where is Cape Colony? What part of Africa is the hottest? What crops grow in Egypt? Name some of the most important productions of southern Europe. Where is Berlin? Paris? Rome? Athens? St. Petersburg?

What sea south of Europe? Where are the highest mountains in the world? Name five large cities of the United States. Name the states that border on the Gulf of Mexico. What is the climate of South America? What is the capital of the United States? Name five countries of Europe. Name the new states. Name and locate five rivers. Name five productions of South America. Name five animals of Africa. Name five towns near Boston. Name and locate five gulfs or bays. Name a volcano. What country of Asia is overcrowded? What do we get from the West Indies? Name the Great Lakes. To what country does Alaska belong? What ocean has the most steamers sailing on it. Name five things imported.

In what direction must you sail from Boston to reach Europe? Describe its surface. What is the climate of different parts? What countries of Europe have a different form of Government from ours? Name the chief productions of Europe. Where are the Himalaya Mountains? Name two large rivers flowing from them. Where are the Philippine Islands? Where is Canton? What is the most northern part of Africa? What is exported from southern and western Africa?

Name the races of Europe; the countries they live in; the occupa-

tions, manners, and customs of each. (As briefly as possible.) Name the animals of the eastern tropics which are not found in the western. Sail from Hong-Kong to Alexandria telling on what bodies of water you would go and what countries you would pass. Name the principal mountain ranges in Africa and Asia. Name the five most important animals, the five most important vegetable productions, and the five most important mineral productions of South America and tell in what countries they are found. Of what uses are the bamboo, cocoanut, palm, and reindeer to the natives of the countries where they are found? What large island south-east of Asia? What queer animals and plants would you see should you go there? Name four noted localities in Europe. Describe one fully. Draw map of North America; locate in it five important rivers; five important cities; the principal mountain systems; and the important animals, vegetable productions, and minerals where they belong.

Locate Chicago, San Francisco, St. Louis, New York, Philadelphia. Name five rivers in North America. Name five rivers in South America. Name three mountain systems of North America. Name five lakes of North America. What bodies of water north and east of Africa? Name two rivers of Africa and tell where they empty. Name two important countries of Asia. Name the three principal divisions of the eastern continent. Name and locate three large cities of Europe. Name five capes of North America.

What race of people formerly inhabited North America? Describe the Indian race. How did the negroes first come to our country? How were they made free? By whom is the country inhabited now, and where did the inhabitants come from? Why do we call this country the United States? How many are there? Who is the chief officer of the United States? When is a territory made a state? Mention the capital of the United States. Mention the New England States. What is the capital of Massachusetts? For what is Charlestown noted? Lynn? Quincy? Taunton? Fall River? Lowell? Plymouth? Cambridge? What is the capital of Russia? France? Italy? Turkey? The Netherlands? Greece? Spain? Germany? England? Ireland? Mention five seas of Europe. What strait separates Spain from Africa? What channel between England and France? What two lakes in Russia? Where is the Bay of Biscay? What countries border on Switzerland? What is the capital of the Chinese Empire? What can you say of that city? What can you say of Canton? What remarkable wild animals are native in India? Who lived in Syria? Mention the countries of South America. What is the largest animal of South America? Mention some other animals of this country. How do the natives catch wild cattle? What can you say of the valley of the Amazon? What three

kinds of plains in South America? Are they level or hilly? What islands south of South America? Where is Cape Horn? What is it? What great sea north of Africa? What large river in Egypt? Tell what you can about this river. What channel would you cross to go from Mozambique to the island of Madagascar? Where is Kalahari desert?

Tell what you can of the size and shape of the earth? In what part of what grand division do we live? Name five important rivers of our country. Tell any interesting facts you can about the British Isles. Bound Massachusetts. Name the New England states and tell which has the highest land. Name the three leading occupations of the inhabitants of Massachusetts. Name and locate a city of the United States in the grain region; in the coal, or iron, or oil region; in the gold region; cotton region; and one noted for foreign commerce. Name five important rivers of Asia, and tell into what each flows. Locate London, St. Petersburg, Calcutta, Para, Tokio.

Name the New England states and their capitals. If you wished to visit extensive coal and iron mines to which state would you go? Extensive silver mines? Copper mines? If you were to sail along the coast from Chesapeake Bay to Mexico, in what direction and on what waters would you sail? What states would you pass? What islands might you see? Name some of the tributaries of the Mississippi. Why do some flow in a south-westerly and some in a south-easterly direction? Name four articles which our merchants send to foreign countries. Name several articles which we get from Europe? From Asia? From South America? Tell what you know of the homes, way of living, appearance, etc., of the people who inhabit the northern part of North America. What are the chief occupations of the people of New England? Where in the United States are there good timberlands? Where are the finest fruits grown? What races of people are more numerous in the southern than in the northern states? Tell what you know of them. Write about some country of Asia; its situation, climate, productions and people. Tell the names and location of three important countries of Europe. What fruits that you like grow near the Mediterranean Sea? In what part of Europe are large quantities of grain raised? Name two places in Europe you would like to visit, and give your reasons. Name two famous cities of Europe, and tell for what each is famous. Tell five things you have learned about Africa. What races of men are found in Asia? Where? What plants and animals have helped to give you the clothes you wear to-day? If a stranger were to visit Boston, what points of interest would you show him?

Where is the north temperate zone? Name the countries in North

America. Which is the largest? The smallest? What are the principal minerals of the United States and where found? What is a plain? Name one near the school-house. What is a desert? Name the five great lakes and the river which drains them. What state raises the most sugar cane? Which state mines the most coal? Which city manufactures the most boots and shoes? Name the New England states with their capitals. Name their two largest cities. On what waters would you sail in going from Boston to New York? What season will it be, in countries south of the Tropic of Capricorn, during July? January? Name the five principal cities of the United States, and tell all you can about one of them.

What are the zones? Name and tell where each zone is? What circles are the limits of the different zones? What grand divisions does the Atlantic ocean wash? Pacific ocean? Indian ocean? Name one important country in each of the grand divisions and one city in the grand division you name. Name and locate four peninsulas of Europe. From what countries do we obtain tea, coffee, sugar, wines, wool, carpets, diamonds, silk, ivory, hemp? Name five rivers of North America and tell into what body of water each flows. Tell about the climate of Europe. If you were going around the world across what oceans and Grand Divisions would you go? In what city, county, state, section of country, continent do you live? Write your teacher a letter from China or France, telling about your journey there, the country, people, habits, customs, etc.

Tell some interesting facts about Boston Harbor. What towns are south of Roxbury? Compare the animals of Africa with those of North America. Where are Calcutta, Tokio, Cairo, Congo, Lena? What is the climate of Africa. Write a short account of the northern part of Africa or the southern part of Asia.

Name four vegetable and four mineral productions of the Middle and Northern States. Name five vegetable productions of the Southern States. Write by topics on any one of the five following: New England, Europe, Asia, North America, South America. What is the hottest part of the earth? the coldest? What animals live in each?

Name the New England States and their capitals. Where is Chicago? Where is New Orleans? What country has the most extensive forests and plains in the world? What is the most important country in Africa? Name the sections of the United States. Which is chief grain-growing district? Name five seaports of Europe. Name five vegetable productions of Asia. What are the principal occupations of the people of the Middle Atlantic States?

Name the countries comprised in North America. Where are Charleston, St. Louis, Cincinnati, Chicago, and Denver? Name the

source of the Mississippi River, and name four of its tributaries. Name the highest mountains, the longest river, the largest lake, the largest city, and the grandest waterfall of which you have studied. What is the name of the greatest system of mountains in the western part of our continent? Give a brief description of it. To what country would you go to find the greatest variety of valuable productions of all kinds? What seasons has the northern part of South America? Which side of South America has the longest rivers? Why? To what country of South America would you go to obtain hides and horns? quinine? spices? silver? copper? What circle crosses Europe? In what zone is the greater part? In what zone is the rest of it? Name the largest islands west of Europe. What country comprises more than half the continent of Europe? What part of Africa is most interesting to you? Why? Mention two animals found only in Africa. Mention five of the natural wonders of the world. Locate them or tell something about them.

Name the Grand Divisions in order of size. Which two are peninsulas? Name the state you live in, bound it, give its capital. Behring Strait: what does it connect? What separate? What is the principal officer of the United States; of a state; of a city? From what city would you ship coal to Boston? Cotton and sugar? Grain? Tobacco? Name five large cities of Europe, and tell in what country each is. Name four great plains and tell where they are. Where are the British Isles? What do they comprise? What is the most thickly settled country in the world? Tell what you can about it. On what waters would you sail to go from Boston to New York?

GEOGRAPHY. CLASS VI.

Why do you study geography? How can you prove the earth is round? Name the oceans. Which is the largest? Which is the smallest? Tell the difference between the Western Hemisphere and the Western Continent? What is a harbor? What is the coast or shore of a country? How long are the days and nights at the equator? At the poles? Tell me about the seasons of our own climate? How many motions has the earth and what are they? What are the most important productions of the temperate climate? Name the largest city of the United States, and tell what its exports are?

What is agriculture? Where carried on? What is commerce? What are imports? Name the three principal mountain systems of North America. Which contain mines of gold and silver? Name the five Great Lakes. What river flows from them? What is the capital of

a country? What large island north-east of North America? What can you say of Iceland? In what Grand Division do you live? Country? State? Tell what you can about Alaska. Where are the West Indies? What is Oceanica? What are the chief productions of the United States?

What is the shape of the earth? How do you know it is so? Tell what one of the motions of the earth causes. What Grand Divisions does the Atlantic wash? Pacific? Name the Grand Divisions in the order of their size. Which are in the Eastern Hemisphere? Western? Name one country in each of the Grand Divisions. Name two rivers in North America, two in South America, two in Europe, two in Asia, and two in Africa. From what country do we obtain tea, coffee, diamonds, ivory, hides? What important river of North America flows into the Atlantic Ocean? Pacific Ocean? Gulf of Mexico? Of South America that flows into the Atlantic? Of Africa that flows into the Atlantic? What states border on Massachusetts? What is the capital of Massachusetts? of United States? In what state is Providence? Hartford? Philadelphia? Chicago? San Francisco? Write a letter to your teacher telling about what you saw in Egypt. Write a letter to your teacher telling her of the different plants and animals to be found in the different zones.

What is a plain? Name two different kinds of plains, and tell how they differ from each other. Name five animals of use to men; tell what they furnish, and how the animals look. What lines cross a map of the hemispheres? Make a map showing them. In what direction is Boston Common from our school-house? In what direction is California from Boston? Cuba from Boston? If you should travel west from Boston to the ocean, what rivers and mountains would you cross; what strange animals might you see? Name any cities you would like to visit on your way, and tell why. What is a cape? Make a picture of one. Name any three you may know and tell where they are. What are the two motions of the earth, and what do they produce? What are geysers? Tell where one might be found. Name the great oceans, and tell something that may be found in them that is useful to us. Write something that you have learned about Greenland. Name the different countries of North America. Tell which is the most northerly, which is the most southerly, and name some of the principal productions of North America. Are the following animal, vegetable, or mineral: cigars, coffee, coral, sponges, salt?

Name the oceans and tell what you can about the Atlantic Ocean. What is a continent and how does it differ from an island? Name the productions of a temperate climate. Name some plants and animals that are found in a hot country. Why is a hot country said to be tropi-

cal? What can you say of civilized people? Name the races of men. What races have you seen? What are imports? Give examples. What are exports? Give examples. What vegetable products are used for clothing?

Name the longest river in the world. Name the highest mountains in the world. Name the largest city in the world. In what direction is Canada from the United States? In what direction is Mexico from the United States? In what direction is Europe from South America? In what direction is Africa from Europe? Where are the West India Islands? Where is Vancouver Island? What large island is sometimes called a continent? What is a mountain system? What is a mountain range? Give an example of each. Name seven large rivers in North America, and describe the course of one. Name two places in the United States noted for their scenery and describe one. Locate the following cities: London, Washington, Paris, and New York. Name ten productions of North America.

What is a hill? Valley? Spring? Canal? Lake? Mountain? Island? Cape? Isthmus? Peninsula? Tell what you know about a river, how it is formed, its parts and uses; which use do you think most important? Why? How many states in the United States? What states have recently been added? How many motions has the earth? What does each motion cause? How many races of men are there? To which do you belong? In what direction from your school-house is the Episcopal Church? The railroad station? In what city, county, state, and country do you live? Tell what you have learned in regard to the state in which you live. What and where are Boston? Superior? Mississippi? Plymouth? White? What do we mean by climate? How many kinds of climate have you read about?

Name the kinds of people in different countries? Name animals of Asia not found in North America. To what part of the world would you go to get opium? Name five large cities in Europe. What part of Africa is hottest? Name and describe the rivers of North America. Where is the largest forest plain in the world? What is a lake? What oceans are around Asia? Tell all you can about South America.

What part of the earth's surface is land? Name the largest body of land on the earth. The largest island. Give the largest river in the world. In what direction does it flow? What is the use of rivers? Where does the water which makes rivers come from? Are there any rivers near Boston? Name all you know. What is the largest city in the world? Why do plants grow so fast in spring and summer? Does the earth move around the sun or the sun around the earth? In what kind of climate does tea grow? Sugar cane? Wheat? What is the largest city of the United States?

What is commerce, domestic and foreign? Name the five grand divisions. Name four occupations of men. What are exports? What are imports? What is the equator? Name five animals from the hot climate? Name five animals from the temperate climate. Name five animals from the cold climate. What isthmus connects Asia and Africa? How many motions has the earth? Name them. What is a sound? What sea is between Europe and Africa?

What causes day and night? What is a bay? An ocean? Name the oceans. Name the grand divisions. In what belts is North America? In which hemisphere (E. or W.) do we live? In which belt do we live? Name a place from which we get sugar, cotton, coffee, oranges. Name a great desert and tell in what country it is. Name a great mountain range and tell in what country it is. Where is Russia? China?

What two motions has the earth and what do they cause? Which way does your shadow fall at noon? What is an isthmus? What natural division of land is East Boston? Why? What part of the map is North? East? West? South? Name the continents. Name the oceans. Name six important cities of New England, and tell where each is located. Name and describe five rivers of New England. Describe either North America or South America by topics.

In what city do you live? In what state? In what country? On what continent? In what direction from the School House is the Railroad station? The Cemetery? The Soldiers' Monument? In what direction from Boston is Europe? What country in Europe would you like to visit? Why? What mountains in Europe are most visited by Americans? In what country? What very large river in South America? What important city in the same country? What is the climate of that country? Name four important rivers in North America. What city upon one of them? Mr. Barnum has an elephant, a camel, a seal, a reindeer, and a buffalo. In what climate is the home of each? Where in the western Hemisphere may you go for furs? oranges? coffee? cotton? If you take a journey from Boston west across the country what great city could you visit on the shore of the Pacific Ocean? Imagine you are a bird and fly to a warm country. Write five or six lines telling what trees, fruits, and animals you might see, and how the people live and dress.

What people live in the cold climate? Tell something about their food and clothing. In what zone do you live? What plants and animals are found in this zone? Which is the most important country of North America? What is its capital? Tell something about the occupations of the civilized people. Name some of the most important plants and animals of a tropical climate. Name the waters that sur-

round North America on the north, on the east, on the south, on the west. Name two large rivers of North America, and tell in what direction they flow, and into what waters they empty.

Name five natural divisions of land and five natural divisions of water. What are the two motions of the earth and what does each cause? What is the distance around the earth and what is the distance through it? Illustrate by a drawing eight points of the compass and mark each with the proper initials. Name the grand divisions in the order of their size. Name five islands or groups of islands. What are the warmest portions of South America and Asia? Name the grand division which has the largest and fiercest wild animals. Tell what ocean you would cross in sailing from South America to Asia and from North America to Europe? Name an important river in each of the following: North America, Africa, Asia, Europe, South America. Name an important city in each. Tell some of the most interesting things which you have learned about South America.

How many motions has the earth? What are they? Where is the highest mountain in the world? Where is the largest desert? What ocean should we cross to go to Africa? What kind of a climate should we find there? What is the largest city in Massachusetts? In our country? In the world? Where are the coldest parts of the earth? The hottest part? Name five large rivers of North America. Name five animals of hot countries and five of cold countries? Name the five grand divisions and tell which one you live in. What do we get from the West Indies? From the East Indies? Name as many useful things as you can think of that we get from the ocean.

Where are the Appalachian mountains, and how do they differ from the Rocky mountains? Name the cities and towns that surround Boston. Name the continents that border on the Atlantic ocean. Name the oceans in the order of their size. Name the longest river in North America and in South America. What bodies of water are connected by the Strait of Gibraltar? What is an isthmus? What seas south of Europe? Name the rivers which flow into the Caspian Sea. Name the bodies of water bordering on the west of Europe.

Draw a map of an island. Draw a map of a peninsula. What is leather made of? What are combs made of? Where does the stuff for a woolen mitten come from? Where does the stuff for a calico dress come from? What is a slate pencil made of? Name five fur-bearing animals, and state where each one lives. Name five useful minerals, and state what each is used for. Name the plains near the Orinoco. Name the plains near the La Plata. Briefly describe the plain near the Amazon. Name five of the "Seven Little Sisters," and state where each one lives. Name five kinds of rocks that can be found in Roxbury, and state where

each can be found. Write an account of an imaginary journey to any foreign country. Write about the most interesting thing you have learned in geography this year. Name five cities you have heard mentioned this year, and state in what part of what country each is situated.

Locate: East Indies, Florida, Alps Mountains, Ohio River, Rhine River, Mediterranean Sea, Gulf of Mexico, Newfoundland, Australia, Paris. What is the shape of the earth? Proof? What is the equator? What kind of weather there? Name five animals that live near the equator? Name five animals that live near the poles? Is it summer or winter now at Cape Horn? Is it day or night there? How long does it take the earth to go once around the sun? What part of the earth's surface is land? Suppose yourself to be living near the equator, mention something you might export. To what race do most of the inhabitants of Africa belong? Write about the lion.

Does the earth look round or flat to you? Do you think it is round? If so, tell your reasons. What motion of the earth gives us day and night? What is the difference between an axis and an axle? Tell what kind of fruits grow in the torrid zone. How do sailors know how to steer their vessels? Which way would a vessel sail going from Boston to Europe? As you sit in your school-room which windows are towards the east, those at your right or those back of you? Map of the school-room and points of compass.

UNITED STATES HISTORY. CLASS III.

Name three early explorers and tell what, when, and where they explored? Name the thirteen original colonies. Give the date and place of settlement of five of them. Give the date, cause, and result of the French and Indian War. When was King Philip's War? When and for what was the league formed known as the United Colonies of New England? What colonies composed it? Make a statement about each of the following persons: Captain John Smith, Balboa, Henry Hudson, William Penn, Miles Standish. Make a statement about each of the following places: Palos, St. Augustine, Fort DuQuesne, Quebec, San Salvador. State briefly the cause of the American Revolution. Name five distinguished patriots of the Revolution.

Name the English explorers, and give an account of the discoveries of one of them. Name the original New England colonies, and give an account of any one of them. Name ten battles of the Revolutionary War, and describe any one of them that was not fought in New England. Name the colonies in which there was religious toleration, then those in which there was not religious toleration. Name the colonial wars, and mention without describing them a few of the remarkable events and acts that occurred in those wars.

The Cabots' Voyages of Discovery: give an account of the Cabots, and of their American voyages and discoveries. The New England Colonies: mention them, and give an account of any one of them. Who were LaSalle, Raleigh, King Philip, Roger Williams, and Andros? What events are associated with these dates: 1492, 1607, 1620, 1675, 1692? A brief description of the European nations engaged in discoveries in North America. A noted discoverer, and discovery of each nation. Describe briefly one important discovery. Maryland: when and by whom settled; the object of the settlement; religious toleration; Clayborne's rebellion; the boundary line between Maryland and Pennsylvania. An account of that part of the American army which was personally led by Washington from July 2, 1775 to January 3, 1777. The Cabots' Voyages of discovery: give an account of the Cabots, and of their American voyages and discoveries. The New England Colonies: mention them, and give an account of any one of them. N.B. A part of the class, instead of the 1st question had the following: The Old French and Indian War: its causes; its objective points; the part that Washington took in it; its important events, and an account of one of them; how it helped prepare the colonists for the Revolution.

Name two Spanish, two English, and one French discoverer, the country discovered, and date. Write five lines about one of them. Give two causes of the Revolutionary War. Name three officers on each side. Name three English and three American victories. Describe one of them. What colonies were founded to secure religious freedom? What was Salem Witchcraft? What was the Starving Time? Name the thirteen original colonies. Cause of French and Indian War. Name two battles and result. What part did Washington take in this war? Mention what the following expressions suggest to you: Old Stone Mill, Trimountain, Dorchester Heights, Bacon's Rebellion, The Pine Tree Flag.

Name the thirteen original colonies. Which were the most important ones at the time of the Revolution? What was the Revolutionary War? Its cause? Who was King of England? Who were the Tories? What was the Stamp Act? When passed? Who opposed it in England? In Virginia? Describe some incident in the early history of the Revolution specially connected with Boston. Name some historical event connected with the North Church. Where was Liberty Tree? Why called so? What building called the "Cradle of Liberty"? When and where was the Declaration adopted? Who wrote it? Describe the history of the flag. What was the object of Burgoyne's Invasion? Who won a battle at Bennington? When and where did Burgoyne surrender? When and where was the treaty of peace signed? What were its terms? Mention one fact about Warren; Pitcairn; Major André, Gates.

Write a brief sketch of the life of Columbus covering the following points: his theory about the shape of the earth, his attempts to get aid to prove it, his success, his voyage to the new world. Name the New England Colonies. Write about the settlement of Connecticut. Write about Burgoyne's Invasion, covering the following points: its object, the battle of Bennington, the change of American Commanders, a description of the battle in which Burgoyne's designs were frustrated, why this battle was considered so important.

When and by whom was Boston settled? What was the Boston News-Letter? The Liberty Tree? The Boston Massacre? The Boston Tea-party? The Boston Port Bill? The North Church? The Pine Tree Flag? When was Boston made a city? Name five of the early patriots of America, and write a short sketch of the life of one. Name the events suggested by the following: 1000; 1565; 1619; 1636; 1692; 1732; February 22d, 1759, 1765; April 19, 1775; July 4th, 1776.

Leif Ericson; Balboa; De Soto; William Penn; tell from what country each came and mention an important fact concerning each. Narrate an incident showing the relations of the Indians to the white settlers. Name one of the Intercolonial wars; tell what caused it, and what the result was. Tell briefly the story of the Pilgrims. Tell briefly the causes of the Revolution. Connect the following dates with events: 1492; 1565; 1607; 1692; 1776.

Name the discoverer of the Mississippi River; the Pacific Ocean; Florida. What was the cause of the French and Indian War? The most important battle? The result of the War? What were some of the causes of the Revolutionary War? Who was Samuel Adams? Paul Revere? What was the Declaration of Independence? Tell why, when, and by whom it was written. Write on one of the following topics: King Philip, Salem Witchcraft, Boston Tea-party.

What Charters were granted by James I. in 1606? Name the thirteen original colonies. Describe a New England Village of Colonial days on a Sunday morning. What is meant by the "Walking Purchase"? Cause of the French and Indian Wars. (The Teacher will add five questions on the Revolution.) What occurred March 17, 1776? Who wrote the Declaration of Independence? What occurred at Saratoga October 1777? How long did the Revolutionary War last, and how end? The event of September 3d, 1783?

Name four men who were prominent in exploring and settling America, and tell something that each did? Name the Intercolonial Wars. Cause of the French and Indian War, and why it was so called? Write what you can of the cause of the Revolutionary War? Name five battles of the Revolutionary War, and tell which side was victorious in each? Name four prominent generals on the American side and three

on the British. Which battle do you think the most important, and why? Connect each of the following names with some important event in American history; General Braddock, General Wolfe, General J. Warren, Miles Standish, John Carver, William Penn.

Tell the story of Ponce de Leon. Name the thirteen original colonies. Which was the last to be settled? The story of which colony interests you the most? Write about it. Cause and result of King Philip's War? Why did the Americans go to war with Great Britain? When did the war begin? End? Boston Port Bill? Who wrote the Declaration of Independence? When was it adopted? Where? What was the Declaration of Independence? Burgoyne's Invasion? Write about an important battle of the Revolution. Write an account of either Pontiac's War; The Flag of the United States; Siege of Boston.

Give an account of the settlement of the Massachusetts Bay Colony and a brief description of the people who settled it. Henry Hudson,—who was he? Describe his voyage. What became of him? What country claimed a part of North America because of his discoveries? Give date of the beginning of the French and Indian War. Some of the causes which led to it, and some account of Braddock's expedition and of the capture of Quebec. What was the Stamp Act? Why did the people object to it? Describe the Boston Massacre. Who were the Tories? Describe the winter at Valley Forge. Describe the battle at Stillwater.

*** The following papers, entitled Mental Arithmetic, include some which might properly be designated Sight Arithmetic, and others Oral Arithmetic :

MENTAL ARITHMETIC. CLASS II.

A room is $\frac{2}{3}$ as wide as it is long; its length is 20 ft.; how many sq. ft. are there in the floor? What will 5 tons of granulated sugar cost at $6\frac{1}{4}$ cts. per lb.? If 5 yds. of cloth cost 90 cts., what will $\frac{5}{8}$ of a yd. cost? What will be the cost of 1 pk. 1 qt. 1 pt. of nuts at 10 cts. per qt.? What is the value of an acre of land at 10 cts. per sq. ft.? An agent insures a house for me at a commission of $\frac{1}{2}\%$. His commission was \$15; how much was the house insured for? A man collects a bill of \$300 for me at $\frac{1}{2}\%$ commission; how much was his commission? A man put \$15, which was $16\frac{2}{3}\%$ of his month's salary, in the bank; what was his month's salary? A gold-digger who had 3 lbs. of gold dust lost 9 oz.; what per cent. was left? What is the interest of \$50 for 3y. 7m. 12d. at 6%?

Addition from black-board : 226, 475, 812, 986, 553, 642, 741, 954, 722, 673, 731, 963, 624, 865, 936, 881. Another : 556, 952, 725, 643,

924, 746, 965, 632, 763, 634, 872, 813, 481, 871, 981, 719. How many days from May 16th to July 5th? What would be the cost of 2 bush. of blueberries at 5 cts. per qt.? What will 18 oranges cost at 35 cts. per doz.? Add: 379 and 297.

If I sell for \$4.50 a book which cost me \$3, what per cent. do I gain? Out of 500 pupils, 50 are absent; what is the per cent. of attendance? A garden is 200 ft. long and 100 ft. wide. What will it cost to build a fence around it at 50 cts. a ft.? What will a building lot 100 ft. long and 50 ft. wide cost at 50 cts. a sq. ft.? What is the interest of \$200 for 90 days at 3%? What is the bank discount on a sixty days' note for \$400 at 6%? If a broker buys for me five shares of Railroad Stock whose par value is \$100, what is his brokerage at $\frac{1}{4}$ %? What cost 4 lbs. 4 oz. of butter at 16 cts. a lb.? If I have 4 tons 1,000 pounds of coal, to how many persons can I give $\frac{1}{2}$ a ton each? Add: \$2.50, 0.75, 0.12, 4.18, 1.00, 0.86, 0.53, 5.16, 0.09, 0.25, 3.47, 0.34, 0.57, 9.00, 0.62.

If a flag-pole is in two parts, the longer, or main-mast, being 50 ft., the top-mast 38 ft. long, how high above ground would the pole stand, if 7 ft. were below ground, and the top-mast lapped on to the main-mast 2 ft.? How many men could you hire with \$50 for a week's job, if each man received \$12 $\frac{1}{2}$ per week? How much would a dinner cost consisting of meat worth \$1.00, vegetables worth 75 cts., and fruit 50 cts.? How many dozen yeast cakes at 2 cts. each could be bought for 96 cts.? 2 $\frac{1}{2}$ acres divided into lots of $\frac{1}{4}$ an acre each would consist of how many lots? What per cent. of anything is $\frac{1}{50}$? $\frac{1}{2}$? $\frac{1}{3}$? $\frac{1}{4}$? $\frac{5}{6}$? If you are in school 5 hours, at play 2, asleep 5, what fractional part of the day is left? Add: 18, 10, 2, 12, 8; multiply by 2, divide by 8.

A horse was sold for \$90, at which price 12 $\frac{1}{2}$ % was gained. What per cent. would have been gained by selling him for a \$100? 75 is 25% more than what number? What per cent. does a merchant lose by selling goods at $\frac{4}{5}$ of their cost? If I sell 10 shares of railroad stock for \$1,090, and gain 9% on the cost, what was the cost? What is the interest of \$660 for 3 mos. at 4%? Sold a watch for \$42, and so lost 12 $\frac{1}{2}$ % on the cost; what was the cost? What is the premium for insuring \$6,000 on my house at 1 $\frac{1}{4}$ %? How many quarts of peanuts in one bu. and three pks.? One acre of corn yields 80 bu. and another acre 20% more; how many bushels does the second acre yield? What will it cost to fence a garden 10 rds. long and 6 rds. wide at \$1 a rod?

If each boy eat $\frac{2}{3}$ of a loaf of bread, how many boys will eat six loaves? Mary bought 6 $\frac{1}{4}$ yards of cloth at 12 cts. a yard; how many cts. did the cloth cost her? In 1 $\frac{3}{8}$ yards how many inches? How many half-pint mugs can a person fill with $\frac{1}{2}$ gallon of milk? Express $\frac{3}{8}$ as a decimal. If your school-room is 40 ft. long and 30 ft. wide, what is the distance around it? What principal at 6 per cent., simple interest,

will gain \$36 in 1 year and 6 months? How many sheets of paper in a quire and a half? A man sold a saddle for \$18, which was $12\frac{1}{2}\%$ more than its cost; what did it cost him? What per cent. is gained on goods sold at double the cost? How many rods in a mile? How many rods in a quarter of an acre? $13 + 6 + 9 + 14 + 7 = ?$ What is the interest of \$1,500 for 60 days at 6% ? A dealer sold flour at a profit of \$2.00 a barrel, and gained 25% ; what was the cost? Find the sum of $\frac{3}{4}$ and $\frac{5}{8}$. How many hundredths in 2 units? How many cubic inches in a ten-inch cube? What is 8% of fifty bushels? What is nine eighths of eight?

What is a poll tax? In what time will \$50 double itself at 8% ? At what price must paper that cost \$4 be sold to gain $12\frac{1}{2}\%$? What would 51 lbs. of butter cost at $33\frac{1}{3}$ cts. a lb.? Mrs. Allen bought 7 chairs at \$4 apiece, 2 tables at \$9 apiece, and a carpet for \$33; she paid two \$50 bills; how much change was due her? If six rings cost \$33, what would 12 rings cost? What per cent. of a number is $\frac{6}{20}$ of it? What would be the cost of insuring a house for \$1,000 at 1% , the price of the policy being \$1? Two men, 96 miles apart, travel toward each other, one at the rate of $5\frac{1}{2}$ m. an hour, the other $4\frac{1}{2}$. In how many hours will they meet? Reduce $\frac{1}{3}\frac{2}{3}$ to lowest terms.

$\frac{2}{3}$ of 48 is $\frac{4}{5}$ of how many times 8? Find the sum of the prime numbers as far as 12. What will one bu. and one peck of chestnuts cost at 8 cts. a quart? Change $\frac{7}{8}$ and $\frac{3}{20}$ to decimals and add them. In a school of fifty pupils six are absent; what per cent. are present? How long will it take \$5 to gain \$5 at 5% ? What will it cost to fence a piece of land that is 6 rds. square at \$3 per rod? 5 quarts equal what decimal of a peck? A can do a piece of work in four days, B can do it in five days; in what time can A and B do it if they work together? Write on the board the following: 27, 36, 45, 32, 63, 75, 43, 57; find the sum.

What is the commission for \$1,234 worth of gold at $1\frac{1}{2}\%$? Interest of \$1,234 for six months at 4% ? Sum, $2\frac{1}{2} + 3\frac{1}{2} + 4\frac{1}{2} = ?$ Difference, $5\frac{1}{2} - 4\frac{1}{2} = ?$ Interest of \$1,234 for 30 days at 6% ? If $2\frac{1}{2}$ lbs. of beef cost 25 cents what will ten lbs. cost? What is the Bank-Discount of \$124 due in 2 months? A rectangular field containing 1 acre is 40 rods long; how many rods round the entire lot? I buy 2 shares of stock whose par value is \$100, at $2\frac{1}{2}\%$ discount; what must I pay? I sell goods costing 24 cents for 18 cents; what per cent. do I lose? Sell goods costing 24 cents at 30 cents; what per cent. do I gain? (Black board.) What is the distance between A, which is $20^{\circ} 20' 20''$ N. Lat. and B which is $40^{\circ} 40' 40''$ S. Lat.? (Black board.) What is the distance between B, $40^{\circ} 40' 40''$ South, and C, $30^{\circ} 40' 50''$ South? How many rings each

2 dwt. 12 grs. can be made from $\frac{1}{4}$ lb. of gold? How far apart are two places whose difference in time is two hours and three minutes? I bought a bond whose par value is \$1,000 at a discount of $3\frac{1}{4}\%$; what did I pay? I can buy 2 pairs of shoes for 12 shillings; how many pairs at the same rate can I buy for £3? What will 24 lbs. of tea cost at $33\frac{1}{2}$ cents? What will 40 pounds of onions cost at $2\frac{1}{2}$ cts.? What will 48 horses cost at \$250 each?

If two-thirds of your age is eight years and four months, how old are you? Seven-eighths of James' vacation will be equal to seven-ninths of yours; yours will be 63 days; how many will his be? Mrs. Light bought .001 of 3500 tons of coal. How many tons did she buy? How many weeks will $4\frac{1}{5}$ tons of coal last Mrs. Bright, if she uses $\frac{3}{10}$ of a ton each week? What was the cost of 1,000 cords of wood at \$9.875 a cord? You spend $\frac{5}{8}$ of your money for books, and the remainder for paper; what per cent of your money do you spend for paper? You spend \$3.00 of every \$5.00 that you had earned; you had earned \$100; how much did you spend? You spend 24 minutes in going to school; what decimal fraction of an hour did you thus use? What part of the principal is the simple interest for four years and six months at six per cent.? How many years will it take \$20 to gain \$20 at five per cent. simple interest?

If apples cost 2 cents each, and oranges 5 cents each, how many oranges are equal to 50 apples? A grocer bought 15 barrels of flour at \$5 a barrel; at what price must he sell them to make \$30? At what part of a dollar is cloth sold, if it cost 50 cts. a yard, and $\frac{1}{3}$ is made by selling it? A man lends \$1200 at 6%, and \$1500 at 5%; what is the difference in the amount of interest due? If ten shares of Railroad stock costing \$80 are sold at a gain of 25%, how much is the gain? If a grocer sells milk at \$0.32 a gallon, and makes $33\frac{1}{2}\%$, what is the cost per quart? For collecting a bill an agent charged 4% or \$60; how much did he collect? If \$1 is paid for insuring a piano worth \$500, what is the rate of insurance? In what time will any sum of money double itself at 6%? Into how many lots containing $\frac{2}{3}$ of an acre each, can eight acres be divided?

42 is $\frac{7}{6}$ of how many times 18? If it takes $4\frac{1}{2}$ yd. of cloth for a coat, $2\frac{1}{2}$ yd. for trousers, and one yd. for a vest, how much for the suit? A man owning $\frac{2}{3}$ of a ship, sold $\frac{2}{3}$ of his share; what part of the ship did he still own? If a cup holds $\frac{2}{3}$ of a pint, how many cups in a gallon? In a class of 42 pupils, 7 were absent; what per cent. were present? If a note of \$500 due June 2 was discounted at a bank May 30, what was the discount? If boards are worth $3\frac{1}{2}$ cts. a foot, what are they per M.? Interest of \$1000, for 2 months at 9%? If a man spends 50 cts. per day during April, May, and June, what does he spend in the three

months? If a man spent ten cents every day for cigars during the year 1888, how much did he spend during the year? A rectangular field contains 480,000 sq. ft. and is 1,000 ft. long, how wide is it? Divide $18\frac{1}{2}$ by $\frac{1}{2}$. $4876 \div 1000 \times 10 = ?$ $42 \times 10000 = ?$ $\$84 \div \$12 = ?$ $\$48 \div 6 = ?$ $\frac{2}{3}$ of $\$100 = ?$ (dolls., cts., mills,) amount of: $\$2.16$, 1.14 , 7.84 , 9.86 , 2.22 , 1.89 , 9.10 , 1.19 , 3.34 , 6.61 , 7.75 , 8.81 , 3.42 , 9.84 , 6.66 , 8.71 , 4.32 , 5.51 , 7.18 , 0.22 , $0.13 = ?$

COMBINATION.

My desk is $1\frac{1}{2}$ ft. long, and 1 ft. wide; how many inches around it?	\$98 53 6 94 7 98 48 36 9 46 45 83 9 87 6 42 95 83 6 45 9 87
How many sixths of a dollar are there in $2\frac{1}{3}$ dollars?	
If 9 is contained in a number 12 times, how many times will 3 be contained in it? $\frac{2}{7}$ of my money is \$14; how much has John, if he has \$11 more than I?	
$\frac{1}{4}$ of a day was spent by James in play, and $\frac{1}{3}$ in sleep, how many hours were left for work?	
Oil is worth $37\frac{1}{2}$ cts. a pint; how many pints can I buy for \$6?	—96 87 × .989 ÷ .000329

$\frac{1}{5}$ of my money is in my pocket, $\frac{1}{4}$ in bank; I found \$1.50 which I put in my pocket, making amount in pocket equal to amount in bank; how much had I at first? Cost of 700 lbs. of coal, at \$7 a ton? A post is set in the ground so that $\frac{1}{3}$ of what is in the ground equals $\frac{1}{2}$ of what is in air; 6 ft. is in ground; how long is the post? Bought oranges at $\frac{1}{2}$ ct. apiece, and sold them at a gain of 50%; for how much apiece did I sell them? Sold oranges for $\frac{1}{2}$ ct. apiece, gaining 50%; how much did they cost apiece? Borrowed \$100 at 10%; paid \$20 at the end of first and second years; how much did I owe after second payment? Find the number of sq. in. on the surface of a block 10 in. \times 4 in. \times 3 in. At what rate will \$2 gain \$20 in 5 years? What principal will gain \$40 in 2 years at 5%? My railroad fare is 8 cts.; the street-car fare for the same distance is 5 cts.; what per cent. more does the railroad charge than the street-cars? what per cent. less does the street-car charge than the railroad? I pay 8 cts. to ride four miles on the railroad and five cents to ride five miles on the street cars; what per cent. more does the railroad charge for equal distance than the street-car? What is the interest on \$700 for 15 days at 6%? Bank Discount on a note for 60 days, \$1,000, discounted at date? Goods were bought for \$60 and sold for \$65; what was the per cent. of gain? Goods were sold for \$90 at a gain of 50%; what was the cost? \$3,000 is $11\frac{1}{3}\%$ of my property; how much am I worth? Bought 2 chairs at \$1.25, 1

washtub for \$1.50, 1 table for \$3.00 and 5 doz. glasses at 48 cts. a dozen; gave a ten dollar bill in payment; how much change did I receive? How much would you pay for $3\frac{3}{4}$ yds. of cloth at $37\frac{1}{2}$ cts. a yard? Cost of 3 inches of silk at \$3.00 a yard.

MENTAL ARITHMETIC. CLASS III.

The difference between 144 and 24 is how many times 15? If $5\frac{1}{2}$ yds. of cloth cost 68 cts., what cost $12\frac{1}{2}$ yds.? What is $\frac{1}{5}$ of 1000? If $\frac{3}{5}$ of a barrel of flour cost \$2.13, what cost $1\frac{1}{5}$ barrels? John walked $12\frac{3}{4}$ miles and Henry $10\frac{5}{8}$ miles; how much farther did John walk than Henry? At $4\frac{1}{2}$ cts. a pint, what costs 5 qts. 1 pt. of milk? Multiply fifteen hundredths by six hundredths. What part of a cu. yd. is 3 cu. ft.? What is the difference between a floor 40 ft. sq. and two others each 20 ft. sq.? What is the interest for \$12 for 1 yr, 4 mos. at 6 pr. ct.?

Sold an article for \$60 thereby losing 70%. Cost? If I buy a dozen pencils at 2 cts. each, and sell at 3 cts. each, what is the gain per cent.? After spending $\frac{2}{5}$ of his money, James has \$150 left, what amount did he have at first? How many gal. in 462 cu. in.? How many sq. ft. in an acre? How many dozen in a score? How many cord ft. in a cord? How many sq. yds. in the surface of a cube that contains one cu. yd.? Out of every bushel of corn, a miller keeps 8 qts. as toll, what per cent. does he keep? If a yard of ribbon contains 144 sq. in., how wide is it? At 75 cts. a yd. what will be the cost of carpeting a floor 15 ft. long, 4 yds. wide? How many pounds of cheese at \$0.16 $\frac{2}{3}$ a lb. can be bought for \$5.00. How long will it take a boy to pay for a suit worth \$6.50 and a pair of boots worth \$2.50, if he earns $66\frac{2}{3}$ cts. a day? An agent collected rents amounting to \$300; what was his commission at $\frac{1}{2}\%$? 180 is 10% less than what number?

If a boy eat $\frac{2}{5}$ of a loaf of bread, how many boys will be required to eat ten loaves? Bought $6\frac{1}{4}$ yds. of ribbon at 12 cts. a yard. Cost? In $1\frac{3}{4}$ yds. how many inches? How many $\frac{1}{2}$ pint mugs can be filled from $\frac{1}{2}$ gallon of milk? What is the distance around a room that is 40 ft. by 30 ft.? Sold a saddle for \$18 which was $12\frac{1}{2}\%$ more than the cost. Cost? What % is gained on goods sold at double the cost? What is the interest of \$1500 for 60 days at 6%? Sold flour at a profit of \$2.00 and gained 25%, what was the cost per barrel? How many cu. in. in a ten inch cube?

$29 + 36 + 25 + 75 + 35 = ?$ If 5 yds. cloth cost 90 cts., what cost $\frac{2}{3}$ yd.? If $\frac{2}{5}$ yd. cloth cost 10 cts. how many yds. can be bought for 80 cts.? Bought $\frac{1}{2}$ a ton of sugar at \$0.0625 per lb.; how much did I pay for it?

If $2\frac{1}{2}$ pks. berries cost one dollar, what would 3 qts. cost at the same rate? Bought 5 bu. nuts at a dollar a peck and got 5% off for cash; how much did I pay for the nuts? In a certain school, 40 pupils are present and ten are absent; what % are absent? In a certain class $\frac{1}{2}$ of the pupils are under 10 years, $\frac{1}{3}$ of them are between 10 and 12, and the rest are over 12; what % of the class are over 12 years? Eastman collects bills for me, and I pay him $12\frac{1}{2}\%$; he pays over to me \$56; how much did he collect? Find the interest of \$200 for 1 yr. 3 m. at 4 per cent.

$9 + 3 + 7 + 6 + 5 + 4 = ?$ John had 85 cts.; he bought strawberries for 22 cts.; 1 lb. coffee for 30 cts.; 3 sheets paper at 1 ct. a sheet; what remained? A garden is 12 ft. long and 9 ft. wide; how many bunches of flowers will it furnish, if it takes 3 sq. ft. to furnish one bunch? Three-fourths of a mince pie is worth 18 cts., and James eats $\frac{1}{3}$ of a pie; what is the value of what he eats? Sarah gave Jane $5\frac{1}{2}$ apples, and then Jane had 12; what had she at first? If I have 1 pk. 2 qts. 1 pt. of meal, how many more qts. must there be to make 1 bu.? If 1 qt. molasses cost 12 cts., what is the cost of $1\frac{1}{2}$ pt.? A step is 3 ft.; 2 steps are what part of a rod? With $33\frac{1}{3}\%$ of his money, Robert bought 12 oranges. How many oranges could he have bought with all his money? Charles caught 12 fishes, worth $4\frac{1}{2}$ cts. each, in four hours; his time was worth 12 cts. an hour; gain or loss and how much?

What is commission? Or, what is an agent or factor? A farmer raised 50 bushels of cranberries and sold 60% of them; how many bushels did he sell? What % of a number is $\frac{9}{20}$ of it? How many times would a dish holding $\frac{3}{4}$ of a pint have to be filled, to measure 9 qts.? Find the interest of \$1 for 2 y. 10 mo. at 6%. What would 42 lbs. of butter cost, at $33\frac{1}{3}$ cts. a lb.? If 5 chairs cost \$80 what will 12 chairs cost? $\$9\frac{1}{5}$ are how many cents. Or, how many hours from 4 o'clock A.M. to 8 P.M.? Mrs. Allen bought 7 chairs at \$4 apiece, 2 tables at \$9 apiece and a carpet for \$30; she paid two \$50 bills; how much change was due her? Two men, 96 miles apart, travel towards each other, one $5\frac{1}{2}$ m. an hour, the other $4\frac{1}{2}$. In how many hours will they meet? Or, reduce $\frac{3}{5}$ to lowest terms.

Caterers reckon 4 people to a qt. in supplying ice-cream; how many gallons will supply a party of 64 people? If a boy earns \$4.00 a week, and saves 2% of it, how much will he save in 10 weeks? What is the % of gain when boots which cost \$2.00 a pair, are sold for \$2.50. $10 + 6 + 9 + 7 + 8 + 4 + 7 + 5 = ?$ A room is 36 ft. long and 30 ft. wide. How many sq. yds. on the floor? How many dollars will it take to give \$0.20 each, to 75 boys? Add $\frac{1}{2}$ to $\frac{3}{4}$ and take the sum from 5? 30% of Mr. Brown's money is in the bank and 50% in real estate;

the remainder, \$2,000, is in railroad stocks; how much has he in all? When the tax-rate is \$12 per M., what will Mr. Smith's tax be if he owns \$4,500 worth of property? How much difference between $\frac{1}{2}$ of 20 and 20 divided by $\frac{1}{2}$?

What is the time from September 17, 1887, to March 8, 1888? What is the interest of \$250 for 2 yrs. at 6%? What is the premium for insuring \$3,600 on my house at $\frac{3}{4}$ %? A farmer sold 50 sheep, which were $\frac{2}{5}$ of his flock; how many sheep had he before the sale? 20% of 115 is $33\frac{1}{3}$ of what number? How many cubic feet are there in two cords of wood? If you walk a mile and a quarter, how many rods do you walk? What is the interest of \$460 for 3 months? What is the time from last Christmas to next Fourth of July? If I pay \$72 for a watch and sell it at a profit of $12\frac{1}{2}$ %, what do I receive for it?

Sum of $18 + 10 - 12 - 16 + 20 + 15 + 9$ divided by $4 = ?$ $4\frac{1}{2} + 2\frac{3}{4}$ yds. of cloth at \$4.25 per yd. = ? If you should sell a pile of wood 4 ft. wide, 4 ft. high and 48 ft. long for \$7 a cord what would you receive? Suppose you have $6\frac{1}{2}$ oranges and divide them among some little boys, giving each $\frac{1}{4}$ of an orange, how many boys would you make happy? If a boy spent 25 cts. for a knife, 40 cts. for a foot-ball, and 10 cts. for candy, how much change should he receive from having paid a two-dollar bill? 20 qts. of berries at 6 cts. a qt. will pay for how many pounds of butter at 20 cts. per lb.? If it cost \$5 a week to feed and clothe one pupil, how much would it cost to support 600 such pupils one month?

MENTAL ARITHMETIC. CLASS IV.

How many oranges at 4 cents each must be given for 12 lemons at 3 cents each? If the interest of \$1 is 6 cents a year, what is the interest of three dollars for two years? If 8 men can do a piece of work in 6 days, in how many days can 4 men do it? A farmer sold two tons of hay at \$20 a ton, and for pay received 8 yards of cloth at \$4 a yard, and the rest in money; how much money did he receive? If three apples cost 6 cents, what will 12 apples cost? If 4 boxes of raisins cost \$7, what will 12 boxes cost? A boy bought 20 peaches at the rate of two for three cents; how many cents did he pay for them? A boy having 12 peaches, kept $\frac{1}{3}$ of them, and divided the other $\frac{2}{3}$ equally among 4 companions; how many did he give to each? A boy bought a rabbit for 25 cents and sold him for $\frac{6}{5}$ of his cost; how many dimes did he sell him for? How many cents did he gain? Reduce $\frac{1}{3}$ to twelfths. Two men start from the same place and travel the same way; one travels at the rate of three miles an hour, and the other seven; how far apart are they at the end of one hour? How far at the end of seven hours? A boy

having seven melons gave away two of them, and sold the rest for \$1; what did he receive apiece for those he sold? A man having 75 dollars, bought 7 sheep and had \$5 left; what did he pay for each sheep? A boy bought 5 hens at 20 cts. each and paid for them with apples at 10 cts. a dozen; how many dozen did it take? A man had 75 sheep and bought 5 more; he then divided them equally in 8 pens; how many sheep did he put in each pen? A boy had 50 peaches and found 22 more; he then divided all of them equally among 9 boys; how many did he give to each? A man bought 3 barrels of flour for \$21, at what price per barrel must he sell it to gain \$6 on the lot? A boy bought 8 oranges at 3 cents apiece and sold them all for 40 cents; how much did he gain by the bargain? Reduce $\frac{4}{5}$ to its lowest terms. Reduce $\frac{6}{7}$ to its lowest terms.

James divided a peck of nuts equally among 16 boys; how many pints did each boy receive? Bought $2\frac{1}{2}$ lbs. of sugar at one store and $3\frac{1}{4}$ lbs. at another; how many pounds did I buy in all? If Maria spends $\frac{3}{4}$ of a dollar in how many days will she spend \$9? At $16\frac{2}{3}$ cts. a yd., what will 12 yds. of ribbon cost? If $\frac{2}{3}$ of a load of hay is worth \$42, what will two loads be worth? $2\frac{3}{4} \times 1\frac{1}{2} = ?$ $\$2\frac{3}{4} \div 1\frac{1}{2} = ?$ $\frac{3}{4}$ of my money equals 25 cts.; what is $\frac{1}{2}$ of it? Reduce $1\frac{3}{8}$ to lowest terms. Reduce $\frac{3}{4}$ to a decimal. What is the Least Common Multiple of 12, 15, 20? If I have $21\frac{3}{4}$ bbls. of flour to donate, to how many poor families can I give $\frac{1}{4}$ of a bbl each? John has $16\frac{1}{2}$ peaches and Henry has $14\frac{1}{5}$; how many peaches have both? A man owns $2\frac{1}{2}$ acres of land; if he sells $\frac{1}{3}$ of it, what part of an acre does he sell? Least Common Multiple of 8, 12, 24. Dictate: $(\frac{3}{4} \text{ of } 20) + (\frac{1}{2} \text{ of } 8) \times 2 + 7 \div 9 \times 13 =$ how many times 8? Divide 6 by .03. If the product of factors is 84 and two of them are 4 and 3, what is the third? If 5 men can do a piece of work in 12 days, in how many days can 3 men do twice as much work? John lost $\frac{1}{4}$ of his money and has 36 cts. left; how much had he at first?

A man sells $\frac{4}{5}$ of his flock of sheep and has 25 sheep left, how large was his flock? I had 40 bu. of wheat and sold $\frac{3}{8}$ of it; how many bu. did I sell? If 3 lemons cost ten cts., how many lemons can I buy for a dollar? If 5 doz. and 4 oranges cost 64 cts., how much does one orange cost? At 80 cts. a lb., what does 4 oz. of tea cost? Mary ate $\frac{1}{4}$ of a pie, and John $\frac{2}{5}$ of it; they gave $\frac{2}{5}$ of it to the dog; how much was left? If every step measures a foot and $\frac{2}{3}$, how many feet do I pass over in ten steps? If I have 12 yards of ribbon, to how many girls can I give $\frac{3}{4}$ of a yard? If a table is 3 yds. long and 2 yds. wide, how many sq. ft. in it? $2 + 7 + 4 + 3 \div 8 \times 50 - 25 = ?$

At 6 cts. a qt. what cost 10 qts. 1 pt. of milk? $\$2\frac{3}{4} + \$3\frac{1}{4} = ?$ A boy lives $10\frac{1}{2}$ rds. from his school; how far does he walk in a day of two sessions to attend school? Eggs are worth 18 cts. a doz.; what cost two doz. and 6 eggs?

What cost a qt. of molasses at the rate of 60 cts. a gal.? $\frac{1}{2}$ of 14 is $\frac{1}{8}$ of what number? $\frac{2}{3}$ of a ton of hay is worth \$10; what is 1 ton worth? I bought a doz. of oranges at the rate of 4 for 3 cts., and sold them at the rate of 3 for 4 cts.; how much did I make? How long would it take 3 men to cut a cord of wood if 4 men can cut a cord in 5 days? If 4 oranges cost 10 cts., what cost 10 oranges?

Which is the larger fraction $\frac{1}{2}$ or $\frac{5}{8}$? How much? If you had $3\frac{1}{2}$ oranges to divide among your friends giving each $\frac{1}{4}$ of an orange, to how many friends would you give? How much less than a unit is $\frac{1}{2} + \frac{1}{3}$? If it be three inches around your thumb, twice as much around your wrist, twice as much around your neck as around your wrist, and twice as much more around your waist, how much does your waist measure? John sold 24 tops at the rate of 3 tops for ten cts., and with the money bought pictures at 8 cts. each; how many pictures did he buy? (Read this as many times as needed.)

Write the prime factors of 78. Greatest Common Divisor of 66, 84? Least Common Multiple of 8, 10, 12? Reduce to lowest terms $\frac{96}{105}$. Change to a mixed number $\frac{313}{8}$. Change to an improper fraction $25\frac{5}{9}$. 84 is $\frac{7}{9}$ of what number? $\frac{2}{3} \times \frac{1}{4} = ?$ At $\frac{5}{8}$ of a dollar apiece, what will 11 chairs cost? How many books at \$2 $\frac{1}{4}$ apiece, can be bought for \$14?

A lady went shopping with \$10; she bought 8 yds. cloth at 75 cts. per yd., a pair of shoes for \$2.50 and a book for \$1.00; how much money had she left? If during the two months of vacation, July and August, you should spend ten cents every day for horse car fare, how much would you spend during the vacation? A stick is $\frac{4}{5}$ under water and 3 ft. above the water; how long is the stick? If a room is 12 ft. long and 16 ft. wide, how many sq. yds. in the floor of the room. How many cu. ft. in a block 4 ft. long, 3 ft wide, and 2 ft. thick? If the school-yard is 200 ft. square what will it cost to fence it at 50 cts. a foot? At sight — example on black board — answer only to be written: $84.267 \times 1000 \div 100 = ?$ $4 + 6 - 2 + 5 \times 6 = ?$ \$9)\$108(Dictate 15 amounts in dollars and cents for addition.

A man who owned $\frac{3}{8}$ of a ship sold $\frac{3}{4}$ of his share; what part of the whole ship did he sell? If you should spend $\frac{1}{4}$ of time in school, $\frac{1}{4}$ in practising music, and $\frac{1}{8}$ in sewing, what part of your time would you spend in all? William has \$0.45 in his pocket which is $\frac{5}{8}$ as much as he has in his money box; how much has he in his money box? One field contains $1\frac{1}{2}$ of an acre of land and a second contains $\frac{3}{4}$ of an acre; how much larger is the first field than the second? How many sq. ft. in the top of a box 2 yds. 2 ft. long and $5\frac{1}{2}$ wide? At \$ $\frac{5}{8}$ a bushel how many bushels of oats can be bought for \$10? How many pounds of cheese at $\frac{1}{2}$ of a dollar a pound can be bought for $\frac{3}{4}$ of a dollar? A

boy received $\$8\frac{2}{5}$ for 6 days work; how much was that a day? How many rods would you have to walk in travelling once around a square field measuring $5\frac{1}{2}$ rds on a side? What is $\frac{5}{7}$ of 84? Divide $\frac{1}{2}$ by $\frac{1}{2}$. Multiply .2 by .02 Sum of $\frac{1}{2}$ and $\frac{1}{3}$? How many feet in ten rods? $3 \times 4 \div 6 - 2 \times 5 + 2 \div \frac{1}{2} = ?$ Cost of $1\frac{3}{4}$ yds. of ribbon at 20 cts. a yard? What is $\frac{1}{2}$ of $\frac{3}{4}$? Least Common Multiple of 8 and 12. Cost of 6 lbs. of beef at $12\frac{1}{2}$ cts. a pound?

What part of a day is $\frac{2}{15}$ of a week? What will 8 oz. of candy cost at $\$.02\frac{1}{2}$ per oz.? 18 is $\frac{3}{5}$ of $\frac{7}{9}$ of what number? 14 is $\frac{3}{7}$ of how many fifths of 35? $196.071 \times 100 = ?$ How many times is $\frac{4}{5}$ contained in $2\frac{1}{2}$? At 6 dimes a gallon what cost $5\frac{1}{2}$ qts. of molasses? Sold a horse for $\$250.00$ which was $\frac{5}{8}$ of what it cost. What did it cost? If one man can do a piece of work $11\frac{3}{4}$ days, in what time can 12 men do it? $6 + 4 \div 2 + 7\frac{1}{4} + 3\frac{3}{4} + 8 \div 8 - 5 \times 11 + 3 \div 7 = ?$

MENTAL ARITHMETIC. CLASS V.

At 8 cts. a pound how many pounds can be bought for 74 cts. A boy had 52 apples and found 8 more, he then divided all he had equally among 4 schoolmates. How many did he give each? A girl having a half dollar, a quarter of a dollar, and a ten cent piece, spent 15 cts. for a book. How much money had she then? If a man is 50 years old now, how old was he 22 years ago? Mary works 4 hours and 40 minutes and Nellie works 2 hours and 20 minutes; how many hours did they both work? How many days in the summer months, June, July, and August? At the rate of 2 apples for 3 cents or $\frac{2}{3}$ of a cent apiece, what will 12 apples cost? If you can buy 11 peanuts for a cent, what will 100 peanuts cost? If you can buy 11 peanuts for a cent how many peanuts can you buy for 100 cents? If it takes you four years more to go through this school and three years to go through the high school, how old will you be when you graduate from the high school.

A bushel of nuts was sold for 5 cts. a quart; how much money did it bring? If you give a boy \$10 how many mills do you give him? John had 40 cts. After earning 24 more, he spent his money for marbles at 4 cts. each; how many did he buy? If 2 qts. of milk are used in the family every day, how many pints will be used in fourteen days? How many times will the long hand of a clock turn around in 1 day and 12 hours? A boy bought $3\frac{1}{2}$ lbs. of butter for his mother; how many ounces did he buy? How much more is $\frac{3}{4}$ of 80 cts. than $\frac{2}{5}$ of 75 cts.? If it takes $\frac{1}{4}$ of a yd. of cloth to make a cap, how many caps can you make out of five yards of cloth? Charles picked $\frac{1}{2}$ a pk. of berries, William $\frac{1}{3}$ of a peck and Alfred $\frac{1}{6}$ of a peck. How many did they all

pick? James worked $\frac{3}{4}$ of a day for Mr. Smith, and $\frac{1}{2}$ a day for Mr. Clarke. How many days did he work in all? If $\frac{1}{3}$ of a yd. of muslin be cut from $\frac{3}{4}$ of a yd. how much will remain? What cost 8 yds. of cloth at $\$1\frac{1}{2}$ a yd.? $5\frac{1}{4}$ acres of land were given some boys to plant, each boy having $\frac{1}{4}$ an acre. To how many boys was the land given? At $\frac{1}{2}$ a dollar a day for board, how many days board can you get for $\$7\frac{1}{2}$? At 3 cts. a pt. what will a gal. of milk cost? How many qts. in a bushel? George was sent to the store with 50 cts. He bought 6 lbs. of rhubarb at 2 cts. a pound and two bunches of radishes at 5 cts. a bunch. How much money had he left? If 3 yds. of cloth cost 60 cts. what will $\frac{1}{2}$ a yard cost? If I pay 30 cts. for 10 qts. of apples what must I pay for a peck? What will a gallon and a quart of cream cost at 50 cts. a quart? If $\frac{3}{4}$ of a yd. of cloth cost 6 cts, how much cloth can be bought for 40 cts. If 9 lbs. of cheese cost $\$1.08$ what will 7 lbs. cost? Give the Least Common Multiple of 5, 6, and 3? An hour and a quarter is how many minutes? I divided $1\frac{1}{4}$ lbs. of candy equally among 5 boys, how many ounces did each receive? Bought a hundred weight of sugar for $\$6.75$; how much was that a pound. If 6 oranges cost 15 cts. how much will 8 cost?

What will $2\frac{1}{2}$ gals. of oil cost at $\$.12$ a gallon? $1\frac{1}{2}$ pecks of peanuts cost $\$.48$ what will one qt. cost? A boy spent $\$.09$; this was $\frac{1}{4}$ of his money; how much money had he? Two boys walked in opposite directions; one walked 5 miles an hour, the other 4 miles an hour; how far apart were they in six hours? A boy earns $\$.50$ a day; how much will he earn in a week? I paid $\$.02$ an oz. for two pounds of tea. What did it cost? 12 shawls cost $\$144$, what will 8 cost? John bought 2 pounds of sugar at $\$.09$ a lb., a lb. of butter for $\$.30$. How much change will he have out of $\frac{1}{2}$ a dollar? A man uses 3 oz. of coffee a day. How many lbs. and oz. does he use in a week? What will $\frac{3}{4}$ of a dozen of oranges cost at $\$.40$ a dozen?

$29 + 18 + 30 + 9 + 8 + 7 = ?$ If 7 yds. cloth cost 84 cts., how many yds. can be bought for $\$1$? If 3 lbs. of coffee cost 60 cts., what cost $\frac{3}{4}$ lb.? If 6 lbs. sugar cost 50 cts. what would 2 lbs. cost? If $\frac{2}{3}$ of an acre of land cost $\$10$, what would be the price of 2 acres? If 6 lbs. of cheese cost 72 cts., how much cheese can be bought for 4 cts.? Bought half a ton of sugar for $\$62.50$. How much was that a lb.? If 12 pks. of berries cost 60 cts. what would three qts. cost? I divided $1\frac{1}{4}$ lbs. of candy among four boys. How many oz. did each have? Bought 5 yds. of ribbon at 16 cts. and 3 yds. of linen at 25 cts. and gave a two-dollar bill; what was my change?

How many lbs. of sugar at 8 cts. a lb. can you buy with 4 doz. eggs at 20 cts. a dozen? If 4 yds. of cloth cost $\$12$, what will 8 yds. cost? If $\frac{1}{3}$ of a yd. of cloth cost $\$4$, what is that a yard? If you should re-

ceive 15 cts. at one time, 26 cts. at another time, and 14 cts. at another time, how many cts. would you receive in all? If you had $\frac{3}{4}$ of a dollar and should buy a pound of soda for 8 cts. and a pound of tea for 45 cts., how many cts. would you have left? If 3 horses eat 8 bushels of oats in two weeks, how long would it take them to eat 16 bushels? Bought 8 firkins of butter for \$72, and gave six of them for 7 yds. of cloth; what was a yd. of the cloth worth? If you buy 6 yds. of tape at 7 cts. a yd., and 4 yds. of silk at 7 dollars a yd., what will you give for both tape and silk? $\frac{1}{2}$ of 22 is how many times 4? Add these numbers: 12, 15, 9, 13, 11, 7, and 24.

24 sheets of paper make one quire: how many sheets are there in 10 quires? 8 times 3 are how many times 6? Bought a horse for \$45, and a saddle for \$35, and then sold them gaining \$20; for how much were they sold? Paid \$10 for 3 yards of cloth and then sold it at \$5 a yard; how much did I gain? \$6 is $\frac{3}{4}$ of how many dollars? Henry had 25 cents and earned $\$ \frac{1}{2}$; what part of a dollar did he then have? Charles began work at 2.45 P.M. and stopped at 5.15 P.M.; how long did he work? Edgar earned $\$ 2\frac{3}{4}$ one week, and $\$ 2\frac{1}{2}$ the next week; how much did he earn in both weeks? A man bought a gallon of milk for 24 cts. and sold it at 4 cts. a pint; how much did he make on the gallon? How many acres of land at \$25 an acre can be bought for \$250?

Give the cost of 7 bbls. of flour, if 2 bbls. cost \$12. A boy earned at one time \$0.15 and at another \$0.26; what did he earn in all? What cost $\frac{1}{3}$ of a bbl., if a bbl. cost \$10? John had \$0.30; he gave $\frac{1}{2}$ of it to his brother, and $\frac{1}{4}$ of it to his sister; how much had he left? At \$1 a bushel what will $\frac{1}{2}$ peck cost? If 1 quart cost 5 cts., what will 5 gal. cost? There are 16 rooms in a building with 50 desks to a room. How many desks in all? At \$10 a ton what will be the cost of 1,000 lbs.? I can buy 3 oranges for five cts.; how many can I buy for 20 cts.? I went to the store with \$1; I spent $\$ \frac{1}{2}$ for one article, $\$ \frac{1}{4}$ for another, and a dime and a nickel for another; how much change had I?

MENTAL ARITHMETIC. CLASS VI.

$27 + 15 + 18 + 25 + 9 = ?$ If 7 yds. cloth cost 84 cts., what will 9 yds. cost? If 9 lbs. sugar cost 63 cts., how many can be bought for 40 cts.? If 3 lbs. coffee cost 60 cts., what cost $\frac{3}{4}$ of a lb.? If 4 lbs. cheese cost 36 cts., how much cheese can be bought for 3 cts.? What cost a pint of vinegar at 30 cts. a gallon? What cost a peck of berries at 12 cts. a qt.? If 2 bu. sand cost 40 cts., what would 3 pecks cost? James had a half dollar to spend; he bought 14 cts. worth of candy and spent the rest of his money for oranges at 4 cts. each; how many oranges did

he buy? Bought 12 yds. ribbon at 5 cts., and 5 yds. of cloth at 10 cts., and gave the store-keeper a dollar and half; how much change did I get back?

How many qts. in 8 gallons of vinegar? How many weeks in 2 years? At 15 cts. a pound, what cost 4 lbs. of rice? A lady bought 7 lbs. of rice at 12 cts. a pound, and paid for it with a \$1 bill; how much money did she receive in change? How many are $7 \times 8 + 4 \div 12 \times 5 + 5 = ?$ In one box are 76 oranges, and in another 21; how many in both boxes? How many spools of cotton at 5 cts. a spool can be bought for \$1? If 9 boxes of soap cost \$1.08, what is the cost of one box? One boy has 75 marbles, another 20, and another 5, how many have they all? $4 + 6 + 7 + 8 \div 5 \times 6 + 3 \div 11 = ?$

If a boy has a dollar how many days will it last him if he spends two dimes a day? John goes to the store with half a dollar; he buys 4 lbs. of sugar at \$0.08 a lb.; what change does he receive? How much will you have to pay for two gallons of milk at \$0.07 a quart? If a horse eats 4 qts. of oats a day, how long will $\frac{1}{2}$ a bu. last him? What will you pay for a peck of potatoes if you pay \$0.80 a bushel? What will 10 yds. of cloth cost at $8\frac{1}{2}$ cts a yard? It is 15 miles from Boston to Salem. If it takes a man 2 hrs. to drive that distance, how many miles will he go in one hour? A man paid one dollar for a bag of peanuts containing 3 pks. He sold them at \$0.10 a quart; how much did he gain? If you pay \$0.25 cts. for a dozen oranges and sell them at \$0.04 a piece, how much do you gain? What will you pay for $2\frac{1}{2}$ pounds of cheese at \$0.12 a pound?

If two qts. of milk are used in a family every day. how many pints will be used in 14 days? John had 40 cts.; after earning 24 more, he spent his money for marbles at 8 cts. each; how many did he buy? Take \$8.25 from \$12.75, how many quarters are there in the difference? One half of our books are in the case; we have in all 184 books; one half of the remainder are on the table; how many are on the table? How many ten cent pieces can one get for \$5.00? How many quarters? A bushel of nuts was sold for 5 cents a quart; how much money did it bring?

Add 4, 6, 7, 8, 5, 6, 10. Add 20, 15, 10, 5, 50. One half of 20 plus one third of 30 equals what? How many pencils at 4 cts. each would 40 cts. buy? If three knives cost 45 cts. each, what is the cost of all? If one fish cost 25 cents, how much would $2\frac{1}{2}$ fishes cost?

John is going a journey of 100 miles; if he travels $\frac{3}{4}$ of the distance in the cars and the rest in a coach, how many miles will he travel in the coach? If a boat sails at the rate of four miles an hour, how many hours will it take to sail 20 miles? Book, 75 cts.; pencil, 8 cts.; slate, 15 cts. =? Hat for \$2.25, change out of \$5.50 =? 20 boxes of berries at

15 cts. = ? How many bananas at 6 cts. for \$1.00? How many cents over? If a quart of milk is worth 7 cts. what is the value of two gallons? If a quart of berries cost 12 cts., what will a peck cost? How many qts. in $\frac{1}{2}$ bushel? 2 qts. what part of a peck?

If one pint of oil cost 8 cents, what will two qts. cost? If you give 24 cents for one thing, and 19 cents for another, what will both things cost? If you had \$27 how much cloth could you buy at \$7 a yard? 86 is how many times 9? How much is $\frac{2}{3}$ of 15 cents? If a yard of cloth cost \$4, what will 5 yards and $\frac{3}{4}$ of a yard cost? For two dozen eggs at 20 cts. a dozen, how many oranges can you buy at 4 cents each? A man bought 30 apples at the rate of 3 for 5 cents. How much did he give for them? If 6 apples cost 14 cents, what will 3 apples cost? Add these numbers: 5, 9, 4, 7, 8, 6, 4, 5, 9, 2, 6, 5, 4, 6, 7, 9, 4, 5, 7, and 9.

How many times must I fill my glass which holds $\frac{1}{2}$ a pint to fill my pitcher which holds a gallon? There are 110 words arranged in columns on a page. If there are 11 words in each column, how many columns are there? Julia has 64 words in her examination; she misspelled $\frac{2}{5}$ of them; how many were wrong? I have a gross of tacks; how many dozen tacks have I? $20 - 5 \div 3 \times 12 + 4 \div 8 \times 2 - 7 + 2 = ?$ I have 12 dozen oranges, how many have I? Bought 3 lbs. of raisins worth 12 cts. a pound; 2 doz. bananas at 25 cts.; I gave the man a dollar bill; what did he give back? James bought a dozen pencils at 3 cents each, and $\frac{1}{2}$ dozen rules at 5 cts. each; what did he pay for all? Mr. Dodd earns \$14 a week; how much has he at the end of a month? How many hours are there in a week?

At 8 cts. a yard, how many yards of ribbon can I buy for 50 cts.? How many tens are there in 100? How many tenths are there in 100? If I pay 6 cts. a dozen for apples, how much does each apple cost? If 18 books cost \$36, how much will 20 cost? If it takes 2 men 6 days to dig a ditch, how long will it take one man? If 9 yards of cloth cost 63 cts., how much will 8 cost? If John earned 16 cts. Monday, 9 cts. Tuesday, 20 cts. Wednesday, 15 cts. Thursday, 8 cts. Friday, and 12 cts. Saturday; how much did he earn in the whole week? If a yard of cloth cost 12 cts., how many yards can be bought for \$1.00? If 7 lbs. of cheese cost 84 cts., how many can be bought for 72 cts.? If a gallon of milk cost 32 cts., what will a pint cost?

How many inches are marked on a yard measure? How many cents must be added to 21 cts. to make 39 cts.? What will 3 bushels of sand, at 4 cts. a peck, cost? If it takes a quarter of a yard of ribbon to make a bow, how many bows could you make if you had a yard of ribbon? Walter has 43 apples. If he should give 8 boys 5 apples apiece, how many apples would he have left? Mrs. Hall divided 84 oranges among

12 girls; how many oranges did each girl receive? Annie spent 35 days in the country; how many weeks was she there? How many bananas in a dozen and a half? Either: How many hours from ten A.M. to 10 P.M.? or, a cent is what part of a dime? \$11 and \$8 are how many dollars?

WRITTEN ARITHMETIC. CLASS II.

Find the int. of \$67.90 from June 24, 1871, to April 1, 1874, at $5\frac{1}{2}\%$?
Find the amt. of \$389.75 from May 27, 1881, to Feb. 12, 1885, at 8% ?

\$3,750.

BOSTON, May 23, 1888.

Ninety days from date I promise to pay Geo. Baker, or order, Three Thousand Seven Hundred Fifty Dollars. Value Received.

JAS. DONOVAN.

Find the avails of the above note, if discounted at 7% . If a man owning 45% of a steamboat, sells one sixth of his share for \$5,860, what is the value of the whole boat? A farmer having 6 bu. 8 qt. of cranberries lost by decay 7 pk. 7 qt.; what % had he left? A merchant bought 48 bales of cotton, and then sold the lot for \$2,008.80, losing 7% ; what was the cost per bale? Sold tea for 114% of its cost, and made a profit of 7 cts. a lb.; find selling price? In $\frac{2}{3}$ of an acre of land how many building lots each 60 ft. by 121? Mrs. Stetson owned three pieces of land containing $5\frac{4}{11}$ acres, $6\frac{7}{4}$ acres and $10\frac{5}{8}$ acres; she gave to her son $11\frac{1}{7}$ acres; how many acres had she left? If 57.6 bbl. of flour cost \$266.40, how much will 97.8 bbl. cost at the same rate?

What is the cost of sawing a pile of wood 20 ft. long, 4 ft. wide and six feet high at \$1.20 a cord? What is the balance of a bill of \$64.50 after two deductions have been made; the first 20% on the \$64.50, the other 5% on what remained? After increasing the wages of his workmen $33\frac{1}{3}\%$, a manufacturer paid them \$2.00 a day; what did he pay them before? What should a bookseller charge for a book for which he paid at the rate of \$54 a dozen, that he may make 20% on the cost? What is the per cent. profit or loss when a hundred logs which cost \$65.00 a hundred are sold at 78 cents each? I bought a store for a certain sum, and after paying a tax of $2\frac{1}{2}\%$ on the cost, and $\frac{1}{2}\%$ more for insurance, I sold it for \$7,828, which exactly covered the cost, tax, and insurance; what was the cost? Find the interest of \$2,500 for 2 yrs. 3m. 7d. at $7\frac{1}{2}\%$? Find the bank discount and proceeds of a 4 months' note for \$450.00 dated, June 10, 1889, and discounted July 25, at 7% . For what sum must a 90 days note be drawn so that when it is discounted at a bank at 6% the proceeds shall be \$886.05? I send to my

agent \$4,488.75, of which he is to lay out what he can in land at \$15.00 an acre, after deducting his commission of 5%; how many acres can he buy and what is his commission?

A town's valuation is \$2,500,000, the tax to be raised is \$7,250. There are 500 polls, each taxed \$2. What is my tax if I have \$2,500 worth of property? Bought 10 shares of stock at par, and sold them to A at 90. A sold them to B at par. What % did A gain on his investment? John Johnston of Vermont sold to Smith Bros. of Boston, to be sold on commission, the following goods: 25 tons of hay, 2 tons of butter, 1,500 lbs. of maple sugar, 75 gallons maple syrup; Smith Bros. sell the hay at \$18 a ton, the butter at 20 cts. a lb., the sugar at 7 cts. a pound, the syrup at 90 cts. a gall. Smith Bros. charge 2% commission. How much do they send to John Johnston? How much will a granite block weigh which is 7 ft. long, 2 ft. 6 in. wide, 3 ft. 4 in. high? 12 cubic ft. of granite weigh a ton. What is the duty on 100 watches worth \$100 apiece on which there is a specific duty of \$10 each, and an ad valorem duty of 50%? Paid \$25 for an insurance policy on my house. If the rate is $\frac{3}{4}\%$, for how much is my house insured? Interest of \$796.28 from Jan. 7, 1880, to July 28, 1883? Amount of \$396.80 from July 25, 1883, to Jan. 5, 1885, at $7\frac{1}{2}\%$. A note for \$600, dated March 1, 1885. Indorsed, May 1, 1886, \$200.00; June 16, 1887, \$80.00; March 1, 1889, \$127. How much is due to-day?

Some men mowed $16\frac{1}{2}$ acres of grass in $7\frac{1}{2}$ days. At the same rate, how many acres could they mow in $9\frac{3}{4}$ days? A man spent $\frac{8}{21}$ and invested in his business $\frac{4}{5}$ of his income. He deposited the remainder, \$1,850, in a bank. What was his income? Mr. Smith's annual income is \$2,500. He pays \$37 $\frac{1}{2}$ a month for rent. What per cent. of his income does he pay for rent? Find the proceeds of the following note discounted at a bank on March 15, 1890, at 8%:

BOSTON, Jan. 1, 1890.

Three months after date, I promise to pay to J. Smith, or order, Eighteen Hundred dollars for value received.

C. BROWN.

Sold a horse for \$322, and thereby lost 8%. What should I have sold it for to gain 15%? Bought a horse for \$340; paid \$60 for keeping him, and then sold him for \$540. What per cent. was gained? My agent collected 80 per cent. of a debt of \$4,500, and charged $7\frac{1}{2}$ per cent. commission. What amount should he pay me? Change $\frac{9}{25}$ and $\frac{13}{65}$ to decimals and add them. Divide six hundredths by two ten thousandths, and multiply the quotient by four millionths. When 10.25 bushels of wheat cost \$12.71 what will $7\frac{1}{2}$ bushels cost?

John bought $12\frac{1}{2}$ lbs. of sugar at $8\frac{1}{2}$ c. a pound, spending 25% of his

money. How much had he at first? Lucy's hoop was 9 feet in circumference. How many yards would it travel in making 48 revolutions? Mr. Jones paid \$15.12 for the use of a sum of money for 1 yr. 6 mo. at 5%. What was the sum? Find the interest on \$867.15 for 3 yr. 7 mo. 17 da. at 4%. What were the proceeds on a note for \$725.14, due July 7, 1890, discounted at a bank today, at 8%? How many more pounds of sugar can be bought for \$1.00 when sugar is 6 c. a pound, than when it has advanced 20% on that price? After Mr. Jones had spent 18½% of his money, he found that he then had enough to buy 80 lbs. of rice at 6½ c. a pound. How much could he have bought with the whole of his money? Bought 1 pk. 2 qts. 1 pt. of berries for \$2½. At what price per quart must they be sold to gain 12½%? I bought ¾ of an acre of land for \$480 and sold it at a gain of 12½%. What did I receive by the sq. ft.?

\$720 $\frac{00}{100}$

MAY 6, 1888.

For value received I promise to pay John Jones, or order, Seven Hundred Twenty Dollars (\$720 $\frac{00}{100}$), on demand, with interest at 5%.

WILLIAM DOOLITTLE.

On this note the following payments were made: Sept. 11, 1888, \$50; Apr. 5, 1889, \$100; May 22, 1890, the note was paid in full. What was due?

A coal dealer bought 350 tons of coal weighing 2240 pounds each at \$3.50 a ton. He sold the coal at \$4.25 a ton, each ton weighing 2000 pounds. What was his profit? A man paid \$5085 for his house, and ¾ as much for the lot. The cost of both amounted to ¾ of all his money. How much had he? A man sold 60 bushels of wheat at \$1.50 a bushel, losing 20 per cent. How much did the wheat cost him per bushel? Bought 28500 pounds of hay at \$12½ a ton and sold it at \$0.87½ per hundred weight. What was the gain? Mrs. Burns buys 40 yards of carpet ¾ of a yard wide. She uses 10% of it for a rug, and the remainder to carpet a floor. How many square yards does she use for the floor? Mr. Burns sold his carriage for \$224, which was ¾ of its cost. What per cent. would he have gained if he had sold it for \$210. A farmer bought 6 cows through an agent. He sent \$525.30 to pay for the cows and a commission of 3%. How much did each cow cost? What are the avails of a note of \$600, dated May 16, 1890 to run 90 days and discounted to-day at the Rockland National Bank rate of discount being 6%? On the 10th day of Nov. 1889, you lend Wm. Rogers \$864.50; how much does he owe you to-day, the rate of interest being 4½%? I sold a carriage for \$300, which was six-fifths of the cost. What per cent. did I make? Write out the analysis.

What is the difference between four thousand nine and seven hundred eighty-six ten thousandths; and four hundred thousand nine and

seven hundred eighty-six millionths? If $\frac{1}{4}$ of a lb. of coffee costs \$ $\frac{1}{4}$, what will 1 lb. cost? Discover a fraction which multiplied by $\frac{1}{4}$ equals $\frac{1}{8}$.

\$8000.

ROXBURY, June 2, 1888.

For value received I promise to pay W. M. Smith or order Eight Thousand Dollars on demand with interest.

ROBERT MASON.

Payments: Sept. 4, 1888, \$300; Oct. 9, 1888, \$1400; Feb. 10, 1889, \$500. What was due May 2, 1889 @ 6%? A man bought wheat for \$10867, and sold it at a gain of $4\frac{1}{2}\%$. What did he receive for it? A box is 10 ft. long, 5 ft. wide and 4 ft. high. How many yards of carpeting one yard wide will it take to cover the box on all sides? What number diminished by 5% of itself equals \$6.65? What are the proceeds of a note of \$500 dated Dec. 15, 1890, payable Feb. 8, 1891, discounted at 8%? A lawyer collected 65% of a note of \$950 and charged $6\frac{1}{4}\%$ commission. What was his commission?

Divide three million by six thousand and multiply the quotient by .024. What will be a broker's commission @ $2\frac{1}{2}\%$ for selling a farm of 673 acres @ \$52 per acre? How many square feet in a mat $8\frac{1}{4}$ ft. long and $7\frac{1}{5}$ ft. wide? A field contains $199\frac{1}{2}$ sq. rds. If it is $18\frac{1}{4}$ rods long, how wide is it? A man agrees to dig a cellar 30 ft. long, 24 ft. wide and 6 ft. deep; what % of the work has he done when he has dug out 16 cu. yds? How much must I have invested @ 5% that my income may be \$2280 per year? A note for \$1750 with interest at 5% is given May 10, 1887. How much money would pay it to-day June 20, 1890? What should I get June 10 for a note for \$375 due in 90 days, dated May 5 and discounted at 6%? Principal \$425 at 4% : Date: April 1, 1883: Payments: June 19, 1884, \$60; Oct. 28, 1884, \$125. What was due Feb. 12, 1885?

The sum of two numbers is $4\frac{1}{5}$, and their difference $\frac{1}{3}$, what are the numbers? $3785 \times .003 = ?$ $.0015 \div .05 = ?$ What will it cost to fill in a street 55 feet wide, 600 feet long, and $5\frac{1}{2}$ feet below grade, at 40 cents a cubic yard? If a man walks $9\frac{1}{2}$ miles in $2\frac{1}{9}$ hours, how far will he walk in $4\frac{1}{4}$ hours? How much sugar can be bought at 8 cents a pound, for \$2523.40, after deducting a commission of $1\frac{1}{4}\%$? What % of $\frac{1}{2}$ of $\frac{5}{8}$ of $\frac{3}{8}$ is $\frac{1}{3}$? I have a gold watch to sell; one man offers \$220, payable in 2 years, and another offers \$200 cash. Which is the better offer, and how much? Which is the better investment, and how much, at 5% stock at 12% discount, or at 7% stock at 3% premium? If I make $16\frac{2}{3}\%$ by selling sugar at 14 cents a pound, for what must I sell it to make 25%? I gave my note January 1, 1877, for \$387.20, with interest at 7%, what shall I pay to discharge the note October 20, 1877?

A merchant sold 87 cases of shoes, 12 prs. to the case, for \$2,479.50,

what was that a pair? If 576 bbls. of flour cost \$2,664, what will 978 bbls. cost at the same rate? Find the cost of the following: 36 rolls of paper at $33\frac{1}{2}$ cts.; 64 yds. matting as $37\frac{1}{2}$ cts.; $97\frac{3}{4}$ yds. carpeting at \$1.68; 7 window-shades at 1.17; 7 curtains at \$16.50; 10 chairs at \$4.75; and $5\frac{1}{2}$ day's work at \$2.75 a day. Proceeds of the following note discounted at a bank Aug. 27, 1887, at 3% :

\$6850.

BOSTON, July 19, '87.

Sixty days after date I promise to pay John Adams, or order, six thousand eight hundred and fifty dollars, value received.

JAMES JONES.

What will it cost to plaster the four walls and ceiling of a room 18 ft. long, 12 ft. wide, and 9 ft. high at 40 cts. per square yard? How many cords of wood would the above room contain if completely filled? Two men each sold his horse for \$180. One made 20%, the other lost 20% on the cost. Cost of each horse? Cost of 12 shares of R.R. stock at 8% above par? Interest of \$650 from Jan. 15, 1889, to June 2, 1891, at 8%?

\$1,000.

BOSTON, Apr.

For value received, on demand, I promise to pay John Jones, or order, one thousand dollars.

WILLIAM SMITH.

Indorsements: Oct. 15, 1880, \$10; April 15, 1881, \$90; April 15, 1882, \$100. What is due Oct. 15, 1883?

A note was given for \$1,550 Sept. 18, 1885, payable on demand with interest at 6%. On this note were the following indorsements: March 24, 1886, \$520. December 3, 1886, \$122.70; what will be due May 9, 1887? What must be the face of a note given for 125 days, to obtain \$1,244 from a bank, discount being at 8%? Find the commission and net proceeds of the sale of 2750 lbs. of leather at 30 cts. a pound, commission being $3\frac{1}{2}$ per cent.? If I lose $33\frac{1}{3}\%$ by selling goods for \$360, for what should they have been sold to gain 20%? The premium for insuring a lot of flour was \$135; the rate of insurance was $1\frac{1}{4}\%$; what was the amount insured? A man bought 672 yards of cloth at \$1.25 a yard; he sold it immediately for \$2.25 a yard, receiving in payment a 60 days' note for the amount which he had discounted at a bank at 7%; how much money did he make? I sold 80 yards of broadcloth for \$240, thereby losing 20% on the cost; for what should I have sold it per yard, to have gained 15% on the cost? Sent a broker \$469.40 to invest in cotton worth 28 cts. a pound, first deducting his commission of $2\frac{1}{2}\%$; how many pounds did he buy, and what was his commission? Find the face of a three months' note discounted at $6\frac{1}{2}\%$ to yield \$856? A man

bought 60 casks of 65 gallons each for \$1542; 80 gallons leaked out; for what must he sell the remainder per gallon, to gain $12\frac{1}{2}\%$ on the cost?

If 12,875 acres of land cost \$1030, what will 4.75 acres cost? Simple interest of \$1,135.80 for 2 yrs. 11 m. 10 ds. at $7\frac{1}{2}\%$? The distance around a square field is 16 rds. What is the field worth at $8\frac{1}{2}$ cts. a sq. ft.? How many sq. ft. in the whole surface of a box 22 in. long, 14 in. wide, 9 in. deep? Cost of 21,390 bricks at \$13 a M? I gave away $\frac{1}{3}$ and $\frac{2}{3}$ of $4\frac{1}{2}$ bushels of chestnuts. What % was left? My dividend is $8\frac{3}{4}$, quotient $9\frac{4}{5}$. What is the divisor? What % is gained by buying a bushel of apples at $1\frac{1}{2}$ cts. apiece and selling them at the rate of 3 for five cents? Franklin Park contains 525 acres of land. What is it worth at \$0.37 $\frac{1}{2}$ a sq. ft.? Sq. yds. in the walls of a room 15 \times 18 ft. and $10\frac{1}{2}$ ft. high?

A note for \$500, dated July 4, 1849, has the following indorsements: Sept. 5, 1849, \$97.25; June 3, 1850, \$14.75; Aug. 1, 1850, \$217.00. What was due Jan. 1, 1853? What would be the avails of a note for \$520, dated May 12, due in 60 days, discounted June 10? What sum would yield \$800 if discounted at a bank for 90 days at 12% ? What part of a mile is 1 yd. 1 ft. 6 in.? A owns 12 A., 13 sq. rds., 2 sq. ft. and B, $\frac{2}{3}$ A. of land. What is it worth at 10 cts. per foot? How many square in. in the surfaces of a cube which measures 7 in. on an edge? My garden is 12 rds. long and 9 rds. wide; what will be the cost of fencing it at 15 cts. per foot? A man bought a bill of goods amounting to \$320.29; a reduction of 33% was made for cash payment; what did he pay? How many inches in $\frac{1}{16}$ of a mile? How many lengths of ribbon, each measuring 18 in., can be cut from 27 yds.?

\$1,150 is 15% more than what? If 20% be lost on a ton of hay sold for \$1,920, what was the cost? A cord of wood costing \$4.50 sold for \$9.00. What was the gain per cent.? An agent charged 4% for selling 750 acres of land at \$20 per acre; what was his commission? Find the cost of insuring property worth \$15,000 if $\frac{3}{4}$ of the value is insured at $\frac{4}{5}\%$? Make out a bill and receipt it on the following: 325 yds. of silk, at \$2.25 per yd., 296 yds. of lace, at \$1.50 per yd., 480 yds. of ribbon, at \$0.50 per yd., 45 doz. gloves, at \$15 per doz.

\$670.35.

St. LOUIS, Jan. 6, 1885.

Ninety days from date I promise to pay to the order of John Shaw, six hundred seventy and $\frac{35}{100}$ dollars value received.

JAMES TYLER.

Discounted at $4\frac{1}{2}\%$ March 15. An example in partial payments should there be time.

If $\frac{1}{3}$ of an acre of land costs \$8.54, what will an acre cost? How much will $\frac{7}{11}$ of a cord of wood cost if $\frac{5}{8}$ of a cord costs \$3.85? How many square yards in the walls of a room 42 ft. long, 15 ft. wide, and 9 ft. high? How many sq. ft. in one side of the above room? By buying a cargo of coal at \$6 per ton, and selling it at \$8 a ton, I gained \$198. How much did I pay for it? What is the value of a pile of wood 40 ft. long, 4 ft. wide, and 5 ft. high at \$5.30 a cord? Bought land at \$62.50 per acre, and sold it again at \$75 per acre, thereby making \$846,875; how many acres were bought? A farmer had 460 sheep, which cost him \$3 each, but he lost 5% of them. How much was his loss? Goods which cost \$5,400 were sold at 9% below cost. How much was the loss? What per cent. of 460 ft. is 368 ft.? What is the interest of \$1,120 for 153 days at 7%? I bought a horse for \$250, paid \$2.50 for shoeing, then sold him for \$140.40. What per cent. did I lose?

The floor of a room is 27 $\frac{1}{4}$ ft. by 30 $\frac{5}{8}$ ft. How much will it cost to carpet this floor at \$1.50 per sq. yd.? What is the value of a pile of wood 25 ft. \times 8 ft. \times 8 ft. at \$3.87 $\frac{1}{2}$ per cord? A house lot containing 24,702 sq. ft. is 179 ft. long. How wide is it? What is the interest of \$145.50 for 2 yrs. 3 mos. 15 days at 6%? What is the bank discount on a note for \$150 discounted for 60 days at 6%? What sum of money at 4% will give me an annual income of \$1,000? What is the simple interest of \$200 for 3 years at 5%? Bought a horse for 90 dollars, and sold him for \$95. What per cent. of gain? Bought another horse for \$95, and sold him for \$90. What per cent. is lost? A house valued at \$4,200 is insured at $\frac{3}{4}$ of 1%. What is the premium?

One-fourth of my money is in my pockets, 38% in the bank, and the rest in real estate. I have in all \$2,400. How much is in my pocket, the bank and in the real estate? I bought 10,752 cu. ft. of wood at \$8 $\frac{1}{2}$ a cord; what did I pay? If $\frac{1}{4}$ of my farm is worth \$1,285 $\frac{5}{8}$, what will 8 such farms cost? 9 $\frac{1}{2}$ times $\frac{1}{2}$ of 56 $\frac{3}{4}$ is how much? If I lose 9% by selling land at \$764.40 an acre, what shall I gain by selling it at \$894.60 an acre? Mr. Jones insured his house worth \$48,000 for one year for $\frac{5}{8}$ of its value at 7 $\frac{3}{4}$ %. What would that company lose if the house should burn? The edges of a large cubical box are 5 ft. long. How many sq. ft. of paper will cover the outside surface of the box? I sold 24 $\frac{1}{2}$ % of my estate or \$1,372 worth. I am worth in addition to my real estate \$14,000. How much am I worth in all?

If I lose 10% by selling goods at 18 cts. a yd., for what must they be sold to gain 20%? What is the cost of importing 75 gal. of oil at \$2 a gallon and a duty of 10%? On a note for \$1,000, dated April 25, 1875, were these indorsements: Apr. 25, 1876, \$100; Apr. 25, 1877, \$217.60. What was due Sept. 1, 1877? If \$500 gain \$45 in 3 yrs., what is the

rate per cent.? What is the present worth of \$105.71 due in 4 yrs. at 6%? What must be the face of a note, which discounted at a bank at 6% for 27 days and grace would yield \$95? A man paid for a house \$4,500, and for repairs \$150, and then sold it for 18% above the entire cost. What did he receive for it? A broker sold stock for \$900 which was 10% below par. What was the par value? What is the cost of carpeting a room $16\frac{1}{2}$ ft. long, 12 ft. wide with oil-cloth $1\frac{1}{2}$ yds. wide, at 75 cts. a yd.? Add: \$754.60; 187.24; 536.84; 976.79; 878.29; 458.71; 549.96; 597.85.

WRITTEN ARITHMETIC. CLASS III.

What is the cost of 60.51 tons of coal, when .9 of a ton costs \$6.66? Change .03125 to a common fraction in smallest terms. If a year be considered 365.25 days, instead of 365.242264, how great will the error be in 100 years? What is the product of one hundred one thousandths by ten thousand one hundred one hundred thousandths? Divide .01001 by .001. Express in per cents. $\frac{1}{2}$; $\frac{1}{3}$; $\frac{1}{5}$; $\frac{1}{4}$; $\frac{1}{6}$. What is the commission on \$5,678 worth of cloth at $2\frac{1}{2}$ %? If I am compelled to lose $12\frac{1}{2}$ % on damaged goods, how must I sell those that cost me \$5.60? What is the interest of \$750.25 for 2 yrs., 6 mos., 24 days at 6%? What is interest? The principal? The amount? The rate?

Divide 22.5 by 51.75 and reduce the result to a common fraction. Find the product of the following numbers: .064, .0032, 15625, and 31.25. If .625 of a cord of wood costs \$3.75 what will .75 of a cord cost? At \$17.625 a ton, how many tons of hay can be purchased for \$95? Find the interest on a note for \$250 dated January 21, 1890, and paid May 30, 1890 at 6%? Find the amount of \$198.76 from May 15, 1887 to July 21, 1890 at 4%. What is $87\frac{1}{2}$ % of \$832? \$832 is $87\frac{1}{2}$ % of what sum? How large a sale must a merchant make at a profit of 15% that his gain may be \$3,750? By the census of 1880 the population of a certain city was 26275. By the census of 1890 its population is 31530. Find the per cent. of increase. Two boys bought each 100 apples for a dollar. The first boy sold his 4 apples for 5 cts., the second sold his five apples for 6 cts. Which boy gains the more per cent.? How much more?

Multiply one hundred eleven millionths by five and six tenths. From 4 A. of land I sold one piece 20 rds. sq. and another piece containing 16 sq. rds. How much did I have remaining? Divide 53.7 A. of land into house-lots each containing .375 A. How many house-lots? Mr. Thompson has a field around which he wishes to build a tight board fence. This field is 50 rds. long and 45 rds. wide, the fence is to be $4\frac{1}{2}$ ft. high. At $3\frac{1}{2}$ cts. a sq. ft. what will be the cost of the fence? Cost of a pile of

wood 10 ft. long 4 ft. wide and $4\frac{1}{2}$ ft. high at \$7.50 a cord? I wish to pile 60 cords of wood in such a manner that it will be 4 ft. wide and 6 ft. high; how long must it be? A quantity of coal was bought for \$900. For what must it be sold to gain $33\frac{1}{3}\%$? By selling a house for \$5760 a man gained on the cost 25%; what was the cost? Bought a horse for \$880, and sold it for \$600; what % did I lose? At 3% commission what is the commission on the sale of 5000 lbs. of sugar at 6 $\frac{1}{4}$ cts. a lb.? Mr. Ames owns $\frac{2}{3}$ of an acre of land; Mr. Jones owns $\frac{2}{3}$ as much, which is $\frac{7}{8}$ of what Mr. Brown owns; what part does Mr. Brown own? What is that number to which if $\frac{2}{3}$ of itself be added, the sum will be 235? A man has 768 hens which is $\frac{1}{2}$ more than he had last year; how many had he then? Four men built a barn. A worked two days, B, six days, C, eight days, and D, 12 days; they received \$840; what was each man's share? Two trains are $87\frac{1}{2}$ miles apart and running towards each other, one at the rate of $50\frac{1}{4}$ miles an hour, and the other at the rate of $20\frac{3}{4}$ miles an hour. How far apart will they be in half an hour? If a man paid \$18 $\frac{6}{7}$ for a load of hay weighing $1\frac{4}{5}$ tons, what would he pay at the same rate for $\frac{2}{3}$ of a ton? Sold my house and farm of $94\frac{4}{5}$ acres for \$12,300. Allowing \$7000 for the house, what did I receive per acre for the land? What number is that which diminished by $2\frac{1}{5}$ will leave $2\frac{1}{3}$? How long will 200 lbs. flour last 18 persons if each person is allowed $1\frac{3}{4}$ lbs. per day? If $\frac{3}{4}$ of $\frac{7}{8}$ of a ship cost \$84,000 what is $\frac{2}{3}$ of it worth?

The dividend was \$4689.036, the quotient .027; what was the divisor? $\$19.406 \times 10.403 = ?$ Write your rule in pointing off in division of decimals. Change to other methods of expression $\frac{1}{4}$, $\frac{1}{3}$, $.37\frac{1}{2}$, $\frac{5}{4}$, $16\frac{2}{3}$. What will be the simple interest on \$8,042 for 3 mos. 27 d. at $4\frac{1}{2}\%$? What is the amount of \$5.92 for 9 mos. 18 d. at 12%? A note of \$1260 dated July 5, 1888 was paid June 7, 1890 with interest at 8%; what was the amount paid? The interest of \$908 at $3\frac{1}{2}\%$ was \$79.45; what was the time? How long must a note of \$300 be on interest to give an amount of \$347.25 at 6%? The interest of \$1090 for 14 d. is \$2.54. Required the rate? Maine has by census of 1880 29,895 sq. m. and 648,936 inhabitants. New Hampshire has 9,005 sq. m. and 346,991 inhabitants; Vermont has 9,135 sq. m. and 332,286 inhabitants; Massachusetts has 8,040 sq. m. and 1,783,085 inhabitants; Connecticut has 4,845 sq. m. and 622,700 inhabitants; Rhode Island has 1,085 sq. m. and 276,531 inhabitants; Texas has 262,290 sq. m. and 1,591,749 inhabitants. Texas is how many times as large in area as New England? Carry the answer to two decimal places. What is the average population per sq. m. in New England? In Texas? If the land in Rhode Island is worth on the average $\frac{1}{2}$ of a mill per foot, what is the value of the entire land in the state? Bought seven packages of

goods each weighing 120 lbs. at the following rates: first package @ $2\frac{1}{4}$ cts., second @ $3\frac{1}{2}$, third @ $6\frac{1}{4}$ cts., fourth @ $8\frac{1}{2}$ cts., @ fifth $62\frac{1}{2}$, sixth @ \$2.50, seventh @ \$5.00 per lb. What will all cost? Make out a bill for these goods No. 5 to L. K. Morse and receipt for it as paid to-day. What is the difference between the proceeds of a note for \$1,000 payable in three months, discounted at a bank, and the amount of a note for \$900 which has been on interest 1 year, 2 months, 3 days? A sells 250 bbls. beef @ \$11.50 per barrel, 100 barrels lard each 300 pounds @ $9\frac{3}{4}$ cts. and takes a commission of $\frac{1}{2}\%$. B secures \$5800 to be invested in a farm after deducting his commission of $\frac{1}{2}\%$. Who, A or B, has received the larger share for his services?

Dictated to be added: \$387.42; \$42.86; \$51.72; \$4.00; \$37.83; \$45.16; \$98.76; \$489.79; \$18.00; \$2.60. If 35 men earn \$87.50 in 1 day, how much will 50 men earn in ten days? Multiply 9,008 by 7,080 and divide the product by 600. What is the difference between 69×58.8 and $291 \div 0.97$? How much @ \$1 per yard will 4 pieces of cloth cost containing $87\frac{1}{2}$ yards, $45\frac{3}{4}$ yards, $56\frac{1}{2}$ yards, and $46\frac{3}{4}$ yards. How many house-lots each containing $2\frac{3}{4}$ acres, can be made from a farm containing $199\frac{1}{2}$ acres. 8% of a man's money is invested in a house, 15% in stocks; 25% in vessels; the rest in real-estate. If he has \$87,500 in all, how much has he invested in stocks, how much in ships, how much in real-estate? Bought a house for \$6,240 and sold it so as to gain $37\frac{3}{8}\%$; what did I sell it for? If this room is 35 ft. long 23 ft. wide, and 13 ft. high, how many sq. yards of plastering will it require making no allowance for doors, &c.? What is the interest of \$650.25 @ 5 % from June 27, 1887 to April 2, 1889?

Find the interest of \$675.90 for 5 years at $3\frac{1}{2}\%$? Find the interest of \$250.60 for 3 yr. 6 mo. at $4\frac{1}{4}\%$? A commission of \$121.29 was charged for selling \$1866 worth of goods. What was the rate of commission? What annual premium at $3\frac{1}{2}\%$ must be paid on a life insurance of \$6000? Sold goods at a loss of 20%, and actual loss of \$57.50. What was the prime cost? Henry Hedge earns \$12 a week. He pays \$4.25 for board, \$0.625 for car fare, \$0.375 for library fees, and \$4.875 for other expenses. In how many weeks would he save \$97.50? The milk from a herd of 15 Jersey cows, sold at 6 cts. a qt., amounted in one summer to \$2025. How many quarts were sold, and what was the average quantity from each cow? A woman has three children. She pays for each \$15 a year for having their clothes made, \$1.50 a month for mending, and \$0.35 a week for washing. How much could she save in a year, if she knew how to wash, make clothes and mend? A coal dealer bought 25784 tons of coal at \$5 a ton. He sold 40% at \$7, 20% at \$8.50 and the remainder at \$4.50. How much did he gain? A flock of sheep has been increased by 250% of its number, and now numbers 1050. What is the original number?

A man having \$100. went to market. He sold 10 bu. of potatoes at 80 cts. per bu., 2 tons of hay at \$15 per ton, and 25 bu. of oats at 45 cts. per bu. He bought 15 bbls. of flour at \$4.50 per bbl. and 12 yards of broadcloth at \$4.75 per yard. How much money did he have left? $468,275 \div 25 = ?$ \$42.75 is $33\frac{1}{3}\%$ of what number? What per cent. of \$675.82 is \$84.4775? A broker bought .125 bbls. of flour at \$6.50 per bbl. What was the commission at $1\frac{1}{2}\%$? A man bought 30 shares of bank stock at par and sold them at 12% discount. What did he lose? A man insured his house for \$6,500, his store for \$3,500, and his goods for \$7,000 at $\frac{1}{2}\%$. What did his insurance come to? Interest of \$808 for 4 y. 8 m. 24 d.? Interest of \$650.50 from January 15 to October 15 at 8%? Cost of plastering the four walls of a room 18 ft. long, 15 ft. wide, nine ft. high, at 25 cts. per. sq. ft.

What is the interest of \$632.47 from April 3, 1784 to March 16, 1786 at 7%? What is the amount of \$65.75 for 2 yrs., 3 m., 3 ds. at 6%? A man shipped 2,600 bushels of grain from Chicago, and during a storm 455 bu. were thrown overboard. What was the rate per cent. of loss? Bought a hogshead of sugar containing 9 cwt., 56 lbs., for \$86.04 and paid \$4.78 for freight. At what price per pound must it be sold to gain 20%? My agent sent me \$5,000 with which to purchase wheat after deducting his commission of 4%. What sum did he invest? Bought two horses at \$200 each. I sold one at 10% above cost and one at $12\frac{1}{2}\%$ below cost. Did I gain or lose, and how much? How many tons of ice can I pack in an ice-house which is 200 ft. long, 20 ft. wide, and 40 ft. high, allowing 150 lbs. to a cubic foot? Cost of 3.75 yards of cloth if 45.2 yds. cost \$75.02? A pole stands $\frac{1}{7}$ in the mud, $\frac{2}{5}$ in the water and 32 feet in the air. How long is the pole? Add 742; 1,008; 60,015; 4,007, from the sum subtract 55,555; and multiply the remainder by 101.

Dictate first example. Add: 25037.45; 8712.23; 9050.37; 815.25; 91017.16; 419.19; 2035.75; 15025.55; 7079.13; 14026.27. What is the amount of the following: 23 yds. at \$1.25; 17 yds. at \$2.75; 16 yds. at \$1.12 $\frac{1}{2}$; 10 yds. at \$1.37 $\frac{1}{2}$; 14 yds. at \$1.62 $\frac{1}{2}$; 20 yds. at \$2.34; 12 yds. at \$0.88. If $\frac{2}{5}$ of my farm is worth \$830, what is $\frac{5}{9}$ worth? If $\frac{4}{7}$ of a barrel of flour cost \$3.00 what will $\frac{4}{5}$ of a barrel cost? A barrel of flour bought for \$7.50 was sold for \$10. What was the gain per cent? How many dozen eggs at 20 cts. can be bought for 30 barrels of potatoes at \$1.62 $\frac{1}{2}$? Bought 10 yds. at \$1.25 and 15 yds. at \$1.50; sold them all at the same price, gaining 10%; what was the selling price per yard? Sold a farm for \$2700, losing 10%. Required the cost? Having an income of \$6000, a man spent 25% for board, $12\frac{1}{2}\%$ for clothing, 16% for other expenses. What does he save? How many feet long must a fence be to enclose a rectangular field 45 rds. by 30 rds.?

From 10801 subtract 978. From remainder subtract 869; from that,

987; from that, 978; and from that, 3018. How much less is the distance around a garden 45 ft. square than around a garden 62×57 ft.? The sum of three numbers is 16. Two of the numbers are $1\frac{1}{3}$ and $3\frac{3}{4}$. What is the other number? How many sq. yds. in the walls of a room 12×15 ft. and 9 ft. high? Divide .037 by 45.9, carry the work out four decimal places *in the quotient*, and write the denomination of the remainder in words. One of the drawing models is a square prism 8 inches long and 4 inches square. How many sq. inches in the whole surface of the model? What % is gained by buying a bushel of apples at $1\frac{1}{2}$ cts. apiece and selling them at $1\frac{3}{4}$ cts. apiece? Simple interest of \$1248 for 1 yr. 9 mo. 10 dys. at 6%? In a class of 60 pupils three are absent. What % are present? Cost of digging a cellar 27 ft. sq. and 9 ft. deep at 25 cts. a cubic yd.?

How many barrels of flour costing \$7.25 each can be purchased with \$1812.50? A man sold $87\frac{1}{2}\%$ of his farm, and had $42\frac{1}{2}$ acres left. How many acres were there in the whole farm? Mr. White owns 5000 hens; 18% of them are Leghorns, 30% are Plymouth Rocks, 21% are Wyandottes and the rest are Silver Spangled Hamburgs. How many Hamburgs has he? An auctioneer sold a house for \$4500 and the adjoining land for \$2200. He received for his services \$335. What % was his commission? An agent is sent \$1030. to invest in apples; his commission being 3%, and the apples costing \$2.00 per barrel, how many barrels can he buy? What must have been the original cost of a lot of carpet which was sold for \$294.00 at a loss of 16%? A certain town needs to raise by taxation \$7650. There are in town 1200 men who will pay a poll tax of \$2.00 each. If the property in the town is valued at \$350,000, what must be the rate of taxation (or tax on one dollar) to raise the remainder of the amount needed?

A commission merchant had sent him 4600 qts. of berries. He sold 18% of them at $11\frac{1}{4}$ cts.; 40% at $10\frac{1}{2}$ cts.; 17% at $9\frac{1}{4}$ cts.; the rest at cost. How much did he receive in all if they cost 8 cts. a qt.? Find $6\frac{1}{4}\%$ of 19712 miles. Find $62\frac{1}{2}\%$ of 2768 yards. Find $9\frac{1}{11}\%$ of 11223344 lbs. A clerk's income is \$800. He pays 25% of it for board, and $33\frac{1}{3}\%$ of the remainder for clothes. How much has he left? A drover lost \$48. by selling a cow for 18% less than cost. What did the cow cost? An auctioneer sold for Mrs. Paul on 10% commission, 14 chairs, at \$1.75; 6 tables at \$2.75; 40 yds. carpet at $62\frac{1}{2}$ cts. a yard, a miscellaneous lot for \$119.24. What sum did Mrs. Paul receive? A man owed a debt of \$960.50; 12 yr. 3 mo. 16 ds., afterward, what was due? (Interest at 5%.) Mr. Worth bought a lot for \$8000, Jan. 7, 1882, and paid for it June 29, 1885 at 4% interest. How much did it cost? Mr. Cole bought three horses at \$200. each on Apr. 3, 1885, and gave his 90 days note for the amount with interest at $5\frac{1}{2}\%$. How much was due at the maturity of the note?

Paid \$2,175.75 for a house, \$240.37½ for painting it, \$605.40 for furniture, \$140.12½ for carpets. What was whole cost of house and furniture? A lady bought a dress for \$13¾, a bonnet for \$5¼, gloves for \$1¾, and a fan for \$¾. She paid the clerk a twenty-dollar bill, and a five-dollar bill. How much change did he return? A grocer bought 372 lbs. of cheese at \$0.15 a pound, 434 lbs. of coffee at \$0.12½ a lb., and 16 bu. of potatoes at \$0.33 a bu. What did the whole cost? If 894 lbs. of beef cost \$80.46, what does one pound cost? A farmer having 760 sheep, kept twenty-five per cent. of them and sold the rest; how many did he sell? A farmer sold 50 sheep, which was 20% of his whole flock; how many sheep in the whole flock? A commission merchant sells goods to the amount of \$6,756; what is his commission at 2%? What is the interest of \$250 for 1 year, 10 months and 15 days, at 6%?

The floor of a room is 18½ ft. long, 15½ ft wide. How many sq. yds. in the floor? A lot of land containing 5,250 sq. ft. is 125 ft. long. How wide is it? What part of a day is 18 hrs. 30 minutes? Reduce 3 tons 9 cwt. 17 lbs. Av. to ounces. Change ⅔ to an equivalent decimal. Bought 10,250 ft. of boards at 14 dollars per thousand ft. How much did I pay? Express the sum of which \$31.35 is 5%. Bought flour for \$8.25 and sold it for \$9. What is the per cent. of gain? Bought for \$9 and sold for \$8.25. What is the per cent. of loss? What is the interest of \$150 for 2 yrs. 8 mos. 18 days at 6 per annum?

Dictate: 87.27; 43.75; 72.50; 39.75; 64.04; 58.94; 95.83; 26.37; 75.96; 50.83; 39.49; 97.08; 62.62. If 35 men earn \$37.50 in a day, how much will 50 men earn? Multiply 9,008 by 7,080 and divide the product by 600. What is the difference between 69×58.8 and $291 \div 97$? How many yards of cloth in four lots; 87½ yds., 75¾ yds., 72¾ yds., 80½ yds.? How many house lots each containing 2½ acres could be made from 199½ acres? 8% of a man's capital is invested in a house, 15% in stocks, 25% in ships, and the balance is invested in his business. If he has \$87,500 in all, how much is the house worth, how much has he invested in stocks, how much in ships, how much in business? Bought a house for \$6,240, and sold it to gain 37½%. For how much did I sell it? How many ft. in 62½% of a mile? A man gave his note for \$1,500 May 10, 1886, with interest at 6%. How much would pay it *in full* to-day?

Change $\frac{2}{15}$ of $\frac{5}{15}$ to a simple fraction. A man had 157½ bushels of apples which he wished to distribute equally among 15 poor persons; how many bushels did he give to each? 9½ times ½ of 56¾ is how much? If ¼ of a farm is worth \$1,285½, what will 8 such farms cost? Find the interest of \$168.20 for 2 yrs. 8 mos. 19 d. at 4%? ¼% of my money is in my pocket, 38% is in the bank, and the rest is in real estate. I have in all \$24,000. How much is in the bank, and in real estate? Mr. White sold 24½% of his estate amounting to \$1,372 to Mr. Jones. He is

worth in addition to his real estate, \$14,000. How much is he worth in all? Bought 10,752 cu. ft. of wood at \$8½ a cord; what did it all cost?

What is interest? What is simple interest? What is usury? What is the legal rate in Massachusetts? What is usury in Massachusetts? Find the interest of \$837.36 for 3 yr. 2 mo. at 7%; of \$896.00 for 2 yr. 6½ mo. at 6¾%; of \$658.00 for 9 mo. at ½%; of 270.87 from Oct. 17, 1860, to Dec. 28, 1863; of \$19.80 from Oct. 15, 1859, to April 19, 1860, at 5%; of \$62.50 from Aug. 3, 1862, to April 11, 1863, at 7½%. Find the balance due Cabot in the following account, Oct. 1, 1865, interest at 6% from the date of the items:

Dr.		ARTHUR LEE, IN ACCT. WITH G. CABOT.		Cr.	
1865.			1865.		
March 29	To Mdse	\$476 93	April 24	By Mdse	\$389 51
April 22	To Cash	869 82	May 15	By Mdse	379 84

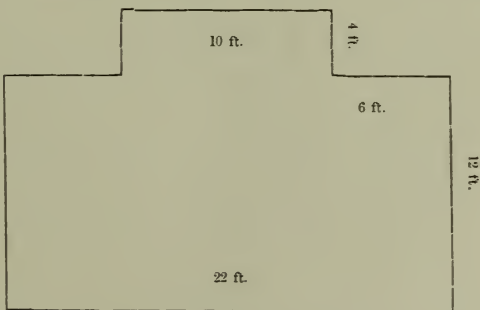
A man gave his note May 7, 1830, for \$1,800 with interest; what sum would discharge the note June 21, 1834? A lot of coal cost \$7.50 per ton; for what must it be sold to gain 33⅓%? What must I ask apiece for lamps that cost \$4 a dozen that I may make 25%? Sold a carriage for \$240, which was 40% less than it cost. Required the cost? If by selling gloves at 60 cts. a pair 20% is gained, what was the cost per dozen pairs? Lost \$15 by selling a watch at 25% below cost. What was the cost? What must the amount of my sales be for a year, that I may clear \$800 at a profit of 16%? If I buy a horse for \$75, and sell him for \$120, what is the per cent. gained? By selling wood at \$6.50 a cord, I gain 30%; what did I give a cord? What per cent. is lost by selling a lot of goods for ¾ of their cost? Bought 150 beeves at the rate of \$42.50 each, and 300 sheep at the rate of \$4.50. I sold the lot for \$10,300; what per cent. did I gain? What per cent. is gained by selling goods for 2 times their cost?

A man owning 176.35 acres of land, sold 90½ acres to one person, and ¾ of an acre to another. How much was left? At \$0.75 a yd., how many yds. of cloth can be bought for \$579? A man drew from a bank \$54.60, which was 15% of all his money? How much money had he? If a man walk 19 miles in 2½ hours, how far will he walk in 4½ hours? A man spent ¼ of his money for a house, ⅓ for furniture, ⅓ for horses, and ⅓ to build a church; what part of his money had he left? A farmer raised 316 bu. of corn, and sold 79 bu.; what per cent. of his corn did he sell? What is the *interest* of \$960 for 1 y. 3 m. 7 d. at 6%? What is the *amount* of \$1,000 for 3 y. at 8%? Add: \$754.60; 539.84; 676.79; 878.29; 458.71; 547.85; 599.96.

WRITTEN ARITHMETIC. CLASS IV.

A man carried to a store $75\frac{3}{4}$ bu. of potatoes and received for them $27\frac{1}{2}$ cts. a bu. ; how many yds. of cloth at $17\frac{3}{8}$ cts. a yd. would have paid for them? What will 75 men earn in $18\frac{3}{4}$ days, if each earns $2\frac{2}{5}$ each day? A farmer gathered $75\frac{1}{6}$ bbl. of apples in one day, $698\frac{1}{4}$ bbls. the second day, and $13\frac{3}{2}$ on the third. How many bbls. in all? Add $\$100\frac{1}{2}$, $\$100\frac{1}{8}$, and $\$100\frac{3}{4}$. A man paid for one farm $\$9118\frac{1}{5}$. and for another $\$7229\frac{7}{12}$. How much more did he pay for the first than for the second? How long will it take a garrison to eat $41\frac{1}{8}$ bbl. of flour if it eats $6\frac{1}{3}$ bbl. in a week? A merchant had 469.0625 gal. of oil; how many jugs will hold it, if each contains .625 of a gal.? $.075 \times .0069 \times .08 = ?$ In $\frac{3}{4}$ of an acre how many sq. ft.? What will 8 yds. 2 ft. 6 in. of silver wire cost at $8\frac{2}{3}$ ct. an inch?

What is the value of a field $15\frac{3}{4}$ rds. long and 12 rds. wide, if every square foot is worth 16 cts.? Three girls together bought $15\frac{1}{4}$ yards of ribbon. If Mary bought $6\frac{2}{3}$ yds., and Kate $5\frac{1}{2}$ yards, how much did Ellen buy? A young man spent $\$195\frac{1}{2}$ during his first term at college, which was $\frac{4}{9}$ of his year's allowance. What was his year's allowance, and how much money had he left for the remainder of the year? A man paid $\$18\frac{2}{3}$ for a load of hay weighing $2\frac{2}{3}$ tons. At the same rate what should he pay for $\frac{3}{4}$ of a ton? What is the cost of 33 tubs of butter, each weighing $25\frac{7}{8}$ lbs., at $17\frac{1}{4}$ cents a pound? How many flag-stones each 4 ft. long and 2 ft. wide will be needed to lay a crossing 232 ft. long and 6 ft. wide? What will be the cost of them at the rate of $\$50$ for 100 stones? Spent $\$9\frac{1}{2}$ for cloth at $\frac{4}{5}$ of a dollar a yard. How many yards did I buy? Change to common fractions .0075 and .625. What will it cost to put moulding around a room shaped like the drawing, allowing 3 inches on every corner for matching, — the moulding



being worth $5\frac{2}{3}$ cts. a foot? Divide 4.5006 by .015. Change to decimals, $\frac{5}{15}$, $\frac{9}{25}$, and $5\frac{7}{8}$ and add the results.

One boy has $\frac{7}{30}$ of an orange, his sister has $\frac{4}{6}$ of one and his brother has $\frac{3}{16}$ of one. Reduce these fractions to lowest terms and find how many oranges they all have. I now own $\frac{3}{8}$ of a house, Mr. Smith owns $\frac{1}{10}$ of it, and Mr. White owns $\frac{2}{5}$ of it. If I buy their shares what part of the house shall I then own? If it takes 11 men 45 $\frac{3}{4}$ days, to do a piece of work, how many days will it take one man to do the same work? If I buy butter at 41 $\frac{3}{4}$ cents a pound and sell it at 52 $\frac{1}{2}$ cents a pound how much do I gain on one pound? How much on 25 pounds? If I give one girl $\frac{2}{7}$ of an orange, to how many girls can I give 18 oranges? If one yard can be bought for \$2 $\frac{3}{4}$ how many yards can be bought for \$45 $\frac{3}{4}$? A lady bought three pieces of cloth: the first piece contained 39 $\frac{1}{2}$ yds. the second 28 $\frac{3}{4}$ yards and the third 25 $\frac{4}{5}$ yards. How many yards in all? I owned $\frac{2}{5}$ of a house, and sold $\frac{3}{4}$ of my share for \$1750. What was the value of the whole house at that rate? At 11 $\frac{3}{4}$ cents a pound I sold three barrels of sugar, the first of which weighed 235 pounds, the second 241 lbs., the third 254 lbs., what did I receive for all the sugar? A grocer after selling $\frac{1}{2}$, $\frac{2}{5}$, $\frac{3}{20}$, and $\frac{1}{4}$ of a quantity of sugar had 102 pounds left. How many pounds did he have at first?

What sum of money will pay for 106 yds. of cloth at \$0.12 yd., 203 yds. at \$0.15 yd., 720 yds. at \$0.06 $\frac{1}{4}$ yd., 224 yds. at \$0.10 yd., 125 yds. at \$0.25, 50 yds. at \$1.00 yd.? Reduce $\frac{57642}{1333}$ to a whole or mixed number. How many yards in three pieces of carpet which measure 37 $\frac{4}{5}$ yds., 49 $\frac{5}{8}$ yds., and 50 $\frac{3}{4}$ yds.? If 40 $\frac{3}{8}$ yds. of flannel shrank 1 $\frac{5}{8}$ yds. in dyeing, how much did it then measure? If 43 tons of iron cost \$184.90, what will 37 $\frac{1}{2}$ tons cost? If it requires 1 $\frac{1}{2}$ yds. of muslin for 1 apron, how much will be needed for 125 aprons? How many cu. in. in $\frac{1}{2}$ a cu. ft.? A field is 40 rds. long, 26 rods wide, what is the distance around it in feet? What will it cost to carpet a room 18 ft. long, 15 ft. wide, at \$1.75 a sq. yd.? I sold $\frac{1}{5}$ of my property to Mr. A, the remainder was sold to Mr. B for \$1,200; what was the whole property worth?

The earnings of a man and his three sons are \$4,475 and their expenses are \$2,845. If the balance is equally divided among them what will each have? Mr. Brown buys 150 tons of hay. He sells 35 tons at \$4 $\frac{3}{5}$ per ton, 40 tons at \$5 $\frac{1}{4}$ per ton, and $\frac{2}{3}$ of the remainder at 5 $\frac{1}{2}$ per ton. How much money does he receive? A merchant bought 48 $\frac{3}{4}$ pounds of butter of one man, 28 $\frac{1}{4}$ of another, 25 $\frac{3}{16}$ of another and 56 $\frac{5}{16}$ of another, how many pounds did he buy? How many yds. of cloth costing \$0.37 $\frac{1}{2}$ per yard, must be given in exchange for 15 tons of coal at \$4.50 per ton? A boy paid $\frac{2}{7}$ of his money for a pair of skates costing \$2 $\frac{4}{5}$; how much had he left? Bought wheat at 94 cents a bushel, to the amount of \$59.22 and sold it for \$70.56; what is the selling price per bushel? If a man earns \$1 $\frac{2}{3}$ a day, in how many days will he earn \$100? If $\frac{5}{8}$ of a cord of wood is worth \$3 $\frac{3}{4}$, what will $\frac{3}{4}$ of a cord cost? A merchant on Monday

put into the bank \$10,481, and drew out \$4,550; on Tuesday he put in \$2,900, and drew out \$5,875; on Wednesday he put in \$13,470, and drew out \$8,645; now much money had he remaining in the bank? What will be the total cost of 25 yds. calico at 9 cents; 43 yds. sheeting at $12\frac{1}{2}$ cents.; 14 yds. flannel at 42 cents; 6 yds. muslin at 28 cents; $\frac{1}{2}$ doz. handkerchiefs at $37\frac{1}{2}$ cents each?

If I can buy eggs at one place for \$0.35 a dozen, and at another place for \$0.30 a doz., how much money do I save by buying 300 eggs at the latter place? What is the smallest sum of money with which I can buy cows at \$30 each, oxen at \$55 each, or horses at \$105 each? A lady who had \$50 $\frac{1}{2}$, received \$8 $\frac{1}{4}$ more, spent \$17 $\frac{3}{4}$, lost $4\frac{3}{10}$ and collected \$15 $\frac{1}{2}$ of a debt; how much money had she then? When potatoes are worth \$ $\frac{4}{5}$ per bush. and corn \$ $\frac{5}{8}$ per bush., how many bush. of potatoes are equal in value to 16 bushels of corn? A mason worked $11\frac{2}{3}$ days, and, after paying his expenses with $\frac{2}{3}$ of his earnings, had \$20 left; how much did he receive per day? Change \$ $\frac{2}{25}$ to decimal of a dollar. Change .0008 of a mile to a common fraction. Divide .006 by .06, multiply quotient by .05 and divide the product by .005. Cost of fencing a lot of land 26 rd. long by 20 rd. at 25 cts. per foot? My neighbor's lot contains 5 sq. rds. mine is 3 rds. square; difference in size in square feet? How many tiles 3 inches square are needed to cover a floor 18 ft. long, 10 ft. wide?

Divide 4.008 by 2. Mr. Weeks sold his house for \$125 $\frac{1}{3}$, his cow for \$74 $\frac{1}{2}$, and his carriage for \$150 $\frac{6}{7}$. What did he receive? What will 3,484 ft. lumber cost at \$2 per thousand ft.? Mr. Grace sold his house for \$5,600, which was but $\frac{1}{5}$ of its value. What was it worth? How many cords of wood in a pile 24 ft. long 12 ft. wide and 4 ft. high? How much is it worth at \$5 per cord? Fred bought a bicycle for \$50 $\frac{1}{4}$, and sold it for \$75 $\frac{3}{4}$; how much did he gain? Mr. Bates bought 8 $\frac{1}{5}$ barrels of flour at \$6 $\frac{3}{4}$ per barrel; what was the cost? Carpet a floor 24 ft. long and 20 ft. wide with carpet 4 ft. wide at \$1.25 per yard. A man divided \$33 $\frac{1}{2}$ equally among some boys, giving each \$5 $\frac{2}{3}$. How many boys were there? What will a wire fence cost around a lot of land 18 ft. long, 15 ft. wide at \$2 per rd.?

Add 284,640; 779,849; 286,524; 27,896; 85,729; 5,486; 72,899; 286,486. A man bought a farm for \$35,000, and sold it so as to lose \$1,295; how much did he sell it for? I sold 247 yds. of cloth at 8 cents; 200 yds. at 10 cents; 87 yds. at 12 cents; 50 yds. at 25 cents; 12 yds. at \$1.50; how much did I receive? My field is 100 rods long and 75 rds. wide. How much is it worth at \$2 a sq. rod? How much will it cost to fence it at \$1 a rod? I sold an acre of land at \$1.25 cents a square foot; how much did I receive? Add $2\frac{1}{2}$, $3\frac{3}{4}$, $8\frac{1}{5}$, $10\frac{5}{12}$. I paid \$2,000 for $\frac{1}{3}$ of a ship; what is the remainder worth? I exchanged 80 bbls. of flour, worth \$6 a bbl. for tea at 50 cents a lb.; how many lbs. of tea? Find L. C. M. of 48, 84, 96, 144.

$12\frac{2}{7}$ is what part of 29? A man owing \$325.00 paid \$90. of the debt. What part of the debt did he pay? Reduce 96 to fourteenths A man sold a lot of land for \$1,460, which was $3\frac{1}{2}$ times what it cost him. What did it cost him? $\frac{9}{16} \times 2\frac{1}{2} + 20\frac{1}{4} - (2 \div \frac{3}{8}) + 8\frac{1}{4} = ?$ Divide 11 by $5\frac{1}{4}$. Change $14\frac{2}{3}$ to a common fraction in its simplest form. $56.8 \times 0.01 + 5.48 \times 1000 + 0.7 \div 0.001 = ?$ If coal is \$6.67 per ton, how much coal can be bought for \$3,335?

$286 \div .013 = ?$ What would 5000 bricks cost at \$7.75 a thousand? What must a carpenter pay for the following: 6500 shingles at \$4.75 per thousand; 15964 feet of boards at \$39.25 per thousand; 4849 feet of planks at \$45.32 per thousand? "L. C. M." of 16, 21, 24, 30, 32? Find product of $\frac{5}{6}$ of $1\frac{2}{5}$, of $1\frac{1}{5}$; and of $3\frac{1}{2}$ of $\frac{1}{6}$ of $1\frac{10}{11}$. When $35\frac{3}{4}$ bushels of turnips cost \$28.60, what should be paid for $\frac{1}{2}$ a bushel? If $\frac{5}{7}$ of $\frac{2}{3}$ of a piece of land cost \$420, what is the value of the whole?

If a merchant buys meal at \$.018 a pound and sells it at \$.025 a pound, how much does he gain on 2.75 tons? Mr. Blank bottled 135 gallons of ink in bottles that held $\frac{3}{8}$ of a pint. He sold it for $12\frac{1}{2}$ cts. bottle. How much did he receive? 1728 barrels of flour cost; \$7,992 what cost 978 barrels? Find the whole cost of 36 rolls of paper at $33\frac{1}{2}$ cts. per roll; 64 yds. of matting at \$0.37 $\frac{1}{2}$ per yard, 7 pairs of lace curtains at \$16.50 per pair? A dealer sold $\frac{5}{12}$ of his wheat to Mr. Adams, $\frac{1}{5}$ of it to Mr. Baker, and $\frac{5}{8}$ of it to Mr. Charles, then he had 630 bu. left. How much had he at first? What is the whole cost of $37\frac{1}{2}$ bushels of potatoes at \$0.75 $\frac{1}{2}$; 345 yds. of cloth at \$0.90 $\frac{3}{4}$ 328 $\frac{1}{4}$; pounds of butter at \$0.43 $\frac{3}{4}$? A person standing exactly at the equator is carried by the rotation of the earth 24,899 miles in a day. How far is he carried in eight hours? A clerk has \$75 each month, and spends \$54 $\frac{2}{5}$ per month. How much does he save in a year? A farmer sold $\frac{2}{3}$ of his wheat for \$796 $\frac{2}{5}$ and received for it \$1 $\frac{1}{10}$ per bushel. How many bushels did he have at first and how many did he sell? A farmer had $388\frac{2}{5}$ acres of land and bought $251\frac{3}{8}$ acres more. Then he sold $84\frac{3}{4}$, $26\frac{1}{2}$, $38\frac{3}{5}$, $291\frac{1}{2}$, $93\frac{2}{7}$, and $84\frac{9}{10}$ acres. How many had he left?

From 200,675 cents take 7,654 mills. Give the answer in dollars and cents. Multiply 4.5 by .08 and divide the product by .006. A man having 70 bushels of wheat, sold $6\frac{2}{3}$ bushels to one man and $7\frac{3}{4}$ bushels to another. How many bushels left? If it took $11\frac{1}{4}$ yds. of silk to make 18 neckties, how much was needed for each necktie? I need 15 inches of velvet to make a dress collar. If the velvet is worth \$1.50 a yd., what will my collar cost? What will it cost to fence a field 160 ft. long, and 120 ft. wide, at $8\frac{3}{4}$ cts. a foot? Susie has a piece of cotton cloth that is 2 yds. square; if she wished to cover it with patchwork, each piece 1 in. sq., how many pieces will she need? 427 is $\frac{7}{12}$ of what number? Find $\frac{5}{8}$ of 2000.

A man sold 4 beeves; the first weighing $1427\frac{1}{8}$ lbs.; second $984\frac{1}{4}$; third $1008\frac{3}{8}$; fourth $974\frac{7}{16}$; find weight of all. If it takes $5\frac{1}{2}$ yards for a coat, $31\frac{1}{2}$ yards for a pair of trousers, and 7 yards for a vest, how much will it take for all? From 27 lbs. take $14\frac{3}{8}$ lbs. From 32 pounds take $16\frac{5}{8}$ lbs. From 17 gals. take $14\frac{9}{11}$ gals. When butter is $\frac{1}{3}$ of a dollar a pound, how many pounds can be bought for $\$2\frac{3}{4}$? Divide 19 by $3\frac{3}{8}$. Divide $1943\frac{5}{8}$ by 9. Multiply 349 by $72\frac{1}{4}$. Divide $\frac{5}{7}$ by $\frac{3}{4}$.

A man bought 4 pieces of cloth; the first contained $27\frac{1}{2}$ yds., the second $28\frac{7}{8}$ yds., the third $28\frac{5}{8}$ yds., and the fourth $27\frac{5}{12}$ yds.; how many yds. did they all contain? I bought three yards of cloth at $\$3\frac{3}{8}$ per yard, two pairs of shoes at $\$1\frac{7}{8}$ per pair, and a hat for $\$3\frac{5}{8}$, giving in payment a twenty dollar bill; how much change ought I to receive in return? How much will it cost to build a rod of wall at $\frac{1}{5}$ of a dollar per ft.? How many days will it take a man who earns $\$1\frac{3}{8}$ per day to earn $\$100$? How much will it cost to build 23.86 miles of railroad at $\$23,463.75$ per mile? If a man can earn $\$1$ in $\frac{3}{4}$ of a day, how many dollars can he earn in a week? How much will a pile of wood cost, if $\frac{7}{16}$ of it cost $\$9.73$? If I gave 37 yards of cloth, at $\$4$ per yard, for apples at $\$3$ per barrel, how many barrels of apples did I receive? If a man's income is $\$365$ per year, and he spends $\$289.75$ per year, how much will he save in 9 years? How much will it cost to fence a piece of land one rod square at $\$0.375$ per foot?

Write from dictation and add: 2,002.75; 31,400.0875; 200,005.87; 275.00075; 20,040.000015; 50,300.0405; 96,785.0125; 80,504.4; 9,780.45; 27,984.045; 9,375.83; 5,067.98. A man had 510 acres of land. He kept 10.17 acres and sold the rest at $\$875$ per acre. How much did he get for it? How many acres of land can be bought for $\$235$, if one acre costs $\$.925$? What is $\frac{2}{3}$ of $\frac{3}{4}$ of $\frac{7}{8}$? What is equal to $\frac{23\frac{1}{2}}{7}$? What is $\frac{2}{11}$ equal to? Reduce to lowest terms $\frac{231\frac{3}{8}}{17}$. Add $279357\frac{1}{12}$, $34789\frac{7}{9}$, $11121\frac{3}{8}$. If $3\frac{1}{2}$ lbs. of cheese cost 45 cts., what would $\frac{7}{8}$ of a lb. cost? A man had $4725\frac{2}{7}$ yds. of cotton cloth and used $2519\frac{4}{5}$ yds. Find the value of the cloth that is left at 5 cts. a yd. How many acres in a strip of land that is a mile long and ten feet wide? How many cu. ft. in a box 2 yds. long, 2 ft. wide and 20 in. high?

How much larger than 67 is 201? How much larger is 79879 than $694\frac{2}{5}$? A gentleman had $\$680$; he put $\frac{3}{4}$ of it into a bank and spent $\frac{1}{2}$ of the remainder for a coat; how much did he then have left? If you should spend $\frac{2}{3}$ of your money and then have $\$24.04$ left, how much must you have had at first? What is the largest number that will exactly divide 57, 399, and 2793? I paid $\$465$ for hats at $\$3\frac{3}{8}$ apiece; how many did I buy?

Reduce $\frac{8\frac{1}{2}}{420}$ and $\frac{31\frac{5}{8}}{405}$ to lowest terms. In $984\frac{3}{12}$ lbs. how many 112ths? Bought a cord of wood for $\$2\frac{3}{8}$, a bbl. of flour for $\$9\frac{5}{8}$, and a tub of

butter for $5\frac{3}{4}$ dollars. What is the whole cost? Bought wheat at $\$1\frac{1}{8}$ per bu. and sold it for $\$2\frac{1}{4}$ per bu. How much did I make on 250 bushels? From two piles of wood containing respectively $10\frac{3}{8}$ cords and $24\frac{5}{8}$ cords, $16\frac{7}{8}$ cords were taken away. How much is left? What is the value of $12\frac{1}{6}$ doz. eggs at $18\frac{3}{4}$ cts. per dozen? At $9\frac{3}{8}$ dollars per barrel how much flour can be bought for $\$138.75$? At $\frac{1}{2}$ of a dollar a pound how much butter can be bought for $\$2\frac{4}{10}$? How much is $\frac{9}{10}$ of $\frac{7}{8}$ of 4.8? I sold my watch for $\$45$, which was $\frac{1}{8}$ more than the cost. What was the cost?

Greatest Common Divisor of 75, 225, 450. Least Common Multiple of 40, 28, 32, 6, 4. Find the sum of $\frac{5}{18}$, $2\frac{3}{4}$, $\frac{8}{12}$, $\frac{5}{6}$. Subtract $15\frac{3}{4}$ from $328\frac{2}{5}$. What is the cost of $486\frac{3}{4}$ bushels of corn @ $62\frac{1}{2}$ cts. per bushel? If a family use $19\frac{3}{8}$ lbs. of butter in $7\frac{1}{2}$ days, how many pounds each day? If one yd. of ribbon cost $\$3\frac{3}{8}$ how many yds. can be bought for $\$25$? If 123 tons of coal cost $\$848.70$ what will be the cost of 265 tons? A man had $\$600$; he bought a horse for $\$225$, a carriage for $\$190.12$ and a harness for 40 dollars and 5 mills; how much had he left? Add: 7.27; 18.36; 19.45; .06; .77; 8.19; 37.37; 45.69; 88.88; 99.75.

I sold a piece of land for $\$2,175$, and thereby lost $\$75$. What did the land cost? Subtract 325 thousandths from 325. A lady bought 16 yds. of cloth at 70 cts. a yd. She paid $\$5$ in cash and the rest in butter at 20 cts. a pound. How many pounds of butter did she pay? If $\frac{5}{16}$ of a ship is worth $\$27,000$, what is the whole ship worth? What is the value of 9 boxes of raisins, each containing $27\frac{1}{2}$ pounds, at 18 cts. a pound? $\$10.004 + \$40.75\frac{1}{2} + \$0.78\frac{4}{5} = ?$ Divide 1647.425 by .325. If a doz. peaches cost $\$0.37\frac{1}{2}$ what cost $7\frac{1}{2}$ doz.? Change 787,462 minutes to higher denominations. Mary has $\$15.50$, and Grace has $\$5.50$. What part of Mary's money is Grace's?

Add: $\frac{5}{6}$, $\frac{7}{8}$, $\frac{3}{10}$, and $3\frac{1}{6}$. If from a lot of $2\frac{3}{8}$ acres, two house lots be sold, one containing $\frac{3}{8}$ of an acre, and the other $\frac{5}{8}$ of an acre, how much land will remain? If a man walks $\frac{7}{12}$ of a mile in 10 minutes, how far can he walk in an hour and a half? The sum of two numbers is $13\frac{3}{4}$, and one of the numbers is $5\frac{1}{8}$. What is the other number? A owns $\frac{1}{6}$ of a steamboat, B owns $\frac{1}{4}$, C owns $\frac{2}{7}$, and D owns the rest. What part does D own? The dividend is $\frac{5}{6}$ and the divisor $\frac{1}{18}$. What is the quotient? A man owns $8\frac{1}{6}$ acres of land. If he divides it into house-lots each containing $\frac{7}{12}$ of an acre, how many lots will there be? $43.062 \times 37481 = ?$ What is the quotient of 21.17 divided by .0073? Write the tables of Avoirdupois Weight and Solid Measure. $\frac{2}{3}$ of $\frac{9}{7}$ of $\frac{1}{2}$ of $2\frac{1}{2}$ of $3\frac{3}{5} = ?$ Define Denominator, and Mixed Number.

WRITTEN ARITHMETIC. CLASS V.

Dictate for addition; 75,017; 4,209; 6,090; 60,008; 705,900; 85,705. From six thousand seven hundred five and seven hundredths, take thirty-seven and seventy-one thousandths. In 6,987 days how many minutes? Find the cost of 1,588,000 lbs. of coal, at \$7.98 a ton. How many cords of wood, at \$7.85 a cord, can be purchased for \$59,730.65? Divide \$3,245,530 by 468. Bought 8 bu. 3 qt of valuable seed at seven dollars 8 cents a quart; how much did the seed cost? What is the cost of 19 gal. 2 qt. of cologne at 90 cts. a quart? Divide $\frac{3}{4}$ of \$60,800 equally among 75 persons. Bought 675 lbs. of sugar at 7 cts. a lb., and 986 lbs. of dried fruit at eight cts. a lb., and gave in payment two 100-dollar bills. How much change?

Bought a house for \$23,650, and land for \$73,640. For how much must I sell them to gain \$4,500? In building a cottage the excavating cost \$34; the cellar walls \$110.50; the plastering \$73.42; the frame \$64.50; the boarding \$33.50; the siding \$25.00; the roof boards \$20.67; shingling \$62.80; painting \$80.12; sink \$9.50; windows \$98; hardware \$42, and incidentals \$200. What was the entire cost? What are the prime factors of 160? Find the L. C. M. of 21, 38, and 56. Find the G. C. D. of 45 and 135. Write two fractions equal to $\frac{1}{2}$. In 5 apples how many fourths of an apple? Mary paid $\frac{3}{8}$ of a dollar for a book, $\frac{7}{8}$ of a dollar for a hat, and $\frac{5}{8}$ of a dollar for a handkerchief? How many eighths of a dollar did she spend in all? In 1 ton, 28 cwt. how many pounds? In 7 days how many minutes? Write in words 25.025. Write in figures thirty and five thousandths. How many pints in $1\frac{3}{5}$ gals.? Multiply 2.25 by 15. Divide 1,728 by 12.

A merchant has 3,560 barrels of flour; after selling 1,380 barrels to one man and 985 barrels to another how many barrels has he left? A man has \$263.50, how much will he need to earn that he may have in all \$1,000? How much will 8 horses and 8 carriages cost if one horse costs \$325, and one carriage costs \$275.75? If a wheel turns round 351 times in going a mile, how many times will it turn round in going from Boston to Providence, or 41 miles? A grocer bought 7,200 gallons of oil; $\frac{1}{3}$ of it leaked out and he sold the remainder at 25 cents a gallon. How much did he receive for it? From two and four-tenths yards take .445 of a yard. Mr. Brown has three farms, one contains 267.58 acres, another contains 124.30 acres, and the other contains 79.12 acres. How many acres in the three farms? How much less than 640 acres? A small boy has 65 cents, his older brother has 9 times as much, his uncle has 9 times as much as his brother, and his father has 9 times as much as his uncle. How much money has his brother, his uncle, his father? A man paid \$31.58 for a coat, \$11.63 for a vest, \$14.11 for trousers, \$1.75 for

gloves. What did his clothes cost? Add the numbers from 490 to 505 (inclusive).

Dictate: 909,087.5; 7,004.03; 1,000,500.004; 627,090; 5,040.27. Dictate: $1,890.070 - 990.979 = ?$ A boy bought a suit of clothes for \$51, boots for \$10.50, overcoat for \$15.75, and gloves for 25 cts. Paid for these things in work at \$1.25 per day. How many days did he work? If 25 lbs. of sugar cost \$3.10, what will 19 lbs. cost? How many bushels in 192,429 quarts? If 42 gals. 3 qts. 1 pt. of cream cost \$27.44, what will 32 pts. cost? A man's bill at a provision store was \$6.66. He had bought two pecks of peas for \$0.54 and some beans for \$0.36. The rest of the bill was for sirloin steak, at \$0.32 a pound. How many pounds of meat had he bought? I have an oblong piece of land which is 96 ft. long and 78 feet wide. There are three gateways, one is 2 feet wide, one is three feet wide, and the other is 4 feet wide. How many feet of fence will it take to go around the field? From nine hundred ninety-nine take nine and nine hundredths, and multiply the remainder by seven thousandths. Mr. Page bought 20.809 tons of coal; he sold .408 of it; how many tons did he sell? If \$36.53 will buy $6\frac{1}{2}$ yards of cloth, how much will $\frac{1}{2}$ a yard cost? L. C. M. of 16, 20, 23, and 36.

If a house rents for \$900 a year, how much is the rent for 9 months? If a quire of paper cost $\$1\frac{1}{5}$, what will $19\frac{1}{2}$ quires cost? In our school-house one room will seat 42 pupils, one will seat 49, 3 will seat 56 each, 2 will seat 54 each, 3 will seat 55 each, 2 will seat 52 each, and one more will seat 57. How many pupils in all can be seated in this building? There are in one school 56 boys and 63 girls; in another 163 boys and 146 girls; how many boys in both? How many girls in both? How many pupils in both? A trader bought 297 barrels of apples at \$2.95 per barrel, and sold the lot for \$1,125; what was his profit? A man sells 19 bushels of potatoes at \$0.55 a bushel, 23 bushel of oats at \$0.63 a bushel, and with the proceeds buys 8 yards of broad-cloth; how much does he pay a yard for the broad-cloth? How many pints in 45 bushels, 3 pecks, 4 quarts? If a grocer buys 3 bushels of cranberries at \$2.25 a bushel, and sells them at 9 cents a quart, how much does he make? If a man's salary is \$3,176 a year, and he spends \$7 a day, how much can he lay up? Make out a bill for the following items which were bought of R. H. White & Co.: 5 yards of broad-cloth @ \$3.25; 4 yards cambric @ \$0.12 $\frac{1}{2}$; 4 yards wadding @ \$0.08; 3 doz. buttons @ \$0.15; 6 skeins sewing silk @ \$0.06.

Dictate for adding: \$83.34; \$67.58; \$50.37; \$62.50; \$35.75; \$62.50; \$35.75; \$63.81; \$67.59; \$86.37; \$37.50; \$15.09; \$57.32; \$49.63. Bought 312 bbls. flour @ \$5.50 and sold it for \$3,000. How much did I gain? Divide a million by 750. What is the difference between 69×58.8 and $291 \div .97$? If a man earns \$1.75 in a day in

how many days will he earn \$700? A man bought 40 yds. cloth @ \$3.20 a yard, and paid for it in butter at 16 cts. a pound. How many pounds of butter did it take? What cost 2 tons grapes @ 2 cts. per pound? What cost 40 bushels potatoes @ 1.12? What cost 32 bushels corn @ \$0.87. Dictate for adding: 909,087.5; 7,004.03; 1,000,500.004; 627,090; 5,040:29. Dictate to be subtracted: 1,890,070 — 990,979. A boy bought a suit of clothes for \$51, boots for \$10.50; overcoat for \$15.75 and gloves for 25 cts. Paid for these things in work at \$1.25 per day. How many days did he work? If 25 lbs. of sugar cost \$3.10 what will 19 lbs. cost? How many bushels in 192,429 quarts? If 42 gallons, 3 qts., 1 pint, of cream cost \$27.44, what will 32 pints cost? A man's bill at the provision store was \$6.66. He bought 2 pks. of beans at \$0.54 and some beans for 36 cts. The rest of the bill was for sirloin steak @ 32 cts. a pound. How many pounds of meat had he bought? I have an oblong piece of land which is 96 feet long, and 78 feet wide. There are three gate-ways, one is two feet wide, one is three feet wide and the other is four feet wide. How many feet of fence will it take to go round the field? From nine hundred ninety-nine and nine hundredths; and multiply the remainder by seven thousandths. Mr. Page bought 20,809 tons of coal; he sold .408 of it. How many tons did he sell? If \$36.53 will buy $6\frac{1}{2}$ yds. of cloth how much will $\frac{1}{2}$ a yard cost? L. C. M. of 16, 20, 23, 56.

Dictate to be added: \$43 87; \$25.34; \$27.21; \$523.50; \$68.42; \$12.16; \$406.20; \$22.00; \$43.19; \$26.14. Bought 312 bbls. of flour @ \$6.50 and sold it for \$3,000. Did I gain or lose and how much? Divide a million by 650. What is the difference between 69×56.6 and $291 \div .97$? If a man earns \$1.75 in a day, in how many days will he earn \$700? A man bought 40 yards of cloth at \$3.20 a yard and paid for it with butter @ 16 cts. per lb.; how many pounds did it take? What will 32 tons of paper cost @ 3 cts. per lb.? What will $12\frac{1}{2}$ gallons of milk sell for @ 8 cts. per quart? Give the prime factors of 96. If a watch ticks once every second, how many times will it tick in a day? In the month of July?

$30104 - 27059 = ?$ $\$20.05 \times 30.25 = ?$ My divisor is 3.03 and my dividend .01515; what is my quotient? If a boy gives away $\frac{1}{2} + \frac{1}{3} + \frac{1}{4}$ of his money, he will have to borrow three cents. How many cents has he? John gave away $\frac{3}{4}$ of $\frac{1}{5}$ of a melon. What part of a melon did he give away? How many times will $\frac{2}{3}$ of a pie be contained in $\frac{1}{5}$ of a pie? I divided \$325 equally among one hundred men. How much did each man receive? (Removing the point only correct method.) If one handkerchief costs \$0.37, what will 1000 cost? (Removing point only correct method.) If two quarts of peaches cost 25 cts., what will half a bushel cost? How many geographies at \$1.375 apiece can be bought for \$66?

Bought of C. F. Hovey, 16 yds. of silk @ \$1.375; 3 pairs of boots @ \$5.00; 4 pairs of gloves @ \$1.50; 8 yds. of ribbon @ \$0.25. What is the amount of the bill? If a girl spends \$0.625 a day, how long will it take her to spend \$35.00? A farmer owned 310.5 acres of land; he planted 112.2 acres with corn; 65.5 acres with wheat; 54.3 acres with rye; and the remainder with oats, how many acres did he plant with oats? If a bushel of grain costs \$1.875, what will 5.5 bushels cost? Find the least Common Multiple of 6, 24, 32, 48, and 96. If one chair cost \$1.50 how many can be bought for \$240.90? Spent \$290.00 for horses; \$286.75 for carriages; \$150.80 for harnesses; \$12.75 for blankets. Gave 4 fifty dollar bills and 2 one hundred dollar bills; what did I still owe? Find the least Common Multiple of 8, 24, 32 and 40. If last month we came to school 16 days, 12 hours, 32 minutes and 15 seconds, how many seconds did we have for school work? A man put in the bank \$325, \$238, \$174, \$432, and \$540. He drew out at one time \$426, and at another \$182. How much remained?

Dictation for addition. Cost of 25 gals. of oil @ \$0.65 per pt. Bought a carriage for \$250.00; paid \$16.50 for repairs, then sold it for \$275.75. What did I gain or lose? A farmer sold 1125 bu. of wheat @ \$0.96 per bu.; 942 bu. of oats @ \$0.43 per bu. and 625 bu. of corn @ \$0.75 per bu. What did he receive for all? A man earns \$212.50; if he spend \$98.10 per month what will he save in one year? Bought 98 bbls. of flour @ \$6.25 per bbl. and sold all for \$600. Gain or loss? If 18 chairs cost \$360 what will 17 chairs cost? $406.92 \times 3.21 = ?$ $37.023 \times 34.0 = ?$ $64897 \div 69 = ?$ (Carried out three places of decimals.)

	Nails.	Oysters.	Figs.
Add:	1874	1463	1282
	346	3642	8291
	425	2396	1936
	732	573	3764
	197	847	4926
	235	1210	105
	179	3913	203
	—	—	789
			—
	Slates.	Eels.	Words.
Subtract:	9176	21516	84035
	1769	10678	45386
	—	—	—

Sold 75 bushels of potatoes at 56 cents a bushel, 150 lbs. of pork at 16 cents a pound, 40 bushels of beans at \$2.25 per bushel. How much was received for all? If potatoes cost 65 cents a bushel, how many bushels can be bought for \$29.25? At \$3.12 a day, how much will a man earn in 287 days? Paid \$360 for 2 tons of cheese, and sold it for $12\frac{1}{2}$ cents a pound. How much was my whole gain? What will $27\frac{1}{2}$ pounds of butter cost at 32 cents a pound? What are the prime factors of 2772?

There are 192.8125 bbls. full of water in a cistern which will hold 320.5 barrels full. How much more water will it contain? A woman sold a house and lot which cost her \$2,250.50 for \$1,900.75. Did she gain or lose and how much? A man lets 7 tenements for \$1.25 each per week, 5 at \$1.38 each per week, and 11 at \$1.50 each per week. How much does he get in one year from all of them? A man bought 69 cattle for \$28.75 each. He sold 42 of them for \$36.50 each and the rest for \$37.75 each. How much did he gain? How many *bushels* of oats will a span of horses eat in 4 wks., if they eat 24 qts. a day? What cost 19 bu. of beans at 13 cts. a qt.? How many bottles each holding $\frac{1}{2}$ pt., will it take to hold 725 gals. and 2 qts. of vinegar? How many lbs. of rice at 12 cts. a lb. will pay for 4 bu. 2 pks. of nuts at 8 cts a pt.? A man had \$600. He bought a horse for \$225, a carriage for \$190.12 and a harness for \$40.76. He then gave away $\frac{1}{2}$ of what he had left. How much did he still have? If 123 tons of coal cost \$848.70, what will 265 tons cost? $.0017 - .0008 = ?$ $720.90 + .008090 = ?$ $128.7 \div .0005 = ?$ $162,000 \div 6.48$ (Carry out 4 decimal places). $63.877 + 792 + 56.8 + 998.3 + .4065$ $2.876 + 47.256 \times 8,324.753 = ?$ $.03 \div .0019 = ?$ (Carry out *four* decimal places. Write remainder in form of fraction.) $59.740 \times 9.050 = ?$

I bought a coat for \$9.37, a vest for \$1.25, a hat for \$2.00, books for \$3.75. Gave in payment a twenty dollar bill. How much change had I left? 15 boys earn \$47.25 in a week. How much will 10 boys earn in the same time? If a bbl. of flour cost \$9.50, what will 37 bbls. cost? If a box of chalk weighs 15 oz., how many lbs. and oz. will 350 boxes weigh? A boy earns \$0.01 a minute. How much will he earn in 4 days, 5 hours, 10 min.? $2.7)37(?$ Multiply .056 by 24. Find the Greatest Common Divisor of 18, 24, and 36. Find the Least Common Multiple of 12, 20, and 30. Paid \$6 for a bag of peanuts containing 2 bush. 1 peck, 7 qts. Sold them at \$0.10 a quart. How much did I gain? A man earns \$500. a year. He spends \$26 a month. How much will he save in a year?

WRITTEN ARITHMETIC. CLASS VI.

Write from dictation and add: $.407.5$; 2002.75 ; $31,400.075$; $20,040.875$; $200,005.93$; $50,300.405$; $96,785.12$; $80,504.4$; $9,780.45$; $5,067.98$. A man had 10.5 yds. cloth and used 4.125 yds. to make a coat. How many yds. did he have left? Find the cost of 2.578 acres of land @ $\$37$ an acre? How many acres of land could you buy for $\$76.225$, if one acre cost $\$37$? What cost $2,500$ horses at $\$150$ each? If 23 buggies cost $\$4,025$, what are 80 buggies worth? A farmer's wife sold a store-keeper 15 doz. eggs @ 14 cts. and 27 lbs. of butter @ 22 cts. She took her pay in cotton cloth at 12 cts. a yd. How many yards did she get?

$428 + 397 + 584 + 761 + 695 + 803 + 582 + 195 + 817$. A man bought cloth for $\$46.28$, shoes for $\$37.93$, West India goods for $\$98.46$, and books for $\$86.37$. What was the amount of his purchase? $4003 - 2715 = ?$ When a pair of boots cost $\$5.375$, and a pair of shoes cost $\$1.25$ how much more do the boots cost than the shoes? $6948 \times 96 = ?$ If an acre of land costs $\$789$. what will 79 acres cost? $79344 \div 72 = ?$ If a boy can earn 45 cents a day, how long will it take him to earn $3,015$ cents? How many gills in 7 quarts and 1 pt.? How many bushels in 384 quarts?

Change 846 gills to gals. Divide $956,487$ by 964 . A farmer exchanged 16 cows worth $\$68$ each, for a span of horses. What are the horses worth apiece? A horse cost $\$262$, a chaise $\$228$, and a hack three times as much as both. What did they all cost? Dictate the following: add 56.24 ; 13.96 ; 84.27 ; 127.005 ; 96.126 ; 49.107 ; 86.25 ; $1,156,112$; $3,227.087$; $9,000.009$. Find one twelfth of 840 . Find one seventh of 83 . Find one thirteenth of $9,010$. Find one fifty-ninth of $1,190$. Find the product of 400 and 500 . Find the amount of $.87$ and 8.7 . Find the difference between $.906$ and 90.6 . How many are 9.73 minus $.973$? How many are 5.37 plus 53.7 ? How many are 604 times 320 ?

I have in the bank $\$975$. I took out at one time $\$350$, and at another $\$270$. How much have I left? If 24 men together have $\$6,024$, what is each man's share? James has 37 cts., he earns $\$1.07$ and his sister gives him 16 cts. After he spends 20 cts. for a top how much money remains? Multiply $8,628$ by 5.7 and divide the product by 35 . A lady went shopping with $\$10$ in her purse. She paid 27 cts. for needles; $\$1.25$ for gloves; $\$3$ for calico; what has she left? $1275 \div 25 \times 48 + 956 = ?$ At $\$1.45$ a pair what must I pay for 43 pairs of gloves? Add $\$96$, $\$7.4$, and $\$142.7$. Find the difference between $7,642$ and $1,485.2$. Dictate: add $\$102.50$; $\$21,400$; $\$6,045.05$.

Write in figures seventy-six thousand four hundred nine and eighty-

two thousandths; nine hundred thousand nine hundred and thirty-one hundredths. If a man has \$47648, and gives to one son \$15642.50, to another \$9008.75, and the remainder to his daughter, how much does the daughter receive? The subtrahend is \$068.74 and the minuend 7406.9; what is the remainder? Prove it? What will a farm of 67 acres of land cost at \$475 an acre? If a man raised 214 bushels of potatoes on one acre, how many bushels would he raise on 12 acres? The dividend is 30772, and the divisor 49, find the quotient and prove it. How many times can you fill a pail holding 11 quarts of water from a cistern holding 2541 quarts? A man bought a horse for \$320, a cow for \$87.50 and 100 sheep at \$2.25 each. What did they all cost him? Write the tables of Liquid and Dry Measures. Illustrate the use of these five signs, $\times \div + - =$, by little examples which you can make. If 1426 oranges be arranged in twenty-three equal piles, how many oranges would there be in each pile?

Write the following numbers in words 140, 101, 256. Write the following number in figures: six million, seven hundred twenty-four thousand, fourteen. A man paid \$6.50 for a hat, \$25.30 for a suit of clothes, \$19.30 for an over-coat, \$1.50 for some collars, and \$0.50 for a necktie; how much did he spend for all? A man had 70,001 sheep, and sold all but 2,465 of them; how many did he sell? If one horse costs \$195, how much will 309 horses cost? Multiply 409 by 870. How many weeks in 85995 days? Mr. Smith bought 16 bags of flour at \$1.05 a bag, and paid for them with a \$20 bill. How much money did he receive in change? Divide 946321 by 483. Divide 49.648 by 89.

Dictate: \$10,210.40; \$280,002.02; \$6,550.01; \$110,010; \$990.99. What is the sum of \$4.37; \$0.18; \$9.14; \$2,018; and \$107.07. A boy bought a bicycle for \$35. He rented it to another boy for 3 months at \$2 a month and then sold it for \$33.50. Did he gain or lose? How much? Mr. Mann had twelve dollars six cents in one pocket, and two dollars eighty cents in another. He bought a barrel of flour for five dollars eighty-five cents, a barrel of sugar for seven dollars, and a pound of tea for seventy cents. How much money has he left? A man bought land for \$705, and built on it a house which cost 12 times as much as the land. How much did the house cost? How much did they together cost? There are 13 classes in this school. If there are 702 scholars in the school, how many are there in each class, if the class teachers have equal numbers? If a qt. of cream is worth 22 cents what are two gal. worth? How many pints are there in eleven bushels? Divide \$11,901 by 14. Mr. Brown has in the bank \$10,905, which is \$750.85 more than Mr. Gray has. How much money has Mr. Gray?

Add: 4,968; 2,652; 3,843; 2,759; 4,563; 5,071; 3,426. Subtract 7,849 from 9,750. Mult. 4,987 by 9. How many quarts in 499 pecks? I

bought 5,000 bu. of corn; 2,849 bu. of wheat; 9,280 bu. of oats; 6,844 bu. of barley: How many bu. of grain did I buy? I had 1,480 acres of land in one field and 6,284 acres in another field; I sold 7,000 acres; how many acres remained? I had \$960, I spent $\frac{5}{8}$ of it. How much did I spend? Mary had 1,500 stitches in her dress; Jane had 7 times as many. How many stitches had Jane? I bought 20 yds. at 6 cents; 24 yds. at 7 cents; 36 yds. at 9 cents. How much did the whole cost? How many quarts in 850 gallons?

If 9 cows cost \$270, what would 18 cost? A lady bought a hat for \$7.50; a pair of gloves for \$2.75 and a pair of boots for \$4.75. She gave the dealer \$10.00. How much more should she have given him? A grocer bought a bushel of cherries for 4 c. a quart, how much did he pay for them? A gentleman had one thousand five dollars; he put five hundred eighty-five dollars and 79 cents into a bank. How much money had he left? If \$97 is $\frac{1}{4}$ of a sum of money, what is that sum? Bought 87 pounds of tea at 45 cents a pound; sold it at 63 cents a pound. How much was gained? Dictated: add 75,779; 9,867; 9,989; 7,866; 8,874; 5,698, 45,456, 78,996. From seven hundred sixty-four thousand seven, take three hundred ninety thousand, eight hundred nine. What is the cost of 12 dozen eggs at the rate of 2 for 3 cents? If three boys can cut a cord of wood in 8 hours, how long will it take 4 boys to cut one cord? John had 16 marbles, Henry half as many and Frank as many as both the other boys. How many more marbles has Frank than John? At nine cents a quart what is the cost of $2\frac{1}{2}$ gallons of vinegar? How many quarts in two bushels and three pecks? If $\frac{1}{3}$ of a melon cost 15 cents, what will two melons cost at the same rate? Divide 3,696 by 18. Multiply 368 by 24.

What is the entire cost of 15 tons of coal at \$5.25 a ton, and 4 cords of wood at \$2.50 a cord? If $\frac{1}{4}$ of a pound of candy costs 10 cents, what will 2 pounds cost? Tom has 13 pigeons, Joe has twice as many; how many have they both? In a school there were 356 girls, and 257 boys; if 25 girls and 32 boys leave, how many pupils remain in the school? I bought 5 pounds of butter at 37 cents a pound; how much change should I get from a 5-dollar bill? How many feet of string will be required to go around this room, if it is 30 ft. long and 25 ft. wide? Tom has \$5 35; he owes Dick \$2.25, and Harry \$1.40; if he pays them how much will he have? Which are worth more 63 cows at \$38 apiece, or 56 horses at \$75 apiece? How much? If I buy a bushel of walnuts for \$3, and sell them at 5 cents a pint, how much shall I make? Suppose your mother gave you a 5-dollar bill to buy articles for the Sunday dinner, and you bought: 6 lbs. roast beef at 25 cents; 1 pk. spinach at 45 cents; 2 qts. onions at $12\frac{1}{2}$ cents; $1\frac{1}{2}$ doz. oranges at 12 cents; 2 qts. milk at 7 cents; how much change would you bring home to your mother?

Write in figures: Seven millions, two hundred five thousand and five. Write in words: 604,021. A butcher sold 369 lbs. of beef on Monday; 861 lbs. on Tuesday; 711 lbs. on Wednesday; 8,716 on Thursday; 84 lbs. on Friday; 306 on Saturday. How many pounds did he sell during the week? If the number of inhabitants of Mass. is 1,231,065, and the number in Vermont is 315,116, how many more are there in Mass. than in Vermont? If a horse can travel 45 miles a day, how far can he travel in 98 days? A farmer raised 4,088 bushels of corn on 56 acres of land, how many bushels was that per acre? Bought a hat for \$4.50, a coat for \$8.00; a vest for \$5.25; a cane for \$0.75, and a pair of boots for \$5.00. What did I pay for all? Add: 2,368; 405; 69; 724; 91; 1,203; 100; 928; 870; 26. Subtract:

63,104
15,869

In 15 gals. 1 qt. 0 pt. 3 gills, how many gills? Division: 21.5)94.316. A man bought some sugar for \$3.12; a barrel of flour \$9.00; a can of tomatoes \$0.10; some oatmeal \$0.70; some lard \$0.87; a cake of yeast \$0.02. He gave the man two ten dollar bills; how much money would he receive back? How many bushels, pecks, quarts, and pints in 632 pints of corn? Having six one hundred dollar bills, a man paid \$200 for a horse, \$175 for a wagon, and \$167 for robes. How much money has he left? $2,478 \times 236$. A man had 2,172 oranges and sold $\frac{3}{4}$ of them; how many did he sell? In one school 246.1 tons of coal were burned; in another 307.14 tons; in another 139.472 tons; in another 58.019 tons. How many tons were used?

Dictate: 54,060; 205,708; 90,007; 87,654; 8,800. If I bought a horse for \$250, a carriage for \$175, a harness for \$74.50, and a whip for \$1.25, what did they all cost me? Subtract \$4,987 from 5,600. If there were 9,064 trees on one piece of land, how many trees would there be on 6 such pieces? Divide \$87 equally among four men. Add 10,500 bushels, 61,081 bushels, 28,003 bushels, 13,294 bushels, and then take away 86,244 bushels from the sum. If you had \$768, and a man gave you \$225, and then you lost \$75, how much would you have left? Write 83, 47, 69, 79, and 56 by Roman numbers. How many are 8 times 7,803 bushels? Give 4,624 tons of coal to 8 men and see how much one man would have.

APPENDIX B.

STATISTICS

FOR THE

HALF-YEAR ENDING JANUARY 31, 1892.

SUMMARY.

January, 1892.

GENERAL SCHOOLS.	No. Schools.	No. of Teachers.	Average No. Pupils Belonging.	Average Attendance.	Average Absence.	Per cent. of Attendance.	No. at date.
Normal	1	10	197	191	6	97.0	182
Latin and High	10	120	3,488	3,303	185	94.0	3,444
Grammar	55	738	31,398	28,754	2,644	91.6	31,294
Primary	470	470	24,682	21,585	3,097	87.5	25,098
Kindergartens	36	69	1,896	1,370	526	72.3	1,991
Totals	572	1,407	61,661	55,203	6,458	89.5	62,009

SPECIAL SCHOOLS.	No. Schools.	No. of Teachers.	Average No. Pupils Belonging.	Average Attendance.	Average Absence.	Per cent. of Attendance.	No. at date.
Horace Mann	1	12	87	78	9	89	100
Spectacle Island	1	1	15	13	2	87	22
Evening High	1	32	2,148	1,462	.....	.....	.....
Evening	16	136	3,119	1,937	.....	.....	.....
Evening Drawing	5	26	666	577	.....	.....	.....
Totals	24	207	6,035	4,067	.....	.....	.....

REGULAR TEACHERS.

SCHOOLS.	TEACHERS.		
	Males.	Females.	Total.
Normal School	2	6	8
Latin School	15	.....	15
English High School	24	.....	24
Girls' High School	2	20	22
Girls' Latin School	1	7	8
Roxbury High School	3	11	14
Dorchester High School	2	6	8
Charlestown High School	2	5	7
West Roxbury High School	1	3	4
Brighton High School	1	3	4
East Boston High School	1	4	5
Grammar Schools	104	583	687
Primary Schools . . . . .	.....	470	470
Kindergartens . . . . .	.....	69	69
Totals	158	1,187	1,345

SPECIAL TEACHERS.

SCHOOLS.	Males.	Females.	Total.
Horace Mann School		12	12
Evening Schools	74	94	168
Evening Drawing Schools	23	3	26
French and German: High Schools	3		3
Music: High, Grammar, and Primary Schools	5		5
Kindergarten Methods: Normal School		1	1
Drawing: High and Grammar Schools	2		2
Physical Training	2		2
Sewing		30	30
Chemistry: Girls' High School		1	1
Laboratory Assistant: Girls' High School		1	1
Vocal and Physical Culture: Girls' High School		1	1
Vocal and Physical Culture: Girls' Latin School		1	1
Military Drill: High Schools	1		1
Manual Training Schools	2	5	7
Cooking Schools		7	7
Spectacle Island		1	1
Totals	112	157	269

NORMAL AND HIGH SCHOOLS.

Semi-Annual Returns to Jan. 31, 1892.

SCHOOLS.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Head-Masters.	Masters.	Junior-Masters.	Asst. Principals.	First Assistants.	Second Assts.	Assistants.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.									
Normal		197	197		191	191	6	97	1	1			1	5	
Latin	443		443	429		429	14	96	1	9	5				
Girls' Latin		219	219		204	204	15	93		1					7
English High	804		804	769		769	35	95	1	7	16				
Girls' High		714	714		671	671	43	94	1	1		1	1		18
Roxbury High	168	336	504	162	317	479	25	96	1		2		1		10
Dorchester High	105	127	232	97	118	215	17	92		1	1				6
Charlestown High	66	150	216	62	140	202	14	94	1		1				5
West Roxbury High	38	71	109	36	65	101	8	93		1					3
Brighton High	26	68	94	25	65	90	4	96		1					3
East Boston High	52	101	153	49	94	143	10	93		1					4
Totals	1,702	1,983	3,685	1,629	1,865	3,494	191	95	6	23	25	1	3	5	56

NORMAL, LATIN, AND HIGH SCHOOLS, CLASSIFICATIONS AND AGES, JAN. 31, 1892.

SCHOOLS.	First-year class.	Second-year class.	Third-year class.	Fourth-year class.	Fifth-year class.	Sixth-year class.	Out-of-course class.	Whole number at date.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	17 years.	18 years.	19 years.	20 years.	21 years and over.
	Normal	85	79	18	18	18	18	18	182	2	17	42	47	74
Latin	84	67	88	71	52	39	74	475	6	36	62	80	96	78	70	39	5	2	1
Girls' Latin	32	40	28	41	19	27	22	209	5	13	16	30	34	38	35	18	13	5	2
English High	330	225	205	40	..	..	..	800	..	..	7	88	191	230	193	72	17	1	1
Girls' High	329	156	119	75	..	..	..	679	..	..	2	52	131	190	146	98	40	16	4
Roxbury High	254	125	87	38	..	..	..	504	..	..	7	32	138	147	103	53	16	4	4
Dorchester High	93	78	56	..	..	..	..	227	..	..	1	14	63	72	56	16	4	..	1
Charlestown High	103	63	32	9	..	..	..	207	..	..	1	18	47	67	40	26	7	1	..
West Roxbury High	48	32	19	6	..	..	..	105	..	..	1	14	18	42	17	9	2	2	..
Brighton High	45	29	17	..	..	..	..	91	..	..	..	15	15	27	17	15	2	..	..
East Boston High	65	41	41	..	..	..	..	147	..	..	..	11	19	44	40	25	5	3	..
Totals	1,468	935	710	280	71	66	96	3,626	11	49	97	354	752	935	719	388	153	81	87
Percentages	40.5	25.8	19.6	7.7	2.0	1.8	2.6	100.0	0.3	1.4	2.7	9.8	20.7	25.8	19.8	10.7	4.2	2.2	

NORMAL AND HIGH SCHOOLS.

Number of Pupils to a Teacher, excluding Principals, Jan. 31, 1892.

SCHOOLS.	No. of Reg. Teachers.	Average No. of Pupils.	Average No. of Pupils to a Regular Teacher.
Normal	7	197	28.1
Latin	14	443	31.6
Girls' Latin	7	219	31.3
English High	23	804	35.0
Girls' High	21	714	34.0
Roxbury High	13	504	38.8
Dorchester High	7	232	33.1
Charlestown High	6	216	36.0
West Roxbury High	3	109	36.3
Brighton High	3	94	31.3
East Boston High	4	153	38.2
Totals	107	3,685	34.4

ADMISSIONS, SEPTEMBER, 1891.

NORMAL SCHOOL.

SCHOOLS.	Number Admitted.	Average Age.	
		Years.	Months.
Girls' High School	61	19	6
Roxbury High School	11	19	..
From other sources	15	19	2
Totals	87	19	7

High School Graduates, Fourth-year class, June, 1891, Girls, 79.

LATIN AND HIGH SCHOOLS.

SCHOOLS.	Admitted.		From Grammar Schools.	From other Sources.	Totals.	Average Age.	
	Boys.	Girls.				Years.	Mos.
Latin	149	.....	114	35	149	13	10
Girls' Latin .....	.....	80	60	20	80	13	10
English High	397	.....	333	64	397	15	6
Girls' High .....	.....	386	306	80	386	15	10
Roxbury High	87	158	209	36	245	15	6
Dorchester High	49	59	98	10	108	15	7
Charlestown High	35	80	104	11	115	15	3
West Roxbury High	18	36	49	5	54	15	9
Brighton High	12	38	47	3	50	15	6
East Boston High	22	46	33	13	46	15	7
Totals	769	883	1,353	277	1,630	15	1

GRAMMAR SCHOOLS.

Semi-Annual Returns to Jan. 31, 1892.

SCHOOLS.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Masters.	Sub-Masters.	1st Assistants.	2d Assistants.	3d Assistants.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.							
Adams	244	169	413	224	155	379	34	91	1	1	1	1	7
Agassiz	337	. . .	337	314	. . .	314	23	93	1	1	1	1	5
Allston	316	376	692	289	342	631	61	92	1	1	2	2	8
Bennett	251	273	524	240	260	500	24	96	1	1	1	1	7
Bigelow	730	. . .	730	691	. . .	691	39	94	1	2	1	2	9
Bowditch . . . . .	. . .	382	382	. . .	346	346	36	90	1	. .	1	1	6
Bowdoin . . . . .	. . .	357	357	. . .	315	315	42	88	1	. .	2	1	6
Brimmer	637	. . .	637	579	. . .	579	58	91	1	2	1	1	10
Bunker Hill	276	258	534	259	237	496	38	93	1	1	2	2	9
Chapman	299	280	579	275	254	529	50	92	1	1	2	2	6
Charles Sumner	346	314	660	321	291	612	48	93	1	1	2	1	9
Comins	289	285	574	269	253	522	52	91	1	1	2	1	6
Dearborn	387	281	668	351	251	602	66	90	1	1	2	2	8
Dillaway . . . . .	. . .	596	596	. . .	528	528	68	89	1	. .	2	2	7
Dudley	598	. . .	598	559	. . .	559	39	94	1	2	1	1	10
Dwight	652	. . .	652	603	. . .	603	49	92	1	2	1	1	9
Edward Everett	298	302	600	276	271	547	53	91	1	1	2	2	6
Elliot	988	. . .	988	890	. . .	890	98	90	1	3	1	1	15
Emerson	432	303	735	391	272	663	72	90	1	1	2	2	10
Everett . . . . .	. . .	685	685	. . .	615	615	70	90	1	. .	2	3	8
Franklin . . . . .	. . .	708	708	. . .	636	636	72	89	1	. .	2	3	9
Frothingham	293	341	634	268	304	572	62	90	1	1	2	2	7
Gaston . . . . .	. . .	754	754	. . .	677	677	77	90	1	. .	2	2	9
George Putnam	172	189	361	162	175	337	24	93	1	. .	1	1	5
Gibson	199	229	428	190	212	402	26	94	1	1	1	1	5
Hancock . . . . .	. . .	622	622	. . .	558	558	64	90	1	. .	2	2	9
Harris	150	177	327	142	164	306	21	94	1	. .	1	1	5

GRAMMAR SCHOOLS. — *Concluded.*

SCHOOLS.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Masters.	Sub-Masters.	1st Assistants.	2d Assistants.	3d Assistants.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.							
Harvard	310	312	622	286	283	569	53	92	1	1	2	2	8
Henry L. Pierce	144	125	269	133	113	246	23	91	.	1	.	2	3
Hugh O'Brien	451	324	775	421	298	719	56	93	1	1	2	2	10
Hyde . . . . .	.	610	610	.	554	554	56	91	1	.	2	2	8
John A. Andrew	376	337	713	354	313	667	46	94	1	1	2	2	9
Lawrence	802	.	802	756	.	756	46	94	1	3	1	1	12
Lewis	358	368	726	335	341	676	50	93	1	1	2	2	8
Lincoln	565	.	565	527	.	527	38	93	1	1	1	1	7
Lowell	378	389	767	349	347	696	71	92	1	1	2	2	9
Lyman	379	208	582	350	183	533	47	92	1	1	2	2	7
Martin	187	163	350	174	145	322	28	92	1	1	1	2	4
Mather	313	296	609	288	264	552	57	91	1	1	2	2	7
Minot	155	165	320	147	152	299	21	93	1	.	1	1	4
Mt. Vernon	121	119	240	113	111	224	16	93	.	1	1	1	4
Norcross . . . . .	.	681	681	.	611	611	70	90	1	.	2	3	9
Phillips	791	.	791	709	.	709	82	90	1	2	1	1	11
Prescott	251	236	487	231	215	446	41	92	1	1	1	1	9
Prince	241	277	518	222	251	473	45	91	1	1	1	1	7
Quincy	524	.	524	468	.	468	56	89	1	2	1	1	7
Rice	476	.	476	436	.	436	40	92	1	2	1	5	2
Sherwin	576	.	576	530	.	530	46	92	1	2	1	1	7
Shurtleff . . . . .	.	661	661	.	601	601	60	91	1	.	2	3	8
Stoughton	225	213	438	211	195	406	32	93	1	1	1	1	7
Thomas N. Hart	460	.	460	432	.	432	28	94	1	1	1	1	6
Tileston	61	70	131	58	65	123	8	94	.	1	.	.	2
Warren	318	351	669	307	335	642	27	96	1	1	2	2	8
Wells . . . . .	.	542	542	.	485	485	57	90	1	.	2	1	8
Winthrop . . . . .	.	719	719	.	641	641	78	89	1	.	2	5	9
Totals	16,356	15,042	31,398	15,130	13,624	28,754	2,644	91.6	52	52	81	92	410

GRAMMAR SCHOOLS.
Number of Pupils in each Class, Whole Number, and Ages, Jan. 31, 1892.

SCHOOLS.	First Class.	Second Class.	Third Class.	Fourth Class.	Fifth Class.	Sixth Class.	Ungraded Class.	Whole number.	Under eight years.	Eight years.	Nine years.	Ten years.	Eleven years.	Twelve years.	Thirteen years.	Fourteen years.	Fifteen years.	Sixteen years.	Seventeen years.	Eighteen years and over.
Adams	35	37	79	77	85	90	..	403	2	12	33	63	70	73	60	53	27	8	1	1
A gassiz	32	53	54	79	111	79	..	408	..	3	32	62	62	63	69	75	27	8	7	..
Allston	45	101	104	139	138	158	..	685	..	18	75	120	107	136	107	71	40	8	3	..
Bennett	74	58	83	112	98	90	..	515	..	3	34	66	62	98	89	73	59	25	6	..
Bigelow	59	86	111	151	156	158	..	721	..	11	74	120	127	127	130	81	41	10	..	..
Bowditch	38	59	56	60	78	93	..	384	..	6	26	60	67	59	57	46	38	22	3	..
Bowdoin	27	36	65	41	85	92	..	346	..	..	20	51	59	47	51	61	31	19	5	2
Brimmer	35	89	93	91	147	137	42	634	..	17	42	98	114	108	113	78	38	19	6	1
Banker Hill	46	54	89	113	102	98	15	517	..	8	33	59	83	118	87	65	43	17	2	..
Chapman	48	61	95	104	131	88	..	577	..	16	41	87	80	93	80	83	59	28	8	2
Charles Sumner	46	81	90	130	157	151	..	653	2	14	80	97	105	110	102	83	35	25	1	1
Comins	49	88	90	112	112	110	..	561	..	8	43	85	100	106	95	82	32	10	..	..
Dearborn	44	89	86	112	160	162	..	653	..	18	43	110	118	103	114	80	47	14	6	..
Dillaway	43	59	141	112	116	116	..	587	1	4	44	75	91	117	104	78	46	21	6	..
Dudley	47	87	88	134	100	114	30	600	1	1	50	82	95	110	111	85	52	21	1	..
Dwight	49	93	93	156	114	116	36	657	1	22	53	83	125	96	113	82	56	20	5	1
Edward Everett	48	77	109	114	143	112	..	603	..	6	51	68	80	121	110	88	52	23	3	1
Elhot	47	101	105	122	123	169	332	999	9	33	63	121	158	213	203	140	52	7	..	..
Emerson	47	58	112	112	222	178	..	729	..	9	47	101	108	126	142	119	47	25	5	..
Everett	68	108	111	108	162	116	..	673	..	19	54	76	112	102	115	84	79	25	6	1
Franklin	46	108	103	156	106	163	32	714	..	8	50	92	122	131	123	104	57	17	9	1
Frothingham	50	58	96	101	112	167	35	619	..	14	57	90	106	109	106	80	43	14	..	..
Gaston	74	52	104	172	171	168	..	741	1	17	70	102	129	119	121	77	63	29	12	1
George Putnam	33	46	57	50	60	79	34	359	..	3	31	55	71	51	51	47	30	14	4	2

Gibson	47	49	70	87	70	90	...	413	...	6	39	47	74	64	65	68	31	16	3	...
Hancock	35	29	48	99	108	122	185	626	8	11	37	92	118	123	123	64	42	11	1	1
Harris	27	47	57	54	54	90	...	329	...	2	18	37	70	63	62	54	18	5	...	...
Harvard	48	52	96	101	160	143	17	617	...	2	43	62	129	132	110	80	42	13	4	...
Henry L. Pierce	33	40	51	50	38	56	...	268	...	5	21	35	36	56	39	43	23	9	...	1
Hugh O'Brien	49	111	103	151	172	182	...	768	...	12	49	122	124	132	160	92	62	12	3	...
Ilyde	43	90	85	97	162	110	38	625	...	11	49	73	105	112	94	96	53	26	6	...
John A. Andrew	38	55	99	151	162	155	43	703	...	8	60	99	139	119	130	87	44	16	1	...
Lawrence	53	98	129	143	152	146	62	783	...	10	53	117	159	170	166	80	27	1	...	...
Lewis	89	113	116	120	188	125	...	751	...	8	52	111	128	132	117	103	50	33	15	2
Lincoln	48	61	89	96	110	122	29	555	1	14	45	77	94	102	105	72	32	12	...	1
Lowell	96	54	97	150	171	175	...	743	...	18	81	132	133	109	117	93	44	15	1	...
Lyman	47	58	92	102	135	142	...	576	...	8	31	76	91	136	100	87	37	10	...	...
Martin	47	48	44	44	83	87	...	353	...	10	37	45	57	50	50	42	36	17	7	...
Mather	48	58	102	110	149	105	37	609	...	7	25	94	106	126	115	81	44	7	4	...
Minot	28	41	47	55	71	75	...	317	...	7	38	41	48	48	64	38	23	8	2	...
Mt. Vernon	30	29	44	38	41	59	...	241	...	1	33	32	31	41	40	35	23	8	2	...
Norcross	36	58	104	120	180	192	...	690	...	8	51	96	138	129	118	111	31	7	1	...
Phillips	41	80	80	163	159	172	112	810	...	16	72	119	133	161	138	106	48	13	3	1
Prescott	45	58	96	97	94	104	...	494	...	4	41	53	95	68	100	83	31	11	7	1
Prince	72	81	90	96	86	98	...	523	...	5	45	82	71	74	86	63	62	28	7	...
Quincy	38	35	47	93	104	157	43	522	...	6	27	67	98	119	105	74	20	3	3	...
Rice	43	52	79	93	106	101	...	474	...	7	22	64	89	97	82	67	32	14	...	...
Sherwin	38	53	102	102	136	97	32	560	...	5	30	64	108	123	93	63	46	24	3	1
Shurtleff	56	51	89	104	206	158	...	664	...	15	49	81	121	120	163	104	48	21	2	...
Stoughton	53	68	78	80	75	91	...	445	...	4	38	63	81	74	66	66	30	16	...	2
Thomas N. Hart	32	47	76	78	105	111	...	449	...	11	43	76	81	75	60	55	34	11	3	...
Tileston	19	23	16	24	23	26	...	131	...	3	18	16	18	33	7	21	9	6	...	...
Warren	45	57	115	116	148	144	42	667	...	7	58	102	104	108	120	85	47	25	11	...
Wells	39	49	54	80	94	116	119	551	...	4	44	77	92	122	100	73	32	6	2	...
Winthrop	60	84	96	132	182	143	...	697	...	16	61	69	121	133	135	89	51	14	6	2
Totals	2,556	3,568	4,705	5,689	6,763	6,698	1,315	31,294	21	521	2,456	4,349	5,344	5,687	5,423	4,190	2,239	842	196	26
Per cents.	8.2	11.4	15.0	18.2	21.6	21.4	4.2	100.0	0.1	1.7	7.8	13.9	17.1	18.2	17.3	13.4	7.1	2.7	0.6	0.1

DISTRIBUTION OF PUPILS IN RESPECT BOTH

CLASSES.			Under 4 years.	4 years.	5 years.	6 years.	7 years.	8 years.	9 years.
Latin Schools.	All Classes }	Boys . .	..	..	..	..	..	..	..
		Girls . .	..	..	..	..	..	..	..
	Totals . . . . .	..	..	..	..	..	..	..	..
High Schools.	Advanced Class . . . }	Boys . .	..	..	..	..	..	..	..
		Girls . .	..	..	..	..	..	..	..
	Third-year Class . . . }	Boys . .	..	..	..	..	..	..	..
		Girls . .	..	..	..	..	..	..	..
	Second-year Class . . . }	Boys . .	..	..	..	..	..	..	..
Girls . .		..	..	..	..	..	..	..
First-year Class . . . }	Boys . .	..	..	..	..	..	..	..
Totals . . . . .	..	..	..	..	..	..	..	..
Grammar Schools.	First Class }	Boys . .	..	..	..	..	..	..	..
		Girls . .	..	..	..	..	..	..	..
	Second Class }	Boys . .	..	..	..	..	..	..	..
		Girls . .	..	..	..	..	..	..	..
	Third Class }	Boys . .	..	..	..	..	..	..	..
		Girls . .	..	..	..	..	..	..	..
	Fourth Class }	Boys . .	..	..	..	..	..	1	11
		Girls . .	..	..	..	..	..	..	10
Fifth Class }	Boys . .	..	..	..	..	..	10	257	
	Girls . .	..	..	..	..	..	9	250	
Sixth Class }	Boys . .	..	..	..	..	4	222	909	
	Girls . .	..	..	..	..	4	229	893	
Ungraded Class . . . }	Boys . .	..	..	..	..	10	39	76	
	Girls . .	..	..	..	..	3	11	50	
Totals . . . . .	..	..	..	..	..	21	521	2,456	
Primary Schools.	First Class }	Boys . .	..	..	..	5	280	1,007	1,118
		Girls . .	..	..	..	7	290	994	959
	Second Class }	Boys . .	..	..	3	470	1,460	1,343	673
		Girls . .	..	..	12	449	1,234	1,150	536
	Third Class }	Boys . .	..	31	1,550	2,210	1,247	462	138
Girls . .		..	28	1,293	1,917	1,097	452	122	
Totals . . . . .	..	..	59	2,858	5,058	5,608	5,408	3,546	
Kinder- gartens.	All Classes }	Boys . .	100	530	269	35	1	..	..
		Girls . .	112	530	368	44	2	..	..
	Totals . . . . .	..	212	1,060	637	79	3	..	..
Totals by Ages . . . . .		..	212	1,119	3,495	5,137	5,632	5,929	6,002

TO AGE AND TO CLASSES, JANUARY 31, 1892.

10 years.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	17 years.	18 years.	19 years and over.	Totals by Classes.
. .	6	36	62	80	96	78	70	39	8	475
. .	5	13	16	30	34	38	35	18	20	209
. .	11	49	78	110	180	116	105	57	28	684
. .	. .	. .	. .	. .	. .	6	18	15	7	46
. .	. .	. .	. .	. .	. .	4	31	38	49	122
. .	. .	. .	. .	. .	16	76	120	73	11	296
. .	. .	. .	. .	. .	6	62	83	82	47	280
. .	. .	. .	2	18	90	145	81	20	4	360
. .	. .	. .	. .	9	54	138	125	56	7	389
. .	. .	. .	11	118	209	148	51	4	1	542
. .	. .	. .	6	99	247	240	103	26	4	725
. .	. .	. .	19	244	622	819	612	314	130	2,760
. .	1	26	177	411	373	190	56	6	. .	1,240
. .	. .	12	132	382	437	273	72	8	. .	1,316
2	22	199	530	617	342	106	16	4	. .	1,838
. .	15	130	444	583	389	139	27	3	. .	1,730
33	199	652	791	493	176	36	7	2	. .	2,389
18	191	553	711	520	246	64	10	3	. .	2,316
225	746	928	711	311	86	9	2	. .	. .	3,070
181	655	767	603	356	69	13	5	. .	. .	2,659
838	1,000	759	425	171	35	4	. .	. .	. .	3,499
765	961	719	386	141	29	4	. .	. .	. .	3,264
1,055	687	367	155	50	15	1	1	. .	. .	3,466
987	608	315	142	36	16	2	. .	. .	. .	3,232
168	158	165	139	78	18	. .	. .	. .	. .	851
77	101	95	77	41	8	1	. .	. .	. .	464
4,349	5,344	5,687	5,423	4,190	2,239	842	196	26	. .	31,294
604	198	63	24	. .	. .	. .	. .	. .	. .	3,299
523	215	58	25	. .	. .	. .	. .	. .	. .	3,071
249	73	24	8	. .	. .	. .	. .	. .	. .	4,303
206	75	32	10	. .	. .	. .	. .	. .	. .	3,704
45	21	6	5	. .	. .	. .	. .	. .	. .	5,715
52	27	13	5	. .	. .	. .	. .	. .	. .	5,006
1,679	609	196	77	. .	. .	. .	. .	. .	. .	25,098
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	935
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1,056
. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1,991
6,028	5,964	5,932	5,597	4,544	2,991	1,777	913	397	158	61,827

PRIMARY SCHOOLS.

Semi-Annual Returns, to Jan. 31, 1892.

DISTRICTS.	Teachers.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Between 5 and 8 years.	Over 8 years.	Whole No. at date.
		Boys.	Girls.	Total.	Boys.	Girls.	Total.					
Adams	6	156	126	282	135	111	246	36	87	176	136	312
Agassiz	4	117	86	203	102	71	173	30	85	103	93	196
Allston	9	282	258	540	247	224	471	69	87	288	244	532
Bennett	7	183	155	338	166	141	307	31	91	183	159	342
Bigelow	12	397	307	704	350	263	613	91	87	406	299	705
Bowditch	6	158	145	303	135	121	256	47	84	171	148	319
Bowdoin	7	167	161	328	147	136	283	45	86	182	173	355
Brimmer	8	214	176	390	189	153	342	48	87	216	186	402
Bunker Hill	11	200	177	377	181	152	333	44	88	206	186	392
Chapman	6	167	131	298	140	107	247	51	83	175	139	314
Charles Sumner	10	290	250	540	263	214	477	63	88	333	195	528
Comins	6	150	124	274	132	106	238	36	87	162	125	287
Dearborn	12	341	280	621	293	232	525	96	85	294	323	622
Dillaway	7	182	189	371	161	161	322	49	86	219	169	388
Dudley	13	329	327	656	289	270	559	97	85	313	341	654
Dwight	10	258	258	516	228	226	454	62	88	302	214	516
Edward Everett	8	225	226	451	199	191	390	61	86	264	199	463
Eliot	9	289	170	459	250	144	394	65	86	273	199	472
Emerson	10	307	282	589	273	243	516	73	87	299	304	603
Everett	10	256	273	529	216	221	437	92	82	272	270	542
Franklin	12	285	286	571	248	245	493	78	87	330	276	606
Frothingham	9	235	233	468	210	205	415	53	89	299	187	486
Gaston	9	194	249	443	176	219	395	48	89	260	184	444
George Putnam	4	144	141	285	125	121	246	39	86	141	140	281
Gibson	6	157	147	304	141	131	272	32	89	165	144	309
Hancock	17	464	510	974	422	461	883	91	91	530	466	996
Harris	6	153	134	287	136	112	248	39	85	143	145	288
Harvard	12	318	318	636	284	280	564	72	89	319	296	615

PRIMARY SCHOOLS. — *Concluded.*

DISTRICTS.	Teachers.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Between 5 and 8 years.	Over 8 years.	Whole No. at date.
		Boys.	Girls.	Total.	Boys.	Girls.	Total.					
Henry L. Pierce,	4	106	92	198	90	76	166	32	83	86	83	169
Hugh O'Brien .	12	427	259	686	365	211	576	110	84	382	320	702
Hyde	9	251	251	502	228	221	449	53	91	269	238	507
John A. Andrew	11	298	310	608	269	269	538	70	88	322	284	606
Lawrence . . .	17	697	239	936	631	213	844	92	90	513	421	934
Lewis	9	264	260	524	231	218	449	75	86	276	267	543
Lincoln	6	207	101	308	180	88	268	40	88	172	152	324
Lowell	16	454	448	902	403	391	794	108	88	584	362	946
Lyman	8	246	158	404	224	137	361	43	89	196	225	421
Martin	3	80	62	142	72	53	125	17	88	96	51	147
Mather	11	245	248	493	211	202	413	80	83	286	207	493
Minot	4	116	117	233	97	98	195	38	84	142	101	243
Mount Vernon .	5	86	69	155	76	58	134	21	86	79	77	156
Norcross . . .	13	204	445	649	186	402	588	61	91	329	320	649
Phillips	7	197	197	394	180	175	355	39	90	214	171	385
Prescott	7	180	180	360	161	157	318	42	88	195	174	369
Prince	4	124	119	243	101	95	196	47	81	118	144	262
Quincy	11	395	248	643	348	216	564	79	87	316	338	654
Rice	8	195	173	368	170	142	312	56	85	171	212	383
Sherwin	9	207	225	432	187	201	388	44	90	239	194	433
Shurtleff	6	172	173	345	160	155	315	30	91	168	187	355
Stoughton . . .	4	126	141	267	112	123	235	32	88	150	112	262
Thomas N. Hart	9	377	149	526	331	126	457	69	86	305	235	540
Tileston	2	35	35	70	30	31	61	9	87	49	26	75
Warren	7	187	186	373	172	167	339	34	91	222	165	387
Wells	16	455	423	878	410	379	789	89	89	498	370	868
Winthrop	6	140	166	306	119	138	257	49	84	182	134	316
Totals . . .	470	13,089	11,593	24,682	11,582	10,003	21,585	3,097	87.5	13,583	11,515	25,098

PRIMARY SCHOOLS.

Number of Pupils in each Class, Whole Number, and Ages, Jan. 31, 1892.

DISTRICTS.	First Class.	Second Class.	Third Class.	Whole Number.	Five years and under.	Six years.	Seven years.	Eight years.	Nine years.	Ten years.	Eleven years.	Twelve years.	Thirteen years and over.
Adams	85	56	171	312	48	70	58	67	30	20	13	5	1
Agassiz	54	72	70	196	18	30	55	43	24	19	5	..	2
Allston	159	159	214	532	51	113	124	116	76	34	13	4	1
Bennett	61	135	146	342	36	71	76	66	56	25	8	3	1
Bigelow	166	223	316	705	77	157	172	152	84	42	16	3	2
Bowditch	87	118	114	319	38	63	70	78	38	24	5	2	1
Bowdoin	100	107	148	355	34	60	88	78	56	27	7	3	2
Brimmer	91	120	191	402	51	80	85	88	61	30	3	2	2
Bunker Hill	97	141	154	392	38	87	81	77	59	33	14	1	2
Chapman	87	99	128	314	41	59	75	75	43	14	2	4	1
Chas. Sumner	109	234	185	528	92	128	113	117	62	11	5	..	..
Comins	79	87	121	287	23	67	72	52	43	23	5	2	..
Dearborn	148	149	325	622	80	103	111	126	94	72	23	11	2
Dillaway	99	121	168	388	43	95	81	82	58	21	6	1	1
Dudley	170	206	278	654	54	112	147	142	112	48	28	7	4
Dwight	132	146	238	516	61	122	119	125	55	25	5	4	..
Edward Everett,	127	140	196	463	44	95	125	102	58	28	9	1	1
Eliot	77	180	215	472	77	96	100	75	58	34	24	7	1
Emerson	137	181	285	603	57	112	130	137	73	45	26	17	6
Everett	169	173	200	542	40	99	133	126	85	40	12	2	5
Franklin	156	159	291	606	93	106	131	138	85	33	15	5	..
Frothingham	156	164	166	486	84	95	120	101	48	27	8	3	..
Gaston	128	143	173	444	71	89	100	112	40	21	9	2	..
Geo. Putnam	86	80	115	281	18	54	69	61	48	23	8	..	..
Gibson	79	100	130	309	36	60	69	79	45	12	8	..	..
Hancock	178	269	549	996	99	206	225	187	156	85	32	6	..
Harris	91	93	104	288	17	54	72	60	45	19	13	6	2
Harvard	149	199	267	615	75	104	140	134	96	46	19	1	..

PRIMARY SCHOOLS. — *Concluded.*

DISTRICTS.	First Class.	Second Class.	Third Class.	Whole Number.	Five years and under.	Six years.	Seven years.	Eight years.	Nine years.	Ten years.	Eleven years.	Twelve years.	Thirteen years and over.
Henry L. Pierce	50	60	59	169	19	25	42	39	28	11	2	2	1
Hugh O'Brien,	192	210	300	702	78	159	145	161	88	55	10	2	4
Hyde	114	167	226	507	62	106	101	112	67	36	15	6	2
J. A. Andrew .	156	220	230	606	44	138	140	123	88	44	20	6	3
Lawrence . .	235	301	398	934	121	184	208	179	139	74	19	4	6
Lewis	139	197	207	543	41	106	129	131	94	32	10		
Lincoln . . .	105	99	120	324	38	63	71	61	60	26	5		
Lowell	210	322	414	946	123	224	237	179	117	46	15	3	2
Lyman	99	148	174	421	26	78	92	99	66	36	12	11	1
Martin	48	40	59	147	23	34	34	32	15	3	1		
Mather	120	168	205	493	68	99	119	110	73	24			
Minot	57	62	124	243	40	47	55	44	36	14	4	2	1
Mt. Vernon . .	54	45	57	156	14	33	32	41	26	5	4	1	
Norcross . . .	150	188	311	649	97	119	113	146	90	46	21	14	3
Phillips . . .	77	128	180	385	43	88	83	68	50	28	17	6	2
Prescott . . .	110	99	160	369	79	61	55	84	47	23	15	3	2
Prince	59	98	105	262	17	45	56	61	39	32	9	3	
Quincy	169	253	232	654	73	126	117	146	109	51	23	7	2
Rice	104	139	140	383	21	58	92	92	74	26	16	4	
Sherwin	86	142	205	433	44	92	103	89	69	27	6	3	
Shurtleff . . .	114	111	130	355	26	57	85	83	67	26	5	4	2
Stoughton . .	84	88	90	262	26	53	71	60	40	8	1	1	2
Thos. N. Hart,	176	162	202	540	52	120	133	106	72	36	14	4	3
Tileston . . .	16	17	42	75	10	18	21	13	10	3			
Warren	105	103	179	387	54	81	87	93	47	19	5		1
Wells	194	283	391	868	139	182	177	204	114	45	4	2	1
Winthrop . . .	90	103	123	316	38	75	69	56	33	22	15	6	2
Totals	6,370	8,007	10,721	25,098	2,917	5,058	5,608	5,408	3,546	1,679	609	196	77
Percentages	25.4	31.9	42.7	100	11.6	20.2	22.3	21.6	14.1	6.7	2.4	0.8	0.3

GRAMMAR SCHOOLS.

Number of Pupils to a Teacher, excluding Principals, Jan. 31, 1892.

SCHOOLS.	No. of Teachers.	Average No. of Pupils.	No. of Pupils to a Teacher.	SCHOOLS.	No. of Teachers.	Average No. of Pupils.	No. of Pupils to a Teacher.
Adams	10	413	41.3	H. L. Pierce . .	5	269	53.4
Agassiz	8	337	42.1	Hugh O'Brien.	15	775	51.7
Allston	13	692	53.2	Hyde	12	610	50.8
Bennett	10	524	52.4	J. A. Andrew .	14	713	50.9
Bigelow	14	730	52.1	Lawrence	17	802	47.2
Bowditch	8	382	47.8	Lewis	13	726	55.8
Bowdoin	9	357	39.7	Lincoln	10	565	56.5
Brimmer	14	637	45.5	Lowell	14	767	54.8
Bunker Hill .	14	534	38.1	Lyman	12	582	48.5
Chapman	11	579	52.6	Martin	8	350	43.8
Chas. Sumner	13	660	50.8	Mather	12	609	50.8
Comins	10	574	57.4	Minot	6	320	53.3
Dearborn	13	668	51.4	Mt. Vernon . . .	6	240	40.0
Dillaway	11	596	54.2	Norcross	14	681	48.6
Dudley	14	598	42.7	Phillips	15	791	52.7
Dwight	13	652	50.2	Prescott	12	487	40.6
Edw. Everett.	11	600	54.5	Prince	10	518	51.8
Eliot	20	988	49.4	Quincy	11	524	47.6
Emerson	15	735	49.0	Rice	10	476	47.6
Everett	13	685	52.7	Sherwin	11	576	52.4
Franklin	14	708	50.6	Shurtleff	13	661	50.8
Frothingham.	12	634	52.8	Stoughton . . .	10	438	43.8
Gaston	13	754	58.0	Thos. N. Hart.	9	460	51.1
Geo. Putnam.	7	361	51.6	Tileston	2	131	65.5
Gibson	8	428	53.5	Warren	13	699	51.5
Hancock	13	622	47.8	Wells	11	542	49.3
Harris	7	327	46.7	Winthrop	16	719	44.9
Harvard	13	622	47.8	Totals	632	31,398	49.7

PRIMARY SCHOOLS.

Number of Pupils to a Teacher, Jan. 31, 1892.

DISTRICTS.	No. of Teachers.	Av. whole No. of Pupils.	No. of Pupils to a Teacher.	DISTRICTS.	No. of Teachers.	Av. whole No. of Pupils.	No. of Pupils to a Teacher.
Adams	6	282	47.0	Henry L. Pierce	4	198	49.5
Agassiz	4	203	50.8	Hugh O'Brien ..	12	686	57.2
Allston	9	540	60.0	Hyde	9	502	55.8
Bennett	7	338	48.3	J. A. Andrew ..	11	608	55.3
Bigelow	12	704	58.7	Lawrence	17	936	55.1
Bowditch	6	303	50.5	Lewis	9	524	58.2
Bowdoin	7	328	46.9	Lincoln	6	308	51.3
Brimmer	8	390	48.8	Lowell	16	902	56.4
Bunker Hill.	11	377	34.3	Lyman	8	404	50.5
Chapman	6	298	49.7	Martin	3	142	47.3
Ch's Sumner	10	540	54.0	Mather	11	493	44.8
Comins	6	274	45.7	Minot	4	233	58.3
Dearborn	12	621	51.8	Mt. Vernon	5	155	31.0
Dillaway	7	371	53.0	Norcross	13	649	49.9
Dudley	13	656	50.5	Phillips	7	394	56.3
Dwight	10	516	51.6	Prescott	7	360	51.4
Edw. Everett	8	451	56.4	Prince	4	243	60.8
Eliot	9	459	51.0	Quincy	11	643	58.5
Emerson	10	589	58.9	Rice	8	368	46.0
Everett	10	529	52.9	Sherwin	9	432	48.0
Franklin	12	571	47.6	Shurtleff	6	345	57.5
Frothingham	9	468	52.0	Stoughton	4	267	66.5
Gaston	9	443	49.2	Thos. N. Hart	9	526	58.4
Geo. Putnam	4	285	71.2	Tileston	2	70	35.0
Gibson	6	304	50.7	Warren	7	373	53.3
Hancock	17	974	57.3	Wells	16	878	54.9
Harris	6	287	47.8	Winthrop	6	306	51.0
Harvard	12	636	53.0	Totals	470	24,682	52.5

PRIMARY SCHOOLS.

Number of Pupils promoted to Grammar Schools for the five months ending Jan. 31, 1892.

DISTRICTS.	Boys.	Girls.	Total.	DISTRICTS.	Boys.	Girls.	Total.
Adams	54	49	103	Henry L. Pierce	29	22	51
Agassiz	22	19	41	Hugh O'Brien	119	69	188
Allston	53	82	135	Hyde	43	57	100
Bennett	41	43	84	John A. Andrew	49	44	93
Bigelow	77	56	133	Lawrence	97	36	133
Bowditch	36	39	75	Lewis	60	74	134
Bowdoin	35	43	78	Lincoln	55	24	79
Brimmer	41	20	61	Lowell	104	99	203
Bunker Hill	46	66	112	Lyman	55	40	95
Chapman	49	47	96	Martin	18	22	40
Charles Sumner	67	62	129	Mather	60	62	122
Comins	49	33	82	Minot	29	26	55
Dearborn	82	51	133	Mt. Vernon	27	26	53
Dillaway	37	46	83	Norcross	25	72	97
Dudley	71	73	144	Phillips	18	16	34
Dwight	54	83	137	Prescott	48	43	91
Edward Everett	58	49	107	Prince	26	39	65
Eliot	49	23	72	Quincy	51	33	84
Emerson	61	67	128	Rice	20	26	46
Everett	64	64	128	Sherwin	54	49	103
Franklin	77	82	159	Shurtleff	36	32	68
Frothingham	86	71	157	Stoughton	34	25	59
Gaston	45	89	134	Thomas N. Hart	78	40	118
George Putnam	27	24	51	Tileston	6	12	18
Gibson	39	30	69	Warren	42	54	96
Hancock	74	73	147	Wells	110	118	228
Harris	33	37	70	Winthrop	11	16	27
Harvard	41	40	81	Totals	2772	2,637	5,409

GRAMMAR SCHOOLS.

Number of Diploma-Scholars, June, 1891. Number of these admitted to High and Latin Schools, September, 1891.

SCHOOLS.	DIPLOMAS.			Admitted to High and Latin Schools.	SCHOOLS.	DIPLOMAS.			Admitted to High and Latin Schools.
	Boys.	Girls.	Total.			Boys.	Girls.	Total.	
Adams	17	11	28	13	H'n'y L. Pierce	15	18	33	18
Agassiz	32	....	32	22	Hugh O'Brien	48	42	90	62
Allston.....	35	46	81	50	Hyde .....	....	30	30	15
Bennett	23	23	46	29	J. A. Andrew.	18	19	37	16
Bigelow	37	....	37	16	Lawrence	69	....	69	27
Bowditch.....	....	35	35	28	Lewis	35	45	80	71
Bowdoin .....	....	34	34	18	Lincoln	35	....	35	16
Brimmer	33	....	33	12	Lowell	26	26	52	27
Bunker Hill ...	14	33	47	18	Lyman	33	17	50	20
Chapman.....	28	23	51	23	Martin	18	31	49	18
Chas. Sumner .	21	18	39	19	Mather.....	20	23	43	27
Comins	15	27	42	16	Minot	13	13	26	19
Dearborn	15	32	47	23	Mt. Vernon ..	8	17	25	19
Dillaway .....	....	44	44	35	Norcross ....	....	31	31	10
Dudley	46	....	46	31	Phillips	38	....	38	15
Dwight.....	52	....	52	46	Prescott.....	15	25	40	20
Edward Everett	21	24	45	34	Prince	13	34	47	33
Eliot.....	46	....	46	19	Quincy	34	....	34	8
Emerson	21	24	45	23	Rice	47	....	47	36
Everett .....	....	75	75	47	Sherwin.....	33	....	33	9
Franklin .....	....	57	57	30	Shurtleff .....	....	52	52	17
Frothingham ..	19	26	45	26	Stoughton ...	20	26	46	33
Gaston .....	....	50	50	26	Thos. N. Hart	32	....	32	20
George Putnam	13	19	32	27	Tileston.....	5	5	10	6
Gibson	22	22	44	44	Warren	20	24	44	22
Hancock .....	....	38	38	8	Wells .....	....	38	38	13
Harris	15	13	28	20	Winthrop.....	....	52	52	23
Harvard	20	31	51	18	Totals	1140	1273	2413	1341

REPORT ON ORGANIZATION,

GRADES.	Adams.	Agassiz.	Allston.	Bennet.	Bigelow.
GRAMMAR: Class I.	34	35	45	52	60
I. and II.				55	
II.	43	55	50 50		47 41
II. and III.				56	
III.	33 34	56	54 56	58	57 57
III. and IV.				54	
IV.	39 37	54	50 47 47	55	56 55 56
IV. and V.		56			
V.	39 37	58	48 50 50	50 51	54 52 52
V. and VI.					
VI.	58 59	53 56	51 52 50	48 46	49 51 49
Ungraded					
PRIMARY: Class I.		50	56 55 56	50	58 59 56
I. and II.	41 42				
II.		51	54 52 56	52 51	55 58 55 54
II. and III.	42 43	52		29	
III.	54 54	64	42 45 68 67	50 60	57 57 53 56 53 52
I., II., and III. . . .				40	
Kindergarten				61	

OCTOBER 31, 1891.

Bowditch.	Bowdoin.	Brimmer.	Bunker Hill.	Chapman.	Chas. Sumner.	Comins.	Dearborn.
47	29	36	45	45	47	49	44
52	42	47 48	54	60	42 44	40 50	44 46
58	35 36	46 47	51 49	43 53	46 43	46 51	50 44
60	45	44 49	36 37 43	54 54	56 57	57 55	55 54
57	44 46	46 52 48	35 36 35	53 51 38 38	57 60	58 58	55 51 55
57					56		
56	40 51	45 44 44	34 34 33	46 37	57 56	59 59	56 55 58
52	43 57	37 50	30 29 33	43 42	58 58	37 38	54 52 43
60		45	16		59		
55	42 61	47 50 46	41 42	43 45	60	42 46	52 56 45
56	42		34 38		577		
44 43	42 49	49 56 50	31 39 36 28	60 68	592 56	55 53	53 53 564 56 53 51
					41 28		
	67	49		50		68 58	63

¹ Including 16 of Class VI.

² Special assistant, class soon afterwards divided into two classes,

³ Special assistant.

REPORT ON ORGANIZATION,

GRADES.	Dillaway.	Dudley.	Dwight.	Edward Everett.	Eliot.
GRAMMAR : Class I.	44	48	51	49	48
I. and II.					
II.	50	43 44	47 46	60	56 56
II. and III.	55			57	
III.	56 59	48 43	43 53	54	55 56
III. and IV.				53	
IV.	56 56	49 48	56 54 47	54	53 53
IV. and V.		36		57	52
V.	60 60	50 47	53 58	54 53	49 45
V. and VI.					
VI.	55 57	57 58	56 54	53 54	55 55 56
Ungraded.		29	36		23 33 36 46 51 40 43 35
PRIMARY : Class I.	53	55 51 47	41 41	58	49
I. and II.	58 56	42	61	49 57	51
II.	53	54 57 56	55 52	48	50 52 54
II. and III.		52	56	49 187	
III.	57 46 43	53 44 53 54 51	58 53 55 36	52 55	51 55 49 49
I., II., and III. . . .					
Kindergarten	48		49		

¹ Special assistant.

OCTOBER 31, 1891. — *Continued.*

Emerson.	Everett.	Franklin.	Frothingham.	Gaston.	George Putnam.	Gibson.	Hancock.
48	69	47	51	38 36		47	36
					49		
57	52 56	54 52	58	54		52	32
			50		56		
53 48	55 58	57 57	51	57 58		43	48
36					57	56	
55 54	52 59	56 51 53	56 53	57 59 63		61	47 53
					56		
55 50 54 53	53 58 58	54 54	60 59	60 61 57		40 41	56 55
					56		
53 57	58 57	52 51 50	57 57 54	57 56 53	56	57 38	58 59
51 33		30	35		32		42 45 50 43
56 58	55 57 59	54 36	50 52 51	52 55	56		60 61 61
		51		50	56	51 59	
56 58 58	57 59 58	55 56 41 52	51 46 48	57 56			55 60 55 57 56
60					54	46 64	
45 67 69 58	49 48 46 51	53 56 54 52 47	57 57 57	65 59 50	57 59	49	60 55 57 59 57 58 70 55
						51	
	53	26			39		

² Including 15 of Class V.

³ Composed of 17 grammar pupils, Class VI., and 16 primary, Class I.

REPORT ON ORGANIZATION,

GRADES.	Harris.	Harvard.	H. L. Pierce.	Hugh O'Brien.	Hyde.	John A. Andrew.
GRAMMAR :						
Class I. }	29	48	33	50	43	39
I. and II. }						
II. }	50	56		58 55	48 45	58
II. and III. }			44			
III. }	57	48 53		51 51	44 43	54 53
III. and IV. }			52			
IV. }	55	54 48		52 55 52	50 48	49 50 52
IV. and V }			52			
V. }	52	50 53 56		57 56 56	52 54 54	56 56 55
V. and VI. }			41			
VI. }	49 37	53 46 45	55	63 61 63	52 56	56 54 56
Ungraded }		25			41	44
PRIMARY :						
Class I. }	40 55	52 55 46		52 54	57 57	53 52 55
I. and II. }			179	53 53 54		
II. }	46 52	56 56 51 54	43	51 55	62 60 58	53 56 55 53
II. and III. }				51		
III. }	51 56	54 53 62 60 63	43 46	53 53 59 57 54	53 58 56 57	60 60 60 58
I., II., and III. . . . }						
Kindergarten }		59			58 61	

¹ A special assistant.

OCTOBER 31, 1891. — *Continued.*

Lawrence.	Lewis.	Lincoln.	Lowell.	Lyman.	Martin.	Mather.	Minot.
53	45 44	50	45 50	46	48	46	28
49 54	55 54	55	56	52	48	57	42
		54					
47 48 36	57 57	54	50 50	47 48	45	50 53	49
50 53 52	62 59	51	53 51 51	56 52	44	56 55	54
50 55 54	60 59 59	44 59 58	55 56 54	48 44 47	42 43	55 55 39	55 40
54 47 47	62 60	56 57 240	57 58 58	47 49 49	42 41	55 52	52
37 29						38	
46 41 48 55 52	47 53	54 52	61 61 54	48 41	47	51 51	53
	45 56		52			51	
45 40 49 51 51	48	50 47	51 52 48 56 54	52 52 46	45	45 46 43	54
	52		51 53 57			52	
49 60 52 66 59 50 186	56 54 56 73	61 59	56 166 50 57	54 53 58	53	50 28 47 38	54 56 317
63	55			58		55	48

¹ Δ special assistant.

² Including the ungraded.

³ Adams street.

REPORT ON ORGANIZATION,

GRADES.	Mt. Vernon.	Norcross.	Phillips.	Prescott.	Prince.	Quiney.
GRAMMAR : Class I.		36	48	45	47 ² 23	39
I. and II.	56					
II.		60	54	59	54	36
II. and III.			55		56	
III.	37	53 52	54	50 50	57	48
III. and IV.						
IV.	36	61 58	56 58 54	56 47	55	51 52
IV. and V.					55	
V.	34	48 50 42 42	56 55 56	45 45	56	49 49
V. and VI.					58	
VI.	54	45 46 50 47	57 57 56	50 45	57	56 57 52
Ungraded	126		35 35			45
PRIMARY : Class I.	31	50 43 49	62	58 55	55	57 56 58
I. and II.			39			
II.	27	53 47 54 58	60 60	52 50	53 ³ 38	47 54 54
II. and III.			60			58 55
III.	37	41 54 40 58 57 63	61 64	36 57 57	49 ²	468 482 55
I., II., and III.	240 122					
Kindergarten			62	40	41	53

¹ The Germantown School.³ Small rented room.² Baker street.⁴ Special assistant.

OCTOBER 31, 1891. — *Concluded.*

Rice.	Sherwin.	Shurtleff.	Stough- ton.	Thos. N. Hart.	Tileston.	Warren.	Wells.	Win- throp.
43	39	56	26 526	31		45	40	61
					43			
56	56	56	44 524	51		56	49	46 44
43 38	54 52	43 46	50	51		58 62	55	51 49
			56	51	42			
45 46	54 55	54 55	49	58		58 57	40 41	47 48 46
53 53	53 52 32	52 54 51 52	53	52 55		49 49 52	48 46	49 51 51 38
			559		48			
50 49	50 50	53 52 50	49	56 58		50 49 48	61 63	46 46 44
	35					31	33 35 34	39
52 53	52 31	45 56	52	60 56 57		55 46	52 53 49 48	51
			563		32			
45 43 46	57 41 47	58 60	58	55 54 53		50 49	57 57 56 58 59	53 53
	53							
60 70	68 40 58	57 472	49 546	61 56 81	35	60 54 58	59 60 59 57 60 59	57 58
56		42	54	65			63	58

⁴ Special assistant.

⁵ Bailey street.

AVERAGE AGE OF PUPILS BY CLASSES,
OCTOBER 31, 1891.

NOTE.—Averages expressed in years and tenths of a year.

SCHOOLS.	CLASSES.						UN- GRADED.	PRIMARY.			KINDER- GARTEN.
	I.	II.	III.	IV.	V.	VI.		I.	II.	III.	
Boys' Latin	17.9	17.2	16.2	15.4	14.4	13.0	15.0				
Girls' Latin	18.5	17.7	17.0	16.0	14.5	13.1	15.3				
English High	17.7	17.2	16.2	15.5							
Girls' High	18.3	17.3	16.6	15.5							
Brighton High		18.0	16.3	15.4							
Charlestown High	18.5	17.4	17.0	15.6							
Dorchester High		17.1	16.3	15.6							
East Boston High		17.9	16.9	15.9							
Roxbury High	18.8	17.5	16.4	15.5							
W. Roxbury High	18.7	17.2	16.7	15.6							
Adams	14.6	14.1	13.4	12.4	11.2	10.4		8.9	8.6	6.8	
Agassiz	14.2	13.9	12.9	12.4	12.1	10.4		9.3	7.8	6.4	
Allston	14.3	13.7	12.8	11.8	10.9	9.8		8.4	7.5	6.3	
Bennett	14.9	14.1	13.3	12.9	11.4	10.6		9.3	8.0	6.2	4.2
Bigelow	14.3	13.7	12.9	12.0	10.7	10.1		9.2	7.8	6.3	
Bowditch	15.1	14.3	13.5	12.3	11.0	10.4		9.3	7.3	6.3	4.4
Bowdoin	15.1	14.5	13.3	13.0	11.7	10.5		9.1	8.0	6.8	4.3
Brimmer	15.3	14.1	13.5	11.8	11.1	10.1	12.5	8.6	7.7	6.2	4.1
Bunker Hill	14.8	14.0	13.1	12.3	11.2	10.3	12.0	9.2	8.0	6.5	
Chapman	15.5	14.7	13.4	12.8	11.1	9.8		8.9	7.7	6.4	3.8
Charles Sumner	15.0	14.3	13.0	12.5	11.2	9.8		8.4	7.3	5.7	
Comins	14.5	13.5	12.8	12.6	11.3	10.2		8.5	7.2	5.7	4.3
Dearborn	15.0	13.5	13.3	12.7	11.7	10.2		9.5	8.7	6.5	4.3
Dillaway	15.2	14.1	13.0	11.3	11.0	9.6		8.3	7.5	6.2	4.5
Dudley	14.9	13.1	13.5	12.1	11.5	9.9	12.8	8.9	7.9	6.4	
Dwight	15.2	14.5	13.7	12.3	11.0	9.6	11.2	8.5	7.9	6.4	4.1
Edward Everett	15.2	14.0	13.4	12.3	11.4	10.3		8.7	7.7	6.3	
Eliot	14.3	13.8	12.1	12.6	11.9	10.9		12.2	11.0	11.5	4.1
Emerson	15.5	14.0	13.6	12.9	11.9	10.7	11.0	9.4	8.5	6.6	4.3
Everett	15.1	14.7	13.0	12.4	11.5	10.1		8.6	7.9	6.6	4.2
Franklin	15.3	14.3	13.2	12.4	11.4	10.3	12.1	9.1	7.7	6.2	4.4
Frothingham	15.0	13.9	12.9	12.0	11.3	9.9	12.0	8.6	7.4	6.2	

AVERAGE AGE OF PUPILS BY CLASSES,
OCTOBER 31, 1891.

NOTE.—Averages expressed in years and tenths of a year.

SCHOOLS.	CLASSES.						UN- GRADED.	PRIMARY.			KINDER- GARTEN.
	I.	II.	III.	IV.	V.	VI.		I.	II.	III.	
Gaston	15.4	14.1	13.3	12.4	11.2	10.0		8.6	7.3	6.2	
George Putnam . .	14.8	14.4	13.3	12.3	12.1	10.2	11.5	9.0	8.2	6.2	4.5
Gibson	14.8	14.2	13.1	12.0	11.7	10.9		8.4	7.7	6.2	
Hancock	14.8	14.2	12.8	12.0	11.0	10.6	11.9	9.1	8.0	6.5	4.5
Harris	14.9	13.9	12.9	12.5	11.6	10.6		9.3	7.9	6.3	
Harvard	15.0	13.7	13.0	12.4	11.6	10.0	11.5	8.8	7.9	6.5	4.4
Henry L. Pierce . .	14.6	14.5	13.1	12.8	11.8	10.4		8.9	8.2	6.4	
Hugh O'Brien . . .	14.7	14.0	13.3	12.4	11.6	10.4		9.0	8.0	6.2	
Hyde	15.0	14.3	13.3	12.6	11.6	10.2	11.2	9.3	8.3	6.5	4.2
John A. Andrew . .	14.7	14.3	13.3	12.7	11.3	10.3	12.1	8.5	7.7	6.4	
Lawrence	13.9	13.4	12.9	12.4	11.4	10.4	10.5	9.1	8.0	6.5	4.0
Lewis	14.8	13.9	13.1	11.8	10.9	9.5		8.7	8.2	6.4	4.9
Lincoln	13.9	13.6	12.6	12.0	10.9	10.1	9.4	8.4	7.5	5.8	
Lowell	14.3	13.6	13.2	12.1	11.0	10.0		8.2	7.6	5.8	
Lyman	14.9	14.2	12.7	12.2	11.8	10.8		8.8	8.2	6.5	4.7
Martin	14.6	14.2	13.2	12.5	11.4	9.5		8.0	7.0	5.7	
Mather	14.6	14.0	13.0	12.7	11.8	10.2	11.7	8.6	7.8	6.7	4.6
Minot	14.3	13.9	13.2	12.3	11.3	10.2		8.7	7.9	6.6	4.1
Mt. Vernon	14.0	14.5	12.8	11.8	11.5	10.1	12.3	8.6	7.8	6.1	
Norcross	14.8	13.7	13.1	12.6	11.7	10.7		9.2	8.2	6.4	
Phillips	14.6	13.8	13.7	12.6	11.6	10.4	12.0	9.6	8.2	6.6	4.2
Prescott	15.1	13.8	13.0	12.9	11.1	11.1		8.7	7.5	6.2	4.3
Prince	15.2	14.2	13.3	12.3	10.8	9.9		8.9	8.0	6.0	5.0
Quincy	14.3	13.9	13.2	12.8	12.0	10.5	11.6	9.2	7.7	6.4	4.4
Rice	15.0	14.0	13.3	12.2	11.6	10.9		9.3	8.3	6.7	4.6
Sherwin	14.5	14.2	13.2	12.3	11.5	10.1	12.3	8.9	7.6	5.9	
Shurtleff	15.2	14.2	14.1	13.0	11.8	10.0		8.5	7.7	6.4	4.7
Stoughton	14.8	13.8	12.6	11.5	11.1	9.9		8.6	7.2	6.3	4.6
Thomas N. Hart . .	15.3	13.8	13.2	12.5	11.2	9.9		8.9	7.4	6.3	4.0
Tileston	14.6	13.1	12.8	11.8	10.6	9.2		8.9	7.8	6.2	
Warren	15.7	14.2	13.6	12.6	11.4	10.3	11.1	8.6	7.6	6.3	
Wells	14.4	13.9	13.1	12.6	11.7	10.5	11.8	8.5	7.8	6.2	3.9
Winthrop	14.7	14.1	13.4	12.3	11.6	10.4	10.6	9.7	7.4	6.3	4.2

SCHOOL DOCUMENT NO. 13 — 1892.

NOMINATIONS FOR REËLECTION.

REPORT

OF THE

COMMITTEE ON NOMINATIONS.



BOSTON:

ROCKWELL AND CHURCHILL, CITY PRINTERS.

1892.

REPORT.

IN SCHOOL COMMITTEE, BOSTON, June 14, 1892.

The Committee on Nominations have considered the nominations submitted to them by the committees in charge, and nominate for reëlection the following-named instructors to serve during the pleasure of the School Committee, and for the term ending Aug. 31, 1893.

The number of teachers recommended for reëlection in excess of the number allowed by the rules this year is 40. This is 12 less than the number asked for last year, but in the judgment of this committee is larger than it should be. The number of pupils used in determining the number of teachers is not the average attendance, or even the average whole number belonging, but the largest whole number belonging at any one time during the year. This is a liberal basis and ought to provide for all the teachers needed, except possibly in the suburban districts where a few extra teachers may be required on account (1) of the insufficient accommodation, (2) the necessity of maintaining classes outside the regular school buildings, (3) the necessity of establishing classes, with less than the standard number of pupils to a teacher, in certain growing sections which are remote from other schools.

Of the 40 extra teachers now employed, 28 of them are in schools which are located in comparatively small compact districts, which are thickly populated.

The rules provide that extra teachers may be allowed by this committee on account of insufficient seating capacity or to preserve the classification of the schools. These

are the reasons chiefly urged by principals when there is an excess of teachers. But we find in many cases that these appear to be facts only when the number of teachers is larger than it should be, under the rules. When the teachers were elected in February and March we can readily see that it would have been unwise to disturb the school-work by requiring a reclassification of the schools within three months of the close of the year and at a particularly busy time. But under the amended rules requiring the election of teachers in June, the term of service beginning in September, the reason formerly urged concerning classification loses much of its force. In the report of last year this committee recommended that attention be given to the reclassification of the schools in September with special reference to this subject of extra teachers. We also presented an order which was passed by the Board, requesting the Board of Supervisors to report on the subject of promotions in and classifications of the schools. This report has not yet been received, the absence of two of the supervisors on account of ill health, probably rendering it inconvenient to obtain the necessary information. We trust, however, that a report of the Board of Supervisors on this subject will be presented to this Board as soon as may be convenient. During the last three years the Superintendent has given much information relative to promotions and classification in his reports. It is our opinion that the classification of the schools bears strongly upon the matter of the number of teachers.

Some years ago this question of extra teachers attracted earnest attention, and the School Board dismissed (or failed to reëlect) a large number of teachers. This was heroic treatment of the difficulty, and a measure which we would dislike to recommend. It appears, however, that some action should be taken by the Board, and we suggest that hereafter no extra permanent teachers be appointed in excess of the number al-

lowed by the rules, but that in cases where additional teachers are needed, temporary teachers be appointed. Also, wherever the number of pupils, at the time of the annual canvass for reëlection, does not warrant the number of teachers employed, the teachers be continued in service for one year, and if at the expiration of such year the number of teachers is still in excess, the extra teachers shall be transferred to other schools or dismissed.

The following is a list of the extra teachers asked for :

Grammar Schools : 3 each in the Bunker Hill and Dudley Districts ; 2 each in the Bowdoin, Mt. Vernon, and Pierce Districts ; 1 each in the Adams, Bigelow, Bowditch, Charles Sumner, Dwight, Emerson, Franklin, Frothingham, Hancock, Harris, Lawrence, Lyman, Martin, Prescott, Stoughton, and Wells Districts.

Primary Schools : 4 in the Bunker Hill District ; 2 in the Mt. Vernon District ; 1 each in the Brimmer, Dudley, Mather, Norcross, Sherwin, and Stoughton Districts.

In three instances the Board has authorized the appointment of teachers with higher ranks than the rules allow, viz. : one sub-master in the Quincy District, one first assistant in the Mt. Vernon District, and one second assistant in the Bigelow District.

Section 88 of the rules is as follows :

The Regulations which fix the rank of teachers any school is entitled to shall not be held to require the reduction in rank of any regularly confirmed teacher who is to serve in the same school in which he is already serving, except as hereinafter provided. Immediately after the annual election, a list of teachers in service, with ranks higher than the number of pupils in the schools would allow by the Regulations strictly applied, if there be any such, shall be sent to the committees in charge. When vacancies occur in such ranks, the committees in charge shall consider the transfer of these teachers before the vacancies are filled in any other way. A teacher declining to be so transferred may thereupon be reduced in rank, as required by the Regulations.

Teachers with ranks higher than the rules allow are serving as follows :

Bowdoin District. — One first assistant.

Bunker Hill District. — One first assistant ; one second assistant.

Chapman District. — One first assistant ; one second assistant.

Comins District. — One first assistant.

Henry L. Pierce District. — One second assistant.

Lyman District. — One first assistant ; one second assistant.

Martin District. — One sub-master.

Stoughton District. — Principal with rank of master.

This committee are convinced that this rule should be abrogated. It is not followed, and its only purpose seems to be to prevent the reduction in rank of teachers. The spirit of the rule is that teachers with ranks higher than the rules permit should be transferred to other districts as vacancies occur in those ranks. The fact is that these teachers are not transferred, only one case of such a transfer having been made to our knowledge. It might not be wise, perhaps, to reduce a teacher in rank as soon as the numbers fail to warrant the higher rank, but it does not seem to us wise to continue such teacher in the higher rank indefinitely. We suggest that whenever it appears at the annual election that teachers are employed with ranks higher than the rules allow they be permitted to continue in their positions for two years, and if at the end of the two years they are not entitled to their rank they shall be reduced in rank. This will allow ample time for a school to regain its numbers or for a teacher to be transferred.

The rules at present provide that the rank of any instructor may be changed by vote of the Board, upon the report of the Committee on Nominations, whenever the average whole number in the school for the preceding

quarter shall warrant a change. This committee, in view of the fact that there appears to be so great changes in the numbers of pupils, upon which the ranks of the teachers depend, think it would be wiser to require that a school should hold the average number of pupils for a longer time than three months, and suggest that the time be changed to five months. The purpose of this change is that the ranks of teacher may not be too hastily increased, and that the permanency of the increase in numbers may be more assured.

Section 104 of the rules is as follows :

“In every Primary School having not less than four teachers, a teacher may, on recommendation of the Division Committee, in consultation with the principals, and under the provisions of the preceding section, be elected with the rank of second assistant, who shall perform such general duties in connection with said school as may be required by the principal, under the direction of said committee.”

There are three teachers of this grade serving contrary to the rules. In each of the Harris and Lyman Districts there is a second assistant in a Primary School having less than four teachers. In the Quincy District there is a second assistant, Primary School, in the Grammar School-house. The latter teacher was placed in the building upon the changes necessitated by the abolishment of the East-street Primary School. The committees in charge urge the continuance of these teachers in their present rank. They are teachers of long and successful experience, and this committee recommend their continuance in their present rank; but they trust that these teachers may, during the coming year, by some change in the location of the Primary classes, or by transfer, become entitled to hold their positions under the rules.

The rules provide that one ungraded class may be established in each Grammar School. In several of the districts

the character of the pupils and the best interests of the schools require the maintenance of more than one ungraded class. The Board by special vote has allowed eight ungraded classes in the Eliot District, five in the Hancock District, four in the Lawrence District, and three each in the Phillips and Wells Districts.

Your committee recommend the passage of the following orders, the first order under a suspension of the rules.

For the committee,

RICHARD C. HUMPHREYS,

Chairman.

Ordered, That the nomination of teachers for reëlection, to serve during the pleasure of the School Committee, and for the term ending Aug. 31, 1893, as contained and specified in School Document No. 13, 1893, be confirmed.

Ordered, That the Committee on Rules and Regulations consider and report upon the expediency of amending the rules, as follows :

SECT. 87. Add the following to the section : " Whenever it is necessary to employ teachers in excess of the number of teachers to which a school or district is entitled under the rules, temporary teachers only shall be appointed, provided that whenever it shall appear at the annual canvass of teachers for reëlection that the number of teachers employed in a school or district is in excess of the number allowed by the rules, all the teachers may, on the recommendation of the Committee on Nominations, be continued in service for one year. If at the end of such year the school or district is not entitled to such teachers, the extra teachers shall be transferred to other districts, or discharged."

SECT. 88. Substitute the following for the section : " Whenever it shall appear that the ranks of teachers employed are higher than the rules allow, said teachers may, upon the recommendation of the Committee on Nominations,

be continued in their positions for two years, and if at the end of the two years they are not entitled to their positions they shall be reduced in rank."

SECT. 94. Substitute the words "five months" for the word "quarter" in the fourth line:

SECT. 104. Insert the word "building" after the word "school" in the first line.

NORMAL SCHOOL.

Greatest whole number belonging during the year, 208. Entitled to 10 teachers; 9 employed.

FOR TERM ENDING AUGUST 31, 1893. — *Sub-Master*: Wallace C. Boyden. *Special Teacher of Kindergarten Methods*: Laura Fisher.

ON PROBATION. — *2d Assts.*: Laura S. Plummer, Almira I. Wilson.

RICE TRAINING SCHOOL.

Greatest whole number belonging during the year, 874. Entitled to 18 regular teachers, 1 special; 18 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *2d Asst.*: Miriam W. Dike.

FOR TERM ENDING AUGUST 31, 1893. — *2d Assts.*: Bessie H. Chapin, Mary C. Mellyn.

ON PROBATION. — *2d Assts.*: Eleanor F. Lang, Mary E. Mailman, Alice M. May.

LATIN AND HIGH SCHOOLS.

BOYS' LATIN SCHOOL.

Greatest whole number belonging during the year, 456. Entitled to 14 teachers; 13 employed.

ON PROBATION. — *Junior Master*: Henry Pennypacker.

GIRLS' LATIN SCHOOL.

Greatest whole number belonging during the year, 229. Entitled to 1 master and 7 assistants; 8 employed.

FOR TERM ENDING AUGUST 31, 1893. — *Asst.*: Mary J. Foley.

ON PROBATION. — *Master*: Edward H. Atherton. *Asst.*: Florence Dix.

ENGLISH HIGH SCHOOL (Boys).

Greatest whole number belonging during the year, 817. Entitled to 23 teachers; 23 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *Junior Masters*: Joseph Y. Bergen, Jr., Albert P. Walker.

FOR TERM ENDING AUGUST 31, 1893. — *Junior Masters*: Charles P. Lebon, James Mahoney, Henry C. Shaw, William T. Strong, Samuel F. Tower.

ON PROBATION. — *Junior Masters*: Henry M. Wright, Frank O. Carpenter (from September 1, 1892).

GIRLS' HIGH SCHOOL.

Greatest whole number belonging during the year, 755. Entitled to 22 teachers; 21 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *Master*: Samuel Thurber. *Asst.*: M. Medora Adams.

FOR TERM ENDING AUGUST 31, 1893. *Assts.*: Zéphirine N. Brown, Isabel P. George.

ON PROBATION. — *Asst.*: Elizabeth E. Hough.

ROXBURY HIGH SCHOOL (BOYS AND GIRLS).

Greatest whole number belonging during the year, 518. Entitled to 15 teachers; 13 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *Junior Master*: John C. Ryder. *Assts.*: Persis P. Drake, Edith A. Parkhurst.

FOR TERM ENDING AUGUST 31, 1893. — *Asst.*: Helen A. Bragg.

ON PROBATION. — *Assts.*: Jennie I. Ware, Mabel L. Warner, Lena M. Wills.

DORCHESTER HIGH SCHOOL (BOYS AND GIRLS).

Greatest whole number belonging during the year, 244. Entitled to 7 teachers; 7 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *Junior Master*: Albert S. Perkins.

FOR TERM ENDING AUGUST 31, 1893. — *Assts.*: Edith S. Cushing, Elizabeth M. Ritter, Emily J. Tucker.

CHARLESTOWN HIGH SCHOOL (BOYS AND GIRLS).

Greatest whole number belonging during the year, 224. Entitled to 6 teachers; 6 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *Junior Master*: Edward F. Holden.

ON PROBATION. — *Asst.*: Grace Hooper.

WEST ROXBURY HIGH SCHOOL (BOYS AND GIRLS).

Greatest whole number belonging during the year, 112. Entitled to 3 teachers; 3 employed.

FOR TERM ENDING AUGUST 31, 1893. — *Asst.*: Emily L. Clark.

ON PROBATION. — *Asst.*: M. Louise Foster.

BRIGHTON HIGH SCHOOL (BOYS AND GIRLS).

Greatest whole number belonging during the year, 97. Entitled to 3 teachers; 3 employed.

ON PROBATION. — *Asst.*: Emma F. Black.

EAST BOSTON HIGH SCHOOL (BOYS AND GIRLS).

Greatest whole number belonging during the year, 156. Entitled to 4 teachers; 4 employed.

ON PROBATION. — *Assts.*: Charles W. Gerould, Kate A. Howe.

FIRST DIVISION.

ADAMS DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL.—Greatest whole number belonging, 462. Average whole number belonging, 414. Entitled to 8 regular teachers, 1 special; 10 employed.

PRIMARY SCHOOLS.—Greatest whole number belonging, 334. Entitled to 6 teachers; 6 employed.

CHAPMAN DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL.—Greatest whole number belonging, 591. Average whole number belonging, 581. Entitled to 11 teachers; 11 employed.

PRIMARY SCHOOLS.—Greatest whole number belonging, 330. Entitled to 6 teachers; 6 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE.—*3d Asst.*: Kate L. Niland. *4th Asst.*: Nellie F. Holt.

EMERSON DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL.—Greatest whole number belonging, 742. Average whole number belonging, 735. Entitled to 13 regular teachers, 1 special; 15 employed.

PRIMARY SCHOOLS.—Greatest whole number belonging, 603. Entitled to 11 teachers; 10 employed.

FOR TERM ENDING AUGUST 31, 1893.—*Sub-Master*: Horatio D. Newton. *3d Assts.*: Fanny O. Bartlett, Emma J. Irving, Helen M. Slack, Mary E. Sullivan. *4th Assts.*: Caroline E. Nutter, Charlotte G. Ray.

ON PROBATION.—*1st Asst.*: Frances H. Turner. *2d Assts.*: H. Elizabeth Cutter, Mary D. Day. *3d Assts.*: Ellen S. Bloomfield, Annie S. Hayward. *4th Asst.*: Sarah A. Atwood.

LYMAN DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL.—Greatest whole number belonging, 598. Average whole number belonging, 575. Entitled to 10 regular teachers, 1 special; 12 employed.

PRIMARY SCHOOLS.—Greatest whole number belonging, 447. Entitled to 8 teachers; 8 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE.—*4th Asst.*: Lena E. Synette.

FOR TERM ENDING AUGUST 31, 1893.—*Sub-Master*: Herbert L. Morse. *3d Assts.*: Emma M. Bates, Mabel F. Wilkins.

ON PROBATION.—*3d Asst.*: Lillian G. Plummer. *4th Assts.*: Mary F. Simmons, Annie M. Wilcox.

SECOND DIVISION.

BUNKER HILL DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL.—Greatest whole number belonging, 610. Average whole number belonging, 534. Entitled to 10 regular teachers, 1 special; 14 employed.

PRIMARY SCHOOLS.—Greatest whole number belonging, 409. Entitled to 7 teachers; 11 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *1st Asst.* : Harriet H. Norcross. *3d Asst.* : Ruth C. Mills.

FOR TERM ENDING AUGUST 31, 1893. — *4th Assts.* : Kate T. Brooks, Ella L. Thompson.

FROTHINGHAM DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 646. Average whole number belonging, 634. Entitled to 11 regular teachers, 1 special; 12 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 486. Entitled to 9 teachers; 9 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *Sub-master* : James E. Hayes. *1st Asst.* : Bial W. Willard. *2d Asst.* : Sarah H. Nowell.

FOR TERM ENDING AUGUST 31, 1893. — *3d Assts.* : Mary Colesworthy, Susan T. Dundon, Cecilia A. Kelley. *4th Asst.* : Florence I. Morse.

HARVARD DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 668. Average whole number belonging, 622. Entitled to 11 regular teachers, 1 special; 13 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 648. Entitled to 12 teachers; 12 employed.

FOR TERM ENDING AUGUST 31, 1893. — *3d Assts.* : Olive J. Sawyer, Myra F. Towle. *4th Assts.* : Elizabeth G. Desmond, Agnes A. Herlihy, Theresa G. Power, Sarah J. Worcester.

ON PROBATION. — *4th Asst.* : Sarah R. Dodge.

PRESCOTT DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 497. Average whole number belonging, 488. Entitled to 9 teachers; 9 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 366. Entitled to 7 teachers; 7 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *4th Assts.* : Ruphine A. Morris, Lizzie Simpson.

FOR TERM ENDING AUGUST 31, 1893. — *Sub-master* : William H. Furber. *3d Asst.* : Minnie E. Ward.

ON PROBATION. — *3d Asst.* : Nellie L. P. Uihlein.

WARREN DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 682. Average whole number belonging, 669. Entitled to 12 regular teachers, 1 special; 13 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 387. Entitled to 7 teachers; 7 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *3d Asst.* : Katharine A. Sweeney.

ON PROBATION. — *4th Asst.* : Jessie G. Paine.

THIRD DIVISION.

BOWDOIN DISTRICT (GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 371. Average whole number belonging, 348. Entitled to 7 teachers; 9 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 368. Entitled to 7 teachers; 7 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE.— *4th Asst.* : Mary E. O'Leary.

FOR TERM ENDING AUGUST 31, 1893. — *3d Assts.* : Martha T. O'Hea, E. Laura Tilden. *4th Assts.* : Julia G. L. Morse, Harriet L. Smith.

ON PROBATION. — *1st Asst.* : James W. Webster.

ELIOT DISTRICT (Boys).

GRAMMAR SCHOOL. — Greatest whole number belonging, 1,026. Average whole number belonging, 977. Entitled to 13 regular teachers, 8 special; 21 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 480. Entitled to 9 teachers; 9 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE.— *3d Assts.* : Mary E. Abercrombie, Agnes C. Moore, Genevieve C. Roach. *2d Asst.*, *Primary School* : Ellen G. Murphy.

FOR TERM ENDING AUGUST 31, 1893. — *Sub-masters* : Benjamin J. Hinds, John J. Sheehan. *3d Assts.* : Rose A. Carrigan, Catherine J. Cunningham. *4th Assts.* : M. Elizabeth McGinley, Sylvia A. Richards.

ON PROBATION. — *3d Asst.* : Celia V. Leen. *4th Asst.* : Katharine G. Sutcliffe.

HANCOCK DISTRICT (GIRLS),

GRAMMAR SCHOOL. — Greatest whole number belonging, 630. Average whole number belonging, 625. Entitled to 8 regular teachers, 5 special; 14 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 996. Entitled to 18 teachers; 17 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE.— *2d Asst.* : Katherine E. Gillespie. *3d Asst.* : Margaret A. Nichols. *4th Asst.* : Florence E. Phillips.

FOR TERM ENDING AUGUST 31, 1893. — *3d Assts.* : Emma L. Mitchell, Margaret A. M. O'Dowd. *4th Assts.* : Matilda F. Bibbey, Annie R. Dolan, Catherine W. Fraser, Mary J. Murray, Annie M. Niland, Henrietta Thompson.

ON PROBATION. — *3d Assts.* : Elizabeth T. O'Brien, Ariel D. Savage. *4th Asst.* : Lena M. Rendall.

PHILLIPS DISTRICT (Boys).

GRAMMAR SCHOOL. — Greatest whole number belonging, 820. Average whole number belonging, 768. Entitled to 13 regular teachers, 3 special; 16 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 406. Entitled to 7 teachers; 7 employed.

FOR TERM ENDING AUGUST 31, 1893. — *Sub-Master* : Herbert S. Weaver. *3d Assts.* : Katherine A. Burns, Julia F. Holland. *2d Asst.*, *Primary School* : Jennie A. Dodson. *4th Assts.*, Angie P. S. Andrews, Annie P. Elwell, Margaret D. Mitchell.

ON PROBATION. — *3d Asst.* : Margaret J. Cunningham.

WELLS DISTRICT (GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 553. Average whole number belonging, 524. Entitled to 8 regular teachers, 3 special; 12 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 898. Entitled to 16 teachers; 16 employed.

FOR TERM ENDING AUGUST 31, 1893. — *3d Asst.*: Hattie C. Leatherbee. *4th Assts.*: Louise W. Betts, Nellie M. Durgin, Leila L. Rand.

ON PROBATION. — *3d Asst.*: Emily H. Macdonald. *4th Asst.*: Mary F. Finneran.

FOURTH DIVISION.

BRIMMER DISTRICT (Boys.)

GRAMMAR SCHOOL. — Greatest whole number belonging, 662. Average whole number belonging, 602. Entitled to 11 regular teachers, 1 special; 12 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 409. Entitled to 7 teachers; 8 employed.

FOR TERM ENDING AUGUST 31, 1893. — *3d Asst.*: James Burrier. *4th Asst.*: Alice Patten.

ON PROBATION. — *1st Asst.*: Ella L. Burbank. *2d Asst.*: Josephine Garland.

PRINCE DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 527. Average whole number belonging, 519. Entitled to 9 regular teachers, 1 special; 10 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 263. Entitled to 5 teachers; 5 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *4th Asst.*: E. Isabelle Bense.

FOR TERM ENDING AUGUST 31, 1893. — *3d Asst.*: Clara E. Fairbanks. *4th Assts.*: Katherine L. Campbell, Laura K. Hayward.

ON PROBATION. — *4th Assts.*: Manetta W. Penney, Grace S. Peirce.

QUINCY DISTRICT (Boys).

GRAMMAR SCHOOL. — Greatest whole number belonging, 590. Average whole number belonging, 534. Entitled to 10 regular teachers, 1 special; 11 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 659. Entitled to 12 teachers; 11 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *Sub-Master*: George R. Keene.

FOR TERM ENDING AUGUST 31, 1893. — *3d Assts.*: Margaret E. Carey, Angie C. Damon. *4th Asst.*: Abbie E. Batchelder.

WINTHROP DISTRICT (GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 825. Average whole number belonging, 746. Entitled to 15 teachers; 15 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 316. Entitled to 6 teachers; 6 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *3d Asst.*: Mary T. Foley. (On maximum salary.)

FOR TERM ENDING AUGUST 31, 1893. — *4th Asst.*: Mary A. Reardon.

FIFTH DIVISION.

DWIGHT DISTRICT (Boys).

GRAMMAR SCHOOL. — Greatest whole number belonging, 664. Average whole number belonging, 654. Entitled to 11 regular teachers, 1 special; 13 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 507. Entitled to 9 teachers; 9 employed.

FOR TERM ENDING AUGUST 31, 1893. — *3d Assts.* : Sarah C. Fales, Clara P. Wardwell. *4th Asst.* : Sarah Mock.

ON PROBATION. — *3d Assts.* : Emma A. Child, Georgie M. Clark. *4th Asst.* : Annie J. O'Brien.

EVERETT DISTRICT (GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 713. Average whole number belonging, 693. Entitled to 13 teachers; 13 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 552. Entitled to 10 teachers; 10 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *2d Asst.* : Lucy W. Eaton. *4th Asst.* : Nellie G. McElwain.

FOR TERM ENDING AUGUST 31, 1893. — *4th Assts.* : Marguerite J. Flynn, Margaret H. Manning.

ON PROBATION. — *3d Asst.* : Emma F. Porter. *4th Asst.* : Bertha Bamber.

FRANKLIN DISTRICT (GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 722. Average whole number belonging, 708. Entitled to 12 regular teachers, 1 special; 14 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 626. Entitled to 11 teachers; 11 employed.

FOR TERM ENDING AUGUST 31, 1893. — *3d Assts.* : Lillian S. Bourne, Abby A. Hayward, Sarah N. Maconiber, Ida M. Mitchell. *4th Asst.* : Etta M. Smith.

ON PROBATION. — *2d Asst.* : Octavia L. Cram. *3d Asst.* : Lillian J. MacRae.

HYDE DISTRICT (GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 647. Average whole number belonging, 629. Entitled to 12 teachers; 12 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 514. Entitled to 9 teachers; 9 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *3d Asst.* : Etta Yerdon. *4th Asst.* : Carrie M. Bayley.

FOR TERM ENDING AUGUST 31, 1893. — *3d Asst.* : Sarah R. Wentworth.

ON PROBATION. — *2d Asst.* : Alice G. Maguire. *3d Assts.* : Ada M. Fitts, Elizabeth A. Spaulding. *4th Assts.* : Celia Bamber, Mary A. Higgins.

SHERWIN DISTRICT (Boys).

GRAMMAR SCHOOL. — Greatest whole number belonging, 610. Average whole number belonging, 596. Entitled to 10 regular teachers, 1 special; 11 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 465. Entitled to 8 teachers; 9 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *3d Assts.*: Nellie F. Brazer, Mary B. Chaloner. *4th Asst.*: Rose E. Conaty.

FOR TERM ENDING AUGUST 31, 1893. — *Sub-masters*: E. Emmons Grover, Frederick L. Owen. *3d Assts.*: Elizabeth G. Dowd, Mary F. Roome.

SIXTH DIVISION.

BIGELOW DISTRICT (Boys).

GRAMMAR SCHOOL. — Greatest whole number belonging, 754. Average whole number belonging, 734. Entitled to 13 regular teachers, 1 special; 15 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 746. Entitled to 13 teachers; 13 employed.

FOR TERM ENDING AUGUST 31, 1893. — *4th Assts.*: Ida M. Condon, Annie S. McKissick, Julia G. Leary.

ON PROBATION. — *2d Asst.*: Martha A. Goodrich. *3d Asst.*: Arvilla T. Harvey. *4th Assts.*: Sarah T. Driscoll, Elizabeth M. Mann.

GASTON DISTRICT (GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 772. Average whole number belonging, 730. Entitled to 14 teachers; 13 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 506. Entitled to 9 teachers; 9 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *2d Asst.*: Clara A. Sharp. *3d Asst.*: Margaret Cunningham.

FOR TERM ENDING AUGUST 31, 1893. — *2d Asst.*: Carrie M. Kingman. *3d Assts.*: Mary S. Loughton, Julia A. Noonan. *4th Assts.*: Jennie G. Carmichael, M. Isabel Harrington, Isabella J. Murray.

JOHN A. ANDREW DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 737. Average whole number belonging, 710. Entitled to 13 regular teachers, 1 special; 14 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 621. Entitled to 11 teachers; 11 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *1st Asst.*: Emma M. Cleary. *4th Asst.*: Caroline M. Walsh.

FOR TERM ENDING AUGUST 31, 1893. — *Sub-master*: Edgar L. Raub. *3d Assts.*: Alice T. Cornish, Bertha E. Miller. *4th Assts.*: Annie M. Driscoll, Grace E. Holbrook.

LAWRENCE DISTRICT (Boys).

GRAMMAR SCHOOL. — Greatest whole number belonging, 871. Average whole number belonging, 813. Entitled to 13 regular teachers, 3 special; 18 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 934. Entitled to 17 teachers; 17 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *Sub-master*: George S. Houghton.

FOR TERM ENDING AUGUST 31, 1893. — *3d Asst.*: Margarette A. Moody.

ON PROBATION. — *3d Assts.*: Agnes G. Gilfether, Florence E. Neill. *4th Asst.*: Elizabeth J. Andrews.

LINCOLN DISTRICT (Boys).

GRAMMAR SCHOOL. — Greatest whole number belonging, 578. Average whole number belonging, 565. Entitled to 10 regular teachers, 1 special; 10 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 327. Entitled to 6 teachers; 6 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *3d Asst.*: Helen S. Henry.

FOR TERM ENDING AUGUST 31, 1893. — *3d Asst.*: Ellen A. McMahon. Emma L. Stokes. *4th Asst.*: Ellen V. Courtney.

NORCROSS DISTRICT (GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 737. Average whole number belonging, 688. Entitled to 13 regular teachers, 1 special; 14 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 680. Entitled to 12 teachers; 13 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *1st Asst.*: Caroline Bernhard.

FOR TERM ENDING AUGUST 31, 1893. — *3d Assts.*: Mary E. Bernhard, Helen E. Hobbs.

ON PROBATION. — *1st Asst.*: M. Elizabeth Lewis.

SHURTLEFF DISTRICT (GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 694. Average whole number belonging, 666. Entitled to 12 regular teachers, 1 special; 13 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 352. Entitled to 6 teachers; 6 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *4th Asst.*: Catherine E. McDonald.

ON PROBATION. — *3d Asst.*: Mary M. Clapp.

THOMAS N. HART DISTRICT (Boys).

GRAMMAR SCHOOL. — Greatest whole number belonging, 470. Average whole number belonging, 449. Entitled to 8 regular teachers, 1 special; 9 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 544. Entitled to 10 teachers; 9 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *3d Asst.*: Anastasia G. Hyde. *4th Asst.*: S. Louella Sweeney.

FOR TERM ENDING AUGUST 31, 1893. — *3d Asst.*: Bertha Peirce. *4th Assts.*: Evelyn M. Condon, Lura M. Power.

ON PROBATION. — *2d Asst.*: John D. Philbrick. *4th Asst.*: Florence Harlow.

SEVENTH DIVISION.

COMINS DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 592. Average whole number belonging, 572. Entitled to 11 teachers; 10 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 313. Entitled to 6 teachers; 6 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *3d Asst.*: Ervinia Thompson.

ON PROBATION. — *3d Asst.*: Margaret A. McGuire.

DEARBORN DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 676. Average whole number belonging, 668. Entitled to 11 regular teachers, 1 special; 13 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 644. Entitled to 12 teachers; 12 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *4th Asst.*: Ada L. McKean.

FOR TERM ENDING AUGUST 31, 1893. — *3d Assts.*: Helen Doherty, Alice W. Emerson. *4th Asst.*: Emma L. Merrill.

ON PROBATION. — *4th Asst.*: Mary E. Connor.

DILLAWAY DISTRICT (GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 608. Average whole number belonging, 596. Entitled to 11 teachers; 11 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 385. Entitled to 7 teachers; 7 employed.

FOR TERM ENDING AUGUST 31, 1893. — *4th Asst.*: Agnes A. Watson.

ON PROBATION. — *1st Asst.*: Elizabeth M. Blackburn. *3d Asst.*: Alice E. Robinson.

DUDLEY DISTRICT (BOYS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 606. Average whole number belonging, 596. Entitled to 10 regular teachers, 1 special; 14 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 677. Entitled to 12 teachers, 13 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *3d Assts.*: Margaret T. Dooley, Ida S. Hammerle, M. Alice Kimball. *4th Assts.*: Mary A. Brennan, Lucy G. M. Card.

FOR TERM ENDING AUGUST 31, 1893. — *Sub-Master*: Walter A. Robinson. *3d Asst.*: Frances Zirngiebel. *4th Asst.*: Edith Hovey.

GEORGE PUTNAM DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 368. Average whole number belonging, 361. Entitled to 7 teachers, 7 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 288. Entitled to 5 teachers; 5 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *3d Asst.*: Maria F. Bray. *4th Asst.*: Amoritta E. Esilman.

FOR TERM ENDING AUGUST 31, 1893. — *3d Asst.*: Blanche A. Morrill.

ON PROBATION. — *4th Assts.*: Julia H. Cram, Rosanna L. Rock, Annie F. S. Stone, Ede F. Travis.

HUGH O'BRIEN DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 789. Average whole number belonging, 775. Entitled to 14 regular teachers, 1 special; 14 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 726. Entitled to 13 teachers; 13 employed.

FOR TERM ENDING AUGUST 31, 1893. — *Sub-Master*: Abram T. Smith. *3d Assis.*: Katharine J. Keefe, Esther E. McGrath. *4th Asst.*: Isabella L. Bissett.

ON PROBATION. — *4th Asst.*: Mary F. McDonald.

LEWIS DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 730. Average whole number belonging, 726. Entitled to 13 teachers; 13 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 574. Entitled to 10 teachers; 10 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *Sub-Master*: Henry B. Hall.

FOR TERM ENDING AUGUST 31, 1893. — *3d Assis.*: Grace M. Clark, Mary E. Howard. *4th Asst.*: Blanche L. Ormsby.

ON PROBATION. — *3d Asst.*: Grace I. Sherry. *2d Assis.*, *Primary Schools*: Frances N. Brooks, Almira B. Russell. *4th Asst.*: Edith A. Willey.

MARTIN DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 356. Average whole number belonging, 350. Entitled to 6 regular teachers, 1 special; 8 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 150. Entitled to 3 teachers; 3 employed.

ON PROBATION. — *3d Asst.*: Grace E. Dillon.

EIGHTH DIVISION.

AGASSIZ DISTRICT (BOYS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 427. Average whole number belonging, 402. Entitled to 8 teachers; 8 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 224. Entitled to 4 teachers; 4 employed.

FOR TERM ENDING AUGUST 31, 1893. — *Sub-Master*: Arthur Stanley. *3d Assis.*: Mary I. Adams, Caroline N. Poole.

ON PROBATION. — *3d Asst.*: Mary A. Cooke. *2d Asst.*, *Primary School*: Caroline D. Putnam. *4th Asst.*: Rosanna Follan.

ALLSTON DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 703. Average whole number belonging, 692. Entitled to 13 teachers; 13 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 545. Entitled to 10 teachers; 10 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *3d Asst.*: Elizabeth C. Muldoon.

FOR TERM ENDING AUGUST 31, 1893. — *4th Assis.*: Agnes A. Aubin, Ella L. Chittenden.

ON PROBATION. — *3d Assis.*: Fannie M. Houghton, Margaret C. Hunt. Harriet Rice, Ida F. Taylor. *4th Asst.*: Emily C. Brown.

BENNETT DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 538. Average whole number belonging, 517. Entitled to 10 teachers; 10 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 367. Entitled to 7 teachers; 7 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *Sub-Master*: Edwin F. Kimball.

FOR TERM ENDING AUGUST 31, 1893. — *3d Asst.*: Mary E. Winn. *4th Assts.*: Leslie D. Hooper, Annie M. Stickney.

ON PROBATION. — *3d Assts.*: Jennie A. Corliss, Rose E. Havey.

BOWDITCH DISTRICT (GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 389. Average whole number belonging, 383. Entitled to 7 teachers; 8 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 312. Entitled to 6 teachers; 6 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *3d Assts.*: Alice M. Robinson, Elizabeth L. Stodder. *4th Assts.*: Emma L. McDonald, Mary E. McDonald.

ON PROBATION. — *3d Asst.*: Cora B. Mudge. *4th Asst.*: Ellen E. Foster.

CHARLES SUMNER DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 669. Average whole number belonging, 631. Entitled to 12 teachers; 13 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 529. Entitled to 10 teachers; 10 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *2d Asst.*, *Primary School*: S. Louise Durant.

FOR TERM ENDING AUGUST 31, 1893. — *Sub-master*: Alaric Stone. *3d Assts.*: Margaret F. Marden, Josephine A. Slayton. *4th Assts.*: Katharine M. Coulahan, Martha W. Hanley, Mary N. Sherburne.

ON PROBATION. — *2d Asst.*: Elvira L. Austin. *3d Assts.*: Mary P. Crosby, C. Emma Lincoln. *4th Asst.*: Annie V. Lynch.

LOWELL DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 833. Average whole number belonging, 764. Entitled to 15 teachers; 14 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 946. Entitled to 17 teachers; 16 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *3d Assts.*: Bessie L. Barnes, Anna G. Wells.

FOR TERM ENDING AUGUST 31, 1893. — *Sub-master*: Edward P. Sherburne. *3d Assts.*: Ellen M. Farrell, Helen C. Laughlin, Sarah A. Lyons. *4th Assts.*: Lillian S. Hilton, Martha C. McGowan, Rose A. Mohan, Clara I. Stevens, Jane J. Wood.

MT. VERNON DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 242. Average whole number belonging, 240. Entitled to 4 teachers; 6 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 157. Entitled to 3 teachers; 5 employed.

FOR TERM ENDING AUGUST 31, 1893. — *3d Asst.*: Marian A. McIntyre. *4th Assts.*: Mary Butler, Anna R. French, Mary C. Moller, Eliza M. Warren.

NINTH DIVISION.

EDWARD EVERETT DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 608. Average whole number belonging, 600. Entitled to 10 regular teachers, 1 special; 11 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 467. Entitled to 8 teachers; 8 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *4th Asst.*: Lucy G. Flusk.

FOR TERM ENDING AUGUST 31, 1893. — *3d Asst.*: Gertrude Goodwin. *4th Asst.*: Fanny Frizzell.

ON PROBATION. — *1st Asst.*: Henrietta A. Hill. *2d Assts.*: Clara J. Doane, Emma M. Savil. *3d Assts.*: Kate Stanley, Agnes G. Wright. *2d Asst., Primary School*: Florence N. Sloane. *4th Asst.*: C. Margaret Browne.

GIBSON DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 436. Average whole number belonging, 428. Entitled to 8 teachers; 8 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 319. Entitled to 6 teachers; 6 employed.

FOR TERM ENDING AUGUST 31, 1893. — *3d Assts.*: Emily A. Evans, Jessie C. Fraser, Annie H. Pitts, Ellen L. Pratt. *4th Assts.*: Bessie C. Jones, Annie C. McFarland, Kate L. Pierce.

HARRIS DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 338. Average whole number belonging, 327. Entitled to 6 teachers; 7 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 330. Entitled to 6 teachers; 6 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *3d Asst.*: M. Ella Tuttle.

FOR TERM ENDING AUGUST 31, 1893. — *4th Assts.*: Bertha F. Cudworth, Mary Polk.

ON PROBATION. — *2d Asst.*: L. Gertrude Howes.

HENRY L. PIERCE DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 457. Average whole number belonging, 449. Entitled to 8 teachers; 10 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 331. Entitled to 6 teachers; 5 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *2d Asst.*: Lizzie C. Estey.

FOR TERM ENDING AUGUST 31, 1893. — *Sub-Master*: Charles C. Haines. *2d Asst.*: Annie A. Webster. *3d Assts.*: Annie S. Coffey, Anna H. Farrar, Elizabeth L. B. Stearns, Helen A. Woods. *4th Assts.*: Keziah J. Anslow, Louise L. Carr, Florence C. Pond.

ON PROBATION. — *1st Asst.*: Mary E. Mann. *3d Asst.*: Mary L. Merrick. *2d Asst., Primary School*: Elinor F. Decatur.

MATHER DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 634. Average whole number belonging, 609. Entitled to 11 regular teachers, 1 special; 12 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 535. Entitled to 10 teachers; 11 employed.

FOR TERM ENDING AUGUST 31, 1893. — *3d Assts.*: Elenora R. Clare, Clara G. Hinds, Mary E. Nichols, Carrie F. Parker. *4th Assts.*: Lena Le V. Dutton, Josephine W. Greenlaw, Clara A. Jordan, Alice L. Reinhard.

ON PROBATION. — *1st Asst.*: Marietta S. Murch. *2d Assts.*: Annie L. Bennett, Mary B. Corr. *3d Asst.*: Isabel W. Davis. *2d Asst., Primary School.*: Ella L. Howe.

MINOT DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 325. Average whole number belonging, 315. Entitled to 5 regular teachers, 1 special; 6 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 224. Entitled to 4 teachers; 4 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *2d Asst.*: Kate S. Gunn.

FOR TERM ENDING AUGUST 31, 1893. — *4th Asst.*: Edna A. Hill.

STOUGHTON DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 279. Average whole number belonging, 271. Entitled to 5 teachers; 6 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 185. Entitled to 3 teachers; 4 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *3d Asst.*: Clara A. Brown.

FOR TERM ENDING AUGUST 31, 1893. — *4th Asst.*: H. Adelaide Sullivan.

ON PROBATION. — *3d Asst.*: Annie M. McMahon. *4th Asst.*: Edith M. Martine.

TILESTON DISTRICT (BOYS AND GIRLS).

GRAMMAR SCHOOL. — Greatest whole number belonging, 133. Average whole number belonging, 131. Entitled to 2 teachers; 2 employed.

PRIMARY SCHOOLS. — Greatest whole number belonging, 88. Entitled to 2 teachers; 2 employed.

TO SERVE DURING THE PLEASURE OF THE SCHOOL COMMITTEE. — *3d Asst.*: Ida T. Weeks.

KINDERGARTENS.

FOR TERM ENDING AUGUST 31, 1893.

Normal School. — Mabel Hooper, *Principal*; Ada C. Williamson, *Assistant*.

FIRST DIVISION.

Chapman District, Tappan School. — Jennie L. Waterbury, *Principal*. (On Probation.) Martha Currier, *Assistant*. (On Probation.)

Emerson District, Noble School. — Lelia A. Flagg, *Principal*; Bertha M. Smith, *Assistant*. (On Probation.)

Lyman District, Webb School. — Flora S. McLean, *Principal*. (On Probation.) Helen J. Morris, *Assistant*.

SECOND DIVISION.

Harvard District, Common street. — Sallie Bush, *Principal*; Elizabeth E. Henchey, *Assistant.* (On Probation.)
Prescott District, Polk-street School. — Alice T. Smith, *Principal*; Phebe A. Delande, *Assistant.*

THIRD DIVISION.

Bowdoin District, Sharp School. — Serena J. Frye, *Principal*; Sarah E. Kilmer, *Assistant.*
Eliot District, 39 North Bennet street. — Mary C. Peabody, *Principal*; Edith H. Kummer, *Assistant.* Isabel G. Dame, *Principal*; Ellen M. Murphy, *Assistant.*
Hancock District, Cushman School. — Anne L. Page, *Principal*; Gertrude F. Chamberlain, *Assistant.* (On Probation.)
Hancock District, 64 North Margin street. — Anna Spooner, *Principal*; Eliza A. Maguire, *Assistant.* (On Probation.)
Phillips District, Baldwin School. — Ida A. Noyes, *Principal*; Hattie M. Holden, *Assistant.*
Wells District, Winchell School. — Ellen Gray, *Principal*; Mac K. Pillsbury, *Assistant.* (On Probation.)

FOURTH DIVISION.

Brimmer District, Warrenton street. — Lucy H. Symonds, *Principal*; Etta D. Morse, *Assistant.*
Prince District, Normal Art School. — Helena P. Stacy, *Principal.* (On Probation.)
Quincy District, Hudson street. — Adelaide B. Camp, *Principal.* (On Probation.) Mary H. Fruean, *Assistant.* (On Probation.)
Winthrop District, Starr King School. — Mary T. Mears, *Principal*; Caroline M. Burke, *Assistant.* (On Probation.)

FIFTH DIVISION.

Dwight District, Rutland street. — Emma L. Alter, *Principal*; Eleanor P. Gay, *Assistant.*
Everett District, Everett School. — Clara L. Hunting, *Principal*; Louisa M. Davis, *Assistant.* (On Probation.)
Franklin District, Cook School. — Lucy Kummer, *Assistant.*
Hyde District, Ruggles street. — Caroline E. Josselyn, *Principal*; Alice Howe, *Assistant.* (On Probation.)
Hyde District, Walpole street. — Caroline E. Carr, *Principal*; Ada L. Peabody, *Assistant.*

SIXTH DIVISION.

Lawrence District, Howe School. — Emilie F. Bethman, *Principal*; Frances H. Thompson, *Assistant.*
Shurtleff District, Shurtleff School. — Caroline C. Voorhees, *Principal.* (On Probation.) Edith C. Gleason, *Assistant.* (On Probation.)
Thomas N. Hart District, Thomas N. Hart School. — Frieda M. Bethmann, *Principal*; Minnie G. Abbott, *Assistant.*

SEVENTH DIVISION.

Comins District, Cottage place. — Anna E. Marble, *Principal*; Annie S. Burpee, *Assistant.* *Smith street.* — Caroline D. Aborn, *Principal*; Ellen M. Fiske, *Assistant.*

Dearborn District, Yeoman street. — Mary T. Hale, *Principal*; Daisy G. Dame, *Assistant*.

Dillaway District, Old Roxbury High School. — Emily B. Stodder, *Principal*; Mabel S. Appolonio, *Assistant*.

George Putnam District, George Putnam School. — Elizabeth Watson, *Principal*. (On Probation.) Cora E. Bigelow, *Assistant*.

Lewis District, Quincy street. — Ellen L. Sampson, *Principal*. Gertrude A. Rausch, *Assistant*.

EIGHTH DIVISION.

Bennett District, Union street. — C. Mabel Rust, *Principal*; Kate A. Duncklee, *Assistant*.

Bowditch District, Green street. — Angie B. Towne, *Principal*; Esther F. McDermott, *Assistant*.

NINTH DIVISION.

Mather District, Field's corner. — Julia F. Baker, *Principal*. (On Probation.) Milla H. Temple, *Assistant*. (On Probation.)

Minot District, Neponset. — Jennie B. Brown, *Principal*. Mary B. Morse, *Assistant*.

Stoughton District, River street. — Alice D. Hall, *Principal*. (On Probation.) Bertha F. Cushman, *Assistant*. (On Probation.)

HORACE MANN SCHOOL.

FOR TERM ENDING AUGUST 31, 1893.

Assistants, Mabel E. Adams, Kate F. Hobart.

SCHOOL ON SPECTACLE ISLAND.

FOR TERM ENDING AUGUST 31, 1893.

Nellie C. Strout, *Instructor*.

MANUAL TRAINING SCHOOLS.

FOR TERM ENDING AUGUST 31, 1893.

Instructors. — Frank M. Leavitt, Frank W. Kendall, (On Probation.)

Assistant Instructors. — (On Probation): Grace J. Freeman, Celia B. Hallstrom, Edith A. Pope, Isabella Shove, Ella G. Smith, J. Herman Tryborn.

Schools of Cookery.

Instructors. — Hattie I. Davis, Ellen L. Duff, Amabel G. E. Hope, Mary C. Mitchell (On Probation). Josephine Morris, Julia M. Murphy, Althea W. Somes, Angeline M. Weaver (On Probation).

SPECIAL INSTRUCTORS.

FOR TERM ENDING AUGUST 31, 1893.

Assistant to Director of Drawing. — Henry W. Poor, (On Probation.)

Special Instructor of Music. — Leonard B. Marshall.

INSTRUCTORS IN SEWING.

FOR TERM ENDING AUGUST 31, 1893.

Catherine L. Bigelow, Sarah J. Bray, Annie E. Brazier, Harriet E. Browne, Helen L. Burton, Catherine J. Cadogan, Eliza M. Cleary, Susan M. Cousens, Isabella Cumming, Kate A. Doherty, Martha F. French (On Probation), Olive C. Hapgood, Mary E. Jacobs, Margaret A. Kelly, Lizzie S. Kenna, Mary J. McEntyre, Catherine C. Nelson, Sarah H. Norman, Mary E. Patterson, Elizabeth A. Power, M. Elizabeth Robbins, Martha A. Sargent, Julia A. Skilton, Sarah A. Stall, Frances E. Stevens, Lizzie A. Thomas, Emma A. Waterhouse, Mary A. Willis, Ellen M. Wills, Esther L. Young.

SCHOOL DOCUMENT NO. 14 — 1892.

REPORT

OF THE

COMMITTEE ON DRAWING.



BOSTON :

ROCKWELL AND CHURCHILL, CITY PRINTERS.

1892.

IN SCHOOL COMMITTEE, BOSTON, Sept. 8, 1891.

Ordered, That the Committee on Drawing be authorized to report in print.

Attest :

PHINEAS BATES,

Secretary.

REPORT.

To the School Committee:

The Committee on Drawing present herewith their report for the school year of 1890-1. The committee are aware that, in accordance with the Rules and Regulations of the Board, they should have made a report last September; but a variety of causes prevented their timely performance of this duty, as will appear in the sequel. During the last two years the committee have devoted a large amount of time and attention to the department of instruction intrusted to their care; they have been examining methods and results; they have held conferences with the Committees on Manual Training and Kindergarten, with the object of ascertaining how best to coöperate with the special objects of these committees. The course of study for the day schools has been rearranged and modified, and other changes are in contemplation. The instructors in the Evening Drawing Schools have been graded more equitably; an assistant to the Director of Drawing has been appointed.

The Conference of Educational Workers having issued an announcement that they would hold an exhibition of Drawing and Manual Training work during the April vacation in 1891, the Committee on Drawing voted to hold at the same time and place an exhibition of the work done during the preceding winter by the students of the Free Evening Industrial Drawing Schools of this city; and the Director of Drawing was instructed to select and arrange such work from those schools as would fully illustrate the course of study in all the different departments of drawing and modelling. This

work was faithfully done, and resulted in an exhibition at the drill hall of the English High School, which, to say the least, was not surpassed by any of its kind either in the Massachusetts department of the Conference Exhibit or by that from any other State. The exhibition was open two days and a half, and was attended by more than five thousand visitors.

Owing to the limited amount of space which could be allotted to the Boston schools, not one-tenth part of the whole number of works done by the Evening Drawing School students of this city could be exhibited; but, notwithstanding this fact, the exhibit was so carefully and logically arranged that it represented, thoroughly and admirably, the whole course of instruction in the schools of this grade, and it also illustrated conclusively the fact that good progress had been made during the preceding winter in all the different departments of drawing and modelling.

The authorized course of study for these schools has been out of print for some time, the last one having been printed in 1885;¹ and your committee have in contemplation a complete revision of the same before referring it to the appropriate committee for presentation to the Board. This revision will consist largely in such changes as have been found advisable in the order of instruction, and in the methods of presenting the different topics or divisions of the general subject. The general plan of the present course of study has given such great satisfaction to this committee and to all others who are interested in the success of these schools, that they only desire to suggest its revision in certain matters of detail, such as they think would enable them to carry out the present plan in a still more satisfactory manner than heretofore.

Your committee have considered it advisable to add certain details to their present report in connection with the last year classes of the schools; such as have not ordinarily

¹ School Document No. 12.

been put in print. Believing, however, that these statistics will be of interest at the present time and of possible future value for purposes of reference, they have appended, together with other details of interest, the following

*List of the Trades and Occupations of the Students; and
the Number of Each.*

Advertising agent	1	Clerks	43
Apprentices	3	Clock-makers	3
Architect	1	Coachman	1
Artist	1	Collector	1
Baker	1	Compositors	2
Blacksmith	1	Contractors	2
Boat-builders	2	Constable	1
Book-agent	1	Coppersmiths	2
Bookbinders	3	Copy-holder	1
Book-keepers	8	Cornice-makers	2
Boiler-makers	4	Currier	1
Boiler-inspector	1	Cutter	1
Bolt and nut cutter	1	Decorators	8
Bottler	1	Deck-hand	1
Brass-finishers	5	Designers	3
Bricklayers	10	Die-sinkers	2
Brush-maker	1	Domestic	1
Builder	1	Draper	1
Bundle-boys	2	Draughtsmen	13
Burnisher	1	Draw-tender	1
Butcher	1	Dressmakers	5
Bicycler	1	Electricians	9
Cabinet-makers	12	Elevator-boy	1
Candy-maker	1	Engineers	12
Carver and moulder	1	Engravers	4
Carpenters	87	Errand-boys	2
Carriage-builders	5	Expressman	1
Carriage-smiths	2	Finisher	1
Case-maker	1	Fresco-painters	2

Folder . . .	1	Organ-builder . . .	1
Foreman . . .	1	Painters . . .	20
Furnisher . . .	1	Paper-cutter . . .	1
Gardener . . .	1	Patent solicitor . . .	1
Gas-meter man . . .	1	Pattern-makers . . .	9
Gilder . . .	1	Piano-makers . . .	2
Glass-blower . . .	1	Piano tuners . . .	2
Glass-painter . . .	1	Photograph retouchers	3
Glass-stainers . . .	2	Photographer . . .	1
Glass-worker . . .	1	Physician . . .	1
Grocer . . .	1	Plasterer . . .	1
Hardware-dealer . . .	1	Plumbers . . .	8
Housekeepers . . .	2	Potter . . .	1
Insurance agent . . .	1	Poster . . .	1
Janitors . . .	2	Press-feeder . . .	1
Jewelers . . .	4	Pressman . . .	1
Lead-glaziers . . .	2	Printers . . .	6
Letter-boy . . .	1	Private detectives . . .	2
Letter-carriers . . .	2	Rack-boys . . .	2
Lithographers . . .	2	Reporter . . .	1
Locksmith . . .	1	Rigger . . .	1
Machinists . . .	85	Rodman . . .	1
Masons . . .	2	Roofer . . .	1
Messenger . . .	1	Sail-makers . . .	2
Metal-workers . . .	6	Salesmen . . .	14
Milliners . . .	2	Saleswoman . . .	1
Milkman . . .	1	Seater . . .	1
Millhands . . .	2	Shippers . . .	4
Millwright . . .	1	Shoe and leather dealer . . .	1
Modeller . . .	1	Stair-builders . . .	10
Moulder . . .	1	Steam-fitters . . .	4
Musician . . .	1	Steel-scraper . . .	1
Music teachers . . .	3	Stitcher . . .	1
Office boys . . .	3	Stock-boy . . .	1
Oil-clothing dealer . . .	1	Stone-cutters . . .	15
Optician . . .	1	Stone-carvers . . .	2

Striker 1	Tool-grinder 1
Students 151	Tool-maker 1
Surveyors 4	Transit-man 1
Table-girl 1	Trunk-dealer 1
Tailoress 1	Watch-maker 1
Teachers 8	Wood-carvers 9
Teamster 1	Wood-engravers 6
Telephone-operators 3	Wood-turners 2
Terra-cotta worker 1	Woodworkers 4
Tinsmiths 5	

In addition to the above list there were 26 who had at the time of registration no trade or occupation.

Seven hundred and eighty-one (781) names were registered at the opening of these schools. Of this number, 255 withdrew before completing a single drawing, leaving 526 who received substantial benefit from their attendance. Two hundred and fifty-seven of this latter number completed all the required work and received certificates or diplomas; 16 completed all the drawings, but failed to pass the required examinations; 79 completed 75 % or more of the required drawings; 67 completed 50% or more; and 107 completed less than 50%.

	School.
399 certificate works were accepted at the Warren Avenue,	
449 " " " " East Boston,	
555 " " " " Roxbury,	
958 " " " " Charlestown,	
1,463 " " " " Tennyson street,	

—making the whole number of accepted works in all the above schools 3,824.

The awards of certificates and diplomas were made as follows :

Warren avenue School,	34 Certificates	6 Diplomas
East Boston " "	19 " "	12 " "

Roxbury School,	29	Certificates	18	Diplomas
Charlestown “	51	“	13	“
Tennyson-street “	49	“	26	“
	—		—	
	182	“	75	“

—making the whole number of awards of certificates and diplomas in all the Evening Drawing Schools 257.

The schools at Roxbury, Charlestown, and Tennyson street have increased so much in the number of applicants for admission that the committee have been compelled to ask for additional accommodations at the two last named, and they believe also that some further accommodation should be provided in Roxbury. This they have not asked for, as they understand that there is no additional room available in the building now occupied, in part, by that school. They would, however, suggest that as soon as possible larger accommodations be furnished them. It was thought at one time that it would be possible to use a portion of the new Roxbury High School-house for the Evening Drawing School in that section of the city; but as this plan seems no longer feasible, accommodation must be looked for elsewhere.

The chief reason for the delay in the preparation of this report is that the committee had undertaken to make a full and careful investigation of the work of the Primary and Grammar Schools. To this end, at the close of the school year 1890-91, the committee caused to be collected all the drawing-books of the schools of the grades mentioned, for their own and the director's inspection; and the director was instructed to examine and report upon the character of the work. This examination required a large amount of time, as there were more than twenty-five thousand of the books, and the work of examination had to be done faithfully in order to serve any good purpose. Now that this has been accomplished, the committee, having also examined a portion of this vast amount of work, feel unusually well

prepared to express an opinion as to the quality of the work in these grades.

There has been during the past year more or less criticism of the methods of work, of the courses of instruction, and of the results obtained in the department of drawing in this city. These criticisms have emanated from persons who, from different causes, have been more or less directly interested in the results of our work, and they have, for the most part, been kindly and considerate. Where this has not been the case, the criticisms have resulted from a lack of knowledge either of what has been attempted or of the results which have been attained, or, possibly, from both these causes.

That there has never been shown a greater amount of interest in this subject by the masters and teachers in our schools, is evidenced by the fact that for five months it was the one subject for discussion at the masters' meetings, where it proved to be one of the most interesting topics ever discussed by them. The Director of Drawing was present at all these meetings, and was greatly interested in the views expressed by the different speakers, but took no part in the general discussion. At its close, however, he read a paper summarizing his own views and criticising some of those presented at the different meetings. The committee have considered this paper of sufficient educational value to be preserved in printed form, and have consequently added it as an appendix to this report.

The revised Courses of Study for the Primary and Grammar Schools have not yet been fully carried out, for the reason that their use did not receive the sanction of the School Board in time for their introduction at the beginning of the year. With the hearty coöperation of the masters and teachers, such as we feel entitled to, and shall no doubt receive, and with the additional supply of needed materials which will doubtless be furnished, the opportunity to test

the advisability of such changes as have been made will begin with the present year. Your committee would, however, suggest the importance, especially in the two lower Primary classes, where books are not used, of having the course in drawing printed in a more detailed form. In this connection we invite attention to the following extracts from the report made to us by the Director of Drawing :

“The absolute necessity of a well-arranged course of study as a guide for teachers in their instruction of pupils is too universally admitted to permit of question ; and it can readily be seen that if, after the School Board have adopted a given course of study in this or any other subject, the teachers and others whose duty it is to give the allotted amount of time and attention to its proper development fail so to do, the results must be failure. Indeed, unless they are loyal workers along the lines laid down for their guidance by the School Board, the results of their lack of loyalty cannot fairly be charged to the course of study which they have deliberately neglected to follow. The best course of study ever prepared cannot of itself produce good results ; and unless it be followed faithfully and in the spirit in which it was prepared, failure is inevitable.

“Towards the close of the last school year, the Committee on Drawing issued a circular to the principals of all the Grammar Schools requesting them to have collected and forwarded to me all the drawing-books of their respective schools, Primary and Grammar, for the purpose of inspection and examination. All the books received under this order have been carefully examined, and the results classified under the marks 1, 2, 3, and 4. 1 = Excellent, 2 = Good, 3 = Passed, and 4 = Unsatisfactory. The results indicated by the numerals have been obtained by careful consideration of both the quantity and quality of the work as represented by classes.

“In the first classes of the Primaries, and in all the

Grammar classes below the third, the books represented the work done in the second term only. In the third, second, and first classes of the Grammar Schools they represented the work of the year.

" From the Primary Schools 99 sets of books were received, representing 99 first classes in schools of that grade.

Of these, 5 sets of books were marked	.	.	.	1
" 37 " " "	.	.	.	2
" 30 " " "	.	.	.	3
" 27 " " "	.	.	.	4

There were 40 teachers who sent no books, consequently the work done by their pupils could not be examined or rated.

" As an excuse for not having accomplished more drawing, several teachers wrote that they had been obliged to omit a good many lessons in that subject for the reason that their pupils had to attend sewing or other manual training lessons during the drawing hours. If this were the case, why were the hours which *belonged* to the manual training not given to the drawing? This would have been a proper exchange, and would have done away with any necessity for such excuses. For my own part I hold such excuses as these are not valid, for the reason that there is no authority for any teacher to take the time belonging to one study and transfer it to another, especially when such action is in any way detrimental to the study from which the time rightfully belonging to it has been taken. Other teachers claimed that we had no right to expect as good work from their pupils as from those in the same grade who come from better homes. The reply to this would seem to be found in the fact that other pupils in the same grade who come from equally poor homes, but are taught by other teachers, have produced a satisfactory amount of good work. It will be seen from

this that the teacher has at least some influence upon the results, although there may be a few very exceptional cases in which such an excuse as this might be considered just.

"From the Grammar Schools there were received 438 sets of books.

UNGRADED.

5 sets of books from ungraded classes received	.	.	.	2
4 " " " " "	.	.	.	3
8 teachers in ungraded classes sent no books.				

CLASS VI.

12 sets of books from Class 6 received	.	.	.	1
49 " " " "	.	.	.	2
28 " " " "	.	.	.	3
13 " " " "	.	.	.	4
4 teachers in Class 6 sent no books.				

CLASS V.

9 sets of books from Class 5 received	.	.	.	1
57 " " " "	.	.	.	2
18 " " " "	.	.	.	3
5 " " " "	.	.	.	4
10 teachers in Class 5 sent no books.				

CLASS IV.

10 sets of books from Class 4 received	.	.	.	1
43 " " " "	.	.	.	2
16 " " " "	.	.	.	3
4 " " " "	.	.	.	4
3 teachers in Class 4 sent no books.				

CLASS III.

7 sets of books from Class 3 received	.	.	.	1
28 " " " "	.	.	.	2
18 " " " "	.	.	.	3
5 " " " "	.	.	.	4
2 teachers in Class 3 sent no books.				

CLASS II.

5	sets of books from Class 2 received	.	.	.	1
34	“ “ “ “	.	.	.	2
10	“ “ “ “	.	.	.	3
7	“ “ “ “	.	.	.	4
2 teachers in Class 2 sent no books.					

CLASS I.

7	sets of books from Class 1 received	.	.	.	1
24	“ “ “ “	.	.	.	2
7	“ “ “ “	.	.	.	3
3	“ “ “ “	.	.	.	4
4 teachers in Class 1 sent no books.					

“The above list shows that fifty of the Grammar classes were marked 1 = Excellent.
 239 “ “ 2 = Good.
 101 “ “ 3 = Passed.
 37 “ “ 4 = Unsatisfactory.
 33 could not be rated or marked, for the reason that no books were received for examination.

“It is perhaps only just to add that some of those teachers who sent no books state that they did not receive the order asking for them.”

In addition to his visits to the day and evening schools, the Director has given a course of lectures at the Normal School which were introductory to, and explanatory of, the different topics of drawing instruction contained in the new course of study for that school. These lectures were supplemented by the regular class instruction in methods of teaching and practice in drawing, given by Miss Hintz.

The results of this course of instruction have been very satisfactory. The pupils' notes and sketches from the lectures and lessons are more full and complete than those of any previous year, and, consequently, will be of greater practical value in their adaptability to future use for purposes of instruction.

A great deal of time and thought have been given to the development of good methods of drawing instruction and to their proper presentation to the pupils of this school, for the reason that so much of the success of our future teachers depends upon their receiving sound normal instruction in this department of their education.

The High School work in drawing has been kept to its usual high standard of excellence; and the committee desire to say also that, judged by their examination of the results as seen in the pupils' work from the Primary and Grammar Schools, which was collected for that purpose, a large percentage of the teachers in those schools are doing satisfactory work. The failures seem to be caused, first, by lack of proper attention to good methods of instruction; second, by transferring, without authority and without any equivalent therefor, the time belonging to drawing to some other study; and third, by efforts to eliminate from our course of study in drawing its most vital industrial features and to substitute in their place a kind of poetic fiction, mis-called (in this connection) "æsthetic training." And your committee desire to emphasize the fact that the most successful work in drawing which has come under their observation has been from those classes whose teachers have given their best efforts to the right development of the course of study as adopted by the School Board.

The committee have for some time been considering the advisability of making a change in the drawing-books now in use in the schools, and have recently recommended to the School Board, through the Committee on Text-Books, that the books hitherto in use be dropped from the list of authorized text-books. The committee hope to be able to bring to the attention of the School Board at an early date their recommendations regarding a new series of books for this department.

For the Committee on Drawing,

CHARLES M. GREEN.

APPENDIX.

A PAPER READ BY THE DIRECTOR OF DRAWING AT THE MASTERS' MEETING.

SCHOOL COMMITTEE ROOMS, Tuesday, March 31, 1891.

The immediate cause of the discussion which preceded the reading of this paper was the unqualified statement "that our whole system and method of instruction in drawing is wrong and bad."

This was followed by the reading (at a subsequent meeting) of a paper by the gentleman who made the above-quoted statement, said paper being in the nature of an effort to prove his position in relation to the teaching of this subject in our public schools.

Now, it is perfectly easy for any one to *make* such an assertion in relation to any course of instruction, or any system or method of work. The real difficulty in such a matter is to show that the assertion has the solid foundation of truth for its basis.

You will remember, no doubt, that another paper was read by another gentleman, which related chiefly to the more advanced work in our High Schools, and that there were remarks of various kinds made by several other gentlemen who were present at the different meetings during the discussion of this subject.

Of these I shall have little to say at present, except to thank one of the gentlemen for the perfectly fair and dispassionate way in which he took up and discussed the subject in its bearings upon the work in the Girls' High School.

I might add to this that other remarks made by other masters were interesting to me, and that some of them at least had a direct bearing upon what I deem to be the topic which has been under discussion; namely, "Is our whole system and method of drawing instruction wrong and bad?"

In order to determine the proper answer to this question it would seem to be important for us to understand clearly and distinctly

that this instruction in our schools is intended as a preparation for industrial and manual training, and *not* for fine-art work, and that the system and method of teaching this subject has been arranged upon this basis.

That this course of instruction may be and undoubtedly is to a certain extent a good preparation for fine-art work, does not alter the fact of its original intent in connection with the other subjects.

What we desire to know, if we have not already determined the fact, is this: Does this course, or can it when properly used, fulfil the purpose for which its use was intended?

We have been told "that the use of 'type-forms' is one of its most objectionable features."

"That too much time is spent during the instruction in model and object drawing in finding measuring points, distance points, points of sight, vanishing points," and sundry and various other technical matters which are directly connected with the teaching of geometric perspective.

That "none of the features of elementary science are used in connection with our instruction in drawing." That "there can be no art without science;" and, if I remember rightly, we were reminded of the wonderful union of art with science as illustrated in the "Verestchagin" collection of pictures which was exhibited in this city some months since.

Our use of historic ornament as an introduction to the study of design has been severely criticised, and it has been suggested that all the beautiful types of natural forms which are contained in decorative works, together with the science which is illustrated in their construction, are not worthy our attention, and that we should be better off if they were cast into outer darkness, where our drawing teachers and pupils should know them no more forever.

Then our attention has been called to the large *quantity* of work done in one of our Grammar Schools where the instruction has been given directly from natural objects.

And now, gentlemen, having stated briefly some of the grounds for the criticism which have been made upon our system and methods of work in teaching drawing, allow me, before proceeding with my remarks, to refer once more to the fact that what we

have been *required* to teach and, consequently, what we are *endeavoring to teach* in the way of drawing is intended as a preparation for industrial and manual training, and has been considered an important factor in those departments of education.

We have been trying to develop power in drawing, in the direction of serious accurate work, and have *not* been using this subject as a plaything nor for the production of results which might perchance be pretty to look upon, but which at the same time would be utterly devoid of any practical or educational value.

We *have* believed, and still *do* believe, that instruction in this subject should be as simple and as direct as possible, avoiding all useless and unnecessary details.

To this end certain type-forms, all of which (with one exception) are based upon nature without being literally copied from that source, have been largely used for purposes of study and instruction.

The ovoid or egg form is the only one of the type-solids used which is a literal copy from nature, and singularly enough this, the most beautiful of all the purely natural forms, does not seem to be a favorite with those who desire us to go directly to nature for our models. Can it be that the absolute perfection of its form is the reason why it is ruled out?

Natural objects — with the one exception just named — are, almost universally, more complex in outline and in the modelling of the surfaces which are to be represented than are the simple “type-forms” which are used in elementary instruction. And this is one of the reasons why elementary students in all the best schools of art the world over are *not allowed to draw from nature* until they have acquired a good degree of proficiency in drawing from “types.”

Indeed, this kind of training is considered of such great value in fine-art drawing, that some of the greatest artists of modern times, men who have acquired the highest rank in their professions as painters and sculptors, — these very men occasionally return to this kind of study as a corrective of the loose, careless habits which they have acquired by too constant drawing directly from nature.

This idea, so recently presented to us, of teaching drawing almost exclusively from natural objects, is not by any means a new one — it is a sort of periodical epidemic, for which there would seem to be only one sure cure; namely, a broader knowledge of the whole subject.

Several years ago the principal of one of our Evening Drawing Schools, being desirous of giving his instruction largely from natural forms, was allowed to try the experiment with a portion of his class, and as he chose also to add certain picturesque objects which were neither the direct results of Nature's production nor types of such products, we had as a result groups of onions mixed with straw; old palmleaf hats much the worse for wear with apples piled into and upon and apparently rolling out of them; pots of beans and loaves of brown bread, with an occasional group of oranges, lemons, and potatoes, varied once in a while by the addition of a red herring or two, a clay pipe, or possibly a meer-schaum, and a piece of a newspaper, usually the "Boston Herald." I am happy to add that this teacher never cared to renew the experiment. Why? Because the pupils never learned to draw natural objects with as much accuracy or *so well in any way* as those who had devoted a much larger portion of their time to drawing from type-forms. Indeed this kind of training leads inevitably to careless, slovenly work, and is not the best for any department of art, whether it be "fine" or "industrial."

The ability to draw type-forms with freedom and accuracy includes the power to draw all the simple natural forms, and nearly everything which man has made.

The construction of a very large proportion of man's work is based upon these simple forms, consequently it would seem as if their study must be useful in connection with all constructive work and of the drawing pertaining thereto; and, as the forms themselves are based upon those found in nature, it would seem to be equally true that they must be of great service and assistance in the study of natural objects.

As to the amount of time that is, or is said to be, wasted in finding "points of sight," "distance points," "measuring points," "vanishing points," etc., perhaps the best thing to do right here will be to read the following extract from the official record of the Drawing Committee:

Please note the date.

MARCH 17, 1885.

“*Order passed in Drawing Committee:* That the American Text-Books of Art Education be authorized for use in the public schools for the ensuing year, *provided* that the books are revised as proposed by the written agreement of the publishers dated Oct. 14, 1884.”

As this agreement was based upon recommendations which were made by the Director to the Committee on Drawing, and as the most important part of this agreement was, “that all geometric or scientific perspective is to be entirely omitted from the course of instruction contained in those books,” *and as it was so omitted at that time*, it would hardly seem as though any great number of our teachers could be engaged in wasting much of their time in the pursuit of distance and vanishing points which the course of study for the past five years has not required them to *find*. If any of them are still pursuing these imaginary points, this occupation would seem to be due not to anything “bad” or “wrong” in the system or method of instruction, but rather to their lack of knowledge of the course of study in drawing.

That “there can be no art without science,” as the gentleman stated in his paper, I think we shall all be ready and willing to admit.

To me this seems a self-evident proposition. But when we are informed almost in the same breath that “there are none of the features of elementary science connected with our present instruction in drawing,” I can safely point to those very things which he would have eliminated from our course of instruction — those *to him* objectionable “type-forms” as the very basis and foundation of the elementary science of drawing.

His reference to Verestchagin’s pictures as illustrations of the wonderful value of the union of art and science was undoubtedly well deserved; but in addition to this we happen to know that this same artist, with his present wonderful skill and power as a draughtsman and painter, received his elementary training in the schools of Paris, *where he was not allowed* to draw directly from nature until he first gave satisfactory evidence of his ability to draw from “types.”

Individuality in methods of presenting a subject to pupils is often of great value, but its value depends entirely upon the results produced by its application to a given subject. These results are not to be judged by their quantity as much as by their quality, as it is a much easier matter to produce a large amount of useless or undesirable work within a given time than it is to produce, within the same time, a much smaller amount of good, thoughtful work.

As to the importance of historic ornament and its use in connection with the study of decoration, it does seem as though we ought to treat this subject with some degree of consideration before deciding to reject it utterly and completely.

The gentleman seems fearful — if we pursue this study — that we shall never establish an American School of Decorative Design. I think he need have no fear on this subject, as such a school, I am sorry to say, exists to-day, — or if it does not exist as a recognized school, I think none of us at least would fail to recognize as purely American a certain class of so-called decorations which are made in this country, but which have no apparent relation to anything, either in nature, science, or art.

But, speaking more seriously, I would *almost* as soon think of rejecting the study of Nature herself as of rejecting the study of good historic ornament as an important adjunct in teaching decoration.

Look at the history of the development of decorative art, and we shall find that the ancient Egyptians were the first to establish a school of historic ornament or national style of decoration; and we shall also find they were the first people who illustrated in any comprehensive manner the union of science with art.

It was they who discovered what I may be allowed to call "*Nature's science of growth*" as it is illustrated in all plant forms; and, for the first time in the history of art they applied this science in their decorative work.

And these same great laws of growth which were first used by the Egyptians are the foundation upon which all the best ornament of all the great historic schools has been based. The Greek, the Roman, the Byzantine, the Moorish, the Gothic, all these and many other schools of ornament, are indebted to the Egyptians for the discovery of this science and its application to the development of the first distinct style of decoration.

And yet, notwithstanding the fact that all these more modern schools have based the construction of their ornament upon this same science, the Greek is as distinctively Greek as the Egyptian is Egyptian,— just as an oak-tree remains clearly and distinctively an oak, and a little lily-of-the-valley retains its own individuality in spite of the fact that each one of them, in its own way, presents a perfect illustration of the fundamental law of growth in all plants.

And now, to what conclusion — in connection with the study of historic ornament — do these facts seem to lead?

Shall we reject all the knowledge, all the science, and all the skill of the past which is but briefly outlined in what I have endeavored to present? Or shall we more thoughtfully study these types of good decoration, and endeavor to learn more of the science which is so beautifully illustrated in their construction?

To me this latter course would seem by far the wiser of the two.

Where it is possible, let our children go into the woods and fields and gather plants and flowers for purposes of study and as helps in teaching good decoration. Let us lead them to observe the fundamental law of growth which they will find illustrated in each and every specimen they bring to us. Let us also lead them to observe the different ways in which this law is illustrated in different plants and in various views of the same plant. Let us do all this, and as much more as we have time and opportunity to do in the way of observing the structure of plants; but do not fail also to have the children observe in connection with this work how each example of good decoration is based upon the great law of growth *as it is illustrated* by some special plant when seen from *one point of view*.

This is the elementary science of decoration, and *as such* it does not seem as though we could afford to reject it, especially if we desire to found an “American School of Ornament” which shall be based upon the truth and science of nature.

We have heard, during the past two years, occasional remarks about the *quality of the drawing* done by the children in the public schools of this city, — indeed, we probably all know that in certain quarters it has received a good deal of adverse criticism, — and

we have been advised to follow Horace Greeley's advice and "go West" if we wish to see good work of this kind. Now, I have no desire to disparage what our Western co-workers have done in this direction, but most heartily bid them "God speed" in their efforts, and I am also glad to testify to the fact that they have made great progress during the past few years.

But I am not yet ready to adopt their methods of instruction as models to be followed by us, nor am I ready to admit the truth of what has been said about the drawing in our schools, until the statements as made have been proved.

And it so happens in this matter that all the evidence is not on one side. Some of you will perhaps remember being invited, some time since, to hear a lecture on "Form Study in our Public Schools," and to inspect at the same time an exhibition of drawings from the schools of St. Louis.

Those of us who attended this lecture and exhibition were told by the lady who talked to us on that occasion, that "the drawings in the schools of St. Louis," and, presumptively, the drawings which were then and there on exhibition, "were very much better than those made in our schools."

Now, I am perfectly ready and willing to admit that in the lower grades of drawing in that exhibit there was some beautiful work. Indeed, it struck me as being too uniformly beautiful, for the reason that it lacked in character, and in that individuality of method in expression which is to be found in work of this kind where it has not been directed too much. Indeed, all of the free-hand work impressed me with the feeling that the teacher or teachers had so carefully watched the mechanical method of finishing each line in every drawing, that the children had no opportunity to illustrate their individuality through different methods of expression.

There was some very good constructive drawing in the exhibit, and some of the High School work was good; but as the latter was not from the St. Louis High Schools, but was done in the barbarous and unenlightened East, and apparently was only put into this exhibition to show what might, could, or would be done in the schools of that city (*i.e.*, if they ever get so far), I shall have no more to say about it excepting this, that in my opinion the educa-

tional value of the exhibit might have been materially enhanced by the addition of more Eastern work. And this opinion was very much strengthened when a little later on one of the most able teachers whom I know, coming as he did at that time fresh from the inspection of this work which he had been carefully examining in several of the Western cities, and coming as he did for the purpose of comparing what he found here with what he had so recently seen in the West, — when this man, whom I know to be of good training, sound judgment, and broad practical experience as a teacher of drawing in its different grades, asked for a collection of pupils' drawings “to take with him, that he might illustrate with them to some of the Western teachers the kind of work obtained from pupils who were taught drawing in the *right way*,” then I certainly felt as if the evidence was not quite all on one side, especially as this particular witness was himself a successful teacher in one of the large Western cities.

What, then, shall I say in conclusion? Simply this: *First*, that I do not think the charges as against our methods and course of instruction in drawing, or those against the quality of the drawing done in our schools, have yet been proved. And, *second*, that these charges may have no chance of being proved in the future, let us all endeavor to carry out this study on the lines already laid down for our direction; not neglecting to develop and strengthen those lines whenever and wherever there may be good reason for so doing, and not going aside from our true purpose, with the hope of finding some “royal road to learning;” but rather let us keep in that “well-worn road” which leads us directly to nature as the one great source from which to obtain our materials, and to science for the best methods of using that material aright.

And this I claim to be the basis upon which our present system of drawing instruction rests. Nature and science *do* furnish the solid foundations upon which we are endeavoring to build good industrial drawing.

SCHOOL DOCUMENT NO. 15 — 1892.

PLAN OF INSTRUCTION IN INDUSTRIAL DRAWING

FOR THE

Free Evening Drawing Classes

OF THE

CITY OF BOSTON.

Arranged for a Course of Three Years Class Instruction by
Lectures and Demonstrations.



BOSTON :

ROCKWELL AND CHURCHILL, CITY PRINTERS.

1892.

IN SCHOOL COMMITTEE, BOSTON, Sept. 27, 1892.

Ordered, That 1,400 copies of the Plan of Instruction in Industrial Drawing for the Free Evening Drawing Classes be printed for use in the schools.

Attest:

PHINEAS BATES,

Secretary.

PLAN OF INSTRUCTION IN INDUSTRIAL DRAWING.

First Year. — Elementary, General, and Elective.

Second and Third Years. — General and Elective, in six branches :

1. Freehand Drawing.
2. Design.
3. Modelling.
4. Machine Drawing.
5. Building Construction.
6. Ship Draughting.

Contents. — Information for students and regulations ; Diary of class lectures ; List of certificate work ; Programme of examinations ; Awards of certificates and diplomas.

Adopted by the School Committee.

INFORMATION FOR STUDENTS, AND REGULATIONS CONCERNING THE CLASSES, BOTH OF FIRST, SECOND, AND THIRD YEAR.

OPENING AND CLOSING OF CLASSES. — Public notice will be annually given in the newspapers of the opening of the classes. They will be opened on the third Monday in October, and close on the last Friday in March. An examination will be held during the last week of the annual session, after which certificates and diplomas will be distributed.

ADMISSION, COURSE OF STUDY, EXAMINATION. — Applicants for admission must be over 15 years of age. For the first year's course students will be admitted without examination. Those desiring to enter the second year's course will be examined in the first year's subjects. Those desiring to enter the third year's course will be examined in the second year's subjects. Students

desiring to enter the first year's Modelling Class must either have received the second year's diploma in Freehand Drawing, or they must pass a satisfactory examination in that year's course of study. Those wishing to enter the second year's Modelling Class must have received the first year's certificate of ability in Modelling. Students are required to follow the course of study for the year and division to which they belong, and no other works but those named in the list and the lecture exercises are permitted to be done in the classes.

The first week in each annual session will be devoted to admitting and examining the applicants for admission; the last week of this session will be devoted to the final examinations. No student will be admitted after the last meeting of the classes in October and in January, except by express permission of the standing committee.

TIME AND REGULARITY IN ATTENDANCE. — The classes will be open on Monday, Wednesday, and Friday evenings in each week, during the period specified above, from 7½ to 9½ each evening, and students must be in their places at that time, the rooms being open, and teachers present at 7¼. The students will be required to sign a written agreement to attend punctually and regularly during the whole session, unless prevented by sickness, or removal from the district in which the class is held, in which case notice must be given to the principal of the school. To entitle the student to admission, this agreement must be filled and presented to the principal of such school as the student may wish to attend.

INSTRUMENTS. — Students requiring the loan of instruments must apply for them to the curator each evening between 7¼ and 7½, so as to be in their places promptly at 7½. All instruments must be returned to the curator at the close of the evening session.

DIVISION OF THE YEAR INTO TERMS. — HOLIDAYS AND VACATIONS. — The year is divided into first and second terms; the first being the months of October, November, December; the second being from the beginning of January until the end of the annual session, comprising the months of January, February, and March. The 22d of February is the only allowed holiday; but the schools

will be closed for the two weeks preceding the first school day in January.

SIZE AND NUMBER OF DRAWINGS IN EACH YEAR'S COURSE. — In the first year's Freehand course 11 sheets of drawing are required; to be made, or mounted, when done, on half imperial sheets, 15×21 inches.

For the second year's Freehand course 6 sheets of drawing are required; made, or mounted, when done, on full imperial sheets, 22×30 .

For the third year's Freehand course 4 sheets of drawing, of full imperial size (22×30), are required of each student.

For the Modelling Class 6 works are required from each student in the first year's course, and 4 or more — according to the importance of the subjects assigned to them — from each student in the second year's course.

For the first year's Instrumental course 12 sheets of drawing are required; to be made, or mounted, when done, on half imperial sheets, 15×21 inches.

For the second year's Instrumental course 8 sheets of drawing are required; to be made, or mounted, when done, on full imperial sheets, 22×30 inches.

For the third year's Instrumental course not less than 4 sheets of drawing, of full imperial size, 22×30 inches, to be made by each student.

One drawing from every set will in each year be selected and retained by the School Committee, as city property, for purposes of record, and for use in the ensuing drawing-schools; and six or more works from the modelling classes may be selected for casting. The casts to be retained as city property for use in the schools. No finished drawing or work in modelling is to be taken away from the school until the end of the session. Each drawing and model, when finished, will be initialled and rated by the teacher of the class in which it was made, and when accepted by the Director of Drawing it will be stamped by him, and form one of the certificate set. Records of drawings accepted, examinations passed, and certificates awarded will be kept by the instructor of each class, and the general record of all the classes which is required to be kept by the principal of each school will be preserved at the office of the School Committee.

In rating students' work: 1 = Excellent. 2 = Good. 3 = Passable. 4 = Unsatisfactory.

CONDUCT OF STUDENTS. — Every student, being furnished with a copy of this plan of instruction on admission, is expected to read it, and to abide by all the rules and regulations stated in it, as a condition of attendance on the classes. Attendance will, therefore, be regarded as evidence of agreement to comply with the regulations and follow the courses of instruction.

PROGRAMME.

FREEHAND DRAWING. — FIRST YEAR; GENERAL.

1. Plane Geometry.
2. Historic Ornament.
3. Design.
4. ¹ Model and Object Drawing and Practical Perspective.

FREEHAND DRAWING. — SECOND YEAR. — GENERAL AND ELECTIVE.

1. Historic Ornament.
2. Applied Design.
3. Model and Object Drawing.
4. Details of Human Figure.

FREEHAND DRAWING. — THIRD YEAR. — ELECTIVE.

Four sheets of drawing, of full imperial size (22 × 30), to be made by each student. The subjects to be elective. List of subjects. Applied Design. Models and Objects. Drawing from cast of Human Figure, or from cast of Ornament.

INSTRUMENTAL COURSE. — FIRST YEAR.

First Term — General. Second Term — Elective.

First Year.

GENERAL — *First Term.* — Plane Geometry. Orthographic Projection. Intersection of Solids and Developments.

ELECTIVE — *Second Term.* — *Machine Drawing.* — Screws — (Conventional) Details of Machinery. Elevations and Sections.

¹ NOTE TO THE TEACHER. — As Geometric Perspective has been omitted from this course of instruction, a great deal of attention in teaching this subject must be given to the best methods of observation and their practical application to Model and Object Drawing.

ELECTIVE — *Second Term.* — *Architectural Drawing.* — Isometric Projection. Structural Details. Plans and Elevation of Building.

ELECTIVE — *Second Term.* — *Ship Draughting.*

INSTRUMENTAL COURSE. — SECOND YEAR.

First Term — General. Second Term — Elective.

Second Year.

GENERAL — *First Term.* — Plane Geometry. Orthographic Projections. Intersections of Solids and Developments. Conic Sections.

ELECTIVE — *Second Term.* — *Machine Drawing.* — Screws. Gears. Wheels and Belts. Machinery.

ELECTIVE — *Second Term.* — *Architectural Drawing.* — Isometric Projection. Plans and Elevation. Framing.

ELECTIVE — *Second Term.* — *Ship Draughting.* — Plan. Section and Elevation of Boat or Ship.

INSTRUMENTAL COURSE. — THIRD YEAR. — ELECTIVE.

Not less than four sheets of drawing, of full imperial size (22 × 30), to be made by each student. The subjects to be treated in a thoroughly practical way, as they would be in the office of the architect, the machine draughtsman, or the ship-builder.

List of Certificate Drawings to be executed by the Students.

FIRST YEAR'S COURSE. — GENERAL.

FREEHAND DRAWING.

To the Teacher.

A very comprehensive course of instruction in the subjects of Model and Object Drawing, Elementary Design, and Light, Shade, and Shadow is expected in carrying out the present course of study, to the end that students may be thoroughly fitted for the second year's course.

1. A sheet of Problems in Plane Geometry.
2. A sheet of Historic Ornament. (Three styles.)
3. A sheet of Geometric Design. To be finished in half-tint.

4. A sheet of Pictorial Representation of some Plant, and pupil's conventionalization of the same.

5. A sheet of Elementary Design. (From a plant to be finished in half-tint.)

6. A sheet of Model Drawing in outline from Cartoon.

7. A sheet of Model Drawing in outline from Models.

8. A sheet of Model Drawing in outline from Models.

9. A sheet of Model Drawing in light and shade from Cartoon.

10. A sheet of Model Drawing in light and shade from Models.

11. A sheet of Model Drawing in light and shade from Models.

The above sheets to be drawn in the order of arrangement in this list.

EXAMINATIONS FOR CERTIFICATE. — The above drawings having been submitted and approved, time-examinations for the completion of the certificate will be held at the end of the annual session, as follows :

Time, six hours (three evenings).

1st evening, 1st hour. Plane Geometry.

1st evening, 2d hour. Historic Ornament, from memory or blackboard.

2d evening. Floral Design, from memory.

3d evening. Model drawing, shaded with charcoal from the models.

No ruling should be allowed in the freehand course except in the instrumental part. All other students' work containing ruled lines will be rejected as unsatisfactory.

SECOND YEAR'S COURSE. — GENERAL AND ELECTIVE.

FREEHAND DRAWING.

Before entering this course students must have obtained the certificate for the first year's course.

DESIGNS.

1¹. A sheet of Applied Design for decoration of a flat surface.

1². A sheet of Applied Design for Ornament in relief.

1³. A sheet of Applied Design for an object and its decoration.

One of the above designs, 1¹, 1², or 1³, to be made by each student as he may elect.

2. A sheet of Applied Design for any subject the student may elect.

3. A sheet of drawing, shaded with charcoal point, from a group of geometric models, and a vase or some common object.

4. A sheet of drawing, shaded with charcoal point, from a cast of historic ornament.

5. A sheet of drawing in outline from the cast of a mask, bust, or some detail of the human figure.

6. A sheet of drawing from the cast of a mask, bust, or some detail of the human figure, to be shaded with charcoal point.

Students may, at the discretion of the teacher, be allowed to use other material in shading.

Where there is no special reason for making a change, the charcoal should be used for shading all pictorial drawings made in the freehand classes. All designs should be finished in monochrome.

EXAMINATIONS FOR DIPLOMA. — The above drawings and designs having been submitted and approved, time-examinations for the completion of the diploma will be held at the end of the annual session, as follows :

Time, 6 hours (three evenings).

- | | |
|--------------|--|
| 1st evening. | Drawing in light and shade from a group of models. |
| 2d “ | “ “ “ “ “ cast of historic ornament. |
| 3d “ | Drawing from memory of an original applied design. |

NOTE.—Students who have obtained the certificate for the first year's course will, on completion of this, and passing the examinations, receive a second year's diploma.

THIRD YEAR'S COURSE. — ELECTIVE.

FREEHAND DRAWING.

Four sheets of Drawing, of full imperial size (22 × 30), to be made by each student. The students may elect from the follow-

ing list of subjects: 1. Applied Design. — 2. Models and Objects. — 3. Casts of Historic Ornament. — 4. Casts of the Human Figure.

Before entering this class the student must have received the second year's diploma.

NOTE. — Students who have obtained the second year's diploma in Freehand Drawing will, on the completion of the third year's course, and passing their examinations, receive a third year's diploma.

FIRST YEAR'S COURSE. — INSTRUMENTAL DRAWING.

First Term — General. Second Term — Elective.

1st Term.

- GENERAL. — 1. A sheet of geometrical problems.
 2. " " "
 3. " " "
 4. " orthographic projections.
 5. " " "
 6. " solid intersections and developments.

2d Term. — Machine Drawing.

- ELECTIVE. — 1. A sheet of screws — (conventional).
 2. " machinery details, in elevation and section.
 3. " " " " "
 4. " " " " "
 5. " " " " "
 6. " " " " "

2d Term. — Architectural Drawing.

- ELECTIVE. — 1. A sheet of isometric projections.
 2. " structural details.
 3. " " "
 4. " plans of a building.
 5. " " " "
 6. " elevation "

ELECTIVE. — *2d Term. — Ship Drawing.*

EXAMINATION FOR CERTIFICATE. — Students having completed the above drawings and submitted them for approval, a time-

examination for the completion of the certificate will be held at the end of the session, as follows :

Time, six hours (three evenings).

- 1st evening. Geometrical problems — plane and solid.
 2d “ Isometric problems.
 3d “ Machine drawing — Building construction. The examination in Ship Drawing will occupy six hours — (three evenings).

SECOND YEAR'S COURSE. — INSTRUMENTAL DRAWING.

Before entering this course students must have obtained the certificate for the first year's course.

1st Term — General. 2d Term — Elective.

1st Term.

- GENERAL. — 1. A sheet of advanced geometrical problems.
 2. “ orthographic projections.
 3. “ intersection of solids and developments.
 4. “ conic sections.

2d Term. — Machine Drawing.

- ELECTIVE. — 1. A sheet of screws.
 2. “ gears.
 3. “ wheels and belts.
 4. “ machine drawing.

2d Term. — Architectural Drawing.

- ELECTIVE. — 1. A sheet of isometric projections.
 2. “ plans of two-story building.
 3. “ elevation of two-story building.
 4. “ framing plans of two-story building.

2d Term. — Ship Draughting.

- ELECTIVE. — 1. A sheet of plan of boat or ship.
 2. “ section of boat or ship.
 3. “ elevation of boat or ship.

EXAMINATION FOR DIPLOMA. — Students having completed the above drawings and submitted them for approval, a time-examination for the completion of the diploma will be held at the end of the session, as follows :

Time (three evenings).

- | | |
|--------------|--|
| 1st evening. | Geometrical problems — plane and solid. |
| 2d “ | Isometric problems, or Orthographic projections. |
| 3d “ | Machine drawing, or Building construction. |

The examination in Ship Drawing will occupy three evenings.

NOTE. — Students who have obtained the first year's certificate will, on completion of this year's work, and passing the examination, receive a second year's diploma.

THIRD YEAR'S COURSE. — INSTRUMENTAL DRAWING.

Elective.

Time-examinations will be held on the last three nights of the annual session in this course, and third-year diplomas will be awarded to students who have completed their certificate drawings and passed the examinations in either of the electives.

FIRST YEAR'S COURSE. — MODELLING IN CLAY.

General.

Before entering this course students must have received a diploma for the second year's course in Freehand Drawing, or they must pass the second year's examination in that subject. Each first-year student will be required to complete six satisfactory examples of Modelling in Clay from the flat, from the round, and from his original designs.

The subjects to be modelled will include: Objects, Historic Ornament, Original Decorative Designs, and Details of the Human Figure. At the close of the annual sessions there will be an examination of the students. Those who have completed the required work and passed the examinations satisfactorily will be eligible to the second year's class in modelling, and will receive a first-year certificate.

SECOND YEAR'S COURSE. — MODELLING IN CLAY.

General.

Students who are eligible to this class will be required to complete four or more satisfactory works—according to the difficulties of the subjects assigned, and to pass the required examinations.

A second-year diploma will be awarded to each successful graduate of this class.

THIRD YEAR'S COURSE. — MODELLING.

Elective.

Students who have qualified for this course will be entitled—under the advice of the instructor—to choose the subjects they desire to model.

The number of works required in this course will depend largely upon the difficulties in the work elected. They should, however, not fall below three.

JAMES A. McDONALD,
Chairman of Committee on Drawing.

SCHOOL DOCUMENT NO. 16—1892.

BOSTON PUBLIC SCHOOLS.

L I S T

OF

Authorized Text and Reference Books

AND

SUPPLEMENTARY READING BOOKS,

FOR

SCHOOL YEAR 1892-93.



BOSTON:

ROCKWELL AND CHURCHILL, CITY PRINTERS.

1892.

IN SCHOOL COMMITTEE, BOSTON, Oct. 11, 1892.

Ordered, That six hundred copies of the list of authorized text-books, reference-books, and supplementary reading books for 1892-93 be printed.

Attest :

PHINEAS BATES,

Secretary.

TEXT-BOOKS.

PRIMARY SCHOOLS.

Third Class. — New Franklin Primer and First Reader. Munroe's Primary Reading Charts.

Second Class. — New Franklin Second Reader. Franklin Advanced Second Reader. First Music Reader.

First Class. — Franklin Third Reader. ¹New Franklin Third Reader. First Music Reader.

Upper Classes. — ²Franklin Primary Arithmetic. First Lessons in Natural History and Language, Parts I. and II. Child's Book of Language, Nos. 1, 2, 3. [By J. H. Stickney.]

All the Classes. — First Primary Music Chart. Prang's Natural History Series (one set for each building).

Magnus & Jeffries's Color Chart; "Color Blindness," by Dr. B. Joy Jeffries. (One copy of the chart and one copy of the book for use in each Primary-School building.)

Normal Music Course in the Rice Training School and in the schools of the third and sixth divisions. National Music Course (revised edition) in the schools of the first and second divisions.

GRAMMAR SCHOOLS.

Sixth Class. — Franklin Advanced Third Reader. ³Metcalf's Language Lessons. ⁴Warren's Primary Geography. Intermediate Music Reader. Franklin Elementary Arithmetic. ⁵Greenleaf's Manual of Mental Arithmetic. Worcester's Spelling-Book. Blaisdell's Physiology of Little Folks.

¹To be furnished at the discretion of the Committee on Supplies.

²Each Primary-School building occupied by a first or second class to be supplied with one set of the Franklin Primary Arithmetic; the number in a set to be sixty, or, if less be needed, less than sixty; the Committee on Supplies are authorized to supply additional copies of the book at their discretion, if needed.

³One set to be supplied for every two rooms of the fifth and sixth classes.

⁴Swinton's Introductory Geography allowed in Charlestown Schools.

⁵To be used in the manner recommended by the Board of Supervisors in School Document No. 14, 1883; one set of sixty copies to be supplied for the classes on each floor of a Grammar-School building occupied by pupils in either of the four lower classes, and for each colony of a Grammar School.

Fifth Class. — Franklin Intermediate Reader. ¹New Franklin Fourth Reader. ²Metcalf's Language Lessons. Franklin Elementary Arithmetic. ³Greenleaf's Manual of Mental Arithmetic. ⁴Warren's Primary Geography. Intermediate Music Reader. Worcester's Spelling-Book. ⁵Stowell's A Healthy Body.

Fourth Class. — Franklin Fourth Reader. ¹New Franklin Fourth Reader. ²Metcalf's Language Lessons. Worcester's Comprehensive Dictionary. Franklin Written Arithmetic. ³Greenleaf's Manual of Mental Arithmetic. ⁴Warren's Common-School Geography. Intermediate Music Reader. Worcester's Spelling-Book. ⁵Stowell's A Healthy Body.

Third Class. — Franklin Fifth Reader. ¹New Franklin Fifth Reader. Franklin Written Arithmetic. ³Greenleaf's Manual of Mental Arithmetic. ⁴Warren's Common-School Geography. Swinton's New Language Lessons. Worcester's Comprehensive Dictionary. Higginson's History of the United States. ⁶Fourth Music Reader [Revised edition]. ⁷Smith's Elementary Physiology and Hygiene.

Second Class. — Franklin Fifth Reader. ¹New Franklin Fifth Reader. Franklin Written Arithmetic. ⁴Warren's Common-School Geography. Tweed's Grammar for Common Schools. Worcester's Comprehensive Dictionary. Montgomery's Leading Facts of American History. ⁸Sheldon Barnes American History. ⁶Fourth Music Reader [Revised edition]. ⁷Smith's Elementary Physiology and Hygiene.

First Class. — Franklin Sixth Reader. Masterpieces of American Literature (Houghton, Mifflin, & Co.). Franklin Written Arithmetic. Meservey's Book-keeping, Single Entry. ⁴Warren's Common-School Geography. Tweed's Grammar for Common Schools. Worcester's Comprehensive Dictionary. Montgomery's Leading Facts of American History. ⁸Sheldon Barnes American History. Stone's

¹ To be furnished at the discretion of the Committee on Supplies.

² One set to be supplied for every two rooms of the fifth and sixth classes.

³ To be used in the manner recommended by the Board of Supervisors in School Document No. 14, 1883; one set of sixty copies to be supplied for the classes on each floor of a Grammar-School building occupied by pupils in either of the four lower classes, and for each colony of a Grammar School.

⁴ The revised edition to be furnished at the discretion of the Committee on Supplies to schools where this book is used. Swinton's Grammar-School Geography allowed in Charlestown Schools.

⁵ To be supplied to pupils of the fifth class only — said books to be used half a year in the fifth class, and half a year in the fourth class.

⁶ The revised edition to be supplied as new books are needed.

⁷ It is understood that the books now in the second class are to be used half a year in that class, and the other half-year in the third class.

⁸ To be furnished to schools on the request of the principals, approved by the Board of Supervisors.

History of England. Cooley's Elements of Philosophy.
¹Fourth Music Reader [Revised edition]. Mowry's
 Elements of Civil Government.

Fifth and Sixth Classes. — First Lessons in Natural
 History and Language, Parts III. and IV.

All Classes. — Writing-Books: Duntonian Series; Pay-
 son, Dunton, and Scribner's; Harper's Copy-Books; Apple-
 ton's Writing-Books. Child's Book of Language; and Let-
 ters and Lessons in Language, Nos. 1, 2, 3, 4. [By J. H.
 Stickney.] Prang's Aids for Object Teaching, "Trades"
 (one set for each building).

Normal Music Course in the Rice Training School and the
 schools of the third and sixth divisions. National Music
 Course (revised edition) in the schools of the first and second
 divisions.

HIGH SCHOOLS.

English. — Abbott's How to Write Clearly. Hill's or Kel-
 logg's Rhetoric. Meiklejohn's English Language. Scott's
 Lady of the Lake. Selections from Addison's Papers in the
 Spectator, with Macaulay's Essay on Addison. Irving's
 Sketch-book. Trevelyan's Selections from Macaulay. Hale's
 Longer English Poems. Shakespeare, — Rolfe's or Hud-
 son's Selections. Selections from Chaucer. Selections from
 Milton [Clarendon Press Edition. Vol. I.]. Worcester's
 Comprehensive Dictionary.

The following-named books are authorized for use as a special list of
 text-books in English in the High Schools; copies of these books to be
 furnished in addition to the supply of regular text-books, in such numbers
 as may be desired, provided that the aggregate number of books furnished
 from this list to any High School shall not exceed the number of pupils in
 the junior class in that school:

Longfellow's Poems (Household edition). Selections
 from Lowell's Poems, Modern Classics, Vol. 5. Se-
 lections from Lowell's Prose, Modern Classics, Vol. 31.
 Selections from Emerson's Prose, Modern Classics, Vol. 2.
 Selections from Whittier's Prose, Modern Classics, Vol. 4.
 Macaulay's Lays of Ancient Rome, Modern Classics, Vol.
 26. Palgrave's Golden Treasury. Tennyson's Selected
 Poems (Rolfe's Students' Series). Selections from
 Wordsworth (George). Thurber's Select Essays of Ma-
 caulay. Thackeray's Henry Esmond. Scott's Talisman.

¹ The revised edition to be supplied as new books are needed.

Scott's Quentin Durward. Hawthorne's House of Seven Gables. George Eliot's Silas Marner.

Latin. — Allen & Greenough's Latin Grammar [Roxbury, W. Roxbury, and Brighton High Schools]. Harkness's Latin Grammar [English, Girls', Dorchester, Charlestown, and East Boston High Schools]. Harkness's New Easy Latin Method. Gildersleeve's Latin Primer. Collar & Daniell's Beginners' Latin Book [Roxbury, West Roxbury, and Brighton High Schools]. Harkness's Cæsar. Allen & Greenough's Cæsar [Roxbury, West Roxbury, and Brighton High Schools]. Lindsey's Cornelius Nepos. Chase's, Friez's, or Greenough's Virgil, or any edition approved by the Committee on Text-Books. Greenough's or Harkness's Cicero. Chase's or Lincoln's Horace, or any edition approved by the Committee on Text-Books.

History. — Myer's General History. Sheldon's General History. Fiske's Civil Government.

Mythology. — Berens's Hand-book of Mythology.

Mathematics. — Meservey's Book-keeping. Bradbury & Emery's Academic Algebra. ¹Wentworth & Hill's Exercises in Algebra. Bradbury's Elementary Geometry, or Chauvenet's Geometry, or Wells's Geometry. Greenleaf's Trigonometry. ²Metric Apparatus.

Physics. — Cooley's New Text-Book of Physics. Avery's Physics or Gage's Introduction to Physical Science. Gage's Laboratory Manual of Physics.

Astronomy. — Young's Astronomy.

Chemistry. — Williams's Chemistry. Williams's Laboratory Manual. Shepard's Chemistry. Eliot & Storer's Elementary Manual of Chemistry, edited by Nichols. Eliot & Storer's Qualitative Analysis. Hill's Lecture Notes on Qualitative Analysis. Tables for the Determination of Common Minerals [Girls' High School]. White's Outlines of Chemical Theory. A Record of Laboratory Work [D. C. Heath & Co.].

Botany. — Gray's School and Field Book of Botany.

Zoölogy. — Morse's Zoölogy and Packard's Zoölogy.

Physiology. — Hutchison's Physiology. Blaisdell's Our Bodies and How We Live.

Music. — Eichberg's High-School Music Reader. Eich-

¹ This book is not intended to, and does not in fact, displace any text-book now in use, but is intended merely to furnish additional problems in algebra.

² Not exceeding \$15 for each school.

berg's New High-School Music Reader. Eichberg's Girls' High-School Music Reader [Girls' High School].

LATIN SCHOOLS.

Latin. — ¹White's Abridged Lexicon. Lewis's Elementary Latin Dictionary. Harkness's Grammar. Harkness's Reader. Harkness's New Easy Latin Method. Harkness's Prose Composition or Allen's Latin Composition. Collar's Practical Latin Composition. Harkness's Cæsar. Collar's Gate to Cæsar. Lindsey's Cornelius Nepos. Greenough's Catiline of Sallust. Lincoln's Ovid. Greenough's Ovid. Greenough's Virgil. Greenough's or Harkness's Orations of Cicero. Smith's Principia Latina, Part II.

Greek. — Liddell & Scott's Abridged Lexicon. Goodwin's Grammar. White's Lessons. Jones's Prose Composition. Goodwin's Reader. The Anabasis of Xenophon. Boise's Homer's Iliad. Seymour's School Iliad. Beaumlein's Edition of Homer's Iliad.

English. — Soule's Hand-book of Pronunciation. Hill's General Rules for Punctuation. Tweed's Grammar for Common Schools (in fifth and sixth classes). Strang's English Lessons. Hawthorne's Wonder Book. Hawthorne's Tanglewood Tales. Plutarch's Lives of Famous Greeks and Romans. Macaulay's Lays of Ancient Rome. Higginson's History of the United States. Hughes's Tom Brown's School-Days at Rugby. Dana's Two Years Before the Mast. Charles and Mary Lamb's Tales from Shakespeare [Revised Edition, Houghton, Mifflin, & Co.]. Scott's Ivanhoe. Hawthorne's True Stories. Greene's Readings from English History. ²Church's Stories from Homer. ²Church's Stories of the Old World. Selections from American Authors, — Franklin, Adams, Cooper, and Longfellow. American Poems, with Biographical Sketches and Notes. Irving's Sketch-Book. Selections from Addison's Papers in the Spectator. Ballads and Lyrics. Hale's Longer English Poems. Three plays of Shakespeare, — Rolfe's or Hudson's Selections.

History. — Leighton's History of Rome. Allen's Short History of the Roman People. Smith's Smaller History of

¹ No more copies of White's Abridged Lexicon to be purchased.

² No more copies of Church's Stories from Homer to be purchased, but as books are worn out their place to be supplied with Church's Stories of the Old World.

Greece. Oman's History of Greece. Long's or Ginn & Heath's Classical Atlas. Smith's Smaller Classical Dictionary (Student's Series).

Mythology. — Bulfinch's Age of Fable.

Geography. — Geikie's Primer of Physical Geography. Warren's Common School Geography.

Physiology. — Macé's History of a Mouthful of Bread. Foster's Physiology (Science Primer). Blaisdell's Our Bodies and How We Live.

Botany. — Gray's School and Field Book of Botany.

Zoölogy. — Morse's Zoölogy and Packard's Zoölogy.

Mineralogy. — Tables for the Determination of Common Minerals [Girl's Latin School].

Mathematics. — The Franklin Written Arithmetic. Bradbury & Emery's Academic Algebra. ¹Wentworth & Hill's Exercises in Algebra. ¹Wentworth & Hill's Exercise Manual in Arithmetic. Chauvenet's Geometry. Lodge's Elementary Mechanics.

Physics. — Hall & Bergen's Physics or Gage's Physics.

Music. — Eichberg's High-School Music Reader. Eichberg's New High-School Music Reader. Eichberg's Girls' High-School Music Reader [Girls' Latin School].

LATIN AND HIGH SCHOOLS.

French. — Keetel's Elementary Grammar. Keetel's Analytical French Reader. Super's French Reader. ²Sauveur's Petites Causeries. Hennequin's Lessons in Idiomatic French. Gasc's French Dictionary. Erkmann-Chatrian's Le Conserit de 1813. Erkmann-Chatrian's Madame Thérèse. Bôcher's College Series of French Plays. Nouvelles Genevoises. Souvestre's Au Coin du Feu. Racine's Andromaque. Racine's Iphigénie. Racine's Athalie. Molière's Bourgeois Gentilhomme. Molière's Precieuses Ridicules. Corneille's Les Horaces. Corneille's Cid. Herrig's La France Littéraire. Roemer's French Course, Vol. II. Ventura's Peppino. Halévy's L'Abbé Constantin. La Fontaine's Fables. About's La Mère de la Marquise. Daudet's Siège de Berlin. Daudet's Extraits. Daudet's La

¹ This book is not intended to, and does not in fact, displace any text-book now in use, but is intended merely to furnish additional problems in algebra.

² To be furnished as new French Readers are needed. The use of the book confined for this year to the English, Charlestown, Roxbury, and West Roxbury High Schools.

Belle Nivernaise. La Nervaine de Collette. Marcillac's Manuel d'Histoire de la Littérature Française [Fourth-year class in High Schools]. Materials for French Composition [Grandgent]. Abeille [A. France]. Colomba [P. Merimée]. Historiettes Modernes [edited by C. Fontaine]. Kimball's Exercises in French Composition [High Schools]. French Fairy Tales (edited by Joynes). La Famille de Germandre (Sand). Episodes from Sans Famille (Malot).

German. — ¹ Whitney's German Dictionary. Heath's German Dictionary. Whitney's Grammar. Sheldon's German Grammar. Collar's Eysenbach. Otto's or Whitney's Reader. Brandt's German Reader. Der Zerbrochene Krug. Schiller's Wilhelm Tell. Schiller's Maria Stuart. Goethe's Hermann und Dorothea. Putlitz's Das Herz Vergessen. Grimm's Märchen. Goethe's Prose. Schiller's Prose. Stein's German Exercises. Heine's Die Harzreise. Im Zwielficht, Vols. I. and II. Traumerein. Buckheim's German Poetry for Repetition. Minna von Barnhelm (Lessing). Aus dem Staat Friedrichs des Grossen (Freitag).

NORMAL SCHOOL TEXT-BOOKS.

The text-books used in this school shall be such of the text-books used in the other public schools of the city as are needed for the course of study, and such others as shall be authorized by the Board.

Normal Music Course.

HORACE MANN SCHOOL TEXT-BOOKS.

Such text-books shall be supplied to the Horace Mann School as the committee on that school shall approve.

EVENING HIGH SCHOOL TEXT-BOOKS.

Ben Pitman's Manual of Phonography. Reporter's Companion. The Phonographic Reader. The Reporter's First Reader. Bradbury's Elementary Geometry.

The text-books used in this school shall be such of the text-books authorized in the other public schools as are approved by the Committee on Evening Schools and the Committee on Supplies.

¹ No more copies of Whitney's German Dictionary to be purchased.

East Boston Branch. — Graded Lessons in Shorthand. Parts 1 and 2, by Mrs. Mary A. Chandler.

EVENING ELEMENTARY SCHOOL TEXT-BOOKS.

Munroe's Charts. Franklin Primer. Franklin Reader. Stories of American History. Harper's Introductory Geography. The Franklin Elementary Arithmetic. The Franklin Written Arithmetic. ¹ Andersen's Märchen. Writing-books, Plain Copy-books, and such of the text-books authorized in the other public schools as are approved by the Committee on Evening Schools and the Committee on Supplies.

SCHOOLS OF COOKERY.

Boston School Kitchen Text-book, by Mrs. D. A. Lincoln.

¹ In schools in which the English language is taught to German pupils.

REFERENCE-BOOKS.

PRIMARY SCHOOLS.

Worcester's Comprehensive Dictionary. National Music Teacher. Munroe's Vocal Gymnastics. Lessons in Color (one copy for each Primary-School teacher's desk). White's Oral Lessons in Number (one copy for each Primary-School teacher's desk). Smith's Primer of Physiology and Hygiene (one copy for each Primary-School teacher's desk). Blaisdell's Physiology for Little Folks (one copy for the desk of each teacher of the first class).

Observation Lessons in the Primary Schools (Hopkins) (one copy for each Primary-School teacher's desk).

Simple Object Lessons (two series), by W. Hewitt Beck. Natural History Object Lessons, by G. Ricks (one set of books of each title for each Primary-School teacher's desk). Enebuske's Progressive Gymnastic Day's Orders (one copy for the desk of each teacher). Nissen's A B C of Swedish Educational Gymnastics (one copy for the desk of each teacher). Cutler's Primary Manual Training (one copy for the desk of each teacher).

GRAMMAR SCHOOLS.

Appleton's American Encyclopædia or Johnson's Encyclopædia. Chambers's Encyclopædia. Anthon's Classical Dictionary. Thomas's Dictionary of Biography and Mythology.

Worcester's Quarto Unabridged Dictionary. Webster's Quarto Unabridged Dictionary. Webster's National Pictorial Dictionary.

Lippincott's Gazetteer. Johnson's Atlas. Reclus's Earth. Reclus's Ocean. Reclus's Birds-eye View of the World. Flammarion's Atmosphere. Weber's Universal History. Bancroft's History of the United States. Battle Maps of the Revolution. Palfrey's History of New England. Frothingham's Rise of the Republic. Lossing's Field Book of the Revolution. Shurtleff's Topographical History of Boston. Frothingham's Siege of Boston. Lingard's History of Eng-

land. Smith's Primer of Physiology and Hygiene (one copy for the desk of each teacher of the fifth and sixth classes). Frye's Geography Teaching (one copy for the desk of each teacher of the fifth and sixth classes). Fables and Anecdotes and Stories for Teaching Composition (one copy for the desk of each teacher of the sixth class). Champlin's Young Folks' Cyclopædia of Persons and Places. Champlin's Young Folks' Cyclopædia of Common Things. MacCoun's Historical Geography of the United States. MacCoun's Historical Charts of the United States. Bulfinch's Age of Fable.

Goold-Brown's Grammar of English Grammars. Wilson's Punctuation. Philbrick's Union Speaker. Methods of Teaching Geography (one copy for each teacher of Geography). Posse's Swedish System of Gymnastics. Enebuske's Progressive Gymnastic Day's Orders (one copy for the desk of each teacher). Nissen's A B C of Swedish Educational Gymnastics (one copy for the desk of each teacher). Guides for Science Teaching — published by D. C. Heath & Co. — (one set to be supplied to each Grammar School).

First Classes. — Physiography (Longmans & Co.). Copies for teachers' desks.

Second Classes. — Harper's Cyclopædia of United States History.

Maps and Globes. — Cutter's Physiological Charts. Charts of the human body (Milton Bradley & Co.). White's Manikin. Cornell's Series Maps, or Guyot's Series Maps, Nos. 1, 2, 3 (not exceeding one set to each floor). Hughes's Series of Maps. Joslyn's 15-inch Terrestrial Globe, on Tripod (one for each Grammar School). 9-inch Hand Globe, Loring's Magnetic (one for each Grammar-School room). Cosmograph. O. W. Gray & Son's Atlas (to be furnished as new atlases are needed). Rand & McNally's Indexed Atlas of the World. Atlas of Massachusetts (George H. Walker & Co.).

~ HIGH SCHOOLS. ~

For use in each class-room where history is taught: Sanderson's Epitome of the World's History. Labberton's Historical Atlas and General History. Tillinghast's Ploetz's Epitome of Ancient, Mediæval, and Modern History. Adams's Manual of Historical Literature. Fisher's Out-

lines of Universal History. McCarthy's History of the World.

Hill's Our English (for use on teachers' desks). Bloxham's Chemistry. Remsen's Chemistry, Advanced Course. Richter's Chemistry, Inorganic (Smith's Translation). Sadtler's Industrial Organic Chemistry.

LATIN AND HIGH SCHOOLS.

Lingard's History of England. Harper's Latin Lexicon. Liddell & Scott's Greek Lexicon, unabridged. Eugène's French Grammar. Labberton's Historical Atlas and General History (one book for the desk of each teacher). Guyot's and Cameron's Maps of the Roman Empire, Greece, and Italy. Strang's English Lessons (for use on teachers' desks). Reclus's Bird's-Eye View of the World. Enebuske's Progressive Gymnastic Day's Orders (one copy for the desk of each teacher).

NORMAL SCHOOL.

Observation Lessons in Primary Schools (Hopkins) (one set). Enebuske's Progressive Gymnastic Day's Orders (one copy for the desk of each teacher).

NORMAL AND HIGH SCHOOLS.

Charts of Life. Wilson's Human Anatomical and Physiological Charts. Hough's American Woods.

BOOKS FOR SUPPLEMENTARY READING.

BOYS' LATIN SCHOOL.

[45 copies of each book.]

Moss's First Greek Reader. Homer's Iliad, Books XIII.—XXIV. (Trübner Edition). Tomlinson's Latin for Sight Reading. Walford's Extracts from Cicero, Part I. Jackson's Manual of Astronomical Geography. Ritchie's *Fabulæ Faciles*.

GIRLS' LATIN SCHOOL.

Sheldon's Greek and Roman History. Ritchie's *Fabulæ Faciles*.

LATIN AND HIGH SCHOOLS.

Books required for admission to Harvard College.

A list of suitable books, carefully prepared under the direction of the Committee on Text-Books, is presented to the Board for adoption. After this list has been adopted, a master may make requisition on the Committee on Supplies for one set (of not more than thirty-five copies) of a book. This committee, after the approval of the Committee on Text-Books has been obtained, will purchase the books and send them to the school for permanent use. No book will be purchased until called for in the manner described.

Sets of not more than thirty-five copies — less when the classes are small — are to be purchased for the Latin and High Schools, except the Dorchester High School, which is otherwise provided for. One set is to be allowed for three class-rooms. An extra set is to be allowed for use in more than three and less than six class-rooms in one school; and so on in that ratio.

English. — Barnes's History of Ancient Peoples; Church's Stories from the East, from Herodotus; Church's Story of the Persian War, from Herodotus; Church's Stories from the Greek Tragedians; Kinsley's Greek Heroes; Abbott's Lives of Cyrus and Alexander; Froude's Cæsar; Forsythe's Life of Cicero; Ware's Aurelian; Cox's Crusades; Masson's Abridgment of Guizot's History of France; Scott's Abbot; Scott's Monastery; Scott's Marmion (Rolfe's Student Series); Scott's Lay of the Last Minstrel (Rolfe's Student Series); Kingsley's Hereward; Kingsley's Westward Ho! Melville's Holmby House; Macaulay's Essay on Frederic; Macaulay's Essay on Clive; Macaulay's Essay

on Dr. Johnson; Motley's Essay on Peter the Great; Thackeray's The Virginians; Thackeray's The Four Georges; Dickens's Tales of Two Cities; Irving's Alhambra; Irving's Bracebridge Hall; Miss Buckley's Life and Her Children; Miss Buckley's Winners in Life's Race; Bulfinch's Age of Fable (revised edition); Bulfinch's Age of Chivalry; Bulfinch's Legends of Charlemagne; The Boy's Froissart; Ballads and Lyrics; Vicar of Wakefield; Essays of Elia; Tennyson's Elaine; Tennyson's In Memoriam; Byron's Prisoner of Chillon; Goldsmith's Deserted Village; Goldsmith's Traveller; Coleridge's Ancient Mariner; Wordsworth's Excursion; Monroe's Sixth Reader; Webster — Section 2 [Annotated English Classics, Ginn & Co.]; Wordsworth's Poems — Section 2 [Annotated English Classics, Ginn & Co.]; Sheldon's Greek and Roman History; Monroe's Fifth Reader (old edition); The Students' Series of English Classics [Leach, Shewell, & Sanborn].

Latin. — Gradatim for sight reading [Ginn & Co.].

French. — St. German's Pour une Épingle; Achard's Le Clos Pommier; Feuillet's Roman d'un Homme Pauvre; Dumas's La Tulipe Noire; Vigny's Cinq Mars; Lacombe's La Petite Histoire du Peuple Français.

German. — Andersen's Märchen; Simmondson's Balladenbuch; Krummacher's Parabeln; Goethe's Iphigenie auf Tauris; Goethe's Prose; Schiller's Jungfrau von Orleans; Schiller's Prose; Boisen's German Prose; Bernhardt's Novellen Bibliothek.

GRAMMAR SCHOOLS.

PERMANENT SUPPLEMENTARY READING.

One set for three class-rooms. An extra set allowed whenever a book is assigned for use in more than three and less than six class-rooms; and so on in that ratio.

It is to be understood that hereafter, when Hooker's Child's Book of Nature is to be purchased and furnished to schools, it shall be bound in parts.

It is to be understood that hereafter, when Guyot's Introduction to Geography is to be replaced with new books, Scribner's Geographical Reader shall be furnished.

It is understood that copies of Early England, Harper's Half-Hour Series, and six stories from Arabian Nights, now in stock, are to be used, but that no more copies are to be purchased.

CLASS VI.

60 copies for a set. — Seven Little Sisters, first half-year. Hooker's Child's Book of Nature; those chapters of Parts I. and II., which will supplement properly the observational studies of plants and animals, and those chapters of Part III., on air, water, and heat, which will aid the instruction in Geography. Our World Reader, No. 1. ¹Our World, No. 1; the reading to be kept par-

¹ No more copies of Our World, No. 1, to be purchased.

allel with the instruction in geography through the year. Poetry for Children; selections appropriate for reading and recitation. Stories of American History; for practice in reading at sight, and for material for language lessons. *30 copies for a set.* — Wood's Natural History Reader, No. 3.

CLASS V.

60 copies for a set. — Each and All, second half-year. This is simple, interesting class-reading, which will aid the geography, and furnish material for both oral and written language lessons. Guyot's Introduction to Geography; the reading to be kept parallel with the instruction in Geography through the year. Hooker's Child's Book of Nature, and Poetry for Children; as in Class VI. Robinson Crusoe. *30 copies for a set.* — Frye's Brooks and Brook Basins. Wood's Natural History Readers, Nos. 4 and 5. American History Stories, Vol. IV. [Mara L. Pratt].

CLASS IV.

60 copies for a set. — Hooker's Child's Book of Nature, and Poetry for Children; as in Classes VI. and V. Readings from Nature's Book (revised edition). Robinson Crusoe. *30 copies for a set.* — King's Geographical Reader, No. 2. Wood's Natural History Reader, No. 6. Eggleston's A First Book in American History.

CLASS III.

60 copies for a set. — Hooker's Child's Book of Nature; as supplementary to oral lessons. American Poems, with Biographical Sketches and Notes; appropriate selections therefrom.

CLASS II.

60 copies for a set. — Selections from American authors; as in part collateral to the United States History. American Poems; appropriate selections therefrom.

CLASS I.

60 copies for a set. — Selections from American authors. Early England — Harper's Half-Hour Series, Nos. 6 and 14. American Poems; selections therefrom. *10 copies for a set.* — Green's Readings from English History. *30 copies for a set.* — Philips's Historical Readers, Nos. 1, 2, 3, 4. Geikie's Elements of Physical Geography.

ANY CLASS.

60 copies for a set. — Six Stories from the Arabian Nights. Jackson's Manual of Astronomical Geography; one set of 60 copies to be supplied to each Grammar School.

CIRCULATING LIBRARY PLAN FOR GRAMMAR SCHOOLS.

The object of the plan is not only to aid pupils to cultivate a taste for good and wholesome reading, but, by furnishing them with good books for home reading, to provide additional material for their work in composition and the study of English literature.

Sets of suitable books will be purchased, each set consisting of sixty books.

The sets will be distributed among the first eight school divisions during the present year, — the ninth division being already well supplied with books for supplementary reading.

Each set will be put in a strong, well-made box, with handles; the boxes to be made for the purpose, each set exactly fitting its box; the division to which it belongs, and the kind of books it contains, to be marked upon each box.

A report card, upon which the principal shall note the condition of books when received, will accompany each set. The principal of the school shall receive the books, note on the report their condition, and see to the distribution in the classes.

The sets of books in each division will form a circulating library in that division, to be moved from school to school at stated periods by the regular supply team. The transfer of boxes will take place during the months of December and March.

[Sets of not more than sixty copies of one book.]

Zigzag Journeys in Europe (revised edition); Zigzag Journeys in the Orient (revised edition); Scudder's Boston Town; Drake's The Making of New England; Towle's Pizarro; Towle's Vasco da Gama; Towle's Magellan; Towle's Heroes and Martyrs of Invention; Fairy Land of Science; Hawthorne's True Stories; Higginson's Young Folks' Book of Explorers; Scott's Ivanhoe; Longfellow's Evangeline; Little Folks in Feathers and Fur; What Mr. Darwin Saw in his Voyage around the World in the Ship Beagle; Muloch's A Noble Life; M. E. Dodge's Hans Brinker; Lambert's Robinson Crusoe; Lamb's Tales from Shakespeare (revised edition, Houghton, Mifflin, & Co.); Abbott's Jonas on a Farm in Summer; Smiles's Robert Dick, Geologist and Botanist; Eyes Right; Alcott's Little Men; Alcott's Little Women; Stoddard's Dab Kinzer; Scott's Kenilworth; Tom Brown's School-Days at Rugby; Abbott's Mary Queen of Scots; Abbott's Charles I.; Taylor's Boys of Other Countries; How Marjory Helped; Little People in Asia; Gilman's Magna Charta Stories; Overhead; Yonge's Lances of Linwood; Memory Gems; Geographical Plays; Ten Boys Who Lived on the Road from Long Ago till Now; Scott's Tales of a Grandfather; Hayes's Cast Away in the Cold; Sharp Eyes and other Papers; Lessons on Practical Subjects; Stories of Mother Nature; Play Days; Jackanapes; Children's Stories of American Progress; Little Lord Fauntleroy; Pilgrims

and Puritans; The Patriotic Reader; Ballou's Footprints of Travel; The Crofton Boys; Black Beauty; The King of the Golden River; Water Babies; Hans Andersen's Fairy Tales—First and Second Series; The Lady of the Lake; Wright's Nature Readers, Nos. 1, 2, and 3; Tanglewood Tales; Wonder Book; Summer Holiday in Europe (Blake); Lost Jewel (Spofford); Hawthorne, American Classics for Schools (Houghton, Mifflin, & Co.).

PRIMARY SCHOOLS.

PERMANENT SUPPLEMENTARY READING.

One set for three class-rooms. An extra set allowed whenever a book is assigned for use in more than three and less than six class-rooms; and so on in that ratio. Not more than sixty copies for a set.

¹ Easy Steps for Little Feet. ¹ Popular Tales—First and Second Series. Parker and Marvel's Supplementary Reading (First Book). Tweed's Graded Supplementary Reading. Modern Series Primary Reading, Part I. An Illustrated Primer (D. C. Heath & Co.) *Class I.*—Scudder's Book of Fables.

CIRCULATING SUPPLEMENTARY READING.

[For Primary Schools and Ungraded Classes.]

Sets of books will be purchased, each set consisting of not more than thirty books.

The sets will be distributed among the nine school divisions.

Each set will be put into a strong, well-made box, with handles; the boxes to be made for the purpose, each set exactly fitting its box; the division to which it belongs, and the kind of books it contains, to be marked upon each box.

A report card, upon which the teacher shall note the condition of books when received, will accompany each set. The head teacher of the school shall receive the books, note on the report their condition, and see to their distribution in the classes.

Each book will be covered with cloth, and stamped "City property," with the date of its introduction into the schools.

The sets of books in each division will form a circulating library in that division, to be moved from school to school by the boys of the first class, at stated periods, as directed. When practicable, each division is to form one circuit; when not practicable, two or more circuits shall be formed.

For instance, the Third Division will consist of two circuits:

1. Somerset-st. School, Anderson-st. School, Phillips-st. School, Blossom-st. School, Poplar-st. School, Chardon-court School.

2. Cushman School, Sheafe-st. School, Snelling-pl. School, Charter-st. School, North Bennet-st. Ungraded Classes.

¹ The books of the above titles in stock to be used, but no more copies to be purchased.

It will be seen that the distance between two schools is so short that the larger boys can easily carry the books; so that they will be conveyed from school to school without expense to the city.

The books shall be in the hands of pupils only when used under the immediate direction of the teacher. They are never to be used in copying or to be kept in the pupils' desks. A set of well-bound books will last from three to five years if properly used and handled.

In order to keep the supply sufficient to meet the wants of the schools, new sets may be duly approved and purchased each year, or sets may be replaced as the books are worn out.

[Sets of not more than thirty copies.]

First Readers. — Monroe's, Monroe's Advanced First, Appleton's, Harvey's, Eclectic, Sheldon's, Barnes's New National, Sheldon & Co.'s, Harper's, the Nursery Primer, Parker and Marvel's Supplementary Reading — Second Book; Wood's First Natural History Reader, Stickney's First Reader, Stickney's First Reader (new edition), McGuffey's Alternate First Reader, Interstate Primer and First Reader, Davis's Beginner's Book.

Second Readers. — Monroe's, Monroe's Advanced Second, Appleton's, Harvey's, Interstate, Sheldon & Co.'s, Barnes's New National, Analytical, Swinton's New Normal, Stickney's Second Reader (new edition), Harper's, Easy Book (published by Shorey), Turner's Stories for Young Children, Our Little Ones, Golden Book of Choice Reading, When I was a Little Girl, Johonnot's Friends in Feathers and Fur, Woodward's Number Stories, Wood's Second Natural History Reader, Young Folks' Library, Nos. 5 and 6 (Silver, Burdett, & Co.), Davis's Second Reading Book, Book of Folk Stories.

SCHOOL DOCUMENT NO. 17—1892.

SEMI-ANNUAL STATISTICS

OF THE

BOSTON PUBLIC SCHOOLS,

JUNE, 1892.



BOSTON:

ROCKWELL & CHURCHILL, CITY PRINTERS.

1892.

SCHOOL CENSUS. — *May, 1892.*

Number of children in Boston between the ages of 5 and 15....	73,176
Number attending public schools	53,368
“ “ private schools.....	11,133

Whole number of different pupils registered in the public schools during the year 1891-2: Boys, 36,544; girls, 34,009; total, 70,553.

EXPENDITURES. — *1891-92.* — (Nine Months.)

Salaries of officers.....	\$45,638 33
“ “ teachers	1,034,210 26

Incidental Expenses.

By School Committee	420,359 70
From Income Gibson Fund	652 32

By City Council (Flag-staffs.)

By City Council (flag-staffs)	465 00
School-houses and lots.....	527,429 10

Total expenditures	\$2,028,754 71
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INCOME.

School Committee.....	\$31,352 81
City Council	104,500 00

Total income	\$135,852 81
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Net expenditures for public schools (nine months)	<u>\$1,892,901 90</u>
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SUMMARY.

June, 1892.

GENERAL SCHOOLS.	No. Schools.	No. of Teachers.	Average No. Pupils Belonging.	Average Attendance.	Average Absence.	Per cent. of Attendance.	No. at date.
Normal	1	10	120	114	6	95.0	103
Latin and High	10	120	3,198	2,986	212	93.4	3,059
Grammar	55	742	30,490	27,677	2,813	90.7	29,191
Primary	481	481	25,036	21,586	3,450	86.2	24,828
Kindergartens	36	70	1,961	1,345	616	68.6	2,008
Totals	583	1,423	60,805	53,708	7,097	88.3	59,189

SPECIAL SCHOOLS.	No. Schools.	No. of Teachers.	Average No. Pupils Belonging.	Average Attendance.	Average Absence.	Per cent. of Attendance.	No. at date.
Horace Mann	1	11	95	82	13	...	101
Spectacle Island	1	1	13	11	2	...	13
Evening High	1	31	1,974	1,282	...	...	...
Evening	16	129	2,915	1,787	...	...	...
Evening Drawing	5	27	601	519	...	...	...
Totals	24	199	5,593	3,681	...	...	...

REGULAR TEACHERS.

SCHOOLS.	TEACHERS.		
	Males.	Females.	Total.
Normal School	2	6	8
Latin School	15	...	15
English High School	24	...	24
Girls' High School	2	20	22
Girls' Latin School	1	7	8
Roxbury High School	3	11	14
Dorchester High School	2	6	8
Charlestown High School	2	5	7
West Roxbury High School	1	3	4
Brighton High School	1	3	4
East Boston High School	2	3	5
Grammar Schools	105	585	690
Primary Schools . . . . .	...	481	481
Kindergartens . . . . .	...	70	70
Totals	160	1,200	1,360

SPECIAL TEACHERS.

SCHOOLS.	Males.	Females.	Total.
Horace Mann School		11	11
Evening Schools	69	91	160
Evening Drawing Schools	23	4	27
French and German: High Schools	3		3
Music: High, Grammar, and Primary Schools	5		5
Kindergarten Methods: Normal School		1	1
Drawing: High and Grammar Schools	2		2
Physical Training	2		2
Sewing		30	30
Chemistry: Girls' High School		1	1
Laboratory Assistant: Girls' High School		1	1
Vocal and Physical Culture: Girls' High School		1	1
Vocal and Physical Culture: Girls' Latin School		1	1
Military Drill: High Schools	1		1
Manual Training Schools	3	5	8
Cooking Schools		7	7
Spectacle Island		1	1
Totals	108	154	262

NORMAL AND HIGH SCHOOLS.

Semi-annual Returns to June 30, 1892.

SCHOOLS.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Head-Masters.	Sub-Master.	Junior-Masters.	Asst. Principals.	First Assistants.	Second Assts.	Assistants.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.									
Normal		120	120		114	114	6	95	1	1			1	5	
Latin	421		421	406		406	15	96	1	9	5				
Girls' Latin		194	194		176	176	18	91		1					7
English High	755		755	707		707	48	93	1	7	16				
Girls' High		636	636		589	589	47	93	1	1		1	1		18
Roxbury High	156	301	457	150	279	429	28	95	1		2		1		10
Dorchester High	101	117	218	94	105	199	19	91	1		1				6
Charlestown High	56	137	193	54	125	179	14	93	1		1				5
West Roxbury High,	35	63	98	33	58	91	7	92		1					3
Brighton High	24	64	88	24	61	85	3	97		1					3
East Boston High	46	92	138	42	83	125	13	91		1					4
Totals	1,594	1,724	3,318	1,510	1,590	3,100	218	93.4	7	21	1	25	1	3	56

EVENING SCHOOLS.

October, 1891—March, 1892.

SCHOOLS.	Number of Sessions.	Whole No. Registered.	Average No. Belonging.	AVERAGE ATTENDANCE.			Av. No. Teachers, including Principal.	Av. No. Pupils to a Teacher, exc. Principal, per Evening.
				Males.	Females.	Total.		
High	106	1,903	1,559	590	430	1,020	21	25
High, Ch'n Branch . . .	64	385	197	73	64	137	5	31
High, E.B. Branch . . .	64	393	218	81	44	125	5	31
Agassiz School, J.P. . .	32	105	75	25	9	34	2	34
Allston School	91	176	62	32	6	38	3	25
Bigelow School, S.B. . .	107	382	208	91	71	162	11	16
Comins School, Rox. . .	107	329	195	109	37	146	10	16
Dearborn School, Rox. .	105	246	118	47	23	70	6	14
Eliot School	107	428	191	97	41	138	11	14
Franklin School	107	817	551	165	146	311	20	16
Hancock School	107	598	284	112	28	140	9	17
Lincoln School, S.B. . .	105	226	145	70	14	84	7	14
Lyman School, E.B. . . .	104	449	182	70	24	94	7	16
Phillips School	105	183	112	53	17	70	5	17
Quincy School	108	200	149	74	36	110	8	15
Sherwin School, Rox. . .	105	149	88	45	15	60	5	15
Warren School, Ch'n . .	110	304	162	80	28	108	8	15
Warrenton Street	63	160	147	36	23	59	5	15
Wells School	107	806	246	108	55	163	12	15
Totals	1,804	8,239	4,889	1,958	1,111	3,069	160	22.3

EVENING DRAWING SCHOOLS.

SCHOOLS.	Number of Sessions.	Whole No. Registered.	Average No. Belonging.	AVERAGE ATTENDANCE.			Av. No. Teachers, including Principal.	Av. No. Pupils to a Teacher, exc. Principal.
				Males.	Females.	Total.		
Charlestown	64	253	128	98	20	118	7	19
East Boston	64	131	79	55	10	65	4	21
Roxbury	64	211	86	67	9	76	4	35
Tennyson Street	64	321	193	165	1	166	7	17
Warren Avenue	64	172	115	61	33	94	5	23
Totals	320	1,088	601	446	73	519	27	23

NORMAL, LATIN, AND HIGH SCHOOLS, CLASSIFICATIONS AND AGES, JUNE 30, 1892.

Schools.	First-year class.	Second-year class.	Third-year class.	Fourth-year class.	Fifth-year class.	Sixth-year class.	Out-of-course class.	Whole number at date.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	17 years.	18 years.	19 years.	20 years.	21 years and over.
	Normal	78	25	88	77	53	39	76	103	5	21	52	78	96	98	78	41	33	25	36
Latin	84	68	88	77	53	39	76	485	5	21	52	78	96	98	78	41	11	5	..
Girls' Latin	29	38	26	27	15	25	19	179	..	9	18	18	32	31	34	18	11	7	1
English High	292	199	192	37	..	..	..	720	..	..	2	30	137	216	194	108	28	4	1
Girls' High	276	134	115	66	..	..	..	591	..	..	1	19	95	144	152	100	60	17	3
Roxbury High	202	101	84	15	..	..	..	402	..	..	2	19	80	131	101	54	12	3	..
Dorchester High	90	68	47	..	..	..	..	205	..	..	2	7	37	66	59	25	7	1	1
Charlestown High	79	55	31	8	..	..	..	173	..	..	..	9	33	53	40	24	12	2	..
West Roxbury High	40	31	17	6	..	..	..	94	..	..	..	6	20	30	23	10	4	..	1
Brighton High	38	28	17	..	..	..	..	83	..	..	..	5	15	20	23	17	3	..	..
East Boston High	51	36	40	..	..	..	..	127	..	..	..	4	12	27	39	31	10	4	..
Totals	1,259	783	657	236	68	64	95	3,162	5	30	77	195	557	816	743	437	191	68	43
Per cents	39.8	24.8	20.8	7.5	2.1	2.0	3.0	100.0	0.2	0.9	2.4	6.2	17.6	25.8	23.5	13.8	6.0	2.2	1.4

NORMAL AND HIGH SCHOOLS.

Number of Pupils to a Teacher, excluding Principals, June 30, 1892.

SCHOOLS.	No. of Reg. Teachers.	Average No. of Pupils.	Average No. of Pupils to a Regular Teacher.
Normal	7	121	17.3
Latin	14	421	30.1
Girls' Latin	8	194	24.2
English High	24	755	31.5
Girls' High.....	21	636	30.3
Roxbury High	13	457	35.2
Dorchester High	7	218	31.1
Charlestown High.....	5	193	38.6
West Roxbury High.....	3	98	32.7
Brighton High	3	88	29.3
East Boston High.....	4	138	34.5
Totals	109	3,319	30.4

Graduates, June, 1892.

SCHOOLS.	Regular Course.	Four Years' Course.	Total.
Latin.....	37	.....	37
Girls' Latin	24	.....	24
English High	150	.....	150
Girls' High	101	62	163
Roxbury High	85	13	98
Dorchester High	38	.....	38
Charlestown High	30	7	37
West Roxbury High.....	16	6	22
Brighton High	17	.....	17
East Boston High	35	.....	35
Totals.....	533	88	621

GRAMMAR SCHOOLS.

Semi-annual Returns to June 30, 1892.

SCHOOLS.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Masters.	Sub-Masters.	1st Assistants.	2d Assistants.	3d Assistants.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.							
Adams	236	165	401	214	150	364	37	90	1	1	1	1	7
Agassiz	409	. . .	409	377	. . .	377	32	92	1	1	1	1	5
Allston	304	355	659	277	314	591	68	90	1	1	2	2	8
Bennett	241	268	509	228	249	477	32	94	1	1	1	1	7
Bigelow	734	. . .	734	684	. . .	684	50	93	1	2	1	2	10
Bowditch . . . . .	. . .	378	378	. . .	344	344	34	91	1	. .	1	1	6
Bowdoin . . . . .	. . .	335	335	. . .	289	289	46	86	1	. .	2	2	6
Brimmer	620	. . .	620	. . .	556	556	64	89	1	2	1	1	10
Bunker Hill	256	246	502	241	227	468	34	93	1	1	2	2	9
Chapman	297	276	573	271	246	517	56	90	1	1	2	2	6
Charles Sumner	334	312	646	303	279	582	64	90	1	1	2	2	8
Comins	274	266	540	252	241	493	47	92	1	1	2	1	6
Dearborn	365	272	637	332	244	576	61	91	1	1	2	2	8
Dillaway . . . . .	. . .	568	568	. . .	501	501	67	89	1	. .	2	2	7
Dudley	581	. . .	581	542	. . .	542	39	93	1	2	1	1	9
Dwight	641	. . .	641	592	. . .	592	49	92	1	2	1	1	9
Edward Everett	291	291	582	263	259	522	60	89	1	1	2	2	6
Eliot	1,000	. . .	1,000	873	. . .	873	127	87	1	3	1	1	15
Emerson	386	275	661	346	246	592	69	89	1	1	2	2	10
Everett . . . . .	. . .	667	667	. . .	611	611	56	92	1	. .	2	3	8
Franklin . . . . .	. . .	653	653	. . .	580	580	73	88	1	. .	2	3	9
Frothingham	275	323	598	249	288	537	61	90	1	1	2	2	7
Gaston . . . . .	. . .	714	714	. . .	643	643	71	90	1	. .	2	2	10
George Putnam	168	188	356	156	167	323	33	91	1	. .	1	1	5
Gibson	196	213	409	183	189	372	37	91	1	1	1	1	5
Hancock . . . . .	. . .	611	611	. . .	524	524	87	86	1	. .	2	2	10
Harris	146	167	313	133	153	291	22	93	1	. .	1	1	5

GRAMMAR SCHOOLS. — *Concluded.*

SCHOOLS.	Average whole Number.			Average Attendance.			Average Absence.		Masters.	Sub-Masters.	1st Assistants.	2d Assistants.	3d Assistants.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Per cent.	of Attendance.					
Harvard	298	294	592	274	264	538	54	91	1	1	2	2	8
Henry L. Pierce	239	201	440	224	182	406	34	92	.	1	1	2	5
Hugh O'Brien	431	308	739	401	285	686	53	93	1	1	2	2	9
Hyde . . . . .	..	572	572	..	512	512	60	89	1	.	2	2	8
John A. Andrew	352	314	666	327	285	612	54	92	1	1	2	2	9
Lawrence	840	..	840	793	..	893	47	94	1	3	1	1	13
Lewis	353	376	729	329	346	675	54	93	1	1	2	2	8
Lincoln	542	..	542	496	..	496	46	91	1	1	1	1	7
Lowell	362	369	731	338	337	675	56	92	1	1	2	2	9
Lyman	351	177	528	320	162	482	46	92	1	1	2	2	7
Martin	180	159	339	165	144	309	30	91	1	1	1	2	4
Mather	305	284	589	283	254	537	52	91	1	1	2	2	7
Minot	150	160	310	142	147	289	21	93	1	.	1	1	4
Mt. Vernon	122	117	239	112	106	218	21	91	.	1	1	1	4
Norcross . . . . .	..	660	660	..	601	601	59	91	1	.	2	3	9
Phillips	786	..	786	699	..	699	87	89	1	2	1	1	12
Prescott	242	227	469	225	204	429	40	91	1	1	1	1	7
Prince	230	263	493	211	233	444	49	90	1	1	1	1	7
Quincy	555	..	555	483	..	483	72	87	1	2	1	1	7
Rice	448	..	448	412	..	412	36	92	1	2	1	5	2
Sherwin	548	..	548	500	..	500	48	91	1	2	1	1	7
Shurtleff . . . . .	..	657	657	..	589	589	68	90	1	.	2	3	8
Stoughton	126	130	256	114	113	227	29	89	1	.	1	.	5
Thomas N. Hart	439	..	439	410	..	410	29	93	1	1	1	1	6
Tileston	62	72	134	57	64	131	13	91	.	1	.	.	2
Warren	308	327	635	295	312	607	28	96	1	1	2	2	8
Wells . . . . .	..	538	538	..	471	471	67	88	1	.	2	1	9
Winthrop . . . . .	..	719	719	..	635	635	84	88	1	.	2	5	9
Totals	16,023	14,467	30,490	14,131	13,546	27,677	2,813	90.8	53	51	82	93	411

GRAMMAR SCHOOLS.
Number of Pupils in each Class, Whole Number, and Ages, June 30, 1892.

SCHOOLS.	First Class.	Second Class.	Third Class.	Fourth Class.	Fifth Class.	Sixth Class.	Ungraded Class.	Whole number.	Under eight years.	Eight years.	Nine years.	Ten years.	Eleven years.	Twelve years.	Thirteen years.	Fourteen years.	Fifteen years.	Sixteen years.	Seventeen years.	Eighteen years and over.
Adams	33	30	64	79	84	96	. . .	386	. . .	10	30	50	62	78	72	43	28	12	1	. . .
Agassiz	30	47	55	67	106	83	. . .	388	. . .	2	16	44	70	65	63	72	40	8	8	. . .
Allston	41	92	94	136	127	149	. . .	639	1	4	31	90	118	120	126	87	42	16	4	. . .
Bennett	71	55	95	87	100	97	. . .	505	. . .	2	18	54	73	88	86	85	54	33	12	. . .
Bigelow	58	75	107	136	150	190	. . .	716	. . .	6	70	102	141	124	120	93	49	9	2	. . .
Bowditch	36	55	53	57	79	93	. . .	373	. . .	3	13	49	66	71	47	57	37	21	9	. . .
Bowdoin	25	28	59	36	71	83	. . .	307	. . .	1	13	36	58	46	38	46	40	20	8	1
Brimmer	32	87	81	80	142	123	27	572	. . .	7	44	73	98	105	92	87	36	19	10	1
Bunker Hill	46	48	83	110	92	93	16	488	. . .	4	20	52	68	107	103	64	47	18	4	1
Chapman	48	59	86	91	163	96	. . .	543	. . .	8	34	73	82	81	95	57	54	43	13	3
Charles Sumner	46	75	95	119	151	147	. . .	633	2	7	44	96	95	118	101	81	53	25	10	1
Comins	47	73	79	102	113	100	. . .	514	. . .	2	22	70	100	103	94	63	43	15	2	. . .
Dearborn	41	87	75	98	134	135	. . .	570	. . .	2	25	71	79	126	115	88	45	12	5	2
Dillaway	43	54	119	102	109	108	. . .	535	1	. . .	26	59	86	105	93	86	46	25	7	1
Dudley	44	71	84	122	99	113	28	561	. . .	1	21	80	90	101	109	81	43	25	10	. . .
Dwight	47	82	86	139	111	107	34	606	. . .	9	35	67	96	120	105	84	59	23	7	1
Edward Everett	44	77	93	96	142	103	. . .	555	. . .	2	39	62	84	89	106	86	53	27	5	2
Eliot	46	87	92	113	132	146	351	967	17	26	49	115	137	201	198	155	56	13	. . .	. . .
Emerson	44	52	86	92	184	116	43	617	. . .	1	30	68	92	130	113	98	50	24	10	1
Everett	65	101	104	89	152	111	. . .	622	. . .	5	39	68	91	100	107	96	68	34	12	2
Franklin	40	51	121	115	87	147	32	593	. . .	4	37	88	85	107	92	82	58	32	7	1
Frothingham	48	47	81	90	102	159	23	550	. . .	1	40	77	111	93	98	62	48	17	3	. . .
Gaston	73	46	92	155	168	158	. . .	692	. . .	13	43	105	116	119	104	73	67	27	21	4
George Putnam	32	37	57	53	58	81	29	347	. . .	1	21	50	66	51	54	49	33	18	2	2

Gibson	47	46	61	83	80	83	400	..	2	22	47	67	78	57	60	36	24	6	1
Hancock	28	28	45	86	90	116	191	581	1	34	62	129	112	104	76	40	11	3	1
Harris	26	45	53	44	50	81	..	299	1	6	36	42	61	60	48	35	10	..	..
Harvard	41	49	86	89	143	136	12	556	..	22	49	122	112	105	83	45	14	4	..
Henry L. Pierce	60	51	81	78	68	106	..	441	..	5	22	54	69	85	75	71	38	19	4
Hugh O'Brien	47	101	91	156	156	159	..	710	3	29	104	106	134	132	106	60	33	1	2
Ilyde	41	69	74	136	102	113	34	569	7	22	65	93	114	100	71	60	23	9	..
John A. Andrew	36	51	79	121	154	151	41	633	5	40	98	95	131	105	94	41	22	2	..
Lawrence	52	90	173	77	100	180	73	805	21	91	129	133	160	146	83	36	6	..	..
Lewis	86	107	107	105	158	104	32	699	..	35	85	123	115	125	103	70	30	11	1
Lincoln	44	61	83	82	103	109	38	520	6	30	71	90	94	94	78	43	12	2	..
Lowell	81	49	89	146	167	174	..	706	..	57	110	147	137	115	81	44	12	3	..
Lyman	46	47	72	79	116	111	..	471	4	10	54	79	96	100	76	37	11	4	..
Martin	45	38	39	58	57	86	..	323	5	20	49	48	60	49	46	27	15	3	1
Mather	45	50	93	101	138	101	36	564	1	15	68	102	105	119	86	53	12	2	..
Minot	25	40	44	53	67	75	..	304	3	22	44	49	40	60	46	29	8	3	..
Mt. Vernon	30	26	43	38	41	57	..	235	1	19	31	36	41	36	30	29	11	1	..
Norcross	36	52	85	94	213	206	..	686	1	20	57	80	130	133	118	83	50	12	2
Phillips	40	64	69	145	153	157	113	741	8	46	101	121	156	129	107	53	14	5	1
Prescott	42	57	88	91	83	96	..	457	1	15	51	81	74	87	84	39	16	6	3
Prince	69	67	93	92	80	99	..	500	1	26	65	79	76	75	76	54	38	10	..
Quincy	36	44	91	97	102	112	54	536	7	30	60	94	112	116	84	24	6	2	1
Rice	42	45	66	80	92	70	24	419	2	14	53	65	88	70	63	39	19	6	..
Sherwin	37	41	89	87	125	98	34	514	4	16	47	89	96	94	79	48	24	16	1
Shurtleff	55	47	81	100	196	163	..	642	13	48	85	111	116	94	88	57	25	5	..
Stoughton	25	34	38	46	46	49	..	238	..	9	32	45	45	45	22	13	2	1	..
Thomas N. Hart	32	42	18	23	26	29	..	429	6	26	67	74	88	54	61	32	18	3	..
Tilston	19	22	16	22	26	28	..	137	..	11	21	21	30	16	15	13	10	..	..
Warren	44	48	102	106	131	130	38	599	5	37	83	101	98	93	96	43	25	16	2
Wells	39	43	51	73	83	108	112	509	5	38	57	80	99	102	77	36	12	3	..
Winthrop	59	72	82	147	172	151	..	683	13	50	88	86	149	113	106	48	17	9	4
Totals	2,435	3,145	4,372	5,151	6,316	6,357	1,415	29,191	24	282	1,979	3,745	4,871	5,483	4,156	2,430	1,043	315	44
Per cents	8.3	10.8	15.0	17.6	21.6	21.8	4.8	100.0	0.1	1.0	5.8	12.8	16.7	18.8	14.2	8.3	3.6	1.1	0.2

DISTRIBUTION OF PUPILS IN RESPECT BOTH

CLASSES.			Under 4 years.	4 years.	5 years.	6 years.	7 years.	8 years.	9 years.
Latin Schools.	All Classes }	Boys . .	..	..	..	..	..	..	..
		Girls . .	..	..	..	..	..	..	..
	Totals . . . . .	..	..	..	..	..	..	..	..
High Schools.	Advanced Class . . . }	Boys . .	..	..	..	..	..	..	..
		Girls . .	..	..	..	..	..	..	..
	Third-year Class . . . }	Boys . .	..	..	..	..	..	..	..
		Girls . .	..	..	..	..	..	..	..
	Second-year Class . . . }	Boys . .	..	..	..	..	..	..	..
Girls . .		..	..	..	..	..	..	..
First-year Class . . . }	Boys . .	..	..	..	..	..	..	..
	Girls . .	..	..	..	..	..	..	..
	Totals . . . . .	..	..	..	..	..	..	..
Grammar Schools.	First Class }	Boys . .	..	..	..	..	..	..	..
		Girls . .	..	..	..	..	..	..	..
	Second Class }	Boys . .	..	..	..	..	..	..	..
		Girls . .	..	..	..	..	..	..	..
	Third Class }	Boys . .	..	..	..	..	..	..	..
		Girls . .	..	..	..	..	..	..	..
	Fourth Class }	Boys . .	..	..	..	..	..	..	1
		Girls . .	..	..	..	..	..	..	3
Fifth Class }	Boys . .	..	..	..	..	1	6	146	
	Girls . .	..	..	..	..	..	6	104	
Sixth Class }	Boys . .	..	..	..	..	1	105	648	
	Girls . .	..	..	..	..	4	115	656	
Ungraded Class . . . }	Boys . .	..	..	..	..	17	38	83	
	Girls . .	..	..	..	..	1	12	38	
	Totals . . . . .	..	..	..	..	24	282	1,679	
Primary Schools.	First Class }	Boys . .	..	..	..	1	128	735	1,139
		Girls . .	..	..	..	3	123	764	990
	Second Class }	Boys . .	..	..	3	222	1,246	1,448	842
		Girls . .	..	..	6	232	1,078	1,212	709
	Third Class }	Boys . .	..	..	1,134	2,131	1,554	632	236
Girls . .		..	..	919	1,822	1,362	573	201	
	Totals . . . . .	..	..	2,062	4,411	5,491	5,364	4,117	
Kinder- gartens.	All Classes }	Boys . .	91	407	378	56	7	..	..
		Girls . .	122	421	419	102	5	..	..
	Totals . . . . .	..	213	828	797	158	12	..	
Totals by Ages . . . . .		..	213	828	2,859	4,569	5,527	5,646	5,796

TO AGE AND TO CLASSES, JUNE 30, 1892.

10 years.	11 years.	12 years.	13 years.	14 years.	15 years.	16 years.	17 years.	18 years.	19 years and over.	Totals by Classes.
.	5	21	52	78	96	98	78	41	16	485
.	.	9	18	18	32	31	34	18	19	179
.	5	30	70	96	128	129	112	59	35	664
.	.	.	.	.	.	2	9	21	9	41
.	.	.	.	.	.	1	13	31	46	91
.	.	.	.	.	8	48	107	84	26	273
.	.	.	.	.	3	24	82	101	60	270
.	.	.	.	9	34	125	99	40	8	315
.	.	.	.	1	34	95	138	54	15	337
.	.	.	4	48	176	170	66	12	2	478
.	.	.	3	41	174	222	117	26	7	590
.	.	.	7	99	429	687	631	369	173	2,895
.	.	10	106	316	418	229	87	11	.	1,177
.	.	3	67	279	436	329	121	23	.	1,258
1	12	121	392	588	380	122	30	4	.	1,650
.	1	59	319	525	386	160	40	5	.	1,495
17	127	525	733	568	212	59	10	.	.	2,251
5	105	402	667	545	288	91	17	1	.	2,121
103	535	849	728	368	95	9	1	.	.	2,689
88	474	788	620	368	96	20	5	.	.	2,462
655	957	888	466	193	29	4	.	.	.	3,345
599	879	753	442	146	34	7	1	.	.	2,971
1,055	763	440	178	67	12	1	1	.	.	3,271
987	726	361	163	57	14	3	.	.	.	3,086
159	182	179	159	87	22	6	2	.	.	934
76	110	105	79	49	8	3	.	.	.	481
3,745	4,871	5,483	5,119	4,156	2,430	1,043	315	44	.	29,191
768	267	99	32	.	.	.	.	.	.	3,169
654	293	71	29	.	.	.	.	.	.	2,927
353	115	37	12	.	.	.	.	.	.	4,278
268	101	40	14	.	.	.	.	.	.	3,660
74	18	6	4	.	.	.	.	.	.	5,789
82	27	14	5	.	.	.	.	.	.	5,005
2,199	821	267	96	.	.	.	.	.	.	24,828
.	.	.	.	.	.	.	.	.	.	939
.	.	.	.	.	.	.	.	.	.	1,069
.	.	.	.	.	.	.	.	.	.	2,008
5,944	5,697	5,780	5,292	4,351	2,987	1,859	1,058	472	208	59,086

GRAMMAR SCHOOLS.

Number of Pupils to a Teacher, excluding Principals, June, 1892.

SCHOOLS.	No. of Teachers.	Average No. of Pupils.	No. of Pupils to a Teacher.	SCHOOLS.	No. of Teachers.	Average No. of Pupils.	No. of Pupils to a Teacher.
Adams	10	401	40.1	H. L. Pierce..	9	440	48.9
Agassiz	8	409	51.1	Hugh O'Brien.	14	739	52.8
Allston	13	659	50.7	Hyde	12	572	47.7
Bennett	10	509	50.9	J. A. Andrew.	14	666	47.6
Bigelow	15	734	48.9	Lawrence	18	840	46.7
Bowditch	8	378	47.2	Lewis	13	729	56.1
Bowdoin	10	335	33.5	Lincoln	10	542	54.2
Brimmer	14	620	44.3	Lowell	14	731	52.2
Bunker Hill	14	502	35.9	Lyman	12	528	44.0
Chapman	11	573	52.1	Martin	8	339	42.4
Chas. Sumner	13	646	49.7	Mather	12	589	49.1
Comins	10	540	54.0	Minot	6	310	51.7
Dearborn	13	637	49.0	Mt. Vernon	6	239	39.8
Dillaway	11	568	51.6	Norcross	14	660	47.1
Dudley	13	581	44.7	Phillips	16	786	49.1
Dwight	13	641	49.3	Prescott	10	469	46.9
Edw. Everett	11	582	52.9	Prince	10	493	49.3
Eliot	20	1,000	50.0	Quincy	11	555	50.5
Emerson	15	661	44.1	Rice	10	448	44.8
Everett	13	667	51.3	Sherwin	11	548	49.8
Franklin	14	653	46.6	Shurtleff	13	657	50.5
Frothingham	12	598	49.8	Stoughton	6	256	42.7
Gaston	14	714	51.0	Thos. N. Hart	9	439	48.8
Geo. Putnam	7	356	50.9	Tileston	2	134	67.0
Gibson	8	409	51.1	Warren	13	635	48.8
Hancock	14	611	43.6	Wells	12	538	44.8
Harris	7	313	44.7	Winthrop	16	719	44.9
Harvard	13	592	45.5	Totals	635	30,490	48.0

Graduates, June, 1892.

SCHOOLS.	DIPLOMAS.			SCHOOLS.	DIPLOMAS.		
	Boys.	Girls.	Total.		Boys.	Girls.	Total.
Adams	12	21	33	Henry L. Pierce.....	27	33	60
Agassiz	29	...	29	Hugh O'Brien	15	30	45
Allston	16	25	41	Hyde .....	...	41	41
Bennett	31	37	68	J. A. Andrew.....	17	19	36
Bigelow	53	...	53	Lawrence	51	...	51
Bowditch .....	...	36	36	Lewis	38	38	76
Bowdoin .....	...	24	24	Lincoln	44	...	44
Brimmer	27	...	27	Lowell	37	44	81
Bunker Hill	22	24	46	Lyman	25	21	46
Chapman	24	24	48	Martin	22	20	42
Chas. Sumner	20	26	46	Mather.....	19	24	43
Comins	28	19	47	Minot	8	11	19
Dearborn	20	22	42	Mt. Vernon	15	14	29
Dillaway .....	...	42	42	Norcross .....	...	35	35
Dudley	44	...	44	Phillips	37	...	37
Dwight	47	...	47	Prescott.....	18	22	40
Edward Everett	22	21	43	Prince	30	39	69
Eliot	45	...	45	Quincy	35	...	35
Emerson	28	14	42	Rice	41	...	41
Everett .....	...	65	65	Sherwin.....	37	...	37
Franklin .....	...	40	40	Shurtleff.....	...	55	55
Frothingham	18	30	48	Stoughton.....	12	10	22
Gaston .....	...	73	73	Thos. N. Hart	31	...	31
George Putnam.....	11	21	32	Tileston.....	4	12	16
Gibson	21	26	47	Warren	17	27	44
Hancock .....	...	20	20	Wells .....	...	39	39
Harris	14	12	26	Winthrop.....	...	59	59
Harvard	23	18	41	Totals	1135	1233	2368

TABLE SHOWING THE NUMBER OF YEARS THE DIPLOMA GRADUATES OF 1892 BELONGED TO A GRAMMAR SCHOOL IN THIS CITY. — *Concluded.*

SCHOOLS.	2 years or less.	3 years.	4 years.	4½ years.	5 years.	5½ years.	6 years.	6½ years.	7 years.	7½ years.	8 years.	8½ years.	9 years and over.	Not given.	Total.
Harvard					1		29	3	6	2					41
Henry L. Pierce.			5		13		25		10					7	60
Hugh O'Brien							32		6					7	45
Hyde	1	2			1		10		24		3				41
John A. Andrew.					4		13	3	15		1				36
Lawrence				2	9	19	8	8	5						51
Lewis		1	1	1	29	2	31	2	5					4	76
Lincoln					19		20		5						44
Lowell					5	2	47	1	12					14	81
Lyman			1	1	9		16		8		4			7	46
Martin					4		24		9		1		1	3	42
Mather	2	2	1		4		20		12		2				43
Minot					2		13		3		1				19
Mt. Vernon	1	1			2		22		3						29
Norcross			3		5		16		9		2				35
Phillips			1		4		21		7	1				3	37
Prescott					2		25		11		2				40
Prince					15		24				2			28	69
Quincy					6		20		7		1		1		35
Rice					4		21		6		1			9	41
Sherwin				1	2	15	1	12		6					37
Shurtleff		1	1		3	1	22	1	18	1	5	1	1		55
Stoughton						1	6		5	1	2		1	6	22
Thomas N. Hart.			2		1		21		5		2				31
Tileston					2		11		2					1	16
Warren	2	1			2		19	1	17		2				44
Wells			1		9		15		6		2	1		5	39
Winthrop	1	3	3	1	5	18	6	7	3	8	2	1		1	59
Totals	23	23	26	27	265	150	943	115	430	51	79	6	11	219	2368

PRIMARY SCHOOLS.

Semi-annual Returns, to June 30, 1892.

DISTRICTS.	Teachers.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Between 5 and 8 years.	Over 8 years.	Whole No. at date.
		Boys.	Girls.	Total.	Boys.	Girls.	Total.					
Adams	6	185	171	356	157	145	302	54	87	190	146	336
Agassiz	4	125	93	218	114	82	196	22	90	90	130	220
Allston	10	292	262	554	254	227	481	73	87	264	305	569
Bennett	7	174	160	334	158	142	300	34	90	167	185	352
Bigelow	13	381	288	669	337	250	587	82	87	338	323	661
Bowditch	6	168	165	333	148	138	286	47	86	159	188	347
Bowdoin	7	159	159	318	136	131	267	51	84	150	180	330
Brimmer	8	203	169	372	176	138	314	58	84	192	170	362
Bunker Hill	11	215	179	394	189	156	345	49	88	185	211	396
Chapman	6	167	137	304	143	113	256	48	84	146	153	299
Charles Sumner	10	297	257	554	261	214	475	79	85	319	255	574
Comins	6	133	108	241	119	92	211	30	88	140	139	279
Dearborn	12	353	288	641	306	237	543	98	85	273	372	645
Dillaway	7	190	188	378	167	161	328	50	86	172	193	365
Dudley	13	341	325	666	297	272	569	97	85	269	373	642
Dwight	10	271	264	535	231	227	458	77	85	292	247	539
Edward Everett	8	231	228	459	202	193	395	64	86	223	232	455
Eliot	9	299	170	469	247	134	381	88	81	232	234	466
Emerson	10	335	295	630	294	253	547	83	87	268	335	603
Everett	10	267	278	545	229	232	461	84	84	232	328	560
Franklin	13	305	309	614	265	259	524	90	85	286	304	590
Frothingham	9	240	236	476	216	200	416	60	88	263	209	472
Gaston	8	193	248	441	175	215	390	51	89	215	213	428
George Putnam	5	130	135	265	115	115	230	35	87	116	158	274
Gibson	6	160	149	309	137	124	261	48	84	143	153	296
Hancock	17	477	553	1,030	420	465	885	145	87	452	532	984
Harris	7	175	144	319	153	122	275	44	85	136	181	317
Harvard	12	320	313	633	288	271	559	74	88	238	354	627

PRIMARY SCHOOLS. — *Concluded.*

DISTRICTS.	Teachers.	Average whole Number.			Average Attendance.			Average Absence.	Per cent. of Attendance.	Between 5 and 8 years.	Over 8 years.	Whole No. at date.
		Boys.	Girls.	Total.	Boys.	Girls.	Total.					
Henry L. Pierce,	6	160	143	303	142	121	263	40	87	150	174	324
Hugh O'Brien .	13	444	269	713	395	232	627	66	89	354	376	730
Hyde	9	249	248	497	224	217	441	56	89	225	264	489
John A. Andrew	11	293	292	585	259	241	500	85	85	234	322	556
Lawrence . . .	18	640	200	840	570	176	746	94	88	460	372	832
Lewis	10	269	276	545	234	232	466	79	86	245	289	534
Lincoln	6	216	109	325	181	91	272	53	84	138	163	321
Lowell	16	476	457	933	420	395	815	118	88	474	447	921
Lyman	9	277	170	447	243	143	386	61	85	160	290	450
Martin	3	138	109	247	112	90	202	45	82	86	54	140
Mather	11	259	255	514	226	209	435	79	83	259	262	521
Minot	5	115	106	221	98	90	188	33	85	117	106	223
Mount Vernon .	5	92	79	171	77	64	141	30	83	95	90	185
Norcross	13	176	419	595	161	380	541	54	90	319	282	601
Phillips	7	195	186	381	166	152	318	63	83	189	193	382
Prescott	7	184	170	354	169	153	322	32	90	159	192	351
Prince	5	116	110	226	99	87	186	40	82	93	165	258
Quincy	11	372	226	598	313	175	488	110	81	289	307	596
Rice	8	195	182	377	169	146	315	62	84	148	227	375
Sherwin	9	222	225	447	201	200	401	46	90	226	215	441
Shurtleff	6	167	169	336	148	145	293	43	87	186	147	333
Stoughton . . .	4	81	93	174	69	74	143	31	82	79	92	171
Thomas N. Hart	9	375	157	532	332	133	465	67	87	247	278	525
Tileston	2	44	41	85	37	32	69	16	81	54	38	92
Warren	7	189	185	374	172	163	335	39	90	196	175	371
Wells	15	446	423	869	388	364	752	117	87	421	416	837
Winthrop	6	128	162	290	104	130	234	56	80	166	115	281
Totals	481	13,304	11,732	25,036	11,643	9,943	21,586	3,450	86.2	11,964	12,864	24,828

PRIMARY SCHOOLS.

Number of Pupils in each Class, Whole Number, and Ages, June 30, 1892.

DISTRICTS.	First Class.	Second Class.	Third Class.	Whole Number.	Five years and under.	Six years.	Seven years.	Eight years.	Nine years.	Ten years.	Eleven years.	Twelve years.	Thirteen years and over.
Adams	78	57	201	336	62	65	63	54	46	24	12	6	4
Agassiz	58	92	70	220	14	34	42	52	41	19	11	4	3
Allston	160	156	253	569	42	102	120	128	95	52	24	6	..
Bennett	66	140	146	352	26	77	64	70	62	35	9	7	2
Bigelow	147	205	309	661	49	128	161	134	109	59	15	4	2
Bowditch . . .	88	111	148	347	33	57	69	86	57	31	9	2	3
Bowdoin . . .	75	113	142	330	20	55	75	80	57	29	8	4	2
Brimmer . . .	93	125	144	362	41	61	90	74	61	22	11	2	..
Bunker Hill . .	95	129	172	396	29	74	82	74	58	50	24	4	1
Chapman . . .	99	92	108	299	24	52	70	68	51	22	9	3	..
Chas. Sumner .	126	240	208	574	53	137	129	130	79	36	8	2	..
Comins	67	88	124	279	16	62	62	60	38	28	8	4	1
Dearborn . . .	148	155	342	645	46	110	117	123	105	78	45	17	4
Dillaway . . .	94	117	154	365	28	58	86	79	65	34	10	4	1
Dudley	167	177	298	642	53	95	121	143	110	64	40	12	4
Dwight	120	153	266	539	53	88	151	116	79	38	9	4	1
Edward Everett,	115	138	202	455	30	83	110	108	77	32	11	3	1
Eliot	75	160	231	466	68	72	92	85	61	40	30	12	6
Emerson . . .	123	172	308	603	46	95	127	111	109	60	32	15	8
Everett	158	174	228	569	22	87	123	131	118	50	22	4	3
Franklin	147	152	291	590	69	89	128	128	93	60	13	8	2
Frothingham .	148	159	165	472	49	95	119	104	55	35	9	6	..
Gaston	125	141	162	428	27	89	99	107	62	26	15	3	..
Geo. Putnam .	79	77	118	274	15	36	65	60	55	25	15	3	..
Gibson	83	102	111	296	27	40	76	66	61	18	5	3	..
Hancock . . .	166	202	616	984	75	179	198	188	179	102	53	6	4
Harris	86	101	130	317	20	45	71	67	58	27	22	2	5
Harvard	153	215	259	627	49	121	113	140	115	64	22	3	..

PRIMARY SCHOOLS. — *Concluded.*

DISTRICTS.	First Class.	Second Class.	Third Class.	Whole Number.	Five years and under.	Six years.	Seven years.	Eight years.	Nine years.	Ten years.	Eleven years.	Twelve years.	Thirteen years and over.
Henry L. Pierce	90	100	134	324	34	4	68	82	57	22	6	3	4
Hugh O'Brien,	197	207	326	730	60	13	157	158	126	60	11	8	3
Hyde	104	158	227	489	44	86	95	110	87	43	16	6	2
J. A. Andrew .	147	205	204	556	10	93	131	123	106	54	30	5	4
Lawrence . .	221	269	342	832	116	157	187	179	118	55	9	7	4
Lewis	155	189	190	534	31	96	118	115	94	65	9	6	..
Lincoln . . .	107	97	117	321	17	48	73	69	61	36	16	..	1
Lowell	203	315	403	921	67	171	236	200	152	70	20	3	2
Lyman	96	157	197	450	22	62	76	96	98	59	23	12	2
Martin	24	58	58	140	17	27	42	29	19	5	1	..	..
Mather	116	171	234	521	49	77	133	136	83	38	5	..	..
Minot	54	56	113	223	23	39	55	44	36	20	3	1	2
Mt. Vernon . .	53	45	87	185	18	42	35	40	30	13	6	1	..
Norcross . . .	137	189	275	601	88	110	121	136	75	45	20	5	1
Phillips . . .	76	158	148	382	35	86	68	60	59	39	19	12	4
Prescott . . .	101	139	111	351	24	66	69	90	58	28	10	5	1
Prince	54	98	106	258	5	33	55	58	49	39	15	4	..
Quincy	145	245	206	596	57	114	118	122	113	50	14	8	..
Rice	100	127	148	375	13	40	95	79	85	46	13	4	..
Sherwin	92	178	171	441	45	74	107	83	85	33	12	2	..
Shurtleff . . .	105	106	122	333	30	67	89	73	46	21	6	1	..
Stoughton . .	48	59	64	171	7	25	47	42	34	11	3	1	1
Thos. N. Hart,	145	178	202	525	12	104	131	135	76	45	14	6	2
Tileston . . .	16	37	39	92	15	21	18	18	12	7	1	..	..
Warren	98	98	175	371	29	78	89	89	52	26	5	2	1
Wells	187	258	392	837	79	162	180	189	130	84	11	2	..
Winthrop . .	86	98	97	281	29	62	75	43	20	25	12	10	5
Totals . .	6,096	7,938	10,794	24,828	2,062	4,411	5,491	5,364	4,117	2,199	821	267	96
Per cents .	24.6	32.0	43.5	100.0	8.3	17.8	22.1	21.6	16.6	8.9	3.3	1.1	0.4

PRIMARY SCHOOLS.

Number of Pupils to a Teacher, June 30, 1892.

DISTRICTS.	No. of Teachers.	Av. whole No. of Pupils.	No. of Pupils to a Teacher.	DISTRICTS.	No. of Teachers.	Av. whole No. of Pupils.	No. of Pupils to a Teacher.
Adams	6	356	59.3	Henry L. Pierce	6	303	50.5
Agassiz	4	218	54.5	Hugh O'Brien ..	13	713	54.8
Allston	10	554	54.5	Hyde	9	497	55.2
Bennett	7	334	47.7	J. A. Andrew ..	11	585	53.2
Bigelow	13	669	51.5	Lawrence	18	840	46.7
Bowditch	6	333	55.5	Lewis	10	545	54.5
Bowdoin	7	318	45.4	Lincoln	6	325	54.2
Brimmer	8	372	46.5	Lowell	16	933	58.3
Bunker Hill.	11	394	35.8	Lyman	9	447	49.7
Chapman	6	304	50.7	Martin	3	247	82.3
Ch's Sumner	10	554	55.4	Mather	11	514	46.7
Comins	6	241	40.2	Minot	5	221	44.2
Dearborn	12	641	53.4	Mt. Vernon	5	171	34.2
Dillaway	7	378	54.0	Norcross	13	595	45.8
Dudley	13	666	51.2	Phillips	7	381	54.4
Dwight	10	535	53.5	Prescott	7	354	50.6
Edw. Everett	8	459	57.4	Prince	5	226	45.2
Eliot	9	469	52.1	Quincy	11	598	54.4
Emerson	10	630	63.0	Rice	8	377	47.1
Everett	10	545	54.5	Sherwin	9	447	49.7
Franklin	13	614	47.3	Shurtleff	6	336	56.0
Frothingham	9	476	52.9	Stoughton	4	174	43.5
Gaston	8	441	55.1	Thos. N. Hart	9	532	59.1
Geo. Putnam	5	265	53.0	Tileston	2	85	42.5
Gibson	6	309	51.5	Warren	7	374	53.4
Hancock	17	1,030	60.6	Wells	15	869	57.9
Harris	7	319	45.6	Winthrop	6	290	48.3
Harvard	12	633	52.1	Totals	481	25,036	52.0

SCHOOL DOCUMENT NO. 18 — 1892.

REPORT

OF THE

COMMITTEE ON SALARIES.



BOSTON :

ROCKWELL AND CHURCHILL, CITY PRINTERS.

1892.

REPORT.

IN SCHOOL COMMITTEE,

BOSTON, Nov. 8, 1892.

The Committee on Salaries present the schedule of salaries of instructors for the year beginning Jan. 1, 1893.

An order was referred to this committee, Oct. 25, 1892, that the salary of the teachers of physical culture in the Girls' High and Girls' Latin Schools should be fixed at the annual rates of \$1,200 and \$600 respectively. The salaries of these teachers were fixed by the Board for the term ending Dec. 31, 1892, at \$1,000 and \$480 respectively. Under the statutes the salaries of teachers established cannot be increased during the year for which they were fixed. Your committee are in favor of the increase proposed, and recommend the increased salary from Jan. 1, 1893.

With the exception of the salaries of the teachers of physical culture above referred to your committee recommend that the salaries of instructors be continued at rates now paid. They recommend the passage of the following orders.

For the Committee,

CHARLES E. DANIELS,

Chairman.

1. *Ordered*, That the salaries of instructors of the public schools be fixed for the year ending Dec. 31, 1893, as contained in the following schedule :

NORMAL SCHOOL.

Head-Master	\$3,780
Sub-Masters, first year, \$2,196; annual increase, \$60; maximum .	2,496
First Assistants, first year, \$1,440; annual increase, \$36; maximum,	1,620
Second " first year, \$1,140; annual increase, \$48; maximum,	1,380

HIGH SCHOOLS.

Head-Masters	\$3,780
Masters	2,880
Junior-Masters, first year, \$1,008; annual increase (for thirteen years), \$144; salary for the fourteenth and subsequent years, with the rank of Master	2,880
Assistant Principal	1,800
¹ First Assistants	1,620
Assistants, first year, \$756; annual increase, \$48; maximum .	1,380

GRAMMAR SCHOOLS.

Masters, first year, \$2,580; annual increase, \$60; maximum .	\$2,880
Sub-Masters, first year, \$1,500; annual increase, \$60; maximum,	2,280
First Assistants, first year, \$900; annual increase, \$36; maximum,	1,080
Second " first year, \$756; annual increase, \$12; maximum,	816
Third " first year, \$456; annual increase, \$48; maximum,	744

PRIMARY SCHOOLS.

Second Assistants, first year, \$756; annual increase, \$12; maximum,	\$816
Fourth " first year, \$456; annual increase, \$48; maximum,	744

KINDERGARTENS.

Principals, first year, \$600; annual increase, \$36; maximum .	\$708
Assistants, first year, \$432; annual increase, \$36; maximum .	540

SPECIAL INSTRUCTORS.

Special Instructors of Music	\$2,640
Director of Drawing	3,000

¹ The rank of First Assistant (High Schools) shall be abolished as the position now recognized shall become vacant in schools where first assistants are now employed. [Rules, Sect. 95.] There are at present two first assistants (High Schools) in service.

¹ Assistant to Director of Drawing	\$1,800
Teacher of Chemistry, Girls' High School	1,620
Assistant in " " " "	804
Teacher of Physical Culture and Elocution, Girls' High School	1,200
" " " " Girls' Latin School	600
Teacher of Kindergarten Methods, Normal School	1,080
Director of French and German	3,000
Assistants	1,500
Director of Physical Training	3,000
Assistant	2,000
Special Assistant in German in the Brighton High School—to serve three hours a week, and to be paid at the rate of four dollars per week of actual service.	
Horace Mann School for the Deaf—Principal	2,508
First Assistant	900
Assistants, first year, \$700; second year and subsequently	800
Instructors in Manual Training Schools	1,620
Instructors in Manual Training Schools	1,200
Instructor in Manual Training (Horace Mann School)	450
Assistant Instructors in Manual Training Schools: first year, \$804; annual increase, \$48; maximum	900
Principal of Schools of Cookery	1,000
Instructors in Schools of Cookery, first year, \$456; annual increase, \$48; maximum	744
Instructor in School on Spectacle Island (including all expenses connected with the school, except for books)	400
Instructor Military Drill	2,000
Armorer	800

Teachers of sewing:

One division	\$108	Seven divisions	\$540
Two divisions	192	Eight divisions	588
Three divisions	276	Nine divisions	636
Four divisions	348	Ten divisions	684
Five divisions	420	Eleven divisions	732
Six divisions	492	All over eleven divisions	744

Principal, Evening High School (per week), first year, \$30; second year, \$40; third year and subsequently	\$50 00
Assistants, Evening High School (per evening)	4 00

¹ To give instruction in drawing in the Normal School and to assist the Director of Drawing.

Principals, Evening Elementary Schools, in schools where average attendance for month is 100 pupils or more (per evening), \$5; in schools where average attendance for month is less than 100 (per evening)	\$4 00
First Assistants, Evening Elementary Schools, in schools where average attendance for month is 75 pupils or more (per evening), \$2.50; in schools where average attendance for month is less than 75 (per evening)	1 50
Assistants, Evening Elementary Schools (per evening)	1 50
¹ Masters, Evening Drawing Schools (per evening)	10 00
Principals, Evening Drawing Schools (per evening), first year, \$7; second year and subsequently	8 00
Assistants, Evening Drawing Schools (per evening), first year, \$4; second year, \$5; third year and subsequently	6 00
Special Assistant Teachers, lowest classes Primary Schools (per week)	5 00
Special Assistant Teachers, Kindergartens (per week)	5 00

2. *Ordered*, That Masters elected as Principals of High Schools, whose average whole number for the preceding school year exceeds one hundred pupils, receive \$288; Sub-Masters, elected as Principals, \$216; each, in addition to the regular salary of the rank.

3. *Ordered*, That the salary of a temporary junior-master be at the rate of \$5 per day of actual service.

¹ The rank of Master in Evening Drawing Schools shall be abolished as the position becomes vacant by the retirement of the present incumbents.

SCHOOL DOCUMENT NO. 19 — 1892.

ANNUAL REPORT

OF THE

COMMITTEE ON THE HORACE MANN
SCHOOL FOR THE DEAF.



BOSTON :
ROCKWELL AND CHURCHILL, CITY PRINTERS.
1892.

IN SCHOOL COMMITTEE, BOSTON, Nov. 8, 1892.
Accepted, and ordered to be printed.

Attest :

PHINEAS BATES,
Secretary.

HORACE MANN SCHOOL.

On the ninth of September, 1891, the Horace Mann School opened with eighty-five pupils, — forty-one boys and forty-four girls. Twenty-three were admitted during the year, and eight were discharged. Of the latter number, two entered private schools with hearing children. The number at the close of the year in June, 1892, was one hundred. The unusual number of beginners admitted in the early spring made the formation of a new class necessary, and Miss Mary M. Beale was appointed temporary teacher. The following extract from the Supervisors' Report so fully expresses what we would say that we reprint it here :

“No Boston public school, whether established for a general or for a special purpose, accomplishes its objects with more skill and thoroughness than the Horace Mann School for the Deaf. In the words of Superintendent Seaver, it ‘is verily our most precious educational gem.’ An excellent description of its origin and growth, and, incidentally, of the great good it has here, and, through its example, elsewhere accomplished, is given in school document No. 24, 1890. But the description is incomplete. There are indications that the oral method of teaching the deaf in the Horace Mann School is to produce even better results than were anticipated a few years ago.

“‘Visible Speech,’ invented in Edinburgh by Alexander Melville Bell after twenty years of study and investigation, and first used in England for instructing the deaf in 1869, was introduced in 1871, through the agency of his son, Alexander Graham Bell, into this school. Here training by

means of visible speech has been given for twenty years by Miss Sarah Fuller and her assistants, with results that prove the power and beauty of human skill when directed to noble ends, and when exercised with patience and fidelity.

“It is, indeed, a great feat for a child who has never heard a sound to communicate orally his thoughts and feelings to members of his family, and to read responses from their lips. The deaf child with this accomplishment goes out into the world’s stir and activity and ‘gets on’ fairly well; he follows his calling and enjoys his life far better than if he had never learned to talk and to read the lips. But, except at home and among friends, he is likely to be at a disadvantage — at least, he must meet obstacles to a free interchange of thought and feeling with others. How may some of these obstacles be surmounted? Miss Fuller’s answer to this question illustrates the principle that controls her methods of instruction. The principle is, that deaf children should be taught and treated, so far as the ends to be reached and the circumstances permit, just as hearing children are taught and treated. Her answer to the question would be: After completing the course of instruction in the Horace Mann School, the pupils should be sent to a school with hearing children. The evidence thus far collected with regard to pupils who completed the course of study in the Horace Mann School and then entered a school with hearing pupils, shows that the presence and instruction of deaf pupils cause but slight, if any, inconvenience to teachers, and that the deaf reach at least as high a standard of scholarship as hearing pupils. As the good work goes on, we have reason to expect that the deaf, accustomed to meet and cope with the same difficulties as hearing pupils, will, after leaving school, be able to enter upon their work in life with but few of the disadvantages that arise from deafness, and with confidence that they can, for the most part, understand what is said to them, and be understood when they address others.”

Additional testimony in this direction is found in the following extract from a letter written last June by Mr. Hagar, one of the principals of the Berkeley School. He says: "If it were not for the fact that we have become accustomed to seeing fine work done by the graduates of the Horace Mann School, it would seem to us *impossible* for children so afflicted to enter a class with hearing and speaking companions, and not only hold their own, but fairly lead the way. While I can partially understand how they succeed in your own school, it will never cease to be a mystery to me how they so readily read the lips of teachers who have had absolutely no training in such matters.

"When ——— undertook the study of Latin and French last September, I confess that I anticipated trouble. How was she to get hold of the pronunciation? Well, she has done it! How, I don't know. But one member of her class has a better average, in studies, than ———'s, and that member has no language, while ——— does all that he does, and Latin and French in addition.

"I find that with the single exception of standing or sitting in such a position as to be seen readily by the children, the teacher is not inconvenienced at all."

Instruction in sewing was given on four afternoons each week to forty-six pupils. Each pupil remained one afternoon to sew for an hour and a half. In some instances pupils were allowed to have more than one lesson. A growing interest was very manifest as the weeks went by, and the pupils took up the parts of the progressive plan arranged for them. Very commendable results were shown by each class at the end of the year. We present, with this report, the plan of work in this department. *Vide Appendix.*

Instruction in Sloyd was given, as during the previous year, and the cost met by friends of the school. The usefulness of this training has been so clearly shown by the pupils and their work, that it is considered advisable to include this

school with those for whom provision is made by the city, and thus relieve the kind friends who have hitherto generously supported this department. During the past year twenty-seven boys and twelve girls received instruction. The lessons were two hours in length. Mechanical drawing formed a part of each lesson; no pupil being allowed to begin a model before the drawing of it was completed. The average number of models made by each pupil was six. The finished models show that the pupils are well up to the standard of hearing children in manual skill and exactness.

The teacher of Sloyd, Mr. J. H. Trybom, writes: "The pupils in the Sloyd classes at the Horace Mann School differ considerably in age. There are children between the ages of ten and sixteen years, which usually means six years difference in their school attendance. It also means an immense difference in their ability to understand spoken and written language. There is hardly any difficulty in teaching the more advanced classes, as they can well understand whatever is said to them. A careful explanation and practical demonstration is sufficient to make the children understand its purpose and its method of construction."

Miss Fuller, the principal of the school, believes that during their school days deaf children should be given every possible opportunity to develop their powers to the fullest extent; and she obtained, through money given by friends, a teacher in type-setting. The lessons were begun in April, and were given to sixteen pupils on four afternoons each week. The results were surprising. At the end of June each pupil could set up ordinary newspaper matter from a page of manuscript, take a proof on the proving-press, and correct typographical errors. The study is of great interest to all, and it is thought that some may find it the beginning of a life work. The useful, self-dependent lives of those who have gone out from this school are abundant proof of the ability of deaf children to profit by instruction.

One of the most interesting hours in the day at the Horace Mann School is that during which the physical exercises of the various classes are practised. Teachers and pupils are enthusiastic students of the Ling System, and the precision and care with which each exercise is taken, fully attest the appreciation the pupils have of orderly, concerted movements.

At the close of the year, in June, a second meeting of the Association to Promote the Teaching of Speech to the Deaf was held at Lake George, N. Y., and the principal, with seven teachers and a number of pupils, attended the sessions. All took part in the various exercises, and illustrated with pupils in class the methods of instruction employed in the Horace Mann School. One of the prominent features of this meeting was an exhibition of remarkable proficiency in speech-reading by a former pupil of this school.

A conference of the principals of schools for the deaf in America was held at Colorado Springs early in August. This gathering was in some respects one of the most important ever held, because of its direct influence upon the approaching Exposition at Chicago. Miss Fuller was present at this conference, and testified to the value of public day schools for deaf children.

Since our last report, by the death of Mr. and Mrs. Francis Brooks, the Horace Mann School has lost two of its most valued and constant friends. Their encouragement and aid helped to establish this school, and their fostering care and many benefactions added to its strength and influence. There are now left but few of those who watched the inception and growth of this first public day school for deaf children in America. Mr. Brooks was present at the opening of the school, on the morning of the tenth of November, 1869, and on learning that some of the children, gathered

from homes of poverty, could not be comfortably clad by their parents, requested Miss Fuller to provide, at his expense, suitable clothing for such, and for any others who might be in similar need. This discretionary power was exercised for two or three years, and many pupils were recipients of Mr. Brooks' bounty. Mr. and Mrs. Brooks remembered the pleasures of the children, as well as things essential to their comfort, and for several years provided Christmas entertainments for them. To Mrs. Brooks' appreciation of the difficulties presented by the English language to a deaf child, the school is indebted for money, given at various times, for printing simplified lessons, that lead up to a use of ordinary reading and text books. She also made many contributions to the pupils' library, and by her sympathetic interest in everything pertaining to the school and its work, brought many helpful friends to it. Through her personal efforts, money to provide manual training was raised, and she had the pleasure of knowing that the effect of this training upon the pupils was most beneficial, and that their attainments were equal to those of other public-school children.

One of the happiest results of Mrs. Brooks' active interest in the Horace Mann School was the founding by her of a Home School for very young deaf children. This infant school affords an opportunity for deaf children to learn to speak at an age when others naturally learn to talk, and it is preparatory in its work for the Horace Mann School. It is now in the fifth year of its existence, and parents and friends bear grateful testimony to the value of its teaching.

We are under obligations to many friends who have a care for the needs of the school. At Christmas, Mrs. Brooks presented it with a magic lantern. This valuable aid to the study of geography and history is a source of

much pleasure to the pupils. Slides, and money for the purchase of slides, have been received from other friends.

The committee gratefully acknowledge a fine marble pedestal, for the bust of Horace Mann, which was presented to the school by Mr. D. B. Flint.

CAROLINE E. HASTINGS,

Chairman.

EMILY A. FIFIELD.

HENRY D. HUGGAN.

APPENDIX.

HORACE MANN SCHOOL.

PLAN OF SEWING.

FIRST YEAR.

Aim: Ability to assume a proper position for sewing, to use a thimble, to select thread and needle, to take proper length of thread (one-half yard), to thread a needle, to make a knot, to begin, join, and fasten thread.

Means: Top sewing of two selvages, a selvage and a raw edge and two raw edges; stitching; hemming; overcasting; turning hems; basting.

Material: Coarse white and red thread. Cloth suitable for the articles designated.

Incidental Work Completed: The hemming of towels and handkerchiefs, and the making of pillow-cases.

SECOND YEAR.

Aim: Ability to make simple articles of clothing and to do plain mending.

Means: A review of the previous year's work with white thread and finer material; gathering; basting of gathers; setting of gathers into bands by stitching and hemming; running; preparatory darning; patching on striped or plaid cloth.

Materials: White, colored, plaid, and stripped cotton fabrics.

Incidental Work Completed: Sewing apron and plain apron with gathers.

THIRD YEAR.

Aim: Ability to make a greater variety of articles, to mend skillfully and to make button-holes.

Means: A review of the previous years' work; sampler of white cotton and of flannel; gathering with white flannel; placket; putting in gusset; patching on plain cloth; making button-holes; French felling; straight felling; sewing on of buttons, hooks and eyes; darning on stockinet.

Materials: Cotton cloth and fabrics suitable for the articles designated.

Incidental Work Completed: Needle-book, shoe-bag, stocking-bag, sweeping-cap; drawers and napkins hemmed.

FOURTH YEAR.

Aim: Ability to sew on flannel, to mend dresses, coats, and stockings, and to cut out plain undergarments.

Means: Making the various flannel stitches; darning stockings; darning a cross-cut, a three-cornered tear, a worn or thin place, and darning with ravellings on cashmere; mending gloves; patching and darning heavy and light woollen fabrics; practising cutting and basting.

Materials: Flannel, cashmere, cotton cloth, light and heavy woollen cloth, thread, silk, and twist.

Incidental Work Completed: Sampler, flannel skirt, white cotton skirt, night-dress.

FIFTH YEAR.

Aim: Ability to make and trim garments.

Means: Tucking; ruffling; hemstitching; blind stitching; cutting and joining bias bands; gathering, suitable for dresses; making button-holes on dresses.

Materials: Cloth required for making infants' clothing.

Incidental Work Completed: Infants' clothing.

SIXTH YEAR.

Aim: Ability to cut and make dresses; to mark by letters in cross-stitch; to do drawn work on linen.

Means: Talking about dress materials, linings, trimmings, and quantities needed for different styles, etc.; studying proportions of the human form; fitting dress-linings by the Rood Magic System; representing in colored paper, from book of

models, a perfect pattern of desired style of gown ; drafting gored skirt from blackboard lesson ; making letters in cross-stitch on sampler.

Material: Dress goods ; linings, etc. ; linen for drawn work.

Incidental Work Completed: Dress and sampler.

EDUCATION OF THE DEAF AND DUMB.

SECTION 15. Every institution for the instruction of the deaf, dumb, and blind, when aided by a grant of money from the state treasury, shall annually make to the board such a report as is required, by sections sixteen and seventeen of chapter seventy-nine, of other private institutions so aided.

SECT. 16. [Section 16 of the Public Statutes is repealed by chapter 239 of the Acts of the year 1888, and the following substituted] :

Upon the request of the parents or guardians and with the approval of the state board of education, the governor may send such deaf-mutes or deaf children as he may deem fit subjects for education, for a term not exceeding ten years in the case of any pupil, to the American Asylum at Hartford in the state of Connecticut, the Clarke Institution for Deaf Mutes at Northampton, or to the Horace Mann School at Boston, or to any other school for deaf-mutes in the commonwealth, as the parents or guardians may prefer ; and with the approval of the state board he may make at the expense of the commonwealth such provision for the care and education of children, who are both deaf-mutes and blind, as he may deem expedient. In the exercise of the discretionary power conferred by this act no distinction shall be made on account of the wealth or poverty of the parents or guardians of such children ; no such pupil shall be withdrawn from such institutions or schools except with the consent of the proper authorities thereof or of the governor ; and the sums necessary for the instruction and support of such pupils in such institutions or schools, including all traveling expenses of such pupils attending such institutions or schools,

whether daily or otherwise, shall be paid by the commonwealth: *provided, however*, that nothing herein contained shall be held to prevent the voluntary payment of the whole or any part of such sums by the parents or guardians of such pupils.

SECT. 17. The board shall direct and supervise the education of all such pupils, and shall set forth in its annual report the number of pupils so instructed, the cost of their instruction and support, the manner in which the money appropriated by the commonwealth therefor has been expended, and such other information as it deems important to be laid before the general court.

Pupils are now sent under the above sections to the Horace Mann School for the Deaf in Boston, the Clarke Institution at Northampton, and the American Asylum at Hartford, Conn.

Blanks for application for admission to these several institutions will be supplied, on request, by the secretary of the state board of education.

LAWS OF MASSACHUSETTS, 1887.

[CHAP. 179.]

AN ACT TO PROVIDE FOR THE FREE INSTRUCTION OF DEAF-MUTES OR DEAF CHILDREN.

Be it enacted, etc., as follows:

SECTION 1. With the approval of the board of education the governor may send such deaf-mutes or deaf children as he may deem fit subjects for education, for a term not exceeding ten years in the case of any pupil, to the American Asylum at Hartford, the Clarke Institution for Deaf-Mutes at Northampton, or to the Horace Mann School at Boston, or to any other school for deaf-mutes in the commonwealth, as the parents or guardians may prefer; and with the approval of the board he may make, at the expense of the commonwealth, such provision for the care and education of children, who are both deaf-mutes and blind, as he may deem expedient. In the exercise of the discretionary power conferred by this act no distinction shall be made on account of the wealth or poverty of the parents or guardians of such chil-

dren ; no such pupil shall be withdrawn from such institution or school except with the consent of the proper authorities thereof, or of the governor, and the sums necessary for the instruction and support of such pupils in such institution or school shall be paid by the commonwealth : *provided, nevertheless*, that nothing herein contained shall be held to prevent the voluntary payment of the whole or any part of such sums by the parents or guardians of said pupils.

SECT. 2. Section sixteen of chapter forty-one of the Public Statutes and chapter two hundred and forty-one of the Acts of the year eighteen hundred and eighty-six are hereby repealed.

SECT. 3. This act shall take effect upon its passage. [*Approved April 14, 1887.*]

REGULATIONS OF THE HORACE MANN SCHOOL.

[CHAPTER XX. OF THE REGULATIONS OF THE PUBLIC SCHOOLS OF THE CITY OF BOSTON.]

SECTION 295. This school was established by the Boston school committee, in coöperation with the state board of education, as a day school for deaf children to whom it may be accessible.

SECT. 296. Pupils over five years of age are admitted in accordance with an act passed by the legislature in 1869. (Public Statutes, chap. 41, sect. 16.)¹

“With the approval of the board of education, the governor may send such deaf-mutes or deaf children as he may deem fit subjects for education [at the expense of the commonwealth], for a term not exceeding ten years in the case of any pupil, to the American Asylum at Hartford, [or to] the Clarke Institution for Deaf-Mutes at Northampton,² or to any other school for deaf-mutes in the commonwealth, as the parents or guardians may prefer.”

SECT. 297. This school is designed to give an elementary English education ; but, as a preparation for this, it must first impart to pupils entering as deaf-mutes the meaning and use of ordinary

¹ Now, 1887, chapter 179.

² Now inserted, “or to the Horace Mann School at Boston.”

language. It aims to teach all its pupils to speak and to read the speech of others from their lips. The general regulations of the public schools, Chapter XIV., so far as applicable, are to be enforced in this school.

SECT. 298. The teachers shall be a principal, a first assistant, and as many other assistants as may be necessary, provided the instructors, besides the principal, shall not exceed one for every ten pupils; and an additional teacher may be nominated whenever there is excess of five pupils registered.

SECT. 299. The sessions of this school shall begin at 9 A.M. and close at 2 P.M., on every week-day except Saturdays, when there shall be no session.

TERMS OF ADMISSION.

Any deaf child over five years of age, not mentally nor physically disqualified, is entitled to admission. No pupil will be admitted without a certificate of vaccination, signed by a physician.

Parents or guardians desiring the admission of children as State pupils can obtain the blank form of application, and other instructions, at the school, No. 178 Newbury street, or at the office of the Secretary of State.

Children from other States will be received, subject to the above conditions, on the payment of tuition, or upon warrants from the executives of such States.

The school year begins on the first Wednesday in September, and ends on the last Tuesday in June; but pupils are admitted at any time.

Communications and letters may be addressed to the Principal, Miss Sarah Fuller, No. 178 Newbury street, Boston.

APPLICATION FOR THE INSTRUCTION OF DEAF CHILDREN.

189 .

To His Excellency the Governor :

I, _____ of _____, in the County of _____, and Commonwealth of Massachusetts, respectfully represent to your Excellency, that my ¹ _____, aged _____ years, is DEAF, and cannot be properly instructed in the Public Schools of this Commonwealth.

I therefore respectfully request that your Excellency will send _____ either to the American Asylum at Hartford, the Horace Mann School at Boston, or the Clarke Institution at Northampton.

189 .

The undersigned believe _____, a resident of this _____, to be incapable of receiving instruction in our Public Schools by reason of deafness, and therefore entitled to a place in one of the schools designated by law for deaf children.

} *Selectmen of*
 or
 } *Mayor of*

189 .

I hereby certify that the above-named _____, a deaf child, is free from all contagious diseases, and, as I believe, from all immoralities of conduct; is neither sickly, nor mentally weak, and is a fit subject for instruction at the expense of the Commonwealth.

M. D.

NOTE. — The first of the above declarations must be signed by the parent or guardian of the applicant; the second by the selectmen, or a majority of them, of the town, or by the mayor of the city, where the applicant resides; and the third by the family physician, or some other competent medical practitioner. In case the request for admission is granted, the parent or guardian will be forthwith notified, and a warrant will be forwarded to the principal. Pupils can be admitted to the Horace Mann School at any time between the beginning of September and the end of June.

¹ Insert son, daughter, or ward, with name.

THE PARENT OR GUARDIAN WILL ANSWER THE
FOLLOWING QUESTIONS.

1. Name of parents.
2. Residence.
3. Birthplace of parents.
4. Were they deaf-mutes?
5. Have they other children deaf?
6. Name of child.
7. Birthplace of child.
8. Was the child born deaf?
9. Has the child ever spoken?
10. If it has, when was hearing lost?
11. What was the cause?
12. Has the child ever been at school?
13. How much has the child been taught?
14. Is it preferred to have the child sent to the American Asylum, Hartford, the Horace Mann School at Boston, or the Clarke Institution, Northampton?
15. Is the child mentally weak?
16. Does the child now speak, — if so, how many words?
17. REMARKS.

SCHOOL DOCUMENT NO. 20 — 1892.

SUGGESTIVE OUTLINE

FOR

INSTRUCTION IN CIVIL GOVERNMENT IN
THE GRAMMAR SCHOOLS.



BOSTON :
ROCKWELL AND CHURCHILL, CITY PRINTERS.
1892.

IN SCHOOL COMMITTEE,

BOSTON, Nov. 22, 1892.

Ordered, That the Suggestive Outline for the Instruction in Civil Government in the Grammar Schools, adopted by the Board of Supervisors and approved by the Committee on Examinations, be printed as a School Document, and that one thousand copies of the same be printed.

Attest :

PHINEAS BATES,

Secretary.

SUGGESTIVE OUTLINE FOR INSTRUCTION IN CIVIL GOVERNMENT IN THE GRAMMAR SCHOOLS.

The course to be an exposition of the formula, "Government of the people, by the people, for the people."

Three lines of work, — *facts, principles, causes.*

Fundamental ideas, to be worked out with abundant familiar illustrations: Public Convenience; Public Welfare; Public Will.

THE CITY GOVERNMENT.

1. Expression of public will: by
 - City Council: branches, term, election.
 - Voters: qualifications, time, and manner of voting.
 - Organization: presiding officers, recording officers, committees.
 - Chief function, $\left. \begin{array}{l} \text{ } \end{array} \right\} \begin{array}{l} \text{to appropriate money,} \\ \text{to establish ordinances.} \end{array}$
 - Leading objects of appropriations.
 - Sources of city income: licenses, what and why; taxes; property, poll, assessment.
2. Execution of public will: by
 - Mayor; term, functions, — to recommend, to veto, to appoint.
 - Department system: principal departments.
 - School department, independent: committee, choice, term, work.
 - Special officers: Clerk, Treasurer, Auditor, Solicitor.

3. Civic Duties, } to vote, why?
 } to obey, why?
 1. Of citizens, } to pay, why?
 2. Of officers: to consider *public* convenience
 and *public* welfare.
 Government *for* the *people*.

Sources of information: the city charter and ordinances, and newspaper reports of proceedings.

THE STATE GOVERNMENT.

(*A new and larger public.*)

1. Expression of public will: by
 The Legislature: branches, choice in districts, term, organization (similar to City Council), time of election and of meeting.
 Chief subjects of legislation: shown by list of committees, and by chief titles in Public Statutes.
 Compare with work of City Council.
2. Execution of public will: by
 Governor: election, term, chief duties (similar to Mayor's).
 Lieutenant-Governor and Council: functions.
 Department system: boards and commissions.
 Special officers: Secretary, Treasurer, Auditor, Attorney-General (like city officers).

THE NATIONAL GOVERNMENT.

(*A new and larger public with international relations.*)

1. Expression of public will: by
 Congress: branches, term, time, mode of election, meeting.
 Organization (as before).
 Chief subjects of legislation (named in Constitution).

2. Execution of public will : by
 - President : term, choice, chief functions (similar to those of Governor and Mayor).
 - Vice-President : sole function.
 - Departments : cabinet.
3. International Relations :
 - Treaties, what? subjects? Diplomatic Service, Navy.

ADMINISTRATION OF JUSTICE.

1. Private Rights : name, limits of.
2. Necessity for protection.
3. Expression of public will concerning.
4. Means of protection :
 - Police for city; sheriff for county; militia for State; army for United States. Courts : city, State, national.

Illustrate gradation and relation of higher courts to lower. Explain here relation of county to State.

Judge, jury, witnesses, attorneys; functions of each and moral obligations of each.

RELATION OF UNITED STATES HISTORY TO CIVIL GOVERNMENT.

1. Local government in colonial period.
2. Colonial government in colonial period.
3. Changes produced by Revolution.
 - (1.) Colony became State.
 - Constitution of Massachusetts. Date.
 - (2.) Colonies became United States.
 1. Under Articles of Confederation : time, defects.

2. Under Constitution.

Date. Preamble to be committed.

Objects; explain each by reference to existing conditions as described in history.

4. Changes produced by Civil War.

(Shown in Amendments to Const.)

Read to class Section 15, Chapter 44, of the Public Statutes, and teach by discussion why the virtues therein enumerated are "the basis on which a republican constitution is founded."

SCHOOL DOCUMENT NO. 21—1892.

ANNUAL REPORT

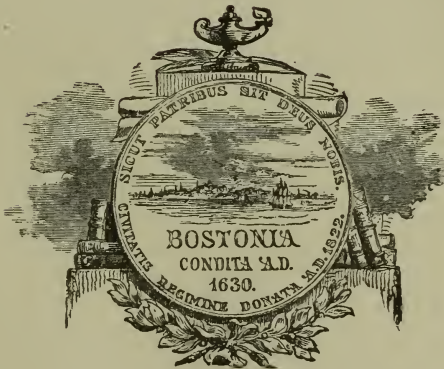
OF THE

SCHOOL COMMITTEE

OF THE

CITY OF BOSTON,

1892.



BOSTON:

ROCKWELL & CHURCHILL, CITY PRINTERS.

1893.

REPORT.

The year which is now closing has been in *three* respects, at least, a memorable one in the history of our schools. And first in

THE NUMBER OF NEW BUILDINGS COMPLETED.

As is very well known, there was for some years a period when few appropriations were made for new buildings. But all this has been happily changed, and the City Council for the four years 1889 to 1892 have generously responded to the call of this Board for our needs in this respect. It is of interest to note that during the past four years, and to help make good, so far as possible, the deficiencies of previous years, there has been appropriated for new school buildings and sites a trifle over \$2,000,000.

The first building of the new series to be completed was the Roxbury High School, which was opened for the first time in the fall of 1891, but was not dedicated until April 1, 1892. The second building was the Bowditch Grammar (formerly the Hillside), Jamaica Plain, which was occupied in March and dedicated April 28, 1892. The third was the Henry L. Pierce Grammar School, Dorchester, which was occupied in April and dedicated May

19, 1892. The fourth was the Plummer Primary, Adams District, East Boston, which was occupied April 11, 1892. There were completed during the summer and occupied soon after vacation, the Grammar School at North Brighton; a new Primary on St. Botolph street in the Prince District; the Blackinton Primary at Orient Heights, East Boston, Emerson District; a Primary on Wyman street, Jamaica Plain, Lowell District; B. F. Tweed Primary on Cambridge street, Charlestown, Bunker Hill District; a Primary, Glen road, Jamaica Plain, Bowditch District; Williams Primary, Homestead street, Roxbury, George Putnam District.

Nov. 4, 1892, the Robert G. Shaw (formerly Mt. Vernon) Grammar School at West Roxbury was dedicated, making a total of one High, four Grammar, and seven Primary schools, or twelve in all, which is the largest number of school buildings ever dedicated and occupied in any one year. In addition to these, there have been commenced during the year—the appropriation having already been made—a new building for the Agassiz Grammar School, Jamaica Plain; a new Primary for the Lyman District, East Boston; one for the Dillaway District in Roxbury; and one for the Lincoln District, South Boston. The land has also been purchased on Adams and Chestnut streets, Charlestown, for a new Primary, which shall contain Manual Training and Cooking Schools for that Division. In Jamaica Plain, land has been purchased adjoining the present West Roxbury High School, which will provide for the enlargement of that building at an early date,

the old building being inadequate for the pressing needs of this District. In Brighton the land has been purchased for a new Primary School in the Bennett District.

An appropriation of \$75,000 has also been made for a new High School building for Allston and Brighton. The completion, in one year, of eleven new Grammar and Primary buildings, the commencement of four others, the purchase of land for three more, and an appropriation of \$75,000 for a new High School, to be built in 1893, marks an era in the history of our schools which deserves to be emphasized in our annual report, and to be remembered to the credit of our City Councils that have so generously provided for our educational interests.

MANUAL TRAINING.¹

The second respect which has made this year a memorable one is in the progress which has been made in *Manual Training in all its departments*.

(a.) MECHANIC ARTS HIGH SCHOOL.

The City Council of 1891 appropriated the sum of \$100,000 for a Mechanic Arts High School. The land was purchased at the corner of Belvidere and Dalton streets, at an expense of \$40,000, but the balance of the appropriation was not sufficient for the building. The City Council of this year have appropriated the further sum of \$60,000, and the building is now under contract. It is to be three

¹Plates illustrating the subject of Manual Training will be found at the close of this report.

stories in height, 224 feet long by 90 feet wide. The basement, besides containing the boiler-rooms, etc., will be provided with several hundred lockers to contain the regular clothing of the boys when they are in their working costume. There will be on the first and second floors several class-rooms, each to accommodate 72 pupils, in three sections of 24 each; a machine-shop with engine, lathes, planers, etc.; a blacksmith-shop, with 25 forges and anvils; a moulding-shop; a carpenter-shop; a finishing-room; a wood-turning room; a chemical laboratory; a reading-room and library. In the third story there will be a large room to be used both as a gymnasium and an assembly hall. The 25 hours' time of the week will be divided into about 10 hours of shop-work, 10 hours of book-work, and 5 hours of drawing. The book-work will consist of algebra, geometry, trigonometry, physics, and chemistry. The building will be able to accommodate from 300 to 350 pupils, and it is believed that it will be the most complete building of its kind in the country.

It is expected that it will be ready for occupancy by September 1, 1893; and for the first time in Boston the boy who wishes to enter the industrial world will have the same opportunities given to him for preparation at the public expense, as have been given so long to those who wish to prepare for a business or professional life.

(b.) SCHOOLS OF COOKERY.

There have been for several years such schools in different sections of this city, but this year a sufficient

number of new ones have been opened to make it possible to teach the scholars in all sections of the city. The new schools opened this year have been two in Dorchester, and one each in Allston, Brighton, and West Roxbury. The support of the one so long maintained in the North Bennet-street Industrial School by the liberality of one of its patrons was assumed by the School Board in September. The school kitchens now are fourteen in number, and located as follows:

East Boston	Lyman School.
Charlestown	Harvard School.
Boston	North Bennet street.
Boston	Starr King School, Tennyson street.
Boston	Hyde School, Hammond street.
Roxbury, two rooms .	Kenilworth street.
South Boston	Drake School, Third Street.
Dorchester	Henry L. Pierce School, Washington st.
Dorchester	Dorchester-ave. School, cor. Harbor View street.
Jamaica Plain	Bowditch School, Green street.
West Roxbury	Robert G. Shaw School, Hastings street.
Allston	Allston Grammar, Cambridge street.
Brighton	Bennett School, Chestnut avenue.

Experience has shown that, all things considered, it is best to give these lessons in cookery to the girls of the second class, as, in most cases, those in the younger grades are not mature enough to appreciate their importance, or to receive the greatest benefit.

(c.) MANUAL TRAINING FOR BOYS.

After very careful consideration and consultation with those most familiar with the subject, it has

been decided first to care for the boys of the *second class*. There are several reasons for this decision. (1.) Such boys have usually reached an age when they are strong enough physically to handle tools properly. (2.) They have become sufficiently mature to appreciate the value of the instruction. (3.) The great bane in many of our districts is the taking of boys from school before they have completed a full Grammar School course, and the being sent to work in shops and stores before they have any proper mental equipment for the battle of life. It is found by experience that there is so much interest in the manual training, by both parents and scholars, that boys remain in school longer than before, in order to have the benefit of this special training. The value of this in many ways is inestimable. The manual training shops are thirteen in number, and are situated as follows:

East Boston	Lyman School.
Boston	North Bennet street.
Boston	Appleton-street Primary.
Roxbury, two rooms	Kenilworth street.
South Boston	E street.
Dorchester	Mather District, Meeting-House Hill.
Dorchester	Henry L. Pierce School, Washington st.
Jamaica Plain	Eliot School Trustee Building, Eliot st.
West Roxbury	Robert G. Shaw School, Hastings street.
Allston	Allston Grammar, Cambridge street.
Brighton	Bennett School, Chestnut Hill avenue.
Mattapan	Tileston School, Norfolk street.

All of these are now entirely supported by the city, with the exception of the one in the Appleton-

street Primary School, which is still provided by the liberality of Mrs. Quincy A. Shaw, and the one at Jamaica Plain, where a portion of the salary of the principal is paid by the Board of Trustees of the Eliot School Fund.

Perhaps especial mention should be made of the school in South Boston. It was said a few years ago that only from sixteen to twenty scholars could be instructed at one time in this shop-work. Others contended that a much larger number could be taught in one class, and it was felt that unless this could be done the system would be too expensive to be practical. The old church building in E street, South Boston, was leased by the city, and sixty benches were placed in the room. We take pleasure in reporting that it has been found to be perfectly feasible to teach the demonstration lesson to all the sixty pupils at one time, and in all our new schools we are providing for thirty pupils, which is all that can be accommodated with benches in school-rooms of the ordinary size.

The Board has not yet decided upon any one plan of manual training for universal use. It seemed wiser to test several plans, all of which have great merit, which are alike in many respects and yet which have points of difference. After a longer trial it will be possible to combine the best features of all these into one uniform system. For the present, all are giving satisfactory educational results. The shops at East Boston, Appleton Street, Allston, and Brighton are following substantially the Sloyd system as modified by Mr. Larsson for American ideas. Those at

Roxbury, Dorchester, Jamaica Plain, and West Roxbury are an outgrowth of the Russian system, also *Americanized* by Mr. F. M. Leavitt, with the aid of Prof. R. H. Richards, of the Institute of Technology. The school at North Bennet street has a third set of models and a little different plan, the result of several years' experiment by Mr. B. F. Eddy. The fourth plan is the one adopted by Mr. F. W. Kendall, and being tested in the shop at South Boston.

But while the first thought has been to ensure a year's course of wood-working throughout the city for boys of the second class, the work has not been confined to these. It has been the intention, as explained in School Document No. 15 of 1891, to have finally a course covering at least three years. This lower-class work is more in the experimental stage, and yet the diagrams in this report show something of what is being done in a few schools where the plan has been tested.

On account of the great expense by the necessary multiplication of many more shops, we doubt if for years to come it will be possible to give, throughout the city, shop instruction in more than the second class. But we think that practically as good results, educationally considered, can be obtained for boys in the lower grade, by work done in the school-room, and at a very small expense. The work done this year by several of our schools show that all that is required is a small tray, or board, 19" \times 13", with a wooden rim, two triangles, dividers, rule, file, and a knife with a stout handle and a blade one and a half inches long. Very thin board is used, the object to be made being

first drawn upon it, and then cut out with the knife, and the various parts being finally put together in some simple permanent form.

A full *outfit* for a room of fifty-six pupils costs about forty dollars. But as most of this outfit can be used for several classes in the same building, the cost in our larger schools is not over twenty-five cents each year per pupil. The *material* used, as wood, glue, etc., will not cost over fifteen cents per year for each pupil.

The *color* work that is done by the boys in some of the lower grades in the Grammar School while the girls are sewing, costs for the *outfit* about twelve and a half cents per scholar, and for the *material*, about eight cents a year for each pupil.

A very ingenious course of whittling in the school-room, and simple exercises in mechanical drawing preliminary to Sloyd, have been arranged by Mr. Larsson.

This course is proposed for the fourth grade of the Grammar School, to be given in the regular school-room to the whole class.

The aim of this course is to enable the child to make simple mechanical drawings on paper from the object, and to be able to read and execute this drawing in wood, thus stimulating thought-expression in other studies.

In selecting the objects to be made, the following points have been considered:

1st. Articles are selected as models which to the child have a definite use, and are within his power of

execution; these are based upon simple elementary forms.

2d. The making a full-sized working drawing, expressing all necessary facts for construction in such a way as to be easily read.

3d. The whittling to be executed in a standing position, giving freedom of physical movements and relief from sedentary work.

To make this work practical in the school-room, a chart of drawings has been prepared for the reference of the teacher, showing what and how to draw, the kind of wood to be used, and also the new tool exercise employed on successive models.

A desk tool-table has been designed to fit on the regular school desk, containing a drawer with block of paper, $7\frac{1}{2}$ in. \times $8\frac{1}{2}$ in. ruler, try square, pencil, Sloyd knife, compasses, gimlet, and sand-paper block. The price of tools, with desk-cover for each pupil, is three dollars, and the wood for the course costs about twenty-three cents for each pupil. The desk-cover is adjustable, so that it can be used in different classrooms.

As the great expense for new shops, tools, etc., has now been provided for in the expenditures of the past two or three years, it is hoped that it will soon be possible to make some kind of knife-work universal throughout the city for the children of several of the lower grades.

Progress has also been made in the fifth and sixth Grammar classes in cardboard work, — cutting the cardboard into different shapes, folding into solid forms, etc.

In October a proposition was received from the Directors of the North Bennet-street School offering to give, free of all expense, Normal instruction in clay modelling to teachers in the lower Grammar grades. This generous offer of Mrs. Quincy A. Shaw and her associates has been accepted. It seems especially timely, as it will give an opportunity to test an experiment of another form of manual training suited to pupils of this grade. We certainly need something to cover the period between the Primary School on the one side, and the wood-work for the boys in the advanced classes of the Grammar Schools on the other. As it has been thought that the plan can best be tested by taking teachers from the schools in one section of the city, those have been chosen in the nearest proximity to the North Bennet-street School, where the work is to be done. The offer has, therefore, been made to, and accepted by, the teachers of the lower grades in the Eliot, Hancock, Bowdoin, Phillips, and Wells schools, and the lessons will commence immediately after the holidays. This experiment will help to show whether clay modelling, or knife-work, or cardboard-work, or all combined, are best fitted to give the best educational results in the lower grades of our Grammar Schools.

As this is the first year in which cooking and manual training can properly be said to have become universal in our Grammar Schools, it seems proper to give a brief outline of their early history.

As early as 1881 definite effort was made by private individuals in Boston, looking to the introduction of manual training into the Grammar grade of

the public schools. Repeated effort was made by the pioneers in this work to obtain from the School Board permission for classes to receive instruction at the North Bennet-street Industrial School; and in September, 1883, before formal action had been taken by the Board, boys from the Eliot School (North End) were sent to the Industrial School for instruction in carpentry, printing, and shoemaking, by permission of Mr. Charles C. Perkins, Chairman of the Third Division Committee, an early and enthusiastic advocate of manual training.

It is not until the year 1883, however, that we find recorded in School Document No. 3, that on the 27th day of February of that year a hearing was given by the Committee on a Manual Training School to a few persons interested in manual training, the subject under consideration being the acceptance of an offer from Mrs. Quincy A. Shaw to give to pupils from certain schools, training in cooking, housekeeping, and laundry-work for girls, and printing, carpentry, and shoemaking to boys. During the next March (1885) an order was passed with the following cautious wording, that pupils "whose parents or guardians so request, in writing, may attend the Industrial School on probation, for two hours weekly."

In May, 1885, the first classes in cooking under this order were started at the North Bennet-street School, with Miss Amy Barnes as teacher, pupils coming from the Hancock School. In October of the same year two cooking schools were started simultaneously, each receiving one hundred and fifty

pupils weekly from the public schools. One of these, in Tennyson street (Starr King School), was supported by Mrs. Hemenway, and the other was carried on by the North Bennet-street Industrial School. Mrs. Hemenway supported the Tennyson-street School for three years, when, in 1888, its further expense was assumed by the city. The North Bennet-street Cooking School was always largely indebted to Miss Sarah B. Fay, who assumed its entire running expenses from 1887 to 1892, when its support was assumed by the city. *These two kitchens were the first public school kitchens in America.* It is to the high standards established by these first two schools, and to the Normal classes established later by Mrs. Hemenway, and under the able direction of Miss Homans, that the excellence of the teaching in the school kitchens of Boston is largely due.

In the year 1886 another Cooking School was established by private enterprise, in Jamaica Plain, and the School Board started another in South Boston. The Jamaica Plain School was assumed by the city in 1888.

In 1888 the first experiments were made in Swedish Sloyd, all previous work with tools, in Boston, having been based on the Russian course of work. Modifications were at once found necessary in the adaptation of Sloyd methods to American needs and standards (prominent among which was a satisfactory system of drawing); but the ideas upon which the system is based were found to be so entirely in harmony with those of Froebel as to commend it to the followers of this great teacher, and to decide

Mrs. Shaw to offer to the School Board opportunities for its study both in children's and in free Normal classes taught by Mr. Gustaf Larsson. Three graduates from the school at Nääs were employed by her as teachers, and two new schools started, in addition to the one first established in North Bennet street.

So general has been the interest in this new departure that more than a hundred teachers have undertaken the arduous work of the Normal classes, while the manifest influence of Sloyd upon other systems employed here shows how general and how generous has been the recognition of its value.

In the year 1884 a Manual Training School was opened in the basement of the Latin School, which was carried on for several years; but as the other plans which were being carried on in other parts of the city were found to be superior, it was closed in 1891. In the year 1889 the Trustees of the Eliot School Fund in Jamaica Plain, having experimented with summer schools for some years, offered free instruction in wood-working to the pupils of the public schools, and scholars were received that year from five Grammar Schools and one High School. In the year 1891 these Trustees asked the privilege of making an experiment by giving a *four years' course to the four upper grades* of the Grammar School, which request was granted, and the experiment is now being made. This system is based upon the course of Russian manual training as introduced by Dr. Runkle in 1876 in the School of Mechanic Arts at the Massachusetts Institute of Technology, but has been largely

influenced by the modified form of Swedish Sloyd made by Mr. G. Larsson, of the Appleton-street Primary.

No one can possibly compute the value that has come to the schools of Boston from the munificent generosity of Mrs. Shaw and her associates, from Mrs. Hemenway, and from the Trustees of the Eliot School Fund. Their work has been not for our schools only, but through their Normal classes they have been supplying teachers for Cooking and Manual Training Schools in other cities. It has been stated that the Kindergarten work alone cost Mrs. Shaw nearly half a million of dollars before it was assumed by the city. What this other work has cost her, and those above mentioned, who have been following along similar lines, can never be known until the secret things of this world are written. They will ever be remembered most gratefully by the citizens of this city, whose children they have so richly blessed.

(*d.*) MANUAL TRAINING IN THE PRIMARY SCHOOLS.

In the year 1891 instruction was given to all the Primary teachers throughout the city in clay modeling, paper-cutting, etc. The value of this teaching is apparent in the work that is now done throughout the city by the little children. The clay modelling, paper folding and cutting, appeals to the imagination of the children and cultivates the love of the beautiful; it also develops manual skill and inventive power, teaching form, proportion, and exactness, as well as dexterity in the use of the fingers.

In concluding this part of our report, we wish to emphasize again the importance of this new education which is educating the hand and the eye and the mind together. We are beginning to see more and more that *thinking begins with things*. There are some who may still believe that the outlay for shops and for these special teachers is unnecessary, and that the whole thing is a caprice of the hour. But the number of such is very few, and they show that they have given the matter but superficial thought. The little time that it has been tested in our schools has already shown its value. Nothing else has such power to soften, refine, and humanize rude girls and boys, to lead them to respect others, and to bring out those qualities which will lead them in turn to be respected. In the early spring of this year a class of boys was brought for the first time into one of our shops. They were from homes in one of the worst sections of our city, and for a lesson or two seemed almost ungovernable. But in less than three months these rude boys became so fascinated with their work, that, compelled to be left largely to themselves one day on account of the illness of a teacher, they excited the admiration and comment of some educators who unexpectedly called, because of their ceaseless attention to the work in hand. These few weeks had changed the wild boys of the street into those that were courteous and respectful and eager for advancement. *Its value as a disciplinary as well as an educational force has not been overestimated.*

Not only is manual training arousing dormant in-

tellecets, enabling the teacher to reach the brain through the hands, but it is saving boys and girls who would otherwise go astray, and giving them a fairer opportunity for the places they can best fill in the work of life. A case has come to our knowledge of a boy who was in school for several years, and was such a "dunce" that he was a subject of ridicule for all his associates. As a result he became sullen and indifferent. But put to work in the Manual Training School, he found his place, and there discovered that he could excel. His own manhood was aroused, and he began to have the respect of his companions. His success was so great that soon he was promoted to have the care of the shop. To-day he is receiving a large salary as the mechanical man in a large dentist's establishment. This despised and discouraged boy was saved, doubtless, from a criminal's life by this new education. Every teacher of manual training can multiply such illustrations by scores.

And what shall we say of the moral power and uplift which comes into many of the homes of the poor when the girl has been taught in our Cooking Schools? It is a well-known fact that much of the poverty and discouragement which exists in many of these homes comes because of the ignorance of the wife and mother. She does not know how to manage with thrift. Waste leads to debt, and debt often leads to intemperance and ruin. But the girls are being taught in our schools how to make good housewives; how to build the fire; how to buy that which has the most nutriment at the least expense; how to prepare it

economically and serve it daintily; how to make broths and gruel for the sick; especially how to keep a kitchen neat and tidy and make it attractive to all who enter.

But the girl who is reared in a home of wealth equally with the one who is born in poverty needs this training. In a few years we shall have a generation of wives and mothers who will not be at the complete mercy of the maid in the kitchen, but who will themselves know how properly to guide and instruct others in the care of the household.

Only the future will reveal what magnificent and far-reaching results have come to the homes of our city since the Boston School Kitchens were established in 1885 by Mrs. Shaw and Mrs. Hemenway.

One of the great perils of this nation, as of all others, is in the class distinctions between the rich and the poor, and the barriers that grow up between them. A part of this difficulty, unconsciously perhaps, has arisen from the fact that many have grown up to despise those who labor with their hands. But manual training is the antidote of all this. When the cultivated teacher is seen dressed in the garb of the toiler, and when all pupils, rich and poor, work with their hands together, labor is honored and ennobled, and false conceptions are corrected before they become fixed. I believe it is not too much to claim that this whole plan of manual training, as it has now been introduced, is a new bond, drawing closer together the various classes in the city we love to call our own, and is helping towards that higher citizenship without which no republic is safe.

PARENTAL SCHOOLS.

The *third* respect which makes this year a memorable one for our schools is the securing of two appropriations, — one of \$125,000, for a Parental School for Boys, and the other of \$25,000, for a similar school for girls.

As is well known, the establishment of such schools has been urged by this Board for many years. The Legislature of 1886 passed a law which made it mandatory for the city to provide such schools when asked to do so by the School Board, but although requests have been made again and again, it has not been possible until this year to obtain the necessary appropriations. The placing of truants upon Deer Island in proximity to older criminals has been a reproach to the city, and we rejoice that it is soon to be removed. The location of the Boys' Truant School was decided upon in July, and the lot purchased. It is situated upon Spring street, West Roxbury, the estate containing twenty-eight acres, and having a frontage of over one thousand feet upon Charles river. The place is admirably adapted for the purpose. The house of the former owner, Mr. Bolles, will serve as an administration building. Two buildings are to be erected at once, two stories, cross-shaped, and will measure 88×64 feet. There will be a hall on the first floor 30×14 feet in size, a school-room and a dining-room, each 30×40 feet, and a matron's parlor, from which the playgrounds and the dining and school rooms can be watched through large windows. Adjoining this room are the matron's

sewing-room, sleeping-room, and bath-room. The second floor is arranged nearly the same as the first floor, the apartments corresponding to those of the matron being for the master and his assistant. Over the dining and school rooms there will be two dormitories, accommodating twenty boys each. The basement will contain the heating-apparatus, a good-sized playroom for stormy weather, a swimming-tank 15 × 21 feet in size, and shower and sponge bath-rooms. These buildings will accommodate about eighty boys, and there will be a teacher for each building.

A building to be used as a kitchen and laundry will also be provided, and also a chapel or hall for religious exercises, and as a place of general assembly.

The establishment of this school is looked forward to with great interest by our citizens, many of whom have given so much thought to the saving of boys who are inclined to go astray. *The most expensive thing for the State is crime; the best way to prevent it is the highest economy.* This Parental School we believe will be such a preventive. It is earnestly hoped that by having the boys do most of the work about the buildings, that the institution can be maintained without a large expense. This Board has asked that only buildings of the plainest sort and of the simplest furnishing shall be provided. We do not wish to make the school too attractive, but to have confinement here felt to be a penalty. The boys should be compelled to do hard and unceasing work of body and mind from the moment they enter, and up to the full limit of their strength. It ought to be the aim to

make their coming here a dread to them, and their release dependent always upon their own good conduct and fidelity to duty. The work required should be so constant, that they shall carry such a report back to their associates as to deter others from truancy. It has been found in London that the providing truant schools has reduced truancy to one-fourth of what it otherwise would have been.

No site has as yet been selected for the Parental School for Girls, but as the money has been appropriated, we hope some decision will be reached at an early day. The necessity for such a school increases as the city grows year by year.

We cannot close this part of the report without referring especially to the interest taken by His Honor Mayor Matthews in providing these Parental Schools. In his first inaugural message, two years ago, he called attention to their necessity, and has constantly given his official influence in this direction. After the delay of the past we feel that it is only just that such recognition should be placed in this public record.

Some of our other departments, and some features of the year's work, deserve especial mention.

KINDERGARTENS.

Boston takes a justifiable pride in her admirable system of Kindergarten Schools. Every year only gives added proof of their inestimable value. It is the alphabet of our whole manual training system, educating the head, the heart, and the hand. It quickens the perceptive powers of the little ones,

teaching them to observe, to think, and to act. But there is a great moral uplift as well, and just at the time when the child is most susceptible to every good impression. Out of homes of poverty and wretchedness and sin, in hundreds of cases, these little ones are taken, to be given their first lesson in neatness and cleanliness and order. Firmly but lovingly they are taught the best things, and fitted by and by to carry back to the home something of the sweetness and the sunshine they have learned from faithful teachers. If the citizens of Boston could visit these schools, they would realize more and more their influence for good, and the power they are to have when they become universal, in helping to solve some of the great questions which are pressing upon us in our great cities. We are glad to report a substantial gain in the number of these schools, there having been added this year seven; making a total of forty-three, with eighty-four teachers.

DRAWING.

It is felt that we have not made the advancement in this department that we have in some others, yet no plan has been presented that seems to satisfy the majority of the Board. The appropriation has been smaller than many desire, and yet, in the conflict of opinion, it has not been altogether clear how a larger sum, if appropriated, could most wisely be spent. Important as drawing always has been, it is becoming more and more so with the introduction of manual training, which must start with, and rest upon, the drawing of the model to be made. Further-

more, the new course of study, requiring more time to be given to elementary science in all its branches, likewise necessitates changes in the plan of drawing. As a preliminary step, and in anticipation of a further recommendation from the Committee on Drawing, the Board, on June 28, by a unanimous vote, dropped the old text-books from the authorized list. In October the Manual Training Committee — having received a proposition from Messrs. Larsson, Leavitt, Kendall, and Eddy that they would give Normal instruction in mechanical drawing to the teachers of the second class in all the boys' schools in the city — requested of the Committee of Drawing the privilege of accepting this proposition, and allowing them to offer such instruction to these teachers; this request was granted. The necessity of some such instruction is apparent in many schools, as the boys are compelled, when they come to the Manual Training shops, to use the shop time, which should be otherwise spent, in learning how to make the drawings. It is evident that it is poor economy to use this time in this way. The boys should practically know more of mechanical drawing than many of them do before they come to the shops. In order to make it possible that this shall most wisely be done, an invitation was extended to the teachers of the second class of boys throughout the city to meet the Committee on Manual Training, November 9. The invitation was heartily accepted by about one hundred teachers, and after a long discussion it was voted unanimously that the teachers select from their own number a committee of seven, to coöperate with

the Manual Training Committee in arranging the details for the proposed classes. This second conference, consisting of the above committee of seven, the four Manual Training teachers, and the Manual Training Committee, was held December 1, when arrangements were completed to give the Normal lessons at once in the different sections of the city.

PHYSICAL TRAINING.

Although the introduction of a definite plan of physical training is of so recent a date, substantial progress has been made, and the effect is already seen in the appearance of the children. We have only two suggestions to make: First, the introduction of manual training so universally into the schools may, if not guarded against, tend to develop certain parts of the body at the expense of others. We need proper physical training to prevent this, and to see that the development of the whole body is symmetrical. And this leads very naturally to our second thought, — that this whole subject is so important that it not only needs expert supervision and skilful directors, but the *teachers* in the class-room must be thoroughly familiar with the whole subject. We cannot afford to run any risk of injury to children in the foundation period of their lives, by erroneous teaching or by false or wrong postures. We believe that the step which has recently been taken to have a training department for this purpose in our Normal School is of the greatest importance. While Boston, in the renewed interest in this subject, did not commence as promptly as some other cities, yet the prog-

ress in expanding and adapting to *all* classes has been so rapid that we are already up to the full standard in other places, and are first in providing a Training Department of Gymnastics in our Normal School.

NORMAL SCHOOLS.

We note with pleasure that in this, as in previous years, many vacancies have been filled in our corps of teachers by persons who have had their education and experience elsewhere, and who have been proved by years of service to have especial fitness. We believe this is a necessity in order to keep our schools at the highest standard. This matter is admirably put in the annual report of Superintendent Seaver in 1889, from which we quote: "The generally accepted maxim in the management of educational affairs is this : that the teaching staff of an institution should not be recruited exclusively from the graduates of the same institution. The neglect of this maxim generally results in deterioration of the teaching and of the teachers. New men with new ideas prevent stagnation, narrowness, conceit, and ignorance. Hence a wisely managed college recruits its faculty in part from among the graduates of other colleges; and the same rule will obtain as to the schools of this city, if the management is wise."

"It is no disparagement whatever of the Boston Normal School to say, that its graduates exclusively should not be employed in our Grammar and Primary Schools, or to prove that an admixture of professional talent from other sources is necessary to the full health and vigor of our school system. Nor should it be for-

gotten that the claims of the schools to have none but the best teachers appointed, are infinitely superior to the claims of Normal graduates to receive appointments."

But while this is true, we believe it will also be found necessary in the future, as in the past, to get most of our third and fourth assistants from the graduates of our Normal School. Some of the most brilliant teachers in the city have had all their training in the Boston schools. This being the case, we ought to provide the best possible facilities for the training of these teachers. Neglect or carelessness or indifference, or so-called economy here, means poorer teachers, and subsequently poorer schools in years to come. We believe we ought, therefore, anew to urge increased accommodations and better arrangements in the Normal School. This has been suggested in previous reports; but nothing has been done, on account of the urgency for more and better Grammar and Primary accommodations, which were entitled to the precedence. But further delay now will be prejudicial to all our interests. The necessity for this enlargement can best be realized if we remember that the present accommodations, are just what they were fifteen or twenty years ago, when the school had but fifty-four students. Not only this, but we have greatly increased the number of subjects to be taught, and doubled the length of the course. As a result, it is often necessary to carry on several recitations in the same room at the same time, which makes a great confusion. There are nine divisions to be taught, and only four recitation-

rooms. The only room for four of the teachers are the corners of the hall !

By moving the present Appleton-street Primary building to the rear of the lot, there is sufficient land to build the extension required to provide the increased accommodations. The new wing should be on Appleton street, and extend from the Rice School about 190 feet in length and 45 feet in width. There should be in this new building a lecture-room to accommodate at least 125 students;— a large gymnasium for the training of the Normal pupils, and also to give instruction to teachers already in the service;— a room for instruction in Manual Training large enough to accommodate an entire Grammar class;— a room for instruction in drawing;— a room for a Normal Kindergarten class;— a room for Normal classes in cooking, and several new class-rooms. This addition will probably cost \$75,000, and an appropriation for this amount should be asked for at an early day.

CIVIL-SERVICE LIST FOR JANITORS.

At the request of this Board, legislation was granted by the General Court so that all janitors having a salary of over \$300 per annum must, before being qualified, first be examined and certified by the Civil-Service Commissioners. This law has now been in operation more than three years, and with the completion of so many new school buildings has given opportunity to test its efficiency. In its practical working it has fully justified all that its friends claimed for it at the beginning. Vacancies are

filled whenever they occur, either by the promotion of the best man already in the service, or by the appointment of those who have the highest rank in the competitive list. The effect of all this has been to relieve the committee from all pressure for appointments to be made for political or other selfish reasons, and the whole service has been placed upon that higher plane where fitness, and not favoritism, is the test in all its appointments.

At the meeting of the Board November 22, an order was passed looking to the securing of such legislation as shall require all vacancies upon the truant force in the future to be filled under civil-service rules and examinations.

HEATING AND VENTILATION.

There is no subject which seems more perplexing than how best to heat and ventilate our school buildings, and there certainly are few questions on which there are so many diverse opinions. Some of the systems adopted in years past have been far from satisfactory; we might almost add, total failures. The difficulty has been increased in recent years, as recent legislation has made larger requirements in the matter of ventilation. By a regulation of the inspectors of public buildings, we are now required to furnish to each pupil thirty cubic feet of pure air per minute. It must be properly introduced, diffused, and exhausted. It is easy comparatively to fulfil two conditions, but not so simple to fulfil the three. In a large public building recently, the full amount of air required by law was introduced, and the exhaust shaft was suffi-

cient in capacity to remove the foul air; but the inlet and outlet were so arranged that the pure air went directly out of the exhaust shaft, while in some portions of the room the air was foul and oppressive. It cost many thousands of dollars to correct the error. Many of the old systems which have been considered reasonably satisfactory in the past, do not supply more than one-third of the air now required under the present regulations. Of the systems that do fulfil the requirements of the law, it has been the one purpose of the committee to find that which is best, not forgetting the all-important consideration of expense.

By the rules of the Board all plans for new buildings, including the method of heating and ventilation, must first have the written approval of the Superintendent of Schools. Mr. Seaver has given much thought and consideration to this subject, and the City Architect has also given it most thorough and patient study.

While the heating and ventilation, like all the other details of the building, must largely depend upon the judgment of the Architect, who feels the responsibility of the success or failure of his plans most keenly, yet on this subject the City Architect, Superintendent Seaver, and the Committee have been a unit not to adopt any one system, but to try several, with the hope, under our own observations and a fair test, to ascertain, in two or three years' time, by absolute experiment, what is really, on the whole, the best for our schools.

The systems adopted in the various new buildings already completed are as follows:

Roxbury High School. Heating, by direct radiation, with fresh air heated to 70 degrees and forced into each room. An electric exhaust fan gives special ventilation for the lavatories. This system was designed by Mr. Frederick Tudor.

The Henry L. Pierce, Bowditch, Prince Primary, and Plummer have the Fuller and Warren system.

The Robert G. Shaw and North Brighton Grammar Schools, and the Lowell School Primary and Blackinton Primary, have the Sturtevant system.

The B. F. Tweed and Williams Primary Schools have the Indirect natural system.

The Glen Road Primary, Bowditch District, has a fan with a gas-engine.

PUBLIC-SCHOOL ART LEAGUE.

In May of this year a communication was received from the Public-School Art League, which has for its object the promotion of art culture by the decoration of the walls of our public schools, asking us to designate some room most desirable for initial action. This generous offer was most heartily accepted, and a proper room suggested. This movement seems so commendable, that we refer to it here more in detail.

The League was organized May 20, 1892. Its *creed*:

Love of Art, that it may be more widely known and more highly appreciated; believing that Art refines the mind, enriches the heart, elevates the soul; that Art is one of the essentials of

the perfect life, and that the refinement which comes from the presence of an association with works of Art is an important element and aid in the development of character, both mentally and morally.

Its *aim* is

(1.) By daily contact with objects of Art, to bend, educate, and elevate the mind of the young to familiarity with, liking for, and due appreciation of, things beautiful (not necessarily useful), and correct standards in the Art of architecture, painting, and sculpture, and the lives of those who have made the arts noble; to the end that the children of the present generation may, when they come to man's estate, reject the false, demand the true, and so raise the Art of our time and country to a plane which will, in ages yet to come, reflect true greatness, and not material aggrandizement. (2.) To place upon the walls of school-rooms objects of Art, in the shape of casts, photographs, engravings; of statuary, buildings, and paintings, illustrating recognized standards in Art; also Art centres, as Athens, Rome, Florence, Venice; also portraits of the old masters; also original works by leading artists, foreign and American. We believe this movement to decorate our school-rooms is worthy the sympathy and support of all our citizens.

The *end* can be gained through legacies and gifts of worthy objects of Art by individuals for general distribution or special use, and by donations of money for specific purposes, such as the decoration of rooms marked for memorial or historical interest.

The League, although it has been restricted in its selection on account of its insufficient means, has already decorated two rooms, one as a Roman room in the English High School (Room 4), and Miss Bigelow's room in the Rice Primary School.

Room No. 4 contains the following:

Photograph of "The Arch of Constantine."

" "The Temple of Vesta."

Photograph of "The Colosseum."

" "St. Peter's (exterior)."

" "St. Peter's (interior)."

Cast. Bust of Cæsar.

" "Virgil.

" "Marble Faun.

" "Eros.

" "Cicero.

Consols, supporting casts, of the same design as those for a similar purpose in the Vatican.

The National Flag.

The State Flag.

Miss Bigelow's room contains the following:

Portrait (print) of Longfellow.

" "Whittier.

" "Bryant.

Engraving of Columbus at the Court of Ferdinand and Isabella.

Engraving of Pharaoh's Horses.

Casts of Boys' Heads, by Donatello.

" (panel) of Dancing Boys, by Della Robia.

" (Houdon's) Bust of Washington.

The National Flag.

The State Flag.

We are beginning more and more to realize the importance of teaching through the eye. It is the age of object teaching. The children from all classes of society gather together in our public schools, many of them coming from homes of poverty and want, where everything is the plainest and simplest. If these children are to be elevated to appreciate that

which is beautiful, it must commence in the school life. This is the formative period, when their minds can be enriched and ennobled. It is for us, therefore, to give this new movement our heartiest indorsement.

FUTURE NEEDS FOR NEW SCHOOL-HOUSES.

The question has been asked of members of the Board by His Honor the Mayor as to the needs for new buildings looking forward not to the immediate future only, but for a period of two or three years. While it has not been the custom to do this in the past, we feel that some such comprehensive plan is eminently wise. Provision should be made somewhat in anticipation of the want, and not compel the children to take poor temporary accommodations or to alternate with other children for a part of the day, while waiting for new buildings to be erected. We have, therefore, prepared a list of the probable needs for new school buildings and enlargements for the next two or three years. It ought, however, to be said that this list cannot be considered wholly complete, and in the shiftings of population other necessities may arise more imperative than many contained in this summary. Some years ago it was supposed a school building in one section could not much longer be needed, and would by this time be given up. Instead of this, however, the building has been enlarged to make provision for the great numbers of children, and another building will have to be provided in the immediate vicinity. The list, however, may be of some service to our successors.

We feel it will be most valuable to arrange this

list by the geographical sections of the city, leaving it to the new committees from time to time to determine what needs are most imperative. We have, however, marked those wants that have already been approved by the School Board.

East Boston.

A new Primary School in the Emerson District to take the place of the building now leased by the city in that section. The old building recently given up at Orient Heights may possibly be wisely moved and enlarged for the above purpose.

Charlestown.

A new eight-room building for the Moulton-street Primary. If possible, the lot should be enlarged, as it is too small for a building of the size required. The present school-house is one of the worst in the city.

(Appropriation asked for April 26 and Oct. 11, 1892, \$55,000.)

A new Primary on Adams and Chestnut streets, on land purchased in 1892; this building to be provided with manual training shops for the Charlestown District.

Land should be secured at an early day for a new Primary School in the Harvard District, as there are very few vacant lots now remaining suitable for such a purpose.

Additional land is needed for the Harvard Hill Primary, in order to provide for better sanitary arrangements.

The Primary School in Cross street, Warren District is small, the building is very old, and the lot is one of the smallest in the city. Some provision should be made at an early day to give better accommodations for this section.

Old Boston.

Site and new Grammar building in the Bowdoin District. The present building is too small, and it has been pronounced by both the City Architect and Superintendent of Public Buildings as not fit to alter. This is one of the most imperative of our needs, and by vote of the Board, November 8, the committee are endeavoring to procure a lot sufficiently large for a new building.

Site and new Primary building for the Hancock District. The present buildings are all full, and the Cushman School can be said to be dangerously crowded. We are trying to obtain a lot under vote of the Board, December 13.

The Prince School, Newbury and Exeter streets, needs an addition at an early day. The Primary scholars in this district have greatly increased, six of the eight rooms in the new building opened in September being already occupied, and another year will probably fill the building. Some provision must be made, therefore, for these scholars when they wish to enter the Grammar School, and it can be done most economically by enlarging the present building. This addition will also provide for manual training and cooking rooms in the basement, for a larger hall, and for other necessities greatly needed in this

crowded building. As land all through this section is so very expensive, it is economy for the city to enlarge this building rather than incur the enormous expense of another site for a second Grammar building.

The Primary School in Genesee street, Quincy District, should be enlarged by the addition of two rooms. There are at least fifty children in this section at present unprovided with any accommodations whatever. This was acted upon by the Board Dec. 13, 1892.

South Boston.

Site and new Primary building near South Boston Point.

Site and new Primary building south-west of Dorchester Heights, in the vicinity of Mercer and Eighth streets.

As the present Grammar Schools in this division are now full, and the numbers are constantly increasing, it will probably be necessary at an early day to provide a new Grammar building on some site to be determined.

Site and new Primary between Washington Village and the old Dorchester line, in a section which is very rapidly being built upon.

Site and a small Primary building on northerly side of Dorchester Heights, above Dorchester street.

The necessity for the enlargement of the Parkman School lot on Silver street was reported upon by the Board May 10, 1892, and a request was made for an appropriation of \$15,000, to be used under certain conditions therein expressed.

Roxbury.

A new Primary School on Eustis street, Dearborn District, to replace the present building, one of the poorest in the city, and which should have been abandoned years ago. Approved by the Board Oct. 11, 1892.

A new Primary for the Munroe-street School, Lewis District. The present building is very small, and a larger one has been needed for several years. An addition was made to this lot some months ago in anticipation of this need.

An addition to the Lewis School, as explained in report made Nov. 8, 1892, the expense not to exceed \$5,000.

Dorchester.

A new Grammar School, twelve rooms and a hall, Gibson District, Mount Bowdoin, asked for March 24, 1891, and again Oct. 11, 1892. The plan for this building will be prepared this winter, and work should commence as early in 1893 as possible.

Site and new Grammar building for the Stoughton School. The Board passed an order at the meeting Nov. 22, 1892, asking the City Council to take the lot corner of Dorchester avenue and Richmond street by right of eminent domain. This section of the city, which is growing so rapidly, is in great need of a new building at once.

A small, two-room, wooden Primary School should be provided at once on the lot of land set apart for school purposes on Morton street, corner Norfolk

street. The Thetford-avenue School is full, and there are now no accommodations for the Primary children in this section. Approved by the Board Nov. 8, 1892.

Site and Grammar building, Harris District. The committee have advertised for proposals for land under order of Board, Oct. 25, 1892.

Roslindale.

A new six-room Primary building on the lot on Canterbury and Sharon streets, bought May 4, 1891. An appropriation for this building was asked for March 24, 1891, and again Oct. 11, 1892. It is one of the most urgent needs of the whole city, and should be built in the spring of 1893.

A new Primary building on Beech street, the appropriation having been made in April, 1891.

Site and Primary building in the vicinity of Hewlett street, to accommodate the small children who live to the west of the railroad, and are now compelled to cross the railroad at a very dangerous place.

West Roxbury.

A new Primary building on the new lot purchased some months ago on Gardner street. The building in this section is one of the oldest and poorest in the whole city, and is one of the wants that has been before the School Board for years, but for which no appropriation has as yet been obtained.

Brighton.

A new two-room Primary building on Tremont and Nonantum streets, Brighton. This lot was purchased in 1892. We have a balance of \$6,000 unexpended on this appropriation, and we need \$6,000 more to provide for the building, which request was made Oct. 25, 1892.

There has been an urgent call from time to time for some school accommodations in the vicinity of Englewood avenue. Children in this section are either compelled to go to Brookline or come into Boston on the electric cars and attend the Prince School. Efforts have been made to secure a proper location, but as yet without success. Some provision will be required for this section at an early day.

Normal and High Schools.

The enlargement of the Normal School, Appleton street, as previously noted in one section of this report, is greatly needed.

The Girls' High School on West Newton street is now full, and some provision must be made at an early day for future growth. An estate adjoining the present building will probably be offered for sale the coming year, and it will be for our successors to decide whether or not the purchase of this estate may not be the best solution of this problem, and provide for the necessities of the future for years to come.

The question of a new High School for the Dorchester District has been before this Board for nearly two years, as the present building is altogether too

small to provide properly for this section with its great population. An appropriation of \$12,000 to procure a lot was granted by the City Council May 24, 1892, and an appropriation for a building will be necessary at an early day.

The West Roxbury High School is now full, and provision for larger accommodations cannot be much longer delayed. To provide for this necessity the adjoining lots to the present site were purchased June 14, 1892, as in the judgment of the City Architect it would be more economical to build an annex to the present building, situated as it is on a side hill, rather than attempt to enlarge it.

OUR TEACHERS.

The most important fact to be considered in this report, as in all school reports, is our *teaching force*. There are in the service of the city at the present time in various capacities more than 1,500 teachers. The power which these persons have for good can never be measured. Gathered about them for five hours a day, and for five days in the week, are children and youth whose habits and characters are being forever fixed. It is evident that after the child reaches the school age, the instructor, in many cases at least, touches the child more hours and at more points than even the parents. In the morning the father hurries away to the work of the day, and the mother takes up at once the household cares. At night there are the scores of interruptions, and the numberless appointments which come to all in our busy age. In many homes there is neglect and in-

difference of that which concerns the welfare of the child, and it is the *teacher* that is the real moulding force in these lives. It is because of all this that the vital question, the question which is before all others in importance, is the *character of our teachers*. We may have new buildings, with the best of text-books, and every modern appliance, but unless there are teachers with high purposes and noble resolves, all other things are of little value. They will only serve to make more striking and conspicuous the failure. Ralph Waldo Emerson was right when he said, "I do not care to ask what branches my daughter shall study, but only to whom I shall send her to be taught." There are some into whose presence we come who instinctively inspire in us everything that is noblest and best. There is an atmosphere about them which lifts us out of all that is mean and selfish and unholy.

It is because of the subtle power of example always, as well as from the fact that in the case of our teachers it is to continue through so many hours of so many years, that more and more the School Board have been laying stress in its appointments upon the character of its appointees. As "the chief aim of an education should not be acquisition of knowledge, but the acquisition of such knowledge and by such methods, in such an atmosphere, under such incitements and example, as minister to the formation and upbuilding of good character," therefore we must sacredly prevent the entering into our service of any who cannot bear the severest test in this regard. The stream can never be purer than the

fountain head. It is a pleasure for us to report that, as a whole, our teachers grade high in both character and scholarship, and for the most part they are animated by noble purposes, and regard their positions as a trust. But after all this has been said, we believe that this Board can exercise even greater care still in its appointments. There is very great danger in the appointment of too many young and immature teachers, with no high moral earnestness, looking to teaching as only a means of a livelihood, with no proper conception of the supreme importance of the teacher's profession. This profession, while not so conspicuous as some, is none the less mighty in its influence. It is like the great forces of nature which so silently do their work. Has any one ever felt the world jar as it spins upon its axis, or heard a creak of the machinery that lifts the tides? God's greatest forces are usually silent. So, when we think how our teachers are moulding those who are to shape the future of our land, and yet notice how quietly it is all done, then we can truly say this work is like God's. The teacher's profession is a very serious one, and those who do not thus consider it should never be permitted to enter it. On the other hand, those now in the service who do not feel it to be such, should leave it forever to those who have some proper conception of its supreme dignity and importance.

SAMUEL B. CAPEN, *Chairman.*

EDWIN H. DARLING.

THOMAS F. STRANGE.

STATISTICS.

It has been the custom to give, in the annual reports, for the purpose of comparison, statistics, showing the number of schools of various grades, the number of teachers employed, and the number of pupils attending the schools. The statistics of the schools are returned to the office semi-annually in January and June. The statistics included in the annual reports are for the year ending June 30. These statistics for the year ending June 30, 1892, are as follows:

Number of persons in the city between five and fifteen years of age, May 1, 1892	73,176
Whole number of different pupils registered in the public schools during the year ending June 30, 1892 :	
Boys	36,544
Girls	34,009
Total	<div style="border-top: 1px solid black;">70,553</div>

REGULAR SCHOOLS.

<i>Normal School.</i> — Number of teachers	10
Average number of pupils belonging	159
Average attendance	153
<i>Latin and High Schools.</i> — Number of schools	10
Number of teachers	120
Average number of pupils belonging	3,343
Average attendance	3,145

<i>Grammar Schools.</i> — Number of schools	55
Number of teachers	740
Average number of pupils belonging	30,944
Average attendance	28,216
<i>Primary Schools.</i> — Number of schools	476
Number of teachers	476
Average number of pupils belonging	24,859
Average attendance	21,586
<i>Kindergartens.</i> — Number of schools	36
Number of teachers	70
Average number of pupils belonging	1,928
Average attendance	1,352

SPECIAL SCHOOLS.¹

<i>Horace Mann School for the Deaf.</i> — Number of teachers,	11
Average number of pupils belonging	91
Average attendance	80
<i>Evening Schools.</i> — Number of schools	17
Number of teachers	160
Average number of pupils belonging	4,889
Average attendance	3,069
<i>Evening Drawing Schools.</i> — Number of schools	5
Number of teachers	27
Average number of pupils belonging	601
Average attendance	519
<i>Spectacle Island School.</i> — Number of teachers	1
Average number of pupils belonging	14
Average attendance	12

RECAPITULATION.

Number of schools :	
Regular	578
Special	24

¹ There are thirteen Manual Training Schools and fourteen Schools of Cookery, but as the pupils of the regular public schools attend them, they are not included in these tables.

Number of teachers :

In regular schools	1,416
In special schools	199

Average number of pupils belonging :

In regular schools	61,233
In special schools	5,595

Average attendance :

In regular schools	54,452
In special schools	3,681

 FINANCIAL.

In the month of January the School Board sent to His Honor the Mayor the estimates of school expenses for the year beginning Feb. 1, 1892, and ending Jan. 31, 1893. This estimate, exclusive of furniture, repairs, alterations, and new buildings, was \$1,787,407. The estimates for furniture, repairs, and alterations, as made by the Superintendent of Public Buildings, was \$261,000; making a total of \$2,048,407. The City Council reduced the estimate to \$2,000,000. On account of this reduction of \$48,000, and to be absolutely certain that we should not exceed our appropriation, the greatest economy has been exercised in all repairs, and many things which should have been done in the summer vacation to care wisely for the various buildings have been postponed. Unless the city's property shall be allowed to deteriorate, this will make necessary a larger expenditure in future years.

It has been customary to present in the annual

report the expenditures for the year ending the first day of the preceding May.

Owing to a change made in the financial year by the City Council, the financial reports made to the Board during the past year cover only the expenditures from May 1, 1891, to Jan. 31, 1892, a period of nine months, which constituted the financial year of 1891-92, as fixed by the City Council.

The ordinary expenses for the nine months were as follows:

Salaries of instructors	\$1,034,210	26
Salaries of officers	45,638	33
Salaries of janitors	78,652	64
Fuel, gas, and water	56,665	22
Supplies and incidentals:		
Books	\$37,965	01
Printing	3,735	77
Stationery and drawing materials	12,343	26
Miscellaneous items	26,118	53
	<hr/>	80,162 57
School-house repairs, etc.	204,879	27
	<hr/>	
Expended from the appropriation	\$1,500,208	29
Expended from income of Gibson Fund	652	32
	<hr/>	
Total expenditure	\$1,500,860	61
Total income	31,352	81
	<hr/>	
Net expenditure	<u>\$1,469,507</u>	<u>80</u>

The net cost for carrying on each grade of schools for the nine months was as follows:

Normal, Latin, and High Schools	\$214,312	40
Grammar Schools	764,814	02
Primary Schools	397,096	42
	<hr/>	
<i>Carried forward,</i>	\$1,376,222	84

<i>Brought forward,</i>	\$1,376,222 84
Horace Mann School	6,404 63
Kindergartens	36,777 06
Evening High and Elementary Schools	30,569 77
Evening Drawing Schools	8,023 28
Manual Training Schools	10,718 34
Supplies purchased but not delivered	791 88
Total net expenditure	<u>\$1,469,507 80</u>

For fifteen years previous to the time in which the above expenditures were incurred, the cost for carrying on the schools, exclusive of furniture, repairs, and new school-houses, was as follows:

YEAR.	Expenditures.	Income.	Net Expenditures	No. of Pupils.	Rate per Pupil.
1876-77 . .	\$1,525,199 73	\$21,999 03	\$1,503,200 70	50,308	\$29 88
1877-78 . .	1,455,687 74	30,109 31	1,425,578 43	51,759	27 54
1878-79 . .	1,405,647 60	32,145 54	1,373,502 06	53,262	25 79
1879-80 . .	1,416,852 00	49,090 28	1,367,761 72	53,981	25 34
1880-81 . .	1,413,763 96	73,871 08	1,339,892 88	54,712	24 49
1881-82 . .	1,392,970 19	69,344 08	1,323,626 11	55,638	23 79
1882-83 . .	1,413,811 66	73,278 56	1,340,533 10	57,554	23 29
1883-84 . .	1,452,854 38	79,064 66	1,373,789 72	58,788	23 37
1884-85 . .	1,507,394 03	39,048 26	1,468,345 77	59,706	24 59
1885-86 . .	1,485,237 20	31,213 34	1,454,023 86	61,259	23 74
1886-87 . .	1,455,343 29	33,388 28	1,451,955 01	62,250	23 32
1887-88 . .	1,536,552 99	37,092 81	1,499,460 18	62,226	24 10
1888-89 . .	1,596,949 08	39,585 52	1,557,363 56	64,584	24 11
1889-90 . .	1,654,527 21	39,912 30	1,614,614 91	66,003	24 46
1890-91 . .	1,685,360 28	41,209 06	1,644,151 22	67,022	24 53

The Legislature of 1889 transferred the responsibility of purchasing furniture and making repairs from the Public Building Department of the City Council to the School Committee; and under date of

May 27, 1890, the School Board gave authority to the Superintendent of Public Buildings to do the work and draw upon the City Auditor for the expenses incurred.

Since May 1, 1891, the bills for furniture and repairs have been approved by the Committee on Accounts of the School Committee, who include the expense in their regular monthly draft.

The following table shows the cost for repairs needed and furniture furnished the schools from 1876-77 to 1890-91, inclusive, a period of fifteen years. The first fourteen years the expenses were under the direction of the Public Building Department. The last year (1890-91) the expenses were under the direct supervision of the School Committee.

YEAR.	Expenditures, Pub. B'lding Com.	Income.	Net Expenditures, Pub. B'lding Com.	No. of Pupils.	Rate per Pupil.
1876-77 . .	\$165,876 72	. . . . .	\$165,876 72	50,308	\$3 30
1877-78 . .	126,428 35	. . . . .	126,428 35	51,759	2 45
1878-79 . .	114,015 32	. . . . .	114,015 32	53,262	2 14
1879-80 . .	98,514 84	. . . . .	98,514 84	53,981	1 82
1880-81 . .	145,913 55	\$205,00	145,708 55	54,712	2 66
1881-82 . .	178,008 88	247 50	177,761 38	55,638	3 19
1882-83 . .	189,350 83	231 00	189,119 83	57,554	3 29
1883-84 . .	186,852 18	300 00	186,552 18	58,788	3 17
1884-85 . .	198,059 11	526 50	197,532 61	59,706	3 31
1885-86 . .	188,435 63	137 50	188,298 13	61,259	3 07
1886-87 . .	171,032 71	295 92	170,736 79	62,259	2 74
1887-88 . .	243,107 89	221 00	242,886 89	62,226	3 90
1888-89 . .	251,736 17	153 00	251,583 17	64,584	3 90
1889-90 . .	262,208 75	850 20	261,358 55	66,003	3 96
1890-91 . .	263,860 16	208 00	263,652 16	67,022	3 94

MANUAL TRAINING EXHIBIT

OF THE

PUBLIC SCHOOLS OF BOSTON AT THE EIGHTEENTH EXHIBITION OF THE MASSACHUSETTS CHARITABLE MECHANIC ASSOCIATION, 1892.

At the request of the Massachusetts Charitable Mechanic Association the Committee of the School Board in charge of the Department of Manual Training furnished at the Fair of this Association, which closed Dec. 3, 1892, an exhibition of the work accomplished in this department of instruction in the public schools.

During the continuance of the Fair, each Saturday, from 3 to 5 o'clock P.M., instruction in cookery and wood-working was given by the regular teachers to classes from the Grammar Schools. Tables and benches, such as are in use in the school-kitchens and work-rooms, were supplied, together with the necessary utensils and tools.

The following is a description of the Manual Training standing exhibit which was furnished the committee by Mr. George H. Conley, the Supervisor in charge:

The exhibit of work in Manual Training at Mechanics' Fair is not on a large scale, as the space provided does not admit of an extensive display; but

there is an ample amount in the manner of its arrangement to show the nature and progress of this important feature in public-school work.

Beginning with the Kindergarten, the initial steps in Manual Training are shown from the simple work based on morning talks to intricate weaving and paper-folding.

In the Kindergarten work in clay "the fundamental law of all true and adequate culture" is observed in the modelling of the sphere first and objects based upon it. The same law is followed in the systematic presentation of the clay-work of the Primary children. The sphere is the first type that the child is required to make, next comes the cube, and then the cylinder, each serving as a basis for the modelling of various objects. Succeeding these are the different combinations of the type-forms, as the pyramid and cone and their modifications.

The delineation of the method pursued in drawing in the Primary Schools is full and clear. First the child produces lines by folding paper after the manner shown or directed by the teacher; then he lays sticks along the lines thus made; and, after repeated exercises in paper-folding and stick-laying, he is led to reproduce in a drawing the lines and patterns which he has formed. Again, the pupil, using scissors, is required, under the eye and direction of the teacher, to cut out of paper a circle and other faces of the type-solids. The outline of each form thus made is reproduced later on with the pencil.

In the color-work, where paper-folding, and cutting and pasting, accompany the drawing, may be observed

the harmony and design, as well as the fine distinction of tint, standard, and shade, attained by the Primary pupils. There is a suggestion of color-work from the Grammar Schools also which indicates advanced taste and skill in blending and in designing.

From the simple elementary development of surfaces in the Primary to the complicated constructed objects in the Grammar classes the successive steps are illustrated.

The exhibit of clay-work from the Grammar Schools suggests the possibilities that may be attained by the development of the talent in this direction which abounds in the schools. This work comes from the North End districts, and much of it is the product of pupils of ungraded classes.

To note the crude beginnings of the children's work in the Kindergartens, and to observe through the Primary and Grammar Schools the growth of power and increase of skill, is interesting to every observer, and replete with suggestions especially to every teacher.

The work of the pupils of the free public Evening Schools on exhibition contains original designs of decided artistic merit, and they compare by no means unfavorably both in point of conception and execution with the product of the best professional schools.

But the main part of the exhibit is not in color or in clay. Specimens of wood-work done by the pupils in the different wood-working schools constitute the body of the exhibit. The preliminary and advanced stages of the work as exhibited serve for a

frame, as it were, to set off the more useful, perhaps, but less ornamental work.

From the Sloyd school, on Appleton street, where the Swedish system of instruction was begun in this city, and where it continues to be taught with some modifications, and from the South Boston and East Boston wood-working schools, where the Swedish system, still more modified, is followed, are displayed specimens of the pupils' work. The working drawings, from which the objects were actually made, accompany the finished work of the pupils. Photographs of the work-rooms with the classes at work are also shown.

From the Eliot School, in Jamaica Plain, where a four years' course of instruction, based upon the Russian system, is pursued, specimens of the work of the pupils of each year appear in systematic gradation. Blue-prints with specifications and working drawings, made by the pupils and used by them as guides in their work, also accompany this group.

From the North Bennet-street School, charge of which was in September last assumed by the School Committee, the teachers' models of the course pursued are exhibited, together with a supplementary course in wood-turning for advanced classes.

Thus the different wood-working schools are represented. The specimens of work are so arranged as to show the different systems of instruction pursued and the progress attained in this branch of the Department of Manual Training.

DESCRIPTION OF PLATES

ILLUSTRATING KINDERGARTEN AND MANUAL
TRAINING WORK IN BOSTON
PUBLIC SCHOOLS.

PLATE I.

This plate shows children in a Kindergarten at work, with some of the results of their work.

PLATE II.

This represents the work in clay modelling done by the children in the Kindergartens. Various flowers, plants, etc., as daisies and "pussywillows," are brought to the school by the children, and modelled by them in clay.

PLATE III.

Clay modelling and form study in the Primary Schools, the next step following the work in the Kindergartens.

PLATE IV.

Results of clay modelling in Primary Schools. Flowers, fruit, leaves, etc., are brought by the children and modelled by them in clay.

PLATE V.

The making of geometrical solids carried on partly in the Primary and partly in the lower Grammar grades, and representing the advanced stages of paper folding and cutting.

PLATE VI.

This plate represents the models showing the beginning of the knife work. This course is that of Mr. Gustaf Larsson, and commences with preliminary sloyd, followed by a course in whittling, all done in the school-room and adapted to classes VI. and V., or our lowest Grammar grades.

PLATE VII.

This plate gives the models showing the continuance of Mr. Larsson's course for the advanced Grammar grades. This work is done in the Manual Training shops.

PLATE VIII.

This plate shows the models of the final year in Mr. Larsson's course.

PLATES IX. AND X.

These two plates represent the models of a four-years course in wood-working for the Grammar Schools as prepared by Mr. F. M. Leavitt, and is all done in the Manual Training shops.

PLATE XI.

This represents the models of a two-years course in wood-working for the advanced Grammar grades as prepared by Mr. F. W. Kendall.

PLATE XII.

This represents the models of a course in wood-working as prepared by Mr. B. F. Eddy, for the advanced Grammar grades.

PLATE XIII.

This represents a class at work in the Manual Training School, and shows thirty benches, the number possible to be placed in an ordinary Grammar School room. It cares for the boys of one half the class, and in the case of mixed schools the girls composing the other half take their lessons in cooking at the same time.

PLATE XIV.

This plate is given to show a whole class at work, with sixty benches. Experience has proved that when it is possible to have such large shops, the demonstration can be given from the blackboard for sixty pupils without difficulty.

PLATE XV.

This plate shows a smaller class at work, with the arrangement of compartments for the incompleted work of the individual pupils.

PLATE XVI.

This plate represents a class in sewing, dress draughting and cutting. The dresses worn by all these pupils were cut and made by themselves.

PLATE XVII.

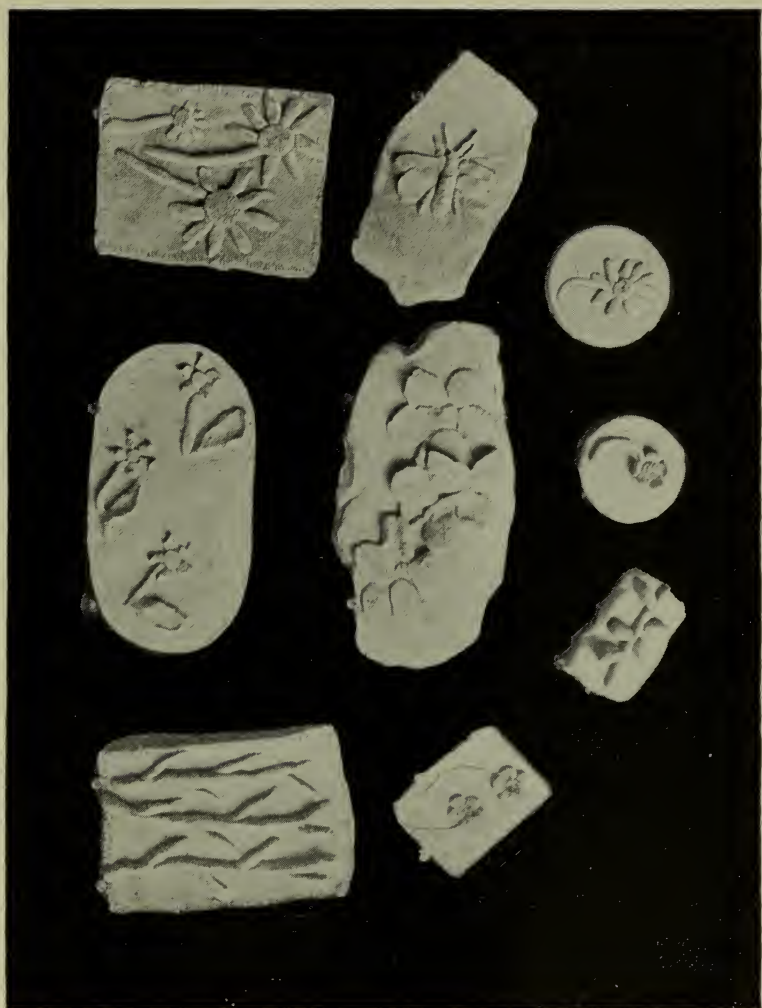
This plate shows a class at work in cooking, provision being made for one-half a full Grammar class.

Plates XVIII., XIX., and XX. represent the elevation and first and second story floor-plans of the new Mechanic Arts High School.



PLATE I.

PLATE II.



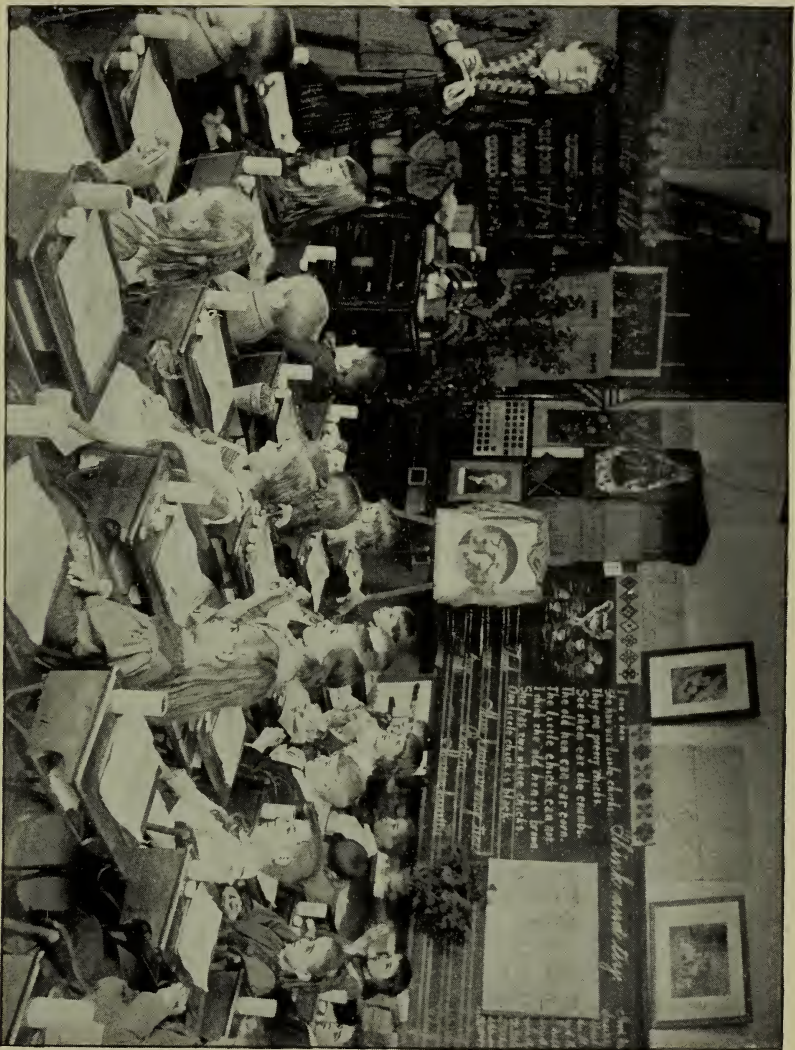


PLATE III.

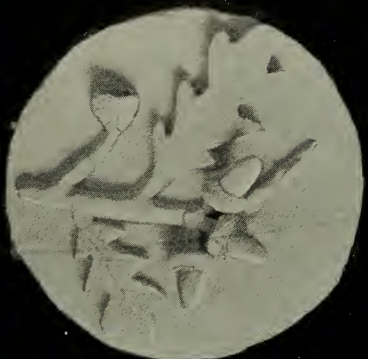
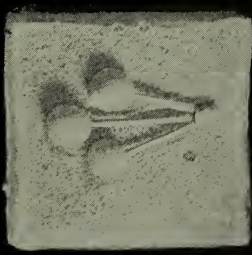


PLATE IV.



PLATE V.

FIRST YEAR

A. PRELIMINARY SLOYD.



B. WHITTLING IN THE SCHOOL-ROOM.



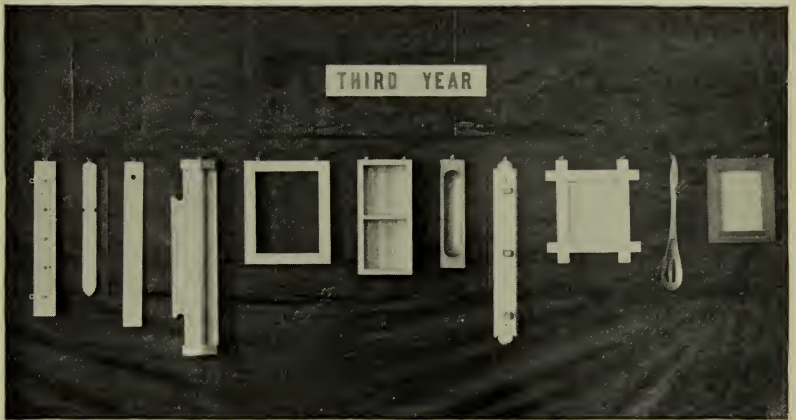
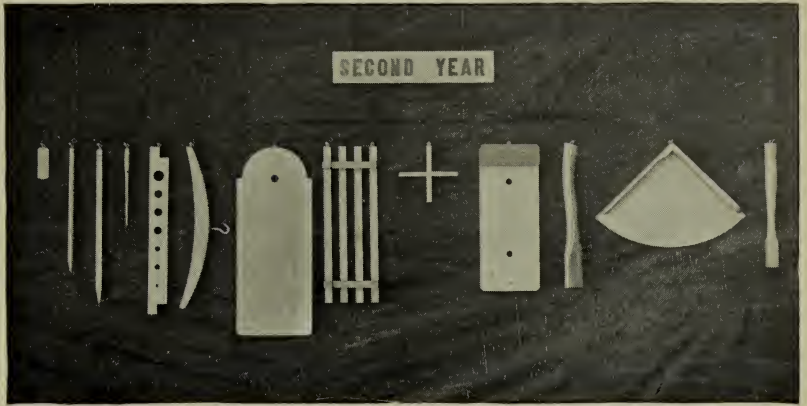


PLATE VII.

FOURTH YEAR

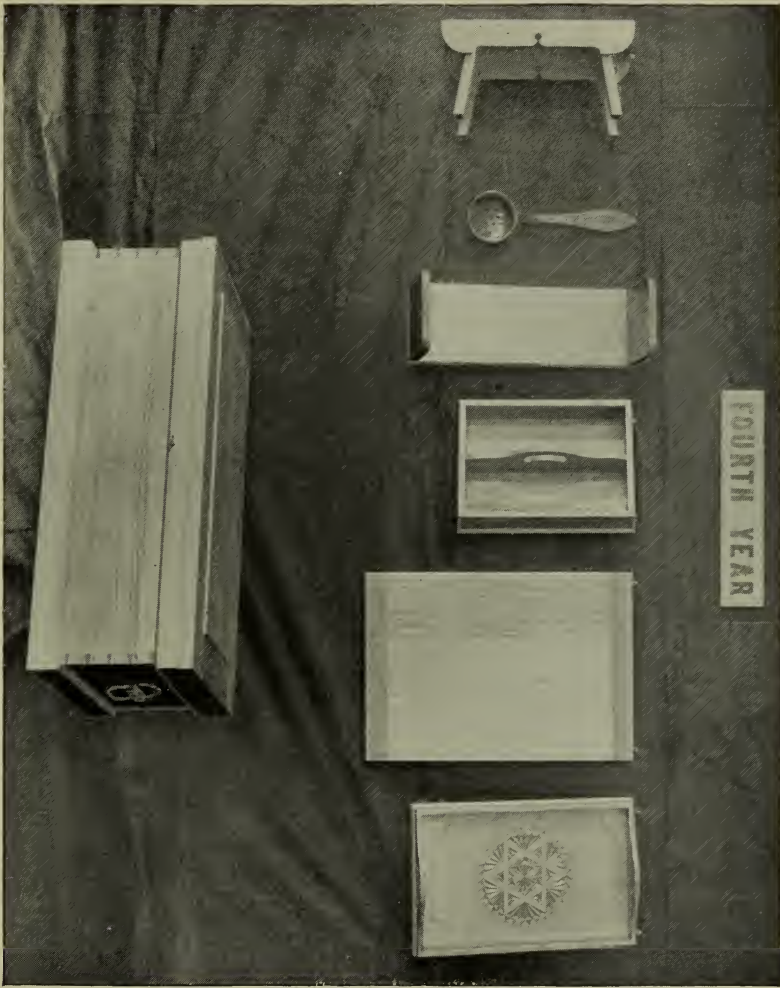


PLATE VIII.

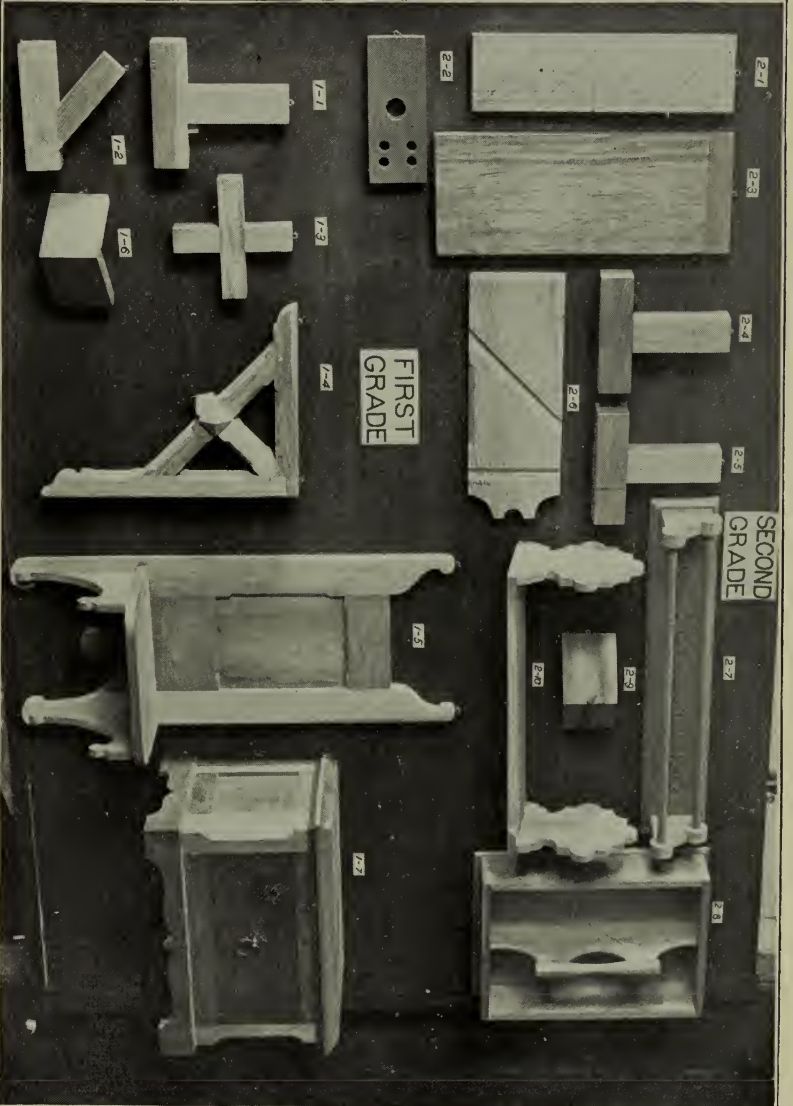


PLATE X.

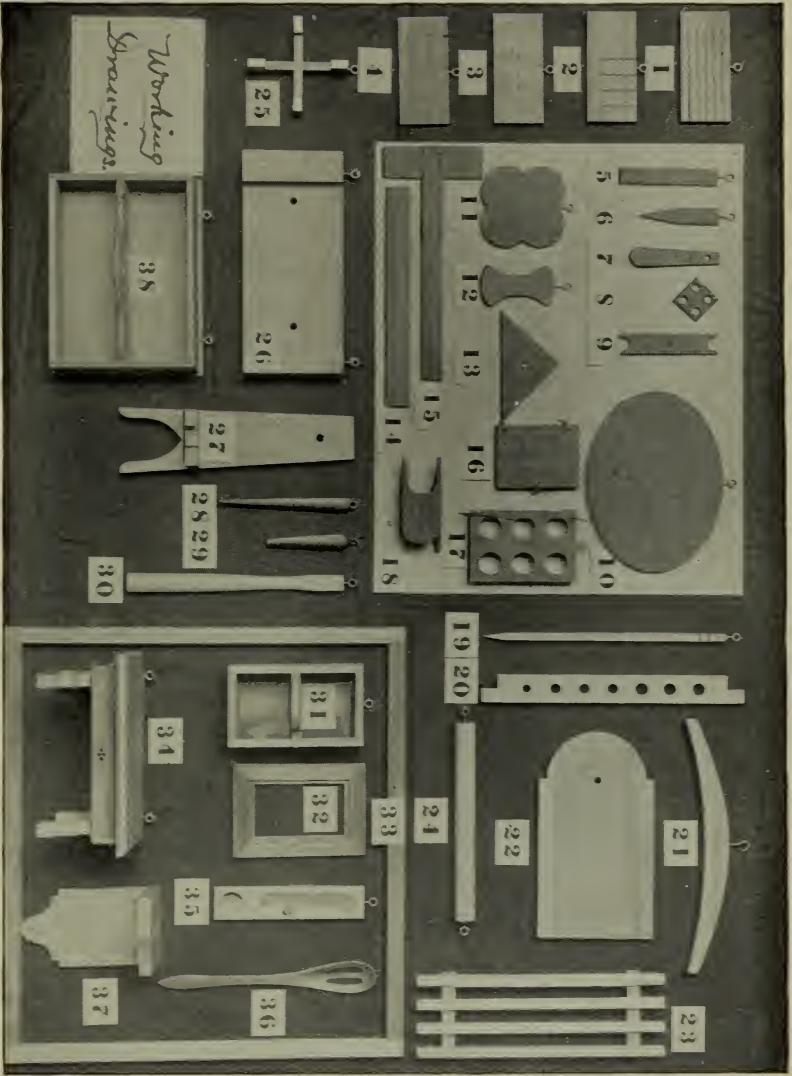


PLATE XI.

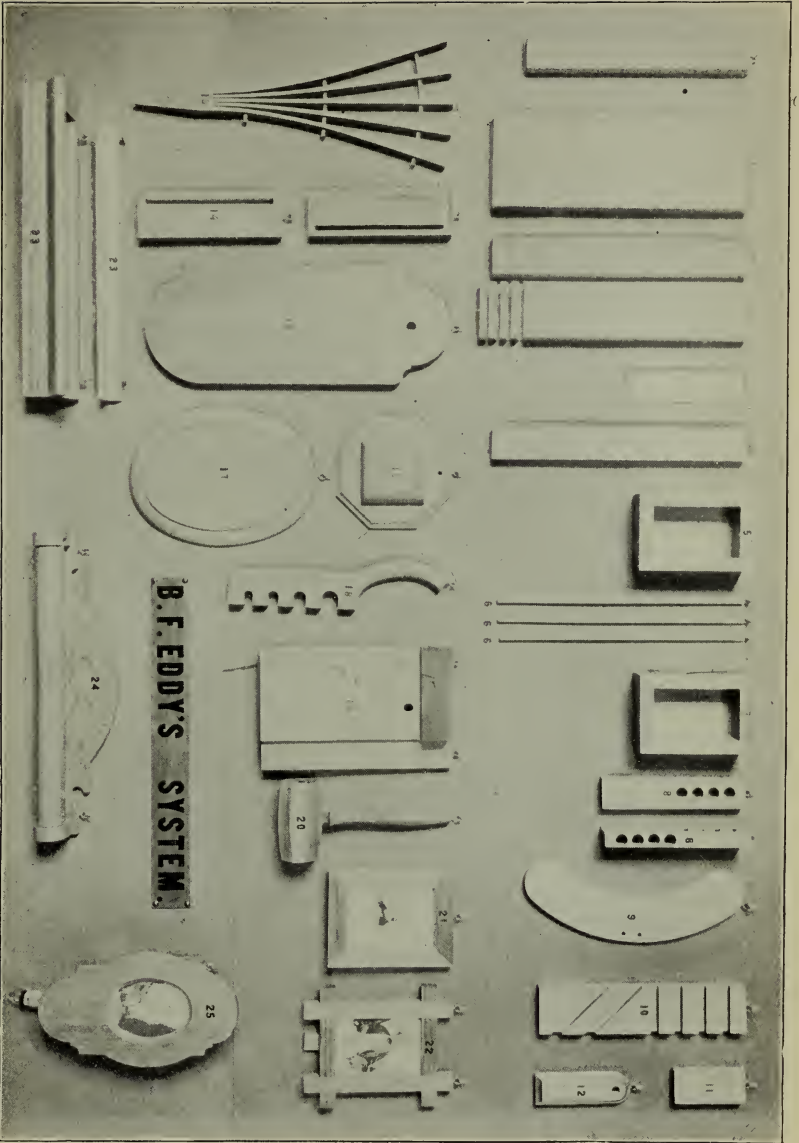
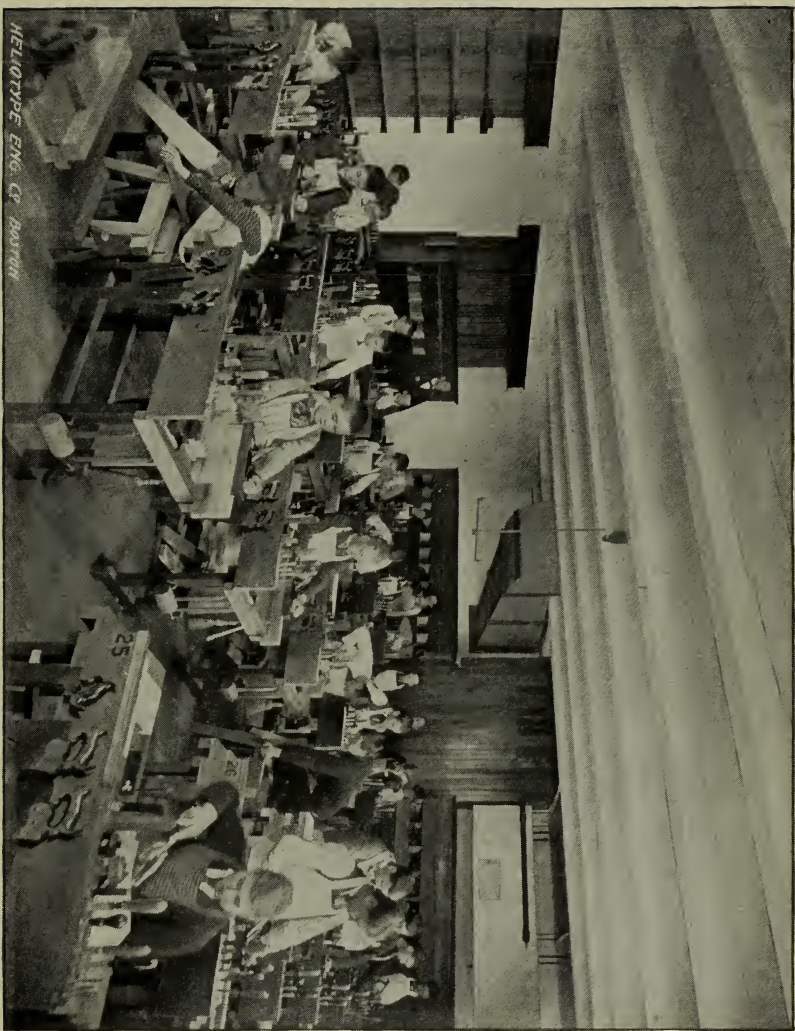


PLATE XII.



HELIOTYPE ENG. C. BARRON

PLATE XIII.

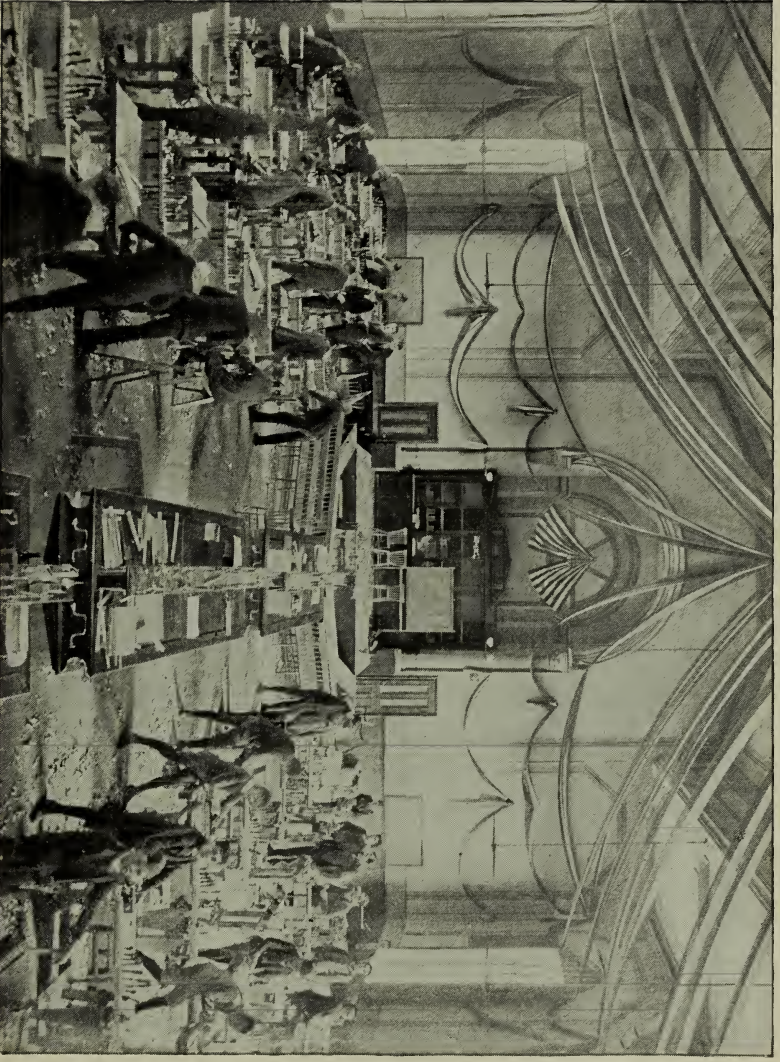


PLATE XIV.



PLATE XV.

HELIOTYPE ENG. CO. BOSTON



PLATE XVI.

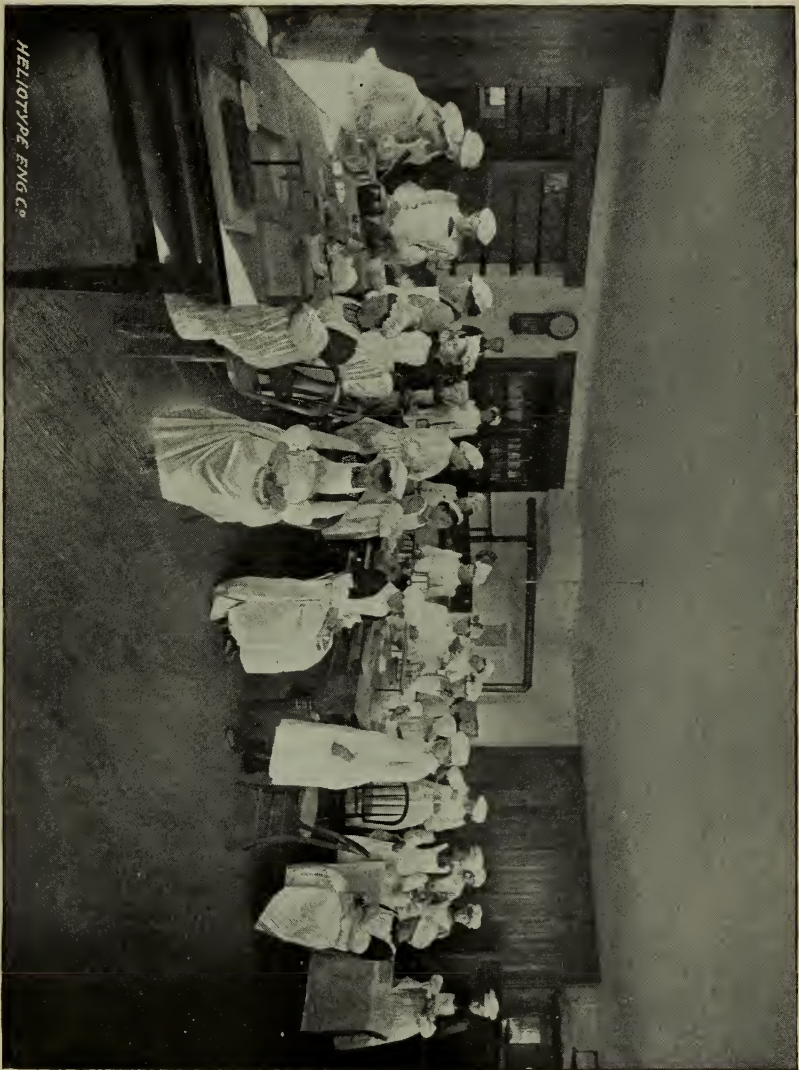
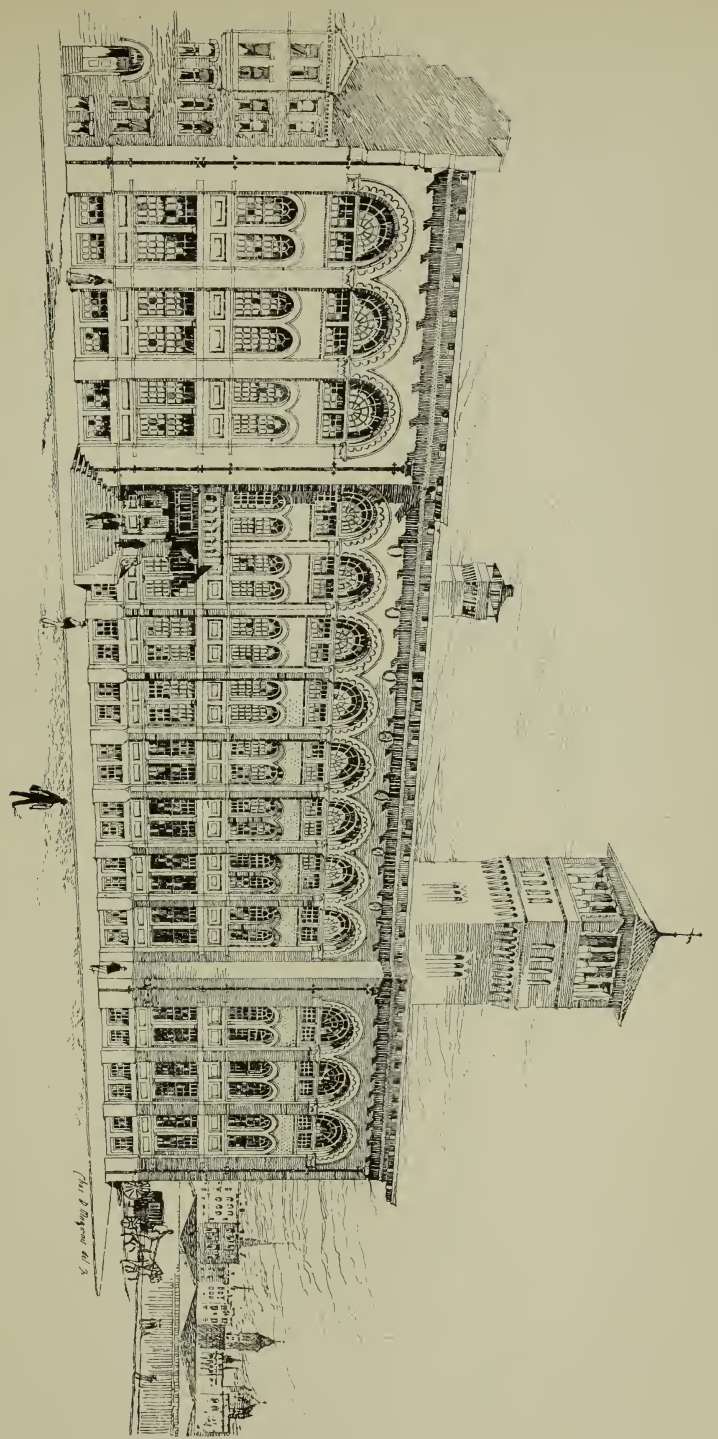


PLATE XVII.

PLATE XVIII.—MECHANIC ARTS HIGH SCHOOL.



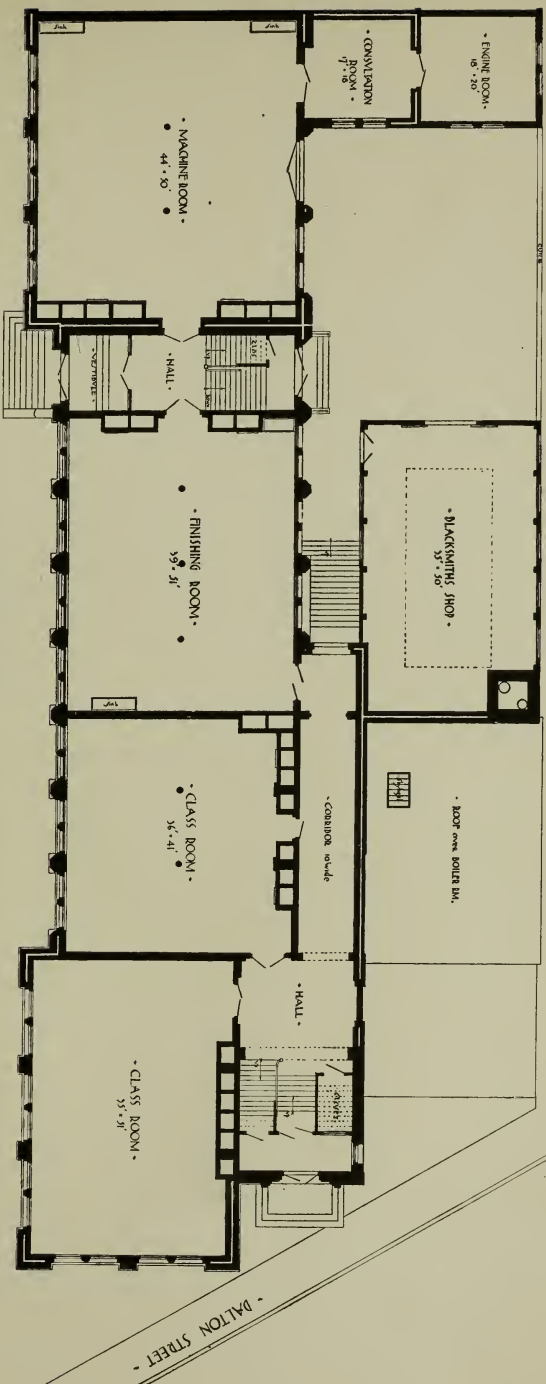


PLATE XIX.—MECHANIC ARTS HIGH SCHOOL.
FIRST FLOOR.

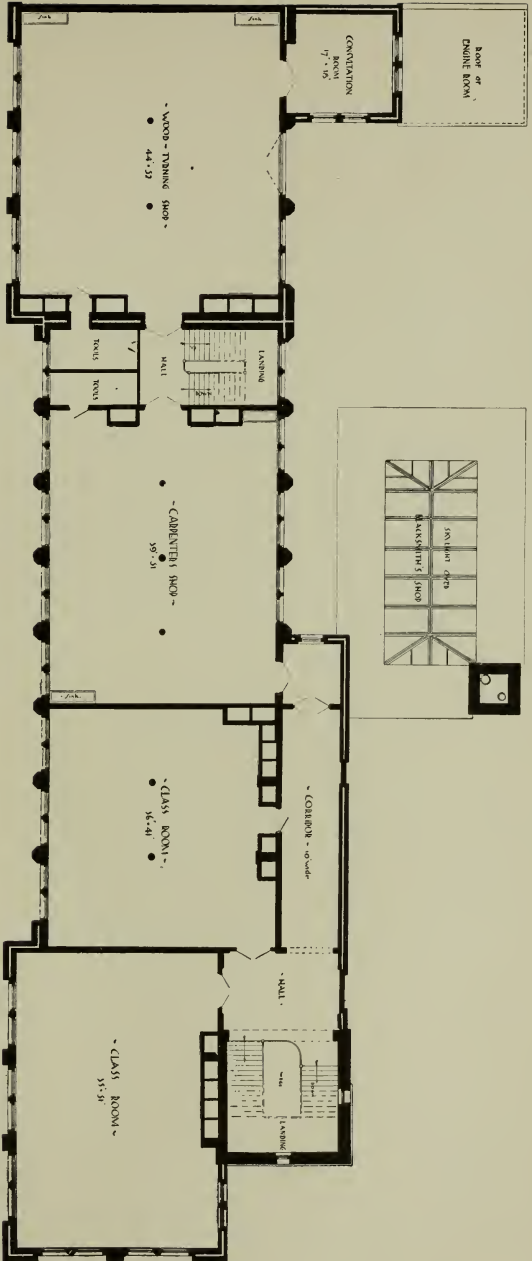


PLATE XX.—MECHANIC ARTS HIGH SCHOOL,
SECOND FLOOR.

* DALTON ST *

SCHOOL DOCUMENT NO. 22 — 1892.

ANNUAL REPORT

OF THE

BOARD OF SUPERVISORS,

1891 - 92.



BOSTON :

ROCKWELL AND CHURCHILL, CITY PRINTERS.

1892.

IN SCHOOL COMMITTEE,

BOSTON, Nov. 22, 1892.

Ordered, That eighteen hundred copies of the Annual Report of the Board of Supervisors be printed.

Attest :

PHINEAS BATES,

Secretary.

BOSTON PUBLIC SCHOOLS,
SUPERINTENDENT'S OFFICE, BOSTON, NOV. 22, 1892.

The fourteenth Annual Report of the Board of Supervisors is herewith respectfully submitted.

EDWIN P. SEAVER,
Superintendent Public Schools.

To the School Committee:

The Board of Supervisors, as required, presents to you an account of its work for the year ending Sept. 1, 1892; accompanying it with some suggestions in regard to methods of work and the needs of the schools.

RETIREMENT OF MR. MASON.

At the beginning of the school year, leave of absence was generously granted by the School Board to one of the supervisors, Samuel W. Mason, and this leave of absence was continued to the end of the year. Not finding himself strong enough to resume the work, he declined a reëlection, thus severing his connection with this Board, a connection which had continued since its organization, nearly seventeen years ago. He had earned the full right to withdraw from active life. For forty years, as subordinate teacher, master, and supervisor, he had been in the service of the city, performing with marked efficiency all the duties of these respective positions. He takes with him into his retirement the respect of his co-workers and their earnest wish for his enjoyment of many years of rich and happy life; and respect and good wishes also of the many now strong in manhood, who felt his vigorous influence in their school-days, of a large number of teachers who profited by his good sense and wide experi-

ence, and of a multitude of children and youth who enjoyed his genial and invigorating visits to their school-rooms.

INCREASE OF WORK.

The formation of new grades of schools, in addition to the increase of the number of pupils and teachers in the old grades, has considerably added to the work of the supervisors. As all the work last year had to be done by five supervisors, instead of six, it was impossible for them to make their round of visits to the schools with the accustomed regularity and frequency. Much of their time, also, was demanded for the consideration of matters of importance to the schools, visiting schools for special purposes, writing reports, preparing for and conducting examinations. These things are mentioned to indicate the cause of any seeming neglect of the schools in the respective circuits of the individual supervisors.

ITEMS OF WORK.

The duties of the Board of Supervisors and of the supervisors have been so often enumerated that nothing more seems to be necessary than to refer to Chap. XIII. of the Rules and Regulations, and to state that the requirements of that chapter have been as far as possible met. The usual statistics in reference to examinations and their results will be found in an appendix to this report.

It may not be deemed amiss to suggest that the report required in January of the supervisors comes, under present arrangements, too early for a new supervisor to get sufficiently acquainted with the schools assigned him to enable him to make a full and detailed report; also, that these reports come at a time when not much importance is attached to them. Will it not answer a better purpose to combine the January report with the May report, and thus have re-

corded in the books kept at the office its essential features? The supervisors' figures in these books will be all the more expressive if accompanied by a fuller statement of conditions, methods, and results.

ORAL EXAMINATIONS.

In the course of the year the supervisors, as circumstances favor, examine orally various classes in the primary and grammar schools. Towards the close of last year they examined the first class of each grammar school in civil government, according to previous announcement. At the request of the superintendent they also ascertained what had been done in this class in physics, in "lectures and conversations on hygienic duties," and in reading the biographies of "persons famous in English history." These subjects were selected for this special consideration, because they were not included in the diploma examinations. The results of the examinations, and the information gained, were reported to the superintendent.

The oral examination has some advantages not possessed by the written. It can be made to suit the conditions under which the work of the class has been done, to cover a good deal of ground without tediousness, to deepen impressions already received, and to excite an interest in further study. It is true that it does not get at individual qualifications and faithfulness; but it does get at the method and scope of the teaching, the general interest awakened, and the real knowledge gained. It seldom excites such personal anxiety as to hinder the free action of the mind. The examiner always has it in his power to bring the class into the best temper, and to get from its members the best they have to give.

WRITTEN EXAMINATIONS.

There is no intention, however, of underestimating the importance of written examinations. They are the very best means of ascertaining the outcome of the work done in class, as far as its individual members are concerned, in the relatively small amount of time that can be given to that purpose. Every question asked, every subject presented, must be carefully considered by all. There can be no help, no re-framing of the question, no subsidiary or side questions to lead up to or suggest the full answers or treatment to be given. The pupil must get out of his own mental store all he has to express, and must put it in such form as he can. The examination itself is excellent training for him, and has an educational value beyond that of bringing out what he knows, or proving what he can do, as evidence of his acquirements and faithfulness. Written tests all along the school course, for the training of the pupil as well as for the guidance of the teacher, are an absolute requirement. The ability to get a proper conception of what a question seeks, to arrange in the mind a just and full answer, and to express that answer in good form and good English, is one of the best results that can come from educational processes, and cannot be too earnestly and patiently striven for.

The function of the written examination is so far distinct from that of the oral, that the latter, however useful in testing the mental alertness and spirit of the class, however inspiring from its free range and leadings into what lies beyond, cannot be substituted for the former, but each may well supplement the other.

DIPLOMA EXAMINATIONS.

The diploma examinations must, of course, be largely written. There is no other way of testing the individual acquirements of two or three thousand students in the time given.

But the question arises, cannot the number of these examinations be reduced, or the examinations in some way simplified? Is it absolutely necessary to crowd so many and extended examinations into a week or ten days of the last month of the school year? May not partial examinations during the year be made to remove the necessity for full examinations at the end of the year? Is it not possible to ascertain each pupil's proficiency without laying such stress upon final examinations? These questions are certainly worth considering.

There is one influence of the diploma examinations that cannot be too earnestly guarded against, — the influence that tends to make the passing of the examination the main thing, rather than that quickening and enlargement of the mind that comes from the gaining and holding of real knowledge. There can be no doubt that the methods of instruction in the classes to be examined are largely shaped by the supervisors' examinations, and much of the teaching and study is for the direct purpose of passing those examinations. Though there are exceptional cases, it is still true that studies not subjected to diploma examination are not pushed with the same vigor as are the other studies.

The point is, that so much is made to depend upon the examination, that the passing it has an exaggerated importance. It is placing the reaching of a mile-post, along the way, above the pleasure and enrichment from the journey, and the impulse and power to journey onward. And, besides, some of the practices of the schools tend to deepen the impression that the examinations are a finality. These over, there is no longer any holding together of the class for solid work, either to make up deficiencies or for further advance; and the number of pupils who are disposed to go on with any study from pure interest in it is by no means large.

It is the one disadvantage of the free text-book system, in

many ways so beneficent, that it aids in confining study to the schools for school results. The pupils leave the schools empty-handed. They have no books to which they have become attached, to recall the school course and tempt to a reperusal of their pages, or revive an interest in old problems; no books, in too many cases, to lure them on to still further explorations in the great field of knowledge. It therefore rests all the more upon the schools, through their methods and purposes, to counteract this tendency to regard school accomplishment as anything final. The passing of an examination with whatever credit, the parchment duly signed and publicly delivered with whatever honor, are as nothing to the habit of obedience, the desire of knowledge, the delight in mental wrestlings, the aptitude for work, which should be the grand results of school instruction and training.

THE MARK FOR THE YEAR'S WORK.

It should be stated in connection with the preceding remarks, that the granting of diplomas depends only partially upon the results of the diploma examinations. Those remarks are made, not against the principle upon which diplomas are granted, but simply with the view of looking for some method of relieving the last weeks of the school year of some pressure, and of removing the temptation to concentrate so much effort upon the preparation for examinations; and with the desire that a healthful interest may be excited and continued in the studies themselves. In actual fact, just as much weight is given to the principal's estimate of the student's work for the year, as is given to the results of the final examination. It may not be amiss to give in this report a description of the "Z Blank," and an illustration of the principle upon which diplomas are granted by the Committee on Examinations.

One word, however, in regard to the method of getting

at this estimate of work seems to be needed. The principals do not all follow the same method. With some, the mark given is the average mark of examinations held during the year. With others, it is made up from the record of recitations, but is still an average mark. There are cases where the improvement of the pupil himself is taken into the account. To the supervisors this last seems the most important consideration of all,—the work of the year as shown in the increase of the student's power of application to the subject, in his increase of ability to pursue and comprehend it. They do not counsel the average mark, but rather one that shows the outcome of the year's study. A student in his first attacks upon a subject may be so weak as to get no mark above 5. But, at last, having gained some insight into it, he pursues it with a quickened interest, which wins for him always the mark of excellence. This average mark, therefore, might be 3; but the mark he ought to receive is emphatically 1. On the other hand, a student may begin well and end poorly. It is the final outcome, as shown in his mental condition, that should be the measure of his scholarship.

It seems proper to add that the result of the diploma examination should have no influence whatever in determining the mark to be given for the year's work. In fact, it is supposed that this mark is entered before the result of that examination is known. The two marks, equally potential in determining the final result, are entirely independent of each other; and are intended, taken together, to represent fairly the student's ability and faithfulness.

THE Z BLANK.

This "blank" is a large sheet, with the proper columns and headings for displaying the marks of each member of the graduating class of a school in the several studies, and

the general estimate of his or her scholarship and character. Under the general headings designating the studies there are, in each case, two columns; one for the principal's mark for the year's work, and the other for the diploma examination mark. Figures are used as follows: 1 denotes excellent; 2, good; 3, passable; 4, unsatisfactory; 5, poor; 6, very poor. The headings on the high school blank are English, Reading, History, and Civil Government, Foreign Languages, Physics, Chemistry, and solid Geometry or Drawing. English is subjected to two examinations, one including Milton, and the other including Shakespeare, and has two sets of columns, or four marks; as, also, has History and Civil Government. In getting the total values of marks, those under English are multiplied by 5; under Reading and History and Civil Government by 4; under the other subjects by 7. This allows to English 20 per cent. of the general result; to Reading 8 per cent.; to History and Civil Government 16 per cent.; and to each of the other subjects 14 per cent. These percentages are not supposed to be arranged on an exact scale of educational values, — as the matter of convenience has a little influence in determining the manner of getting at the general result. For instance: supposing all the marks against a student's name be a "1" in each column, the grand total will be 100; if a "2," it will be 200; if a "3," it will be 300; and so on. As a total, then, 100 denotes excellent; 200, good; 300, passable; 400, unsatisfactory; 500, poor; and 600, very poor. It is a condition of things in which the larger the number the poorer the scholarship. The Committee on Examinations, as a rule, grants the diploma to those whose total does not exceed 300. There are always cases coming very near the limit, which receive special consideration.

The grammar school blank is of the same form and embodies the same principle. The headings are Geography, Composition, Grammar, Reading, United States History,

Drawing, Book-keeping, Written Arithmetic, Oral and Sight Arithmetic, Penmanship, and Singing. Under each is placed the principal's mark for the work of the year and the mark for the diploma examination. The marks under the first two subjects are multiplied by 7; under the next three, by 5; under the next three, by 4; and under the last three, by 3. This gives to Geography 14 per cent.; to Composition and Grammar, 24 per cent.; to Reading, 10 per cent.; to United States History, 10 per cent.; to Drawing, 8 per cent.; to Book-keeping, 8 per cent.; to Arithmetic, 14 per cent.; to Penmanship, 6 per cent.; and to Singing, 6 per cent. The Committee on Examinations awards diplomas upon the same principle as to the high school graduates; that is, to those whose total does not exceed 300. The grammar school diploma admits to the high school; but only those graduates whose total does not exceed 250 are admitted clear. The others receiving diplomas are admitted on probation. Those members of the graduating class who do not receive diplomas, if their conduct has been good, may receive certificates of Honorable Mention.

The blanks that have been described are those of June last. Whenever there is a change in the list of subjects studied in the schools, it involves a little change in the arrangement of the scale of percentages. The blanks as proposed for next year will show some such changes.

As the plan of the Latin school blank is the same, only the percentage allowed to the different subjects need be stated. To English, French or German, History and Geography as one subject, and Physics, is given 6 per cent. each; to Sight Translation of simple Latin prose with Forms and Constructions, Latin Composition, Sight Translation of simple Attic prose with Forms and Constructions, and Greek Composition, 8 per cent. each; to Sight Translations of average passages from Homer or of less difficult passages from Homer and Herodotus, and Sight Translation of passages

from Cicero and Virgil, 12 per cent. each ; Algebra through quadratic equations, and Plane Geometry, 10 per cent. each.

COURSES OF STUDY.

There is much discussion among those interested in educational progress in regard to the contents of courses of study, especially in regard to what shall be the course for grammar schools. The tendency is to lessen the demands upon certain subjects and to find place for the introduction of other subjects of study. Many of the changes suggested are, on the whole, reasonable, and under favorable conditions can be made with advantage. But the problem to be solved in this city is, how to carry out the provisions of the present courses of study in the primary and grammar schools, — courses which are the result of a careful revision of the old courses to meet the demands for physical and normal training, the obligations of legal requirements, and to provide for increased attention to the cultivation of the observing and thinking faculties. Can all that is required be done in the three and six years assigned respectively to primary and grammar school work? It will certainly be unwise to lay other burdens upon the schools before this question has been answered.

It will not be out of place, however, to call attention to some of the unfavorable circumstances under which the teachers labor, and indicate ways by which their efforts may be made more conducive to the ends sought. This will be done under the headings of school organization and class management.

SCHOOL ORGANIZATION.

Only those who have given some thought to the matter are aware how much more is now demanded of teachers, and how much more individual work and direction are required of them, than formerly. When the ratio of fifty-six pupils

to a teacher was established, if the pupils classed well together, the number was not, perhaps, excessive. The school hours were more than now, and the number of studies was less. It is easy to be seen that the lessening of the time at the teacher's disposal, and the required increase of accomplishment within that time, make the duties of the teacher more exacting than in former years. Compare, for instance, the language work now done in the schools with that of twenty or thirty years ago. The written exercises that must pass under the observation of the teachers have increased at least fivefold. However skilful the teachers may be in guiding their classes, the number of exercises requiring individual criticism is large, and the time for such criticism is very limited. It is not possible to give to every pupil the needed help. If time is taken to reiterate to the class such former instruction as the weakest pupils require, the more advanced are wearied, their enthusiasm chilled, and their advancement hindered. Drawing, also, which is now something more than the mere copying of lines and figures, demands more individual direction than formerly. Then come manual training and elementary science with their claims upon the teachers for special attention. It can, therefore, be strongly stated that, under present conditions, fifty-six pupils to a teacher are too many, and especially too many if all the class must be carried in the given time to the promotion limit.

There are other important considerations that might be urged in this connection; one of these is certainly of great weight. The larger the class the more difficult becomes the discipline, and the greater the temptation to take short and decisive methods of securing an outward order, rather than by just and more radical methods to establish a real order. In the press of so many daily duties the great duty of making school life a moral discipline is likely to be often overlooked. Surely, if dealing with individuals is necessary as an aid

to physical and mental growth, it is all the more required in finding the way to the hearts of pupils, and winning them to a love, and training them in the practice, of right doing.

When it is called to mind, also, that a large percentage of the pupils leave school before reaching even the third class of the grammar school, there seems to be a very strong reason for so organizing the lower classes that there may be gained in them the best elementary education possible for meeting the demands of life. There is good ground for believing that much more may be accomplished in these classes than now, if teachers can be allowed to concentrate their efforts upon a less number of pupils.

As the present accommodations furnished by the school buildings do not allow any increase of class divisions, and the building of new houses is a slow and expensive process, it is worth considering what can be done to increase the teaching force of the schools under the present conditions of school accommodations. The Hancock School furnishes an excellent illustration of the way in which something may be done in this direction. In this school there are allowed by special votes of the School Committee five ungraded classes. These classes are upon the basis of thirty-five pupils to a teacher. Four of these teachers and some of the teachers of the graded classes take a few more pupils than the assigned number, and thus leave one teacher free to do such special work in all the classes as the master appoints. This teacher was selected because of her skill in teaching elementary science, and she now directs the observation and study coming under that head in all the divisions of the lower classes. This arrangement is leading to a systematic, thorough, and delightful study of a subject much neglected in many schools, and affording considerable relief to the regular class teachers by enabling them to concentrate their attention upon other branches of study, giving them time to prepare and look over exercises, and to render some aid to

individual pupils. Here, certainly, is the suggestion of a way by which something may be done to increase the effectiveness of school work.

If the grammar and primary schools were allowed teachers upon the basis of fifty pupils to a teacher, the teachers in charge of rooms might retain in their several rooms the same number of pupils as now,—fifty-six,—and the same responsibility for their instruction and management continue. The surplus of six to a room in eight rooms would allow the appointment of another teacher; in sixteen or seventeen rooms, of two teachers; the additional teacher or teachers to do departmental or other assigned work. The labors of the regular class teachers would in one way be lightened by the help rendered, but only to enable them to work with more persistent endeavor and greater efficacy for the general and individual good of their pupils. The object in view in arranging the work for such additional teacher or teachers would be to have the most efficient teaching in all branches of school study and work, by giving the teachers, to some extent, the work for which they have the greatest aptitude, and more time to shape their instruction and fit it to classes and individuals, to prepare and look over exercises, and to meet individual needs; the final object being, to give every pupil the fullest opportunity of profiting by school privileges. The cost of the employment of such additional teachers would be far more than compensated by the increased attractiveness and efficiency of the schools; and, more than likely, by shortening the time required for the school course.

CLASS MANAGEMENT.

Next may be considered what may be gained by improvements in the methods of procedure in the class-rooms. Graded schools have been and are still open to the objection that they do not allow all the pupils to work, each up to his

full ability. The brighter pupils must at intervals mark time, that the slower-minded may have an opportunity to catch up with them. Marking time does very well in gymnastics, but has a deadening effect in its application to mental efforts; and, by and by, reduces the pupil to such a condition that marking time is no longer required. Only that effort is made which is necessary to keep up with the class; and the habit of doing one's best under the exhilaration of quickening influences and of engaging studies gives place to the habit of mediocre exertion. Who, for instance, familiar with the schools, has not been often saddened to find pupils who were bright and eager workers in the primary school, sunk to the level of careless plodders in some lower class of a grammar school? Who has not found in the lowest classes of the primary school bright children from the kindergartens, subjected to the same processes of instruction, and kept down with the new-comers who had had no previous training? These, it may be claimed, are exceptional cases. They are, however, not infrequent; and they indicate clearly the wrong done by the neglect of the true principle of classification, and a too rigid adherence to the letter of the course of study.

What can be done, then, towards enabling every pupil in the class of a graded school to work up to his full ability, and pass from one grade of work to another as soon as he is prepared for such advance? One look at the old-fashioned district school may give us a hint. Notwithstanding the manifest advantages of the graded school, the ungraded had some advantages it is best to keep in sight. In the latter the pupils were carefully classed in the various studies according to their ability and advancement, but the way was left open for the easy and prompt passage from one class to another. It was common to see pupils advance from one class to another during a single term; and, elated by their success, push on eagerly for the next advance. There was no attempt to bring a certain number of pupils to a fixed level of

attainment in all studies before there could be an advancement of pupils in any study. Can there not be something of this free way of working in what we call the graded class?

The pupils of a large graded class are seldom, if ever, of the same absolute grade; but they are near enough of a grade to enable a teacher to make very much of her instruction general, and herein is an advantage. If, however, she treats them as all of a grade, and endeavors to make them all move on together at an average pace, she does not give the alert minds of her class full opportunity. A wiser way would be to allow the class by a natural process to become divided into sections, and one section, if need be, to advance faster than the other. The course of study lays out the work for the different classes; but it does not require that only such and such work shall be done in any particular school-room, and that all that work shall be done by all the pupils in the same time. It means that what it outlines for any class shall be done as a stage in the pupil's progress; and when it is accomplished, though the pupil remain in the same room with the same teacher, he is entitled to pass on to the next stage. It is a wrong to him to hold him back. A sixth class teacher, for instance, should not think, her sixth class work having been accomplished before the time for regular promotion, that it is forbidden her to enter upon the fifth class work; but should rather feel that the necessity is upon her to allow no slackening of interest on the part of her pupils, but rather to give them the pleasurable excitement of a move onward.

It sometimes happens that pupils ready for promotion are held back because there are not accommodations for them in the room occupied by the next class. The promotions are made upon the principle that as only so many pupils can be accommodated in the room above, the line of promotion must be drawn at that limit. There can be no question that

this is entirely right as far as passing from room to room is concerned, but all wrong as deciding the passing from class to class. There is always room in the class above. Let the pupils have free way to press forward and occupy it.

There may be schools where something would be gained by allowing teachers to hold their classes through the work of two or three grades. A thoroughly good primary teacher, for instance, taking fifty pupils through the three divisions of the primary grade, would give them a better fitting for the grammar school than would three different teachers, though equally good, taking them in succession. Much time is lost in gaining the acquaintance of the pupils and learning their individual characteristics. Besides, each teacher keeps within her vision only the narrow limits of her special work. The single teacher, thoroughly understanding the abilities and dispositions of her pupils from the beginning, can go along with them step by step, relating her instruction and direction to the farther-off results she is to reach, seizing opportunities to connect the present fact or experience with things to be accomplished later. The same thing can be said in regard to arrangements for more continuous teaching in the grammar schools. Were teachers all alike capable, there could be no question of the advantage of such arrangements. Are they not of sufficient capability in most schools to carry out to some extent such a plan of work, with some gain for the pupils?

Whatever the position assigned the teacher in respect to class work, however, it does become her duty when she receives a class, no matter how it is labelled, and what work it is supposed to undertake, to reach as soon as she can a knowledge of its real condition as a whole, and in respect to its individual members. Whatever is lacking in previous training necessary to the advance she is called upon to make must first be supplied. The majority of pupils may be all ready to go on, but the others may need special help

in certain directions. The problem is, how to render that special help, if no provision is made for it in the general arrangements of the school. As under no circumstances should a part of the class be held back to go over familiar ground to accommodate the rest of the class, as is too often done under the name of reviewing, the division of the class seems a necessity, if all are to be justly dealt with. Teachers who are called upon to teach two classes, or one class in two sections, generally dislike the arrangement. At first thought, it seems to add to their labors, and make a just distribution of their time and efforts more difficult. But what if it does? Are they not willing to take an additional burden, if they can thereby benefit their pupils? They will probably find, however, after becoming habituated to such an arrangement and having learned how to make the right adjustments, that they can get better results, and carry on their work with more ease, because with more satisfaction to themselves.

The simultaneous instruction of all the pupils of a class in all their studies has one disadvantage not often enough considered. It either compels the using of the school time almost entirely in recitation, or some other general exercise, or it deprives the teacher of the opportunity of fulfilling to the extent she might, her function of teaching. Suppose one hour of the day is set apart for arithmetic. The teacher may require one-half of the hour to be given to study, while she sits at her desk and gives such individual help as is requested, and give the other half-hour to recitation. The same may be done in regard to other studies. The half-hour is occupied with a class of fifty. In some exercises all the pupils cannot be reached in that time. Now, suppose a division of the class: one-half recites while the other half studies. Does not this give the teacher an opportunity to come into closer contact with the individual minds, and get from each pupil the steadiest and most effective work?

This is only by way of illustration. In actual practice, the studying time of the one-class system is greatly abridged; much the larger part of the time is taken for recitations and general exercises.

Another consideration may here be presented. Suppose a teacher doing sixth class work with one pupil to instruct, giving such time to each study as is now required, what part of the year would she require to take him over the whole ground? How far beyond the requirement in all his studies, could she take him in the course of a single year? What number of pupils can she take and work together, and yet do for each pupil all that she can do for a single pupil? There must, of course, be a limit to this number. Now, whatever the number of pupils to be taught, the true economy of time and effort is to manage that number in such a way as to give each pupil as nearly as possible all the advantages he would have if taught by himself. To hold the concentrated and continuous attention of fifty pupils through a recitation, as the attention of one can be held, is certainly impossible for most teachers. But a limited number of pupils can be worked together as one, with the advantage, too, of a quickening influence upon each other. The burden laid upon the teacher is to waken an interest in all her pupils, to keep them in the right temper of mind for required work, to have ready for them the right kind of employment, and to hold their concentrated attention during instruction and recitation. That she can do all this to the fullest helpfulness of all the pupils by dividing them into groups or sections, according to their abilities and acquirements, seems certain, as far as considerable of the required work is concerned. Much of the instruction must, of course, be general. It is as easy to tell fifty pupils some fact as it is to tell it to one pupil. But it is not so easy to make fifty pupils, varying as they must in mental characteristics, move along together in reading or arithmetic, even at a slackened pace, as it is to hold together

half that number of pupils, nearly alike in mental alertness and acquirement, in a quicker movement. To divide a class into two sections for purposes of teaching may seem to be doubling the teacher's labor, but, in reality, it lessens it. Pupils working within and up to the limit of their abilities work with more ease, and require less urging and direction by the teacher than when forced beyond their power to grasp and hold. Call to mind the misdirected energy put forth by a teacher laboring with what to her seems stupidity, the amount of breath she sometimes expends in heightened and rasping tone, the wear and tear upon her amiability in wrestling with the wandering attention of her class, and there will be no difficulty in conceiving that the simultaneous teaching of a large class is not always a labor-saving process.

The economical use of time in conducting school exercises is a very important consideration. These questions frequently arise in regard to some particular thing done. What was the aim of the teacher, and what was the expenditure of time in its accomplishment? Here is a description of an exercise in drawing in a second class, primary. The teacher places a cube upon her desk. She asks her pupils to draw a horizontal line upon their paper the length of a measure she has given them, representing the upper line of the front face of the cube. They are not to use the measure, except to test the length of the line after it is made. They do as directed. The teacher now passes from desk to desk, and gives to each child who has taken pains, or has done well, the coveted mark of approval. She comes back to her desk and calls attention to the left-hand perpendicular line of the same face of the cube, and asks her pupils to draw that with the same care. She then passes from desk to desk as before, and gives the coveted mark where it is deserved. That ends the exercise. As far as it went it was well enough. But what of the time taken? As

far as the drawing went, it was five minutes to a line an inch and a half long. Was not that a too liberal expenditure of time?

Take another example that occurred further along in the course. The class is working upon percentage, and nearly all of its members show a good understanding of the principle, and are correct in its applications. One pupil is at the board working out an example. He shows a woful ignorance of the subject. The teacher works back to revive in his mind some previous knowledge. Alas! there seems no knowledge there to be revived. She patiently continues her efforts, giving such help as is needed, and by and by the result sought is found. From ten to fifteen minutes were given to this one pupil, while the rest of the class looked on smilingly, or gazed vacantly about the room. Was it right to take so much time from the fifty other pupils for the benefit of one? In a wise economy of time, the special needs of a single pupil can claim but a trifling part of the recitation hour. These are merely examples of what, not unfrequently, occurs in the class-rooms, and are given to indicate how time is not always used to the fullest advantage.

Another way of saving time for useful work is to discard all the useless repetition that prevails in many schools. For instance: a list of words is assigned for study. Some members of the class know all the words, and there is no member who does not know some of them. But no matter, they are to be studied just as if every pupil was ignorant of them all. First, each word is pronounced three times after the teacher. Then, each word is spelled three times. Next, the pupils take their slates and write each word three times, five times, or ten times, and there have been instances where they have written them twenty times. Now, for nearly all of the pupils this is a tread-mill process, and without the excuse of communicating motion to any useful

machinery. Why should those of them who already know these words, or those who can learn them in from two to five minutes, be required to give them all the time that is demanded for the exercise as described? The same kind of unnecessary repetitions is found in many cases in the exercises connected with other studies.

A suggestion may here be made in regard to the inter-relation of studies, whereby one study can be made to help another. Not that teachers are to be led off from their main purpose in conducting exercises; but in considering subjects there will often be connections and associations with other subjects which it will be well to notice. Such associations have a double effect, not only holding a new thought, but deepening the impression made by the old one. The inter-dependence of geography and history, of history and civics, is generally clearly seen; but not so much is made of it in the way of making these studies mutually helpful as might be. Even arithmetic and language have a relation to each other that should not be overlooked. Reading comes in as a help to advancement in studies in several ways. Much of the supplementary reading furnished the grammar schools is collateral, and intended as an aid to the advancement of the pupils in the subjects studied from the text-books, as well as to give facility in reading, and to form habits of reading with thoughtfulness and a purpose. Taking the schools as a whole, the way is open for making this reading much more helpful to other studies than it now is. It needs to be more felt that whatever aids in the general development of the powers of the pupil, aids him in his advance in all directions.

What has been alluded to in another connection, in regard to having in mind to what the class teaching is to lead, may be considered here in its application to all teachers. If a teacher does not realize the connection between her own work as assigned, and the general purpose of the whole

course of study, she is working somewhat in the dark, and fails to make use of every opportunity to enkindle an interest in what is to come, and to open an engaging way into the realms of knowledge, or to start the beginnings in the acquirement of that skill which by and by shall tell in the handiwork of her pupils. The piece of work laid out for the teacher in the graded school is not like the laying of a single course of brick in a building. Her work is in aiding a development which proceeds in accordance with living law, unfolding from what has been before, and directly concerned in aiding the growth that is yet to come. It is this feeling that every true teacher has of his or her vital connection with the great purpose of the school, the full and true development of youthful minds and hearts, that supplies the inspiring motive for patient and continuous effort, and relieves even the most exacting labors from any taint of drudgery.

READING.

Every one of the school studies naturally offers itself for some comment, or suggestion, in a report like this. As some of these have had full treatment in recent reports, only a single branch, that of reading, will be here considered.

READING IN PRIMARY SCHOOLS.

School Document No. 1, 1884, was a statement of principles and methods to be followed in teaching beginners the art of reading, accompanied with such suggestions as were deemed useful. This document has since been reprinted for distribution, and every teacher of the lower primary classes is supposed to be in possession of it. The "Course of Study," as adopted by the School Board, in its relation to reading in the primary classes, is based upon the principles set forth in this document. Whatever devices are brought into use by skilful teachers to facilitate the process of learn-

ing to read, it is important that there be an adherence to well-established principles, and, no omission of what is required by the "Course of Study." There is room enough for the free play of the teacher's genius in the legitimate application of principles, the stimulation of mental activity, and the adaptation of methods.

It is not contended that nothing new in the way of method or device has been hit upon since that document was written; and were it to be rewritten, some changes in arrangement and illustration would undoubtedly appear. But there would be no change in recognizing the sentence as the expression of thought, words as wholes, in analyzing spoken words into their elementary sounds, and written or printed words into the letters composing them, generally symbolizing those sounds. These four things are suggestive of the four methods of teaching beginners: the letter method, which teaches the letters and puts them together to form words; the phonic method, which teaches the sounds and their symbols, and brings the sounds together to form spoken words; the word method, which begins with words, and unites them into sentences; and the sentence method, which starts with the sentence, an expressed thought, as the unit. The first two methods are now pretty generally discarded. The word method is, perhaps, the prevailing one; but the sentence method has enthusiastic advocates, and, rightly handled, leads to excellent results. It will be observed that these methods take their name from what is first presented as the unit, the letter, the phonic element, the word, the sentence.

The document referred to is rather on the side of the word method. Its statement is, "The use of sentences should begin after a few single words and phrases have been taught." This, however, is not mandatory, but rather the expression of an opinion. Any teacher, with the consent of her principal, is perfectly free to adopt the sentence method

if she feels that by so doing she can give her teaching more consistency and efficacy. But she is not free to neglect any one of the other three requirements; the recognition of words as expressive of ideas or as aids in the expression of ideas, the proper teaching of the elementary sounds that enter into the formation of spoken words, and the combinations of letters forming written or printed words. The document is addressed to the intelligence of teachers, not to be literally and slavishly followed, but to aid them in fulfilling the requirements of the "Course of Study." It is urged upon any elementary teachers who may happen to be unfamiliar with it to give it their thoughtful perusal.

It is a source of gratification that from year to year the mere following of mechanical processes, without any specific aim, becomes less and less observable. Take, for instance, the teaching of the elementary sounds. Often, it was evident that the sounding of words was done with no purpose to be served beyond the mere sounding, and sometimes with no consciousness on the part of the children of what they were doing. This was shown by their inability to put together in words the sounds given them, or to make out even simple words from any association of sounds with the letters. There are individual pupils who show this inability now, but the classes generally show that they have had good training. It may be necessary, in some instances, to remind teachers that the sounds combined in a word should be given separately in such a way that when put together they will form the word. It is difficult to make from *duh õ guh* the word dog. The making the words *a* and *the* sound like *ah* and *thuh* has not entirely disappeared. The simple rule is, read them as if they were attached to the word following them as an unaccented syllable. It is no better to say, get me ah board, than it would be to say, he went ah-board the ship.

If any general criticism is to be made, it is that this sounding of words is carried farther than is useful, and becomes a

waste of effort, and sometimes a hindrance to the quick recognition of words. Even under the old system of naming the letters of a word to make it out, the children, by a sort of unconscious induction, arrived at an effective method of making out words. When they had learned monosyllabic words, and combinations of consonants with vowels, they could wrestle with long words because they recognized the syllabic divisions, and only needed to know upon which syllable to place the accent; and this they generally learned from their spelling-books. Phonic analysis is supposed to lead up to the same thing more sensibly and expeditiously. Is it not a good rule to make what has been accomplished a quick help to still further accomplishment? Why should a child who knows the words *at* and *ten*, and the syllable *tion*, when he hesitates at the word *attention*, be asked to sound it? He only needs to know its syllabication, and that has to be told him even as he sounds the word.

In this connection another thing may be said. Not only in primary classes, but in grammar classes, there is often a long wait while the pupil who is reading makes out a word. The rule, "never tell a child anything he can find out for himself," is regarded as absolute. He flounders awhile alone, then is helped a little, and the result comes; but one minute, two minutes, and sometimes even three minutes have passed; and this time, be it long or short, when multiplied by the number of pupils waiting, is a very large expenditure for so small a result. It certainly is better to give a pupil prompt help, when that help will enable him to serve himself more profitably and save the time of others. Sometimes questions arise that absorb the attention of the whole class and lead to careful thought, as questions in regard to the meaning of the passage to be read, and in what way that meaning may be best expressed. Their consideration is, of course, a proper part of the reading exercise, and is in the line of true progress. But the long halting on individual

pupils is too costly, and has not even the pedagogic value usually attributed to it.

There is considerable difference in the results reached by the different primary teachers in the various schools, a difference not entirely accounted for by any difference in the circumstances of the pupils. While some teachers find it impossible to take the whole of the first reader the first year, others will take their classes through several first readers, enabling their pupils to read at sight, with ease and natural expression, books of that grade. The same difference is observed in what is accomplished in the other classes. There are schools where the third-year classes read understandingly and with facility any reading of the third-year grade, and schools, also, where the reading of like classes is halting and without expression. This, too, seems to be independent of the natural characteristics of the pupils, and is accounted for, partly at least, by the difference in the teaching and training received in the schools. Though a good deal has been gained, and some admirable results can be shown, it must be confessed that there is a chance for great improvement in many of the primary schools. This improvement may come through a better organization, through the determination on the part of teachers to reach higher standards, through a better understanding of the way the mind of the child develops, and a closer fitting of teaching processes to his mental condition, or through an eager grasping of all honest methods to quicken his interest and make his reading delightful and profitable to him.

The examination in reading for promotion to the grammar schools has consisted of sight reading from a second reader not before used, or from some book of that grade. That was as high a grade of reading as the circumstances of the schools would warrant for such a purpose a few years ago. It would be wise now to give the schools a test better adapted to their present condition. The first, or third-year,

primary class reads, at least, one third-reader, and from six to ten supplementary second readers. An examination on simple pieces of the third-reader grade would have some influence in raising the standard of reading, and come nearer to showing the full ability of the pupils. In schools where several third readers are mastered, and such books as "Black Beauty" are read, passing from hand to hand, a second-reader examination hardly reaches the dignity of the occasion. Raising the standard of examination would raise the standard of marking, but would not affect individual promotions. The primary Z blanks now indicate that the reading of the classes examined for promotion ranges from good to excellent on a second-reader standard. On a third-reader standard it would range from passable to excellent, a result more just and more creditable to the classes.

SUPPLEMENTARY READING IN PRIMARY SCHOOLS.

A good supply of supplementary reading has been furnished these schools. It consists mostly of First and Second Readers, selected because they were the best and cheapest publications that could be obtained. But the hope now is, as new supplies are required, to get something better than these readers offer. There is certainly an abundance of child-literature of excellent quality to make an interesting and helpful course of elementary reading, if it can come in the right shape for school use, and at a reasonable price.

The plan of a circulating system of supplementary reading, instituted some years ago, was the best for a beginning, as it furnished all the classes with a variety of books at the smallest expense, and it worked remarkably well. But it is clear that a permanent supply of such reading for each school would now have some advantages over this circulating supply without entailing much additional expense upon the supply department. The schools have already considerable

permanent reading, and the distribution of the circulating books among the schools would give them much more. An annual expenditure, not much, if any, greater than is now made, would give the needed additional books, and furnish the opportunity of improving the reading course.

Could such a change be made as is here indicated in supplying supplementary reading, it would save a deal of trouble and secure for the books furnished much better usage. Each teacher would be responsible entirely for the books given her class, and complaints from the teachers in regard to the torn and defaced condition of the books sent them would cease. Such complaints have not been without foundation. It can easily be conceived that a teacher who makes it a point to teach the virtue of neatness, and to train to the careful handling of books, must look with dismay upon the advent of a box of books with dilapidated covers, loose and torn leaves, and soiled pages. It is hoped that while the present system continues, each teacher will faithfully follow the directions on the card accompanying the books, and pass on the books, if possible, in as good condition as she received them.

READING IN THE GRAMMAR SCHOOLS.

Passing from the primary schools to the grammar, the advance in the text-book for reading is but slight, — from the Franklin Third to the Franklin Advanced Third. Yet the reading in the sixth class does not, on the whole, make so favorable an impression as does that of the first primary class. One reason may be that the sixth class is less homogeneous, being made up of pupils from different primary schools. Another reason may be that not enough attention is paid to oral reading in respect to manner and correctness, more attention going to the information imparted, and to conversations about what has been read and matters con-

nected therewith. It is extremely necessary to hold a class, especially a bright class, in check in this matter of conversation. Step by step, the class sometimes gets far from the subject in hand, and uses up a large part of the reading hour in a desultory conversation which, however entertaining it may be, is of no practical value. The reading exercise is for a specific purpose, and whatever aids in accomplishing that purpose is to be welcomed. It is a matter of necessity to get at the thoughts expressed on the printed page; but it is not necessary to follow them in all their ramifications and suggestions, or give them any multiplicity of form. The very words on the printed page are to be read in their connection, with such facility, clearness, and modulation of voice, as to convey those thoughts in their full force to the understanding of those who listen.

It seems to be well understood that silent reading is a good preparation for oral reading, but the influence of oral reading in increasing the fruitfulness of silent reading, is not so generally appreciated. A thought must come with great clearness into the mind in order to gain for itself correct vocal expression; and this habit of looking for the exact thought and feeling its weight, which the practice of oral reading forms, is of incalculable value in the use of books. Were the minds of pupils open to observation, it would be seen that much of the silent reading is the kind that halts, skips, and jumbles words together.

There is considerable lack of brightness of tone and manner, and of easy expression, in some of the lower classes of the grammar schools. A visitor, with no book in hand, has hard work to follow the reading, — the voices of the readers are so low, their style so choppy, and their enunciation so indistinct. The teachers do not notice this so much, as they generally conduct their exercises, book in hand. It would lead to a decided improvement should they confine themselves less to the book, and require their pupils to read with

such distinctness and expression as to be heard and understood. One exercise that has been suggested in connection with supplementary reading, — the reading from a book that passes from one pupil to another, while all except the reader are listeners, — though recommended for the purpose of training the pupils to become good listeners, is of great value, also, in requiring each reader to make himself heard and understood by all the other members of his class.

If it is worth while to lay special emphasis upon any one exercise of the lower classes, there is none more deserving of it than reading, as much of subsequent advancement will depend more upon the ability to read with ease and profit, than upon any other acquirement. Pass on good readers from class to class, and the advance in geography, hygiene, history, and the general study of books becomes easy and assured; and the way becomes opened in the upper classes for the study and reading of a higher order of literature. Much that has to be done now in the upper classes should be accomplished in the lower. There is no reason in the nature of the thing to be accomplished, why the primary instruction in reading, and the instruction in reading in the lower classes of the grammar school, should not be effective in the development and management of the voice, in rendering facile the parts of the organism concerned in the processes of speech, in a ready recognition of all common words, and in the use of the dictionary in making out uncommon ones: thus securing good tones, clear utterance, and fluent expression within the limits of the grade of reading assigned to such classes. In the upper classes it will be found useful at times to resort to some preliminary exercises to quicken the sluggish, to give freedom of breathing, to limber the organs of speech, to make it easy and natural to strike the right key and proceed with the right movement and force; but their principal business is not elementary drill, but to make way towards the higher purposes of reading, to enter

upon new sources of information, to come into contact with deeper and wider thought, to feel the force of emotion and gain the power of giving it expression. Let every step be well taken, and the advance will be steady and satisfying. All the time possible, therefore, should be given to reading in the lower classes, and continuous efforts made to produce wide-awake, intelligent, fluent readers.

There is no place to draw the exact line between reading for the mere purpose of getting the ability to read with facility and the reading for influencing the thought, for the appreciation of things beautiful and true, for the quickening and enrichment of life. These latter purposes are to be kept in sight all the way, in the quality of the pieces read and of those committed to memory. But it is not till later in the course, after the preliminary steps have been well taken, and the way cleared, that these purposes become more and more prominent, and finally the all in all of reading. For this reason reading matter of a more advanced type should be introduced into the upper classes of the grammar schools. The more the pieces studied and read bring the students into contact with the best in life that is suited to their mental and moral condition, the more the purposes to be attained will be advanced. The time spent in reading that which only informs, is not so rich in results as that spent in reading what not only informs, but suggests new thoughts, brings new pictures into the "chambers of imagery," and wins to new researches and realizations. Therefore, the more the pieces studied and read touch life upon all sides, the more they are the best thoughts of the best minds in the happiest forms of expression, the richer and more productive will be the results gained.

Complaints are often made, and sometimes justly, that the selections furnished for reading are above the comprehension of the pupils. It is easy to point out such selections in some of the readers. But the reason of their unfitness does

not lie so much in the fact that the words are difficult and the forms of expression unfamiliar, as in the fact that the general subject is out of the range of the pupil's thought, and cannot be made of interest. Such pieces should be avoided. But if the subject can be brought within the pupil's experience, no matter how forbidding, at first, may seem the printed page, it can be made to furnish the opportunity to the student of exercising his power of thought, and of making him acquainted with new words and forms of expression. The reading a page of easy grasp may answer the purpose of fluency; but where does it take hold upon thought, and call for the mental effort that invigorates? Fluency will come after familiarity is gained by study, come even without study after many repetitions; but that is but little in comparison with the toughening of the mental fibre that is gained through a determined purpose to master the words and compel them to yield their meaning.

The text-books for reading are open to the criticism, less often made by teachers, that they offer too much that has been written down to a supposed level of the youthful understanding; too much that can not only be easily understood, but is of no use after it is understood. The first steps in reading are taken with words already in the child's vocabulary. He is learning the written or printed forms of the words he speaks. Having learned to see his own thoughts in word forms, he is prepared to read the thoughts of others in such forms. As he progresses in his reading, the books furnished him should have a certain adaptation to his mental development; but they need not be written down to his level, because the very object of his reading them is to bring him up to a higher level.

In reading any standard literary production in the grammar school, how thorough a study is it best to make of it? Are the pupils to reach a full and scholarly appreciation of it, to enter into the etymology of its words, and observe all

its niceties of expression, and grasp the whole expansion of its thought? The answer is unhesitatingly given, — No. It is enough that they receive from it what their minds are ready to appropriate, that they are moved by it, catching at what inflames their imaginations, gives them new thoughts, and inspires with noble aims, enough to take in the general sweep and spirit of the piece. Those points so interesting to the scholar, those depths of sentiment that can be sounded only after fuller and deeper experiences, may wait for the coming of the better scholarship and the deeper experience. The greatest literature is not exhausted by the closest and profoundest study at any one time, or in any one mood, by even the most scholarly of men. The general study of many productions, the imbibing the influence of fine literature, the feeling a little the differences of style, and acquiring the art of giving to what they have studied true vocal expression, are worth more at present than the close study of any one selection. There is indeed danger, if too much attention is given to the outward shapings and characteristics of the work, there will be a loss of the power of its spirit.

MASTERPIECES OF AMERICAN LITERATURE.

It was to serve the higher purposes of reading that this book, "Masterpieces of American Literature," was prepared for and assigned to the first class at the beginning of the last school year. It was received in many quarters with great favor, and in some classes it has been used with surprising results, and everywhere to good purpose. The way many of the selections have been handled in some classes comes very near to ideal teaching. It was not supposed that all the selections would be found available for use in every grammar school, but there is no school where several of them may not be used with great advantage. Even in classes that are thought to be not up to this kind of work,

the reading of "Evangeline" or "Snow-Bound" would come in like a ray of sunshine, and awaken an interest in reading never before felt. This interest once excited leads the way to an attack on selections seemingly more difficult. When a class of boys after reading with eager interest "The Great Stone Face," "Poor Richard's Almanac," "Snow-Bound," "Evangeline," and O'Reilly's "Pilgrim Fathers," in connection with their history, entreat their teacher to let them take up Emerson's "Behavior," there can be no doubt that they are coming into an appreciation of literature, and learning to enjoy wrestling with pieces that contain thought and demand thought. The influence of such study upon the mental and moral growth of the students, upon the direction of their reading in after life, can hardly be overestimated.

The oral reading of such selections must necessarily be an exercise of great utility, not only in imparting facility in vocal expression, but in reaching the thought or sentiment in its fulness. The more the thought is mastered and its truth felt, the more the sentiment is appreciated and the proper emotions are excited, after the right kind of training has made the mere process of reading automatic, the more easy, natural, and expressive does reading become. It may well lack the set tone of much elocutionary reading, the conscious effort to articulate, or to follow fixed rules of pitch, movement, emphasis, and inflection, which often make the reader and his art so prominent as to obscure or distort the thought. But, as a window of clear plate glass transmits to the eye so perfectly that itself is not seen, the forms, lights and shades, and colors that are without, so does the reader, at his best, possessed by the thoughts and sentiments embedded in the printed page, transmit them in all their forms, shadings, and fulness of emotion so perfectly that he excites no consciousness of himself.

RECITATIONS AND DECLAMATIONS.

The remarks upon reading would be incomplete were nothing added in reference to a custom which prevails in all the classes of the schools, of committing to memory prose and poetic selections for recitation or declamation. The requirement of the "Course of Study" in this direction was slow in gaining recognition, but now it is quite generally followed, and in very many classes the results are most satisfactory. Sometimes a poet is selected as the class-poet, information is sought and gained in regard to him, and selections from his works are learned. Sometimes, the choice of selections takes a wider range. In some schools the master assigns to each class each month a poem to be studied, committed to memory, and recited; and, also, to be written from memory. This gives eight or ten poems a year to each class. In addition, short selections expressive of beautiful sentiments, of the authority and loveliness of truth, of the demands of duty, and of the teachings of wisdom, are learned. It is a fine way of cultivating the memory, and storing it with treasures worth holding. But even, if forgotten, they are not without use. It is, perhaps, only the form that disappears, — the spirit may have been absorbed into the life. In the first class large portions of the literary selections studied are committed to memory, the students exercising their own taste, and selecting such portions as are most pleasing to them. This work, in connection with the regular reading, leads to an appreciation of poetic form and the rhythmic expression of elevating thoughts, and fosters a love for the good things in literature as opposed to the low and base. Its educative influence is most of all felt upon the character. It does not merely cast out evil thoughts, but it puts good thoughts in their places, and purifies and enriches the whole current of life.

KINDERGARTENS.

The kindergartens grow steadily in favor, and are coming nearer to the desired standard in their spirit and accomplishment. The teachers, as a whole, are intensely interested in their work, eager for suggestions from each other and from those wise in kindergarten lore and practice, and studious of child nature. The increased development of these schools renders all the more obvious the necessity for a closer union between them and the primary schools. Primary teachers should know what the kindergarten does for the children, and build upon, or develop farther, the kindergarten work.

EVENING SCHOOLS.

These schools are changing somewhat in character. The adult element very decidedly preponderates. Never were they doing a more substantial or necessary work. At the beginning of the term there may be some trouble occasioned by roughs who register, and enter the schools for purposes of annoyance; but this element is soon weeded out, and the schools become permeated by an earnest spirit and settle down to solid work. Each year new classes of those who speak only a foreign tongue are formed, and teachers are selected for their special benefit. There are now teachers of English to Germans, Swedes, Russians, Armenians, and one or two other languages. Many of these foreigners are good scholars in their own language, and make rapid progress in the English.

SPECIAL SCHOOLS.

It would be very pleasant to enter into details in regard to the work of the special schools, but as this report has enlarged in some other directions, it must suffice to assure the School Board that these schools are more than fulfilling expectations. The results reached in the Horace Mann School

for the Deaf, through intelligent devotion and loving patience, are simply wonderful. The schools of cookery are under excellent management, and their work is attended with great interest and leads to fine results. The schools for wood-working are especially attractive. Whoever wishes to see a large class of boys, and every member of it fully absorbed in his work, striving to follow directions to the letter, and doing what he has to do with the utmost care and nicety, can be gratified by visiting any one of the various work-rooms. It is the one place where an idle or uninterested boy cannot be found.

At first view the practical skill obtained in the manual training schools seems to be most prominent, and to furnish the reason for their establishment. But a closer observation reveals the fact that their practical utility, great as that is, indicates only a fractional part of their value. However deftly the hands become able to work out the desired results, it is the mind training and the will training, behind it all, that are of the most worth. Habits of close observation, of exact working to the line, of concentrated effort, of determination to do the best possible, tell not only in the workshop, but in the school-room, and will tell in all of life.

CONCLUSION.

Though in writing this report there has been much dwelling upon improvements that might be made in the general management and conduct of the schools, it is not to be inferred that the schools are deteriorating, and are not discharging their functions with their former efficiency. On the contrary, though here and there the results may not be up to former standards, the schools, on the whole, never did as much as they are doing now. Though arithmetic may show small in comparison with what was done in certain schools in former days, it may very emphatically be affirmed

that no school of that time, in its full accomplishment, was up to the level of the best schools of to-day. But it is wise to look over the whole field carefully; in order to ascertain what improvements can be made in school organization and management; in methods, in the effective application of teaching force.

Conceive of a school district whose school buildings are in every way convenient and supplied with every needed appliance; with a teaching force well proportioned to the number of children to be taught; with a master able and zealous; with teachers all of whom, from the kindergarten to the highest grammar class, are fully equipped for their various positions, familiar with the laws of mental and moral growth, skilled in the art of winning, controlling, inspiring, impelled by a spirit that knows no weariness in its efforts to call forth the best that is in children and make of them the most possible; and then judge what results would be attained. But it is impossible, it may be said, that all these things should be. Nevertheless, they are the things to be striven for, and the results to be aimed at.

For the Board of Supervisors,

JOHN KNEELAND.

**General Examination of Candidates for Certificates of Qualification
to teach in the Boston Public Schools, August, 1891.**

GRADES.	Whole number of Candidates.	Number who withdrew from the examination.	Number to whom certificates were not granted.	Number to whom certificates were granted.	Number who having been refused certificates for which they had applied, were granted lower certificates.	Whole number to whom certificates were granted.
First Grade	16	—	3	13	—	13
Second Grade	14	1	5	8	1	9
Third Grade	23	1	7*	15	—	15
Fourth Grade	30	1	4	25	5	30
Special Grade, Kindergarten	13	—	3	10	—	10
Cookery	3	—	—	3	—	3
Sewing	2	—	2	—	—	—
Drawing	16	6	1	9	—	9
French and Ger- man	5	—	2	3	—	3
Total	122	9	27	86	6	92

* Four of the seven were not refused certificates, but were credited with such examinations as were either excellent or good.

Special Examination for Certificates of Qualification.

Eighteen candidates specially examined to fill vacancies were awarded certificates as follows: One in Kindergarten; two in French and German; one in German; seven in manual training; one in teaching English to Swedes; one in phonography; one in physical training; two in drawing; one in cooking; one in chemistry, mineralogy, botany and zoölogy.

Teachers on Probation.

No. of teachers appointed on probation from Sept. 1, 1891, to Sept. 1, 1892	137
No. of these who were graduated from the Boston Normal School	75
No. of teachers whose term of probation regularly expired in that year,	114
No. of the latter who were regularly recommended by the Board of Supervisors and confirmed by the School Committee	95
No. whose probation was extended and who were afterwards confirmed,	9
No. whose probation was extended beyond that year	2
No. who resigned before confirmation	8
No. confirmed whose term of probation had been extended into that year from a previous year	2

Promotions from Primary to Grammar Schools.

No. of pupils examined for promotion from Primary to Grammar Schools, in June, 1892	5,600
No. of these promoted to Grammar Schools	5,457
No. not promoted to Grammar Schools	143

Examination for Diplomas, 1892.

SCHOOLS.	No. of Candidates for Diplomas.	No. granted Diplomas.	No. refused Diplomas.
Normal	85	85	
Boys' Latin	37	37	
Girls' Latin	24	24	
English High	189	150	39
Girls' High { 4th year	62	62	
{ 3d year	105	101	4
Charlestown High { 4th year	7	7	
{ 3d year	30	30	
Roxbury High { 4th year	13	13	
{ 3d year	85	85	
Dorchester High	44	38	6
East Boston High	35	35	
West Roxbury High { 4th year	6	6	
{ 3d year	18	16	2
Brighton High	17	17	
Grammar	2,447	2,368	79
Total No.	3,204	3,074	130

NOTE: Of the 51 refused High School diplomas, 43 were granted certificates of Honorable Mention. Of the 79 refused Grammar School diplomas, 47 were granted certificates of Honorable Mention.

Probationers in High Schools.

No. of pupils who entered the High Schools on probation in September, 1891	205
No. of these who left school before the close of the year	56
No. who were allowed to remain in school	143
No. whose probation was closed in June, 1892	6

No. of graduates from the Grammar Schools in June, 1892, who were allowed to enter the High Schools "clear"	1,895
No. of graduates from the Grammar Schools in June, 1892, who were allowed to enter the High Schools on probation	473

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