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STATE NORMAL SCHOOL OF SAN DIEGO

VOLUME SEVEN

BULLETIN

NUMBER THREE

AUGUST, 1919

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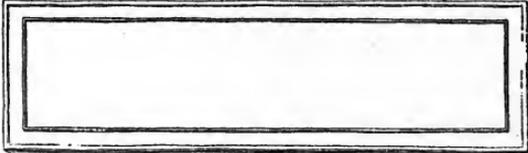
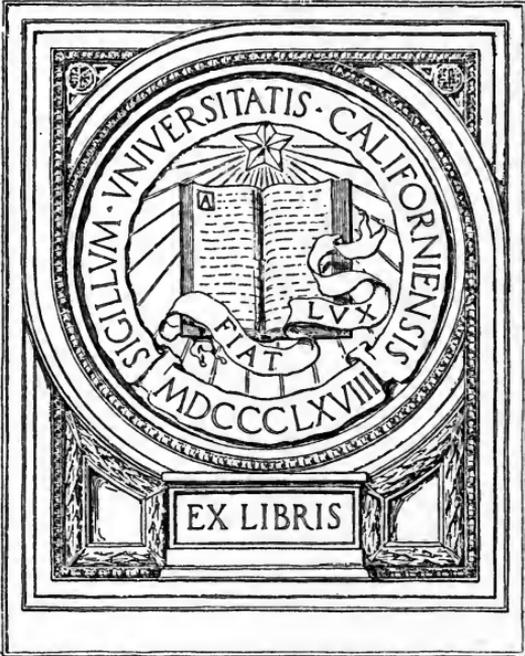
# THE CURRICULUM

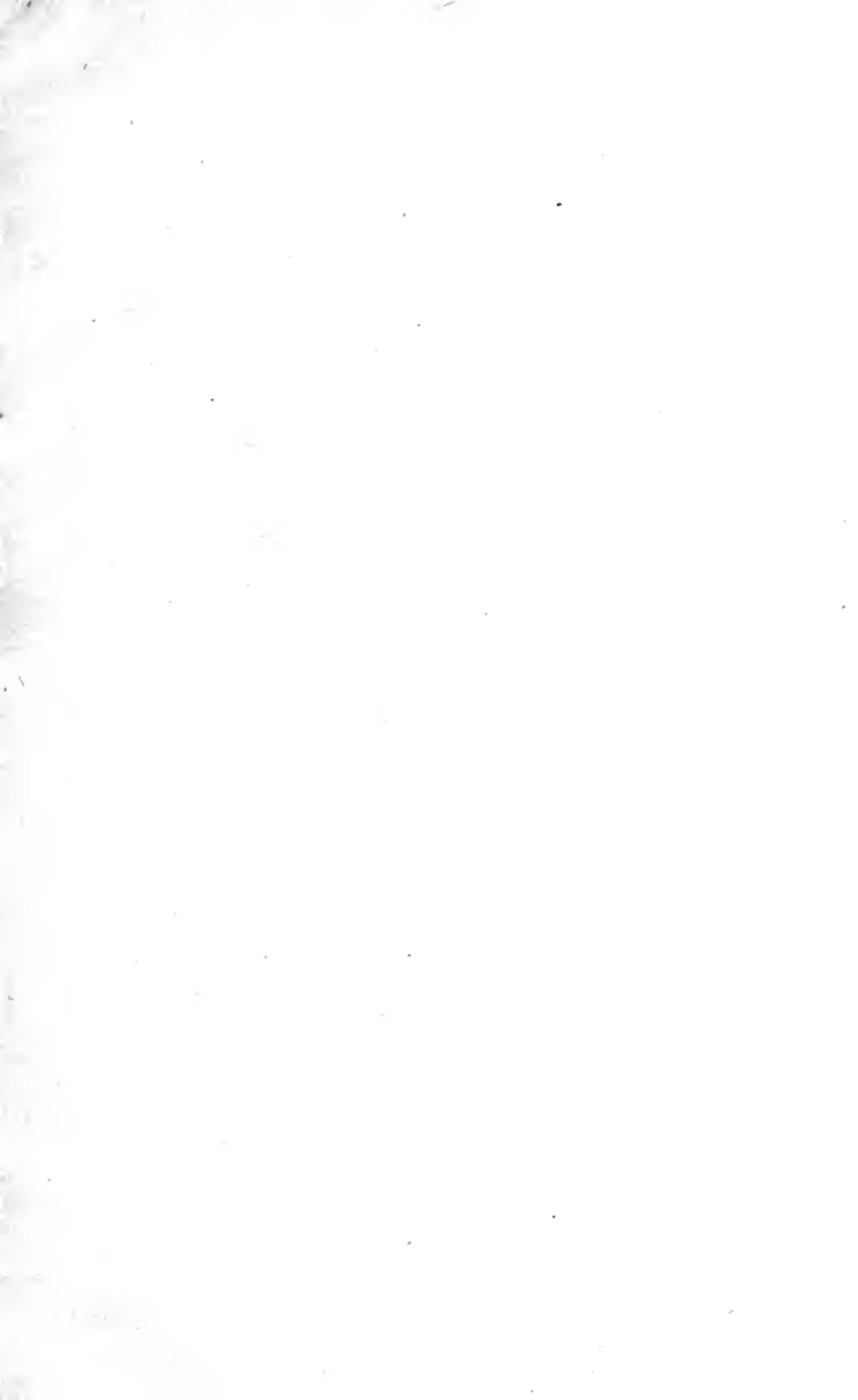
OF THE

## Model and Training School



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# THE CURRICULUM

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PUBLISHED QUARTERLY BY THE STATE NORMAL SCHOOL OF SAN DIEGO,  
SAN DIEGO, CALIFORNIA.

Entered as second-class matter April 15, 1913, at the post office, San Diego, California,  
under the Act of August 24, 1912.

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CALIFORNIA STATE PRINTING OFFICE  
SACRAMENTO

1919

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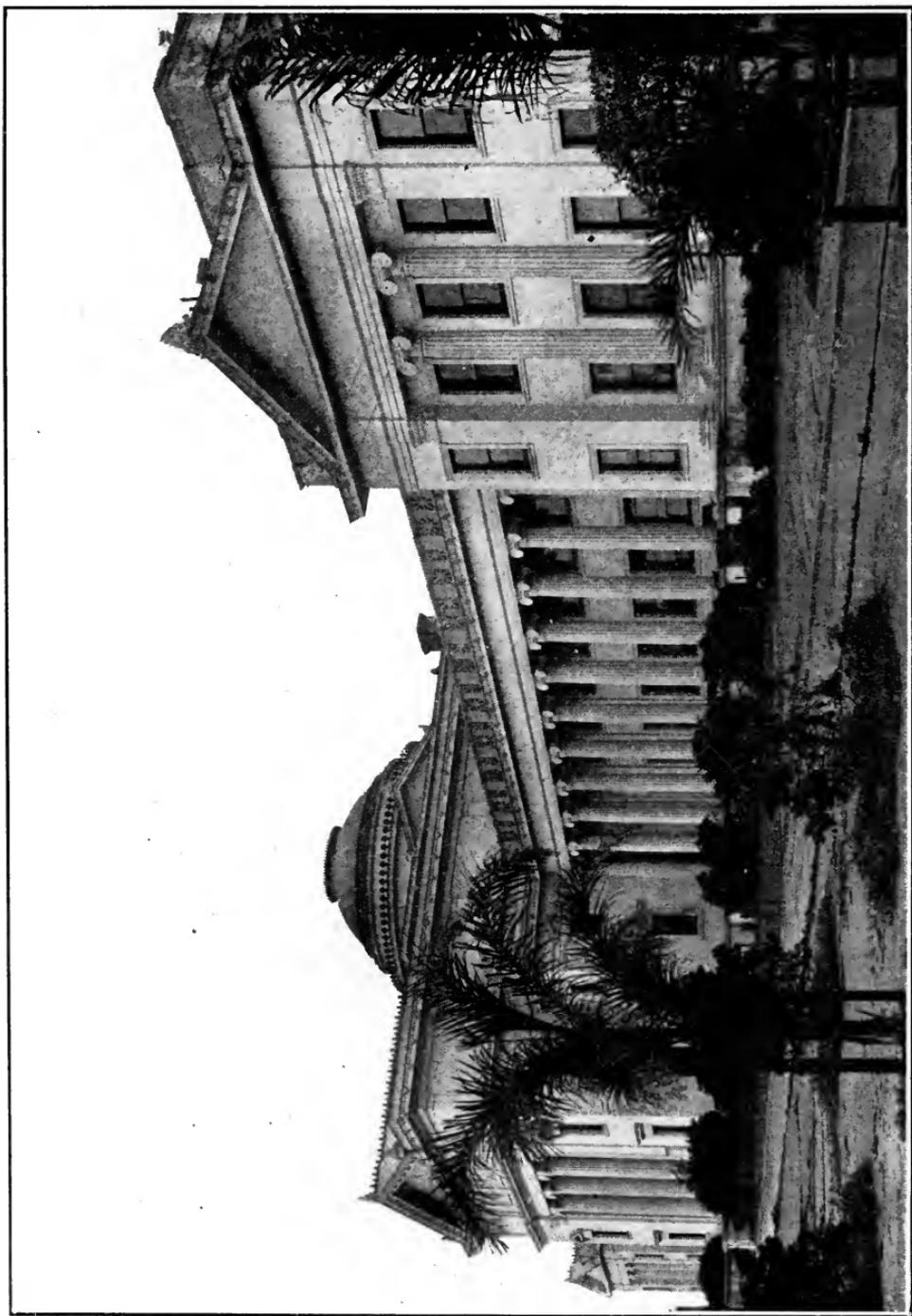
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## FOREWORD.

EDWARD L. HARDY, President of the School.

Since the making of an elementary school curriculum is merely an effort to print a fairly adequate statement as to the materials and methods used in directing children through a period of living and learning, with added exhibits of results and of the mechanics of some of the processes used in getting these results, it is important that an effort should be made beforehand to indicate the ideas back of this curriculum making.

The principal idea back of this particular curriculum is that of synthesis,—not of a series of compromises but of a genuine synthesis of necessity and of aspiration. The ideal home achieves a synthesis of the lives of the children in the home, interested chiefly in their play, and the lives of the grown-up members of the family, interested chiefly in their several vocations. This ideal home is the best place possible for both the grown-ups and the children. Each group is better because the presence of the other compels ever recurring daily solution of the problems of home life, and compels a *conscious effort to think the whole problem out*.

The ideal school would be the one that achieved the successful synthesis of the child's desire to do things and to know things and of his inevitably childish way of doing and knowing, with the adult's desire to have the child do and know certain things useful and agreeable to the adult and to society. It is entirely possible to make an approach to this ideal school, since the child knows, probably all too well, that the situation gives the adult the right to demand certain things of the child, and since the adult, at any rate the adult of some enlightenment, is beginning to admit the rights and the needs of the child.

All of this means that nearly all of our controversies as to what are the right things in education are needless. The controversy now raging between the formal disciplinarians and the champions of the doctrine of interest, with either side trying to illustrate and justify its conclusions in the real or alleged lessons of the great war, is a case in point. Both are wrong and both are right; but the one who becomes an absolutist in his doctrine, is entirely wrong. However, the disciplinarian not too far gone in his conviction can be made to see that the best discipline implies an intense interest—as at West Point, where the cadet's willingness to submit to a rigidly formal discipline in drill and in studies because of his ardent interest in an officer's life and career constitutes an effective synthesis of the two opposed, but only *seemingly* opposed, principles. Similarly, and it is an illustration of the irony of life, the tradition-shattering individualist generally ends his career by becoming the founder of a cult or school, with, of course, its sacred method or procedure or discipline. In other words, what life wants and will have is controlled or disciplined interest.

Similarly, life demands the synthesis of individualism and absolutism that we call democracy, a social state in which the individual exists neither wholly for the state nor the state wholly for the individual, but each for the other. The proper kind of school then, in a democracy, is not the one that makes its only quest a search for a method of individual study, but is the one that seeks to develop a method of socialized yet individual study and development.

The vocationalists and the culturists must compose their quarrel, and must agree that it is the business of education in a democracy to produce the cultured worker and citizen. Those who insist that in our educational zoological garden there are no such exhibits as the school "subjects," must be brought to admit that a vague and general wholesale business in language will not solve the problem of spelling,

and that perfect scoring in making change in the school "store" will not absolve the child of the need of learning the multiplication tables in the "arithmetic" lesson.

In other words, effective synthesis implies correct analysis, and it is the particular business of the elementary school to read and to analyze the large problem of education, and to attempt synthesis only after an analysis that has made clear what are the particular problems of the elementary school and what are the particular syntheses that these problems involve.

As an illustration of a specific effort to achieve a synthesis in the solution of a pressing elementary school problem, the findings of a committee appointed to report on the matter of individual instruction are presented as follows:

The committee on individual instruction agrees that the need of the elementary school is not one of radical change from group teaching to individual instruction, *as such*, but is, rather, a practical plan for more efficient instruction of the individual without depriving him of the social advantages offered by group contact. Therefore the committee proposes the following plan for expanding and strengthening individual instruction already in operation in the training school and for supplementing this in various ways:

I. *To provide for the individual above the average.*

1. By giving him the opportunity to work, in certain subjects, in grades higher than his own.
2. By giving him extra, definite assignments which will supplement his regular work.
3. By offering him opportunity for growth along undeveloped lines, thus shortening or omitting lines along which he excels.

II. *To provide for the individual below the average.*

1. By offering him the opportunity to make up work in certain subjects in grades lower than his own.
2. By giving him supervised individual instruction in subjects needing attention.
3. By supplying special projects for cases of misfit.

NOTES RELATING TO I AND II.

1. It is suggested that each class supervisor be given charge of one grade (B & A divisions) which will occupy two rooms as at present,—*and one additional room*,—the additional room to be a "clearing house room" for children above and below the average of that grade. Under this plan there would be "all-day" or two "half-day" strong student assistants for each "clearing house room."
  2. It is suggested that the minimum *required* instruction for all members of each grade be determined, and that we permit and provide, whenever the case demands, individual advancement *beyond* the course of study.
- III. To provide for wider use of the standard tests in all grades where practical, and also for psychological testing of individuals whose status can not be determined by means of the standard tests.
- The purpose of the use of the standard tests would be: 1. To determine the meaning of the terms "average," "above average," "below average," used under provisions I and II. 2. To enable the student teacher to have a definite basis for her estimate of individual progress. 3. To reduce the work required by the mechanics of a subject to its lowest terms, thus allowing time for the development of appreciation.
- IV. Provision for the student teachers to keep records of individual progress along definite lines. The purposes of this would be: 1, more efficient training in the recognition of individual needs when teaching the group; 2, a definite means for estimating the judgment of the student teacher.
  - V. Provision for a purely individualistic type of teaching in arithmetic in the 6A grade,—this to be tried out for one quarter and results reported.

## SOME EDUCATIONAL PRINCIPLES TAUGHT AS A BASIS IN THE STATE NORMAL SCHOOL OF SAN DIEGO, CALIFORNIA.

Statement by the Directors of Education.

MIRIAM A. BESLEY, CAROLINE I. TOWNSEND,  
GERTRUDE SUMPTION BELL.

### Stages of growth and development.

The child passes through more or less clearly defined periods of development, and the physical and mental characteristics of each period should be very important determining factors in the teaching of any subject matter; therefore the teacher must know these dominant characteristics and their educational significance and harmonize her procedure with them.

#### A. Periods of growth.

(1) The transition period between later infancy and childhood, marked approximately by the years six to eight, is motor-active, imitative, and sense-perceptive. The child is most vitally interested in the activities which he performs. His pleasure is derived from action, not the result of the act. He is accumulating experiences, largely through the senses, to be used in all future thinking.

(2) The period of childhood, from eight to twelve roughly speaking, is still motor-active but with a gradual transferring of the interest to the results of the act. The child becomes increasingly objective, and his constructive efforts make bids for the approval of others. This tendency leads to joy in the work as keen as in play. Social interests multiply; co-operative work and play appeal strongly; desire for the approval of the group plays a stronger part. The collecting instinct and the instinct of curiosity lead to the study of elementary science. This is pre-eminently the period for drill, because the "mind grows to the form in which it is exercised."

(3) Early adolescence, from twelve to sixteen, is marked by the tendency to hero worship and the conscious imitation of the hero. Individual differences multiply. The child becomes reflective but is not logical. While he is interested in causes and effects, he is still analogical and incapable of sustained orderly thought. This is the age of the moral and æsthetic awakening.

#### B. Order of development.

Some of the most important facts as to the order of development are:

- (1) Large muscles develop before finer ones.
- (2) Acquisition of sense material precedes organization.
- (3) Perception and memory are well developed before reasoning.
- (4) Ear discriminates before eye.
- (5) Fundamental before accessory muscles.
- (6) Interest in the concrete before the abstract; objective before the subjective; the dynamic before the static; processes before results; himself before others; play before work.

#### C. The theory of recapitulation.

The theory that the child in his play lives through the periods of development through which the race has passed finds its application in the order of subject matter in history, literature, and industrial arts.

#### D. Individual differences.

The necessity for understanding individual differences grows out of the failure of the school to do justice to the individual and still preserve the group. Individuals display various aspects of mind just as they do various aspects of body.

These differences can be measured by tests. Therefore teachers should know the different tests and their proper uses in order to discover these differences and to use their knowledge as aids and guides in grading, classifying and teaching children.

#### **Self-activity.**

The child grows only through his own activity; therefore teach less in order that the children may learn more.

#### **Motivation.**

When the child's activity is self-motivated the interest and results are incomparable with those obtained by prescribed tasks; therefore the teacher must seek and take advantage of the ample opportunities offered to have children work out problems growing out of their own needs.

#### **Imitation.**

Through imitation the individual takes on alphabetic, basic habits of speech, manners, action, thought, beliefs and attitudes; therefore it is all-important that he copy the correct models. These are to a large extent within the power of the teacher to control.

#### **Interest.**

Native interests are deeply rooted in instincts and are indications of needs; therefore the teacher must know and wisely feed them.

Many varied interests give breadth and richness to life, while one or a few dominant interests give depth and unity to life; therefore the teacher should lead the child to have many varied, wholesome interests, and gradually to organize these in subordination to one or a few large, permanent interests.

An interest is most potent at the time of its appearance; therefore the teacher must "strike while the iron is hot."

Interest is the *sine qua non* of attention and of learning; therefore the teacher must be skillful in securing and holding interest.

#### **Discipline and drill.**

In the discussion of the periods of growth, the statement is made that the period of childhood (from eight to twelve) is pre-eminently the period for drill. However, it by no means follows that because the "curve" of drill runs high in this period it is not noticeable in the period of later infancy and in the period of early adolescence. The element of drill should always be present in learning, and the element of discipline in teaching and in school control, for the very practical reasons that living and learning require both; but both drill and discipline should deal mainly with specific problems, for no matter what arguments may be urged for formal (general) discipline in later adolescence and in youth, they do not apply in the field of the elementary school, where the necessity of conquering the specific difficulties experienced in acquiring skill in the use of the fundamental tools of learning and in working out the projects of children is quite sufficient to develop the right attitude toward the doing of difficult or disagreeable things. Increasingly, however, as the child develops, he should be led into the knowledge that a reasonable submission to necessity, or law, is right, and that an individual can easily do the wrong thing, in a specific case, unless he is controlled by ideals or principles.

#### **Attention.**

Attention is the focalization of consciousness motivated by interest, and is a necessary condition of learning. The teacher must realize that it can not be secured as such, but is the result of interest.

There are three kinds of attention: (a) passive, which is hereditary and without feeling of effort; (b) active, which is due to individual purpose and is accompanied by a feeling of effort, and this becomes (c) secondary-passive through individual experience accompanied by increased interest which decreases the feeling of effort. Hence, it becomes the aim of the teacher to lead the child from passive through active to secondary-passive attention.

Both the nature of the objects to which the mind attends and the span of attention vary with the child's development; consequently it is important for the teacher to know what is normal at each stage.

The effort in attention is largely due to withdrawing consciousness from appealing objects rather than to focusing it upon others; therefore the teacher should reduce distractions and make all conditions favorable.

The physical attitudes appropriate to attention facilitate its functioning; therefore the teacher should see that the child assumes the attitude of attention.

### **Association.**

Two or more elements which occur in consciousness tend forever to recur together; therefore the teacher must see that those elements and only those occur together in consciousness whose recurrence together is advantageous. (Note the effect of committing a poem to memory as a punishment or under compulsion.)

### **Memory.**

Memory is not a faculty or power but the characteristic of mind to receive impressions, to retain them, and to recall them according to the law of association. Its physical basis is the plasticity of nervous matter. Since the degree of plasticity is determined by heredity, only retentiveness and recall are modifiable by education.

Individuals differ as to the kinds of stimuli which make the deepest impressions (they are eye-minded, ear-minded, motor-minded, etc.). Hence, the teacher, by means of tests and observation, should learn what these individual differences are and adapt her teaching to them. In teaching a class she must make the appeal through eye, ear, and muscle to meet the needs of the varying types.

Readiness of recall depends upon vividness of the original experience, repetition, the number and kind of associations, and the feeling of need. Therefore the teacher must (a) take advantage of all that makes an original experience vivid, as strong stimulus, surprise, novelty, etc.; (b) provide for repetition with interest in the form in which it is to function; (c) lead the child to make as many meaningful associations as possible.

### **Habit.**

Habits are acquired tendencies to specific action in definite situations, and are advantageous because they make for speed, accuracy and certainty, save energy, lessen fatigue, and free consciousness for higher purposes; therefore the teacher must aid the child to reduce to habit as many advantageous reactions as desirable.

The stages in the conscious acquisition of a habit are (a) consciousness of need, (b) desire to acquire it, (c) repetition with interest until fixed; therefore the teacher should awaken a feeling of need, and a desire to acquire a habit, and stimulate repetition with interest, allowing no exception to occur until the habit is fixed.

The stages in breaking a bad habit are: (a) recognition of the habit as wrong or undesirable, (b) desire to break it and to substitute its opposite, and (c) persistent repetition of the good and inhibition of the bad until the habit is fixed. Hence, the teacher must bring to focal consciousness the wrong habit as wrong, arouse a sincere desire to break it and to acquire its opposite, and continue to

provide or utilize situations demanding the frequent repetition of its opposite until the new habit becomes habitual. This applies especially to children over the age of twelve years, because before that age focalization upon the evil habit tends to fix it rather than to aid in its eradication.

The habit of success is one of the most necessary conditions of progress; therefore the teacher should establish this habit by assigning tasks which the child can perform with a reasonable degree of effort, and by seeing that he habitually performs them successfully.

Habitual attitudes and emotions are more significant in character building than specific skills; hence the teacher must consciously inhibit harmful attitudes and stimulate wholesome, constructive ones.

### **Moral education.**

Moral training is essentially like other forms of training, habit being the basis; therefore the teacher should co-operate with the home and the church in helping to establish those ideals and habits of action which they are striving to develop. It is most important that the teacher, in moral education, work out for each group that she teaches, the proper synthesis of moral training through incidents and occasions with moral training based upon a direct teaching of laws and ideals, and that she use the direct teaching increasingly as the child grows older.

### **Apperception.**

The mind acquires new only by means of past experiences; therefore the teacher must see that the child has in focal consciousness those ideas and feelings most needed in interpreting the new. If he has not yet experienced this necessary basis, the teacher must help him to get it.

### **Thinking or reasoning.**

It is the nature of mind to think a new thing first as a vague whole, then as to its parts, and, finally, to rethink these parts into a more definite whole. Therefore, the teacher should present a new subject or problem, first as a whole, then lead the child to a study of its parts, and finally lead him to synthesize or organize these parts into a meaningful unity.

In inductive thinking the mind (*a*) sees a problem or question, (*b*) observes a sufficient number and variety of particulars to warrant a conclusion, (*c*) by comparison sifts out common elements, (*d*) combines these into a generalization, (*e*) expresses this generalization in adequate language, and (*f*) tests its validity by application to new particulars. The teacher who leads a child to think inductively must follow this order of procedure, being most careful to lead the child himself to do the thinking.

In deductive thinking the mind (*a*) sees a problem or question involving the interpretation of a particular by means of a known generalization, (*b*) observes the particular as to its characteristics, (*c*) thinks a generalization (definition, law, or principle) as a possible explanation, (*d*) compares the particular with the general, (*e*) accepts or rejects a generalization as it corresponds or fails to correspond to the characteristics of the particular. The teacher who purposes to lead the child to think deductively must follow this order in her procedure, leading the child himself to think.

In a democracy, training children to think independently, carefully, sanely is one of the highest functions of the school.

## THE CURRICULUM.

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### INTRODUCTORY STATEMENT.

The purpose of primary education today is so to utilize the children's interests and tendencies through the recognition of their stages of development that they may live a life of rich experience within the school.

If it is true that children and not subjects are being taught, there can be no such thing as differentiation of subjects in the primary grades or an arbitrary forcing of the subjects before a need is felt. Since children in these periods of later infancy and early childhood are sense perceptive, imitative and motor active, since their interests lie largely in the activities which they perform and their pleasure is derived from action rather than the result of the act, since this is the time when they "are accumulating experiences largely through the senses to be used in all future thinking," it can readily be seen that the beginning of the mastery of the three R's must grow out of a real desire because of a felt need aroused by a rich personal experience.

Nature study in the form of school gardens, the care of pets, and excursions for the purpose of getting first-hand experience with plant and animal life; history which gives dramatically, by means of the story and motor activity, an opportunity to relive the primitive life period of development through which the race has passed; literature which plays so large a part in character and language development; music, drawing, games,—all furnish the necessary background out of which the so-called "formal subjects," reading, writing, oral and written language and number work may naturally grow.

The "expression" subjects in the primary grades, such as language, reading, handwork, games and music become an educative force for a child when they reflect and are vitally connected for him with those experiences derived from the "content" subjects in which his interest lies. This point is emphasized and illustrated under Projects, Number Work, Reading, Phonics and Industrial Arts for the primary grades. All subjects in the primary grades are so interdependent, interwoven and informally taught that there can be no arbitrary, invariable following of a daily time and subject schedule. To list the subjects singly in a course of study is misleading, unless attention is called, as here, to the fact that such listing in this bulletin does not imply the policy of segregation in the teaching of the "subjects" in the elementary school.

### THE STATE TEXTBOOKS.

The state textbooks are used as required in all of the grades and in all of the subjects in which they have been printed. Student teachers are given adequate training in the use, in the class room, of the state texts. The texts are not listed in the bibliographies contained in this course of study, because their use is taken for granted and the list can be obtained on application to the superintendent of public instruction.

### MANNERS AND MORALS.

No formal course in manners and morals is outlined in the curriculum,—this for the reason that manners are not taught formally, but, rather, incidentally along the lines of suggestions contained in the bulletin by the commissioner of elementary schools, while morals are taught both indirectly and directly as indicated in the outlines of the school subjects.

## READING.

CAROLINE I. TOWNSEND, Assistant Director of Education.

**Outline of Purpose of the Work in Reading in the Primary Grades.**

- I. To train the children, upon entering school, to think of reading as a means to an end—namely, thought getting and thought giving—and not an end in itself:
  1. By giving beginners, during the first few weeks of school life, a background of experiences and impressions, through such content and expression subjects as history, literature, nature study and motor-active work, out of which reading may naturally grow.
  2. By utilizing the natural opportunities for incidental reading which grow out of school projects or out of any real need connected with the life of the school, home or community.
  3. By withholding the introduction of phonics as one means of word getting until the children recognize it as a tool only.
- II. To help the children into possession of the power to get thought silently, at their maximum rates of speed, by giving careful attention to suitability of reading material from the standpoint of child interest, to the work of the eye in reading, and to book hygiene.
- III. To insure careful reading habits by asking for interpretation of subject matter read silently, in terms of oral explanation, reports, dramatization or oral reading.
- IV. To decrease the amount of oral reading and increase that of silent reading in accordance with the stages of development through which the children are passing.
- V. To protect the children against the demand for voicing inane subject matter for the purpose of word repetition, or subject matter that is too difficult for oral sight reading from the standpoint of content or vocabulary.

## GRADE IB.

I. *Incidental reading.*

Among the opportunities for incidental reading in the training school are the following:

- A. Simple written directions and commands concerning the work of the day written upon the board by the teacher, when the need demands, and interpreted in terms of action by the children. This kind of work paves the way for interpretation of directions for playing a game which furnishes the child motive for reading and offers opportunity for silent reading.

## a. Examples of the type of first directions and commands:

1. Please close the door.
2. Pass the books.
3. Go to the blackboard.
4. Turn. Stand. Pass.

- b. Examples of directions for seat work based on a story read or told, the directions being read silently and followed by the group:

Draw a picture of:

1. The three bears.
2. The home of the three bears.
3. Little Silverhair.

- c. Example of directions concerning a nature study excursion:

Look carefully for:

The Meadow Lark.

1. Its song.
2. How it flies.
3. Its colors.

B. Labels used in various connections.

- a. The teacher makes tags for the various common objects in the schoolroom. These tags may be made of manilla cardboard and printed with the school "Price and Sign Marker," the children making it a game to see who can put the tags in their proper places. Such objects as door, chair, window, chalk, eraser, pointer, table, desk, book, flag, flowers, are among those thus tagged.

- b. Children label their nature study charts, flower calendars and simple weather records.

- c. Children paste descriptive labels made by the teacher or written by themselves under their illustrative drawings or paper cuttings.

- d. Children label their sand table projects that this work may be understood by those unfamiliar with the work of the group.

- e. Our primary playroom offers, among other educative materials, some inexpensive type outfits that the children may use for printing anything they wish to print because of a felt need, while working out their individual projects. They may print their own names, or label anything constructed, or print signs for their building-block stores, streets or parks, or prices for articles in their play-stores.

- C. The teacher places the rhymes mounted with their illustrations, that have been played, sung or learned during the game or literature period, in a prominent place in the room, after first showing the group the location of each line of the rhyme.

- D. Children paste illustrations in "Stampkraft" rhyme books, after the rhymes have been memorized, thus strengthening the association between the appearance of the rhyme as a whole and the illustration. This work has proved so fascinating that the children have practically taught themselves to recognize not only lines but many words in the rhymes, and often the entire rhyme has been mastered.

- E. Permit small groups of children to look over the teacher's shoulder while she reads in books where small portions of the text are associated with the illustrations.

- F. In the primary playroom provide games of various kinds, made by the older children for the first grade, which involve some reading in order to play the game.
- G. Offer the children the use of a primary reading table providing such opportunities as the following:
- a. Labelled toys; scrap books and picture books of wild and tame animals, birds, flowers, a circus parade, with the names associated with the pictures.
  - b. Envelopes containing both words and pictures; children match the two.
  - c. Well chosen picture cards with words on the opposite sides. The child's problem: To see how many cards he can name by looking at the word only.
  - d. Rhymes cut apart into their various lines and put into boxes or envelopes with illustrations of same. The child's problem: To put these together correctly and associate them with their pictures.
  - e. A variety of attractive story books, such as *Little Black Sambo*, by Bannerman; *Mother Goose in Silhouette*, by Buffum; the *Beatrix Porter Books* and illustrated folk tales—after the stories have been read to the group.

In such ways as these, entirely without the element of formal drill, our first grade children gain a large vocabulary of common words and actually do much toward teaching themselves to read. While to them the reading is wholly incidental to the end to be accomplished, it is by no means haphazard work on the part of the teacher. Beginning, possibly, on the first day of school, a little is offered at a time, and the difficulties are gradually increased as the child's power grows. It is power thus acquired that creates the desire to read and keeps reading from becoming a class exercise.

## II. *Reading taught directly during the regular reading periods.*

The analytical method of approach to the subject of reading is psychological, since the sentence or word is the familiar unit of thought to the child before entering school and since it is possible by starting in this way to use subject matter which can truly be *read*. (See I and first part of V under "Purpose of the Work in Reading," page 8.)

After the sentence is presented as a whole, its analysis into phrases and word wholes may follow. Analysis of the word whole followed by phonic synthesis is the next step, and phonic synthesis (see "Teaching of Phonics," page 15) naturally begins when sight words begin to be confused because of their similarities.

The sources for reading material which grow most naturally out of child interest are (1) the story, (2) the rhyme, (3) action, and (4) common group experiences.

### 1. The story.

The first three or four stories read by the group are those which the children have previously heard and told during the literature period. With these for a background the following method of procedure may ensue: (1) A portion of the story taken each day,—orally contributed, a sentence at a time, in answer to the teacher's questions, by members of the group. (2) These sentences analyzed, giving the necessary time and attention to word drill growing out of this analysis.

After these familiar stories have been studied, the children will possess a reading vocabulary, which, together with their first knowledge of phonics, will enable them to work out *analytically* stories unfamiliar in thought but possessing similarities in vocabularies.

Among the best texts, at present, which use the story as a source for first reading lessons are:

The Free and Treadwell Primer.	Row, Peterson & Co.
The New Barnes Primer.	A. S. Barnes Co.
Work-a-day Doings.	Silver, Burdett & Co.

## 2. The rhyme.

Method of procedure:

1. Memorization before seeing the rhyme in script or print.
2. Group repeat it as a whole as teacher points to line wholes in order.
3. Individual children find lines in order.
4. Individual children find lines out of order,—the easier lines first.
5. Children discover, first the obvious words or phrases, then the more difficult ones.

Rhyme charts made in the school, printed with the "Price and Sign Marker," prove very satisfactory for group work.

## 3. Action.

"Things to do" and games to play may be written upon the blackboard or printed upon charts. Such simple one-word sentences as "Run," "Skip," "Hop," "Jump," "Walk," "Sing," furnish the beginning for this work.

The "game" is not to voice the sentence, but to read it silently and interpret it in terms of action.

## 4. Common group experiences:

For method of working these out and using for reading lessons, see Grade I, Language Outline, page 38.

Examples:

- School excursions.
- Primitive life. See "History for First Grade."
- Nature study.
- Any school project.

## GRADE IA.

### I. *Subject matter.*

1. The same utilization, as in I B, of all possible opportunities for incidental reading.
2. Records of group experiences. See I B.
3. Action.  
Interpretation of written or printed directions for doing or making things.

### 4. Story.

Such texts as the Free and Treadwell First Reader, Folklore Book I, Summer's First Reader and Baldwin's Fairy Reader are suggested for group study.

Many opportunities are offered for individual supplementary reading through the books listed for this grade in the Training School Library.

## II. *Method of procedure for group reading.*

This varies with the kind of content to be read. The study-recitation method is practical where the subject matter taxes all of the child's reading power.

Oral sight reading gives the group pleasure and a feeling of power, provided the subject matter presents no difficulties that will impede the child's fluency. Such subject matter needs to be much simpler than that mentioned in the above paragraph.

This easier content also offers excellent opportunity for silent study of the entire lesson, followed by oral reports or informal dramatization by members of the group.

## III. *Individual work.*

Very often opportunity may be given for each child to read silently something he selects himself, the teacher helping when needed. These stories may or may not be read or told to the group.

### GRADE II.

Group and individual work differ only in degree from that of the first grade.

With increasing power to master the mechanics of reading, larger experiences are possible.

Among the books used for group work are: *Second Readers* by Free and Treadwell, Summer, Elson, and Baker and Carpenter; *The Story Hour, Book II*; *Progressive Road to Reading, Book II*; *Folklore Reader, Book II*; *The Second Fairy Reader* by Baldwin; *Folklore Stories and Proverbs* by Weltse; *Eskimo Stories*, Rand-McNally; *Mewanee, the Little Indian Boy*, Wiley; *The Tree Dwellers and Early Cave Men*, Catherine Dopp.

### GRADE III.

In addition to the supervised study of reading and also to informal reading during the regular reading periods, the lessons in arithmetic, geography, history and nature study furnish content for the reading of the third and fourth grades. Among the sets of books used for this group during the daily reading periods are:

Free and Treadwell Third Reader. Row, Peterson & Co.

Summer's Third Reader. Beattys & Co.

Riverside Third Reader. Houghton-Mifflin Co.

Progressive Road to Reading. Book III. Silver, Burdett & Co.

Fables and Folk Stories. Scudder. Houghton-Mifflin Co.

Fifty Famous Stories. Baldwin. American Book Co.

Later Cave Men. Dopp. Rand-McNally.

Alice in Wonderland. Carroll. Ed. Pub. Co.

Through the Looking Glass. Carroll. Ed. Pub. Co.

Robinson Crusoe. Baldwin. American Book Co.

Old Mother West Wind. Thornton Burgess. Little, Brown & Co.

Mother West Wind's Children. Thornton Burgess. Little, Brown & Co.

### GRADE IV.

While the amount of oral reading in the third grade decreases over that of the second, with the proportionate increase of silent reading, the decrease is still more marked in the fourth grade. Not only is this true, but group reading becomes less popular as the desire increases to "read ahead" individually. Opportunities for doing this, of the same kinds mentioned under preceding grades, are now given on a broader and larger scale.

While time and careful attention are given to intensive study by the group of such books as *The Vikings*, *Four Old Greeks* and the Radford edition of *King Arthur*, the group also reads widely in the library or among books provided for individual reading.

Reports before the class, on what has been read, are frequently given, or at times group members carefully prepare to read orally, for the benefit of the class, something of particular value and interest discovered by themselves or provided by the teacher.

Valuable sets of books for this grade are:

- Baker and Carpenter Fourth Reader.
- Free and Treadwell Fourth Reader. Row, Peterson & Co.
- Adventures of Pinocchio*. Collodi. Ginn & Co.
- The Vikings*. Jennie Hall. Rand-McNally.
- Four Old Greeks*. Jennie Hall. Rand-McNally.
- Moni, the Goat Boy*. Ginn & Co.
- Little Lame Prince*. Mulock. Ed. Pub. Co.
- The Kipling Reader*. Appleton & Co.
- The Knights of King Arthur*. Rand-McNally.

*Bibliography on Reading in the Primary Grades.*

1. Psychology of Reading.  
Huey: *Psychology and Pedagogy of Reading*. Macmillan.
2. Pedagogy of Reading.  
Huey: *Psychology and Pedagogy of Reading*. Macmillan.  
Klapper: *Teaching Children to Read*. Appletons.  
Gesell: *The Normal Child and Primary Education*. Ginn & Co.
3. History of Reading Methods.  
Huey: *Psychology and Pedagogy of Reading*. Macmillan.

## PHONICS.

## PURPOSE OF THE WORK IN PHONICS IN GRADES I AND II.

- I. To train the children, after an interest in reading has been aroused and the need for help in getting words is felt, to think of phonics as *one of several helpful tools* for working out words for themselves as a means to the end of reading,—*i. e.*, thought getting, not reading as an end in itself:
  1. By withholding work in phonic synthesis until the beginning children have been in school for six or eight weeks.
  2. By teaching this work during a drill period apart from the reading period.
- II. To help the children into possession of the power to articulate and pronounce correctly the words for which they have the phonic facts:
  1. By working constantly for distinct and exact utterance, smooth and rapid blending, when sounding words.
- III. To train the children to learn the new sound by hearing it in a known word and to recall the sound when forgotten by rethinking the word through which it was taught, thereby protecting them against the prevalent demand for making false association of the letter sound with the sound made by something in the animal world. When they are taught that "m" is the sound that the cow makes, "a" the "happy baby" sound and "t" the sound of the watch, the mental gymnastics required to get the word "mat" phonetically are absurdly unnecessary.
- IV. Realizing the inconsistency of our English language, to make possible the mastery of the phonic facts most needed and the application of these to words occurring in the children's reading by omitting those facts belonging to word study classes in grades above the primary.
- V. To help the children to retain their power to get words phonetically by occasionally reviewing in the third and fourth grades the work of the first two grades.

## 1B GRADE.

- I. Before formal work in phonic synthesis is begun, a little time can profitably be given to games that will train the children to hear correctly the elements of words.
  1. Rhyming words:
 

Teacher or child: "I'm thinking of a word that rhymes with 'cake'."

The substance of the questions following would be: "Is it bake, take, lake, make," etc.? until the right word is guessed.
  2. Children listen for the rhyme words as a verse is repeated,—*i. e.*, the words rhyming with "Hubbard" and "there" in "Old Mother Hubbard," etc.
  3. Children tell what two words rhyme in such a jingle as:
 

"Little Nancy Etticoat," etc.
  4. Children recognize words when spoken slowly enough by the teacher to separate the initial sound from the word-ending,—*i. e.*, "Stand when you hear your name" (the teacher pronouncing the names slowly), "M-ary," "J-ohn," etc.
  5. Teacher, and later some child, give directions for performing some action, separating one word of the direction into initial sound and word ending,—*i. e.*, "Point to the f-ish," "to the t-able." "Touch your d-esk," "your b-ook," etc.

## II. Letter sound taught:

## 1. Consonants:

b; c (hard); d; f; g (soft); h; j; k; l; m; n; p; r; s (as in "see"); t; v; w.

## 2. Vowels:

The long and short sounds of a, e, i, o; short "u"; long "y"; and "ee."

## 3. Method of procedure:

a. Teach as initial sounds, by means of word lists, twelve of the consonant sounds most needed, such as b, c, d, f, g, h, m, n, p, r, s, t. Start always with a known sight word, the teacher contributing other words beginning with the same sound, there being no attempt at this stage to have the children master the word endings, nor any work in phonic synthesis until these twelve consonants are learned as initial sounds.

b. First work in phonic synthesis:

Teach short "a" in combination with the above twelve consonants. As a rule, the children can take this easily and intelligently from six to eight weeks after entering school.

c. Teach the remaining short vowel sounds (with the exception of short "y"), the sound of "ee" and also the remaining consonant sounds.

d. Teach the long vowel sounds, with the exception of long "u," which is a difficult sound and not much needed at this time.

## 1A GRADE.

1. Careful review of the consonant and vowel sounds taught in the 1B Grade.
2. Teach g (soft); c (soft); s as in "his"; long "u" and short "y."
3. Teach the first half of the following group of combinations in words of one syllable:

sh; ch; wh; th (surd) as in "thin"; th (sonant) as in "this"; ing; all; aw; ar; or; ea, as in "eat"; ea, as in "head"; oa; ai, as in "sail"; ight; long oo, as in soon; short oo, as in "book"; ay; ou; ow, as in "how"; ow, as in "blow"; ang; ong; ung; er, as in "her"; ir, as in "bird"; ur, as in "fur"; ed, like t, as in "liked"; ed, like d, as in "turned"; qu; kn, as in "know"; ew, like long u, as in "few"; ew, like oo, as in "crew"; wr, as in "write"; mb, as in "thumb."

Help the children in this grade to think silently the two or three sounds in the word-endings of words of one syllable and to utter each word-ending as one sound.

## 2B GRADE.

1. Review thoroughly the work of the first grade.
2. Finish teaching the group of combinations listed under 1A.  
Place more stress in this grade on rapid, smooth and accurate blending:
  - a. Of the two or three initial consonants.
  - b. Of the vowels with their following consonants.

## 2A GRADE.

1. Review all preceding work.
2. Teach the following group of initial and final syllables:
 

a, as in around; in; en; ly; ny; ty; ness; less, ful; est; ure; age, ous, tion; some; il; el; ed, as in "parted"; be; de; re; pre; dis; ex; pro; ap; ad; af; at; an; ab; ob; or; con; col; tle after "s," as in whistle; tle as in "little."

NOTE I.—Always present the new sound, initial consonant, vowel, combination, initial and final syllable, *through a familiar sight word*,—that is, through phonic analysis. When a sound is forgotten, the children should think the word through which the sound was taught. These words may be kept permanently on the blackboard, or on perception cards.

NOTE II.—When learning a new sound, as when learning to spell by letter, the children need to get the new sound through as many avenues as possible,—the eye, the ear, the voice and the hand.

I. The eye, ear and voice are active through such games as the following:

1. A list of different words containing the new sound on the board duplicated in two other columns; different arrangement in each column:

a. The teacher sounds a word in one column and the child finds the same word in another column, sounds and pronounces it. Continue this until each child has had a turn.

b. Two children, each with a pointer and column of his own, may play the game. The teacher points to a word in the third column. Each child finds it in his column, sounds and pronounces it.

2. Perception cards containing the words above mentioned:

a. The teacher turns a card and calls some child's name. Child quickly responds with word.

b. The teacher passes out cards. Children match with word on board, pronouncing it, if possible, without sounding the word aloud. When finished, stand card in chalk ledge.

c. Then let one child pick up as many cards as possible, speaking each word distinctly as he does so.

II. The children may learn to write the new letter or letter group toward the close of the phonics period on the day a new sound is taught.

This is done by:

a. Focalization of attention while the teacher writes the letter or letter group calling attention to form.

b. Children trace in the air while the teacher writes again.

c. Children trace in the air while the teacher watches.

d. Children close eyes and trace in air.

e. Children try it on board, uttering the sound when through writing.

NOTE III.—With all games for phonic drill, continually check up the child who misses by frequently returning to him for the solution of his problem.

*Bibliography on "The Teaching of Phonics."*

1. Method.

Klapper: *Teaching Children to Read*. Appletons,—Chapter VIII.

Huey: *Psychology and Pedagogy of Reading*. Macmillan,—pp. 281-287.

2. For helpful word lists for phonic drill:

Akin: *Word Mastery*. Houghton-Mifflin Co.

## LITERATURE IN THE LOWER GRADES.

CAROLINE I. TOWNSEND, Assistant Director of Education.

The study of literature has no other reason for being than to promote that love of literature by which alone it can become a vital influence upon life.

Literature in the primary grades at once suggests that large field of first-class writing which groups itself under nursery rhymes, folk and fairy tales, simple myths, fables, animal stories, stories of real life and of adventure, and such poetry as that of Rosetti and Stevenson.

The method of presentation in the lower grades is from necessity largely by word of mouth, since primary children have not yet mastered the mechanics of reading. Nevertheless, even by the end of the first year the desire to read has been created to the extent that some of the first crude, yet literary, art is fluently read and enjoyed, this ability increasing proportionately throughout the grades.

## GRADE I.

Simple, short, objective stories, easy to see through, without much of the element of suspense and no unnecessary detail. Stories, rhymes and verses characterized by repetition, alliteration and rhythm. The following lists will show the type of literature:

*Folk Tales.*

- |                                                |                                                                  |
|------------------------------------------------|------------------------------------------------------------------|
| The Old Woman and the Sixpence.                | In "Six Nursery Classics." O'Shea.                               |
| The Pancake.                                   | In "East o' the Sun." Gudrun Thorne Thomsen. Row, Peterson & Co. |
| The Three Billy Goats Gruff.                   | Tales from the Norse.                                            |
| The Lad Who Went to the North Wind.            | Dasent. Putnams.                                                 |
| The Three Little Pigs.                         | In "Stories to Tell to Children" and                             |
| The Three Bears.                               | "How to Tell Stories to Children."                               |
| The Other Little Red Hen.                      | Sara Cone Bryant.                                                |
| The Gingerbread Man.                           | Houghton-Mifflin Co.                                             |
| Reynard and the Cock.                          |                                                                  |
| Boots and His Brothers.                        | In "East o' the Sun." Gudrun Thorne                              |
| The Sheep and the Pig Who Set Up Housekeeping. | Thomsen. Row, Peterson & Co.                                     |

*Fables.*

- |                            |                                                           |
|----------------------------|-----------------------------------------------------------|
| The Lion and the Mouse.    | In "Fable Land." Emma Serl. Silver, Burdett & Co.         |
| The Ant and the Dove.      | In "Fairy Stories and Fables." Baldwin. American Book Co. |
| The Hare and the Tortoise. |                                                           |
| The Lark and the Farmer.   | In "Fables and Folk Stories." Scudder.                    |
| The Wind and the Sun.      | Houghton-Mifflin Co.                                      |
| The Dog and His Shadow.    |                                                           |

*Nursery Rhymes.*

Little Boy Blue.  
 Little Miss Muffit.  
 Old King Cole.  
 Simple Simon.  
 Little Jack Horner.  
 Jack Sprat.  
 Three Wise Men of Gotham.  
 In "Nursery Rhyme Book."  
 Andrew Lang.

*Rhymes and Verses.*

Table Manners.  
 Generosity.  
 Bed Time.

If All Were Rain.  
 The City Mouse.  
 Wrens and Robins.  
 Who Has Seen the Wind?  
 Boats Sail on the River.  
 What Is Pink?

The Rain.  
 Singing.  
 Birdie With a Yellow Bill.  
 Bed in Summer.  
 At the Seaside.  
 A Good Play.  
 The Swing.

## GRADE II.

The great favorite is the imaginative story, longer and with more detail than that of the first grade. The rhythmic impulses are still strong in this grade. Poetry, both lyric and epic, appeals.

*Stories.*

## Fables:

The Dog in the Manger.  
 The Crow and the Pitcher.  
 The Man, the Boy, and the Donkey.  
 The Fox and the Crow.  
 The Town and Country Mouse.  
 Belling the Cat.

## Folk and Fairy Tales:

The Elves and the Shoemaker.  
 The Fisherman and His Wife.  
 Cinderella.  
 The Straw, the Coal and the Bean.  
 Snow White and Rose Red.  
 Briar Rose.  
 Dick Whittington and His Cat.

*Nursery Rhyme Riddles.*

Humpty Dumpty.  
 Round as a Biscuit.  
 Smoke.  
 St. Ives.  
 Twelve Pears Hanging High.  
 I Have a Little Sister.  
 In "Nursery Rhyme Book." Jessie  
 Wilcox Smith. Dodd, Mead & Co.

The Goops: Gillett Burgess. Stokes  
 Pub. Co.

Sing Song: Christina Rossetti.  
 Macmillans.

A Child's Garden of Verse. Robert  
 Louis Stevenson. Rand-McNally Co.

Fairy Stories and Fables. Baldwin.  
 American Book Co.

The Children's Hour. Eva March  
 Tappan. Houghton-Mifflin Co.

How Brother Rabbit Fooled the Whale  
and the Elephant.  
The Jackal and the Alligator.  
Epaminondas and His Auntie.  
Raggylug.

The Steadfast Tin Soldier.  
The Apple Branch.  
Five Out of One Shell.  
The Nightingale.

*Rhymes and Poetry.*

Rhymes:  
Borrowing.  
Politeness.      The Goops:  
Honesty.  
Hospitality. Gillett Burgess. Stokes.  
Caution.  
Interruption.

Poetry:  
The Wind.  
My Shadow.  
Foreign Children.  
Windy Nights.  
My Bed Is a Boat.

Wynken, Blynken and Nod.  
The Rock-a-by Lady.  
The Sugar Plum Tree.  
The Duel.  
The Night Wind.

Hiawatha's Childhood.

GRADE III.

The imaginative type of story is still demanded, but the question "Is it true?" is heard. The realistic story is enjoyed and the hero of physical courage admired. Animal stories, at this stage, make a strong appeal.

TYPE OF STORIES FOR THIS GRADE.

Robinson Crusoe: Defoe.

In part told, in part read, by the teacher.

Children read for themselves the Baldwin edition of Crusoe.

Interpretation of the story through dramatization and other concrete experience.

Alice in Wonderland. Lewis Carroll.

Through the Looking Glass. Lewis Carroll.

Read by the teacher as the children follow the text, the children taking part by reading the simpler parts of the stories.

Stories to Tell to Children.

How to Tell Stories to Children.  
Sara Cone Bryant.

Houghton-Mifflin Co.

Hans Andersen. Houghton-Mifflin Co.

*Rhyme Riddles.*

There Was a King Met a King.  
Old Mother Twitchett.  
In Marble Walls.  
Hick-a-more Hack-a-more.  
In "Nursery Rhyme Book."  
Andrew Lang. Warner Co.

Child's Garden of Verse. Robert Louis  
Stevenson. Rand-McNally Co.

Eugene Field. Scribners.

(Through "The Hunting of the Deer.")  
Longfellow.

Tales of Old England: Fifty Famous Stories. Baldwin. American Book Co.  
 Robin Goodfellow.  
 King Alfred and the Shepherd.  
 The Merry History of the Cobbler and the King.  
 Story of Johnny Bear. Lives of the Hunted. Thompson Seton. Scribner.  
 Rikki Tikki Tavi. Jungle Book. Rudyard Kipling. Century Co.

## TYPES OF POETRY.

Foreign Lands.

Land of Story Books.

Escape at Bedtime.

The Lamplighter.

The Sun's Travels.

Armies in the Fire.

Child's Garden of Verse. Robert Louis  
 Stevenson. Rand-McNally Co.

The Fairy Folk.

Wishing.

Posy Ring Golden Numbers. Wm.  
 Allingham. McClure, Phillips & Co.

The Owl and the Pussy Cat.

The Wind and the Moon.

The Sandpiper.

Nonsense Book. Edward Lear. Duffield.  
 George McDonald.  
 Celia Thaxter.

Poems Every Child Should Know.

Burt. Doubleday, Page & Co.

## GRADE IV.

This is a transition period. Some children cling to the imaginative story, but the larger interest of the group centers around the historical story and the stories of out-of-door life and adventure. Animal stories, both true and imaginative, are much in demand. The epic poem makes a much stronger appeal than the lyric.

Type of Story. (In addition to those listed under fourth grade reading.)  
 Jungle Books I and II. Kipling.

Wully-Redruff. Wild Animals I Have Known. Thompson Seton. Scribner.

A Little Boy Lost. Hudson. W. H. Knopf, Pub.

*Poetry.*

Thirty Days Hath September.

A Riddle.

The Sea.

The Mountain and the Squirrel.

Abou Ben Adhem.

The Village Blacksmith.

A Day.

Nursery Rhyme Book.

Jonathan Swift.

Barry Cornwall.

Emerson.

Leigh Hunt.

Longfellow.

Emily Dickinson.

Above from "Golden Numbers." McClure, Phillips & Co.

What Do We Plant When We Plant  
 the Tree?

Burton Stevenson. Holt Co.

*Bibliography on Literature and How to Teach It in the Lower Grades.*

## I. Books covering both of the above points:

1. Literature in the Elementary School. MacClintock, Porter Lander; University of Chicago Press.
2. Stories and Story Telling. Keyes, Angela; D. Appleton & Co.
3. How to Tell Stories to Children.  
Stories to Tell to Children. Bryant, Sara Cone. Houghton-Mifflin Co.

## II. How to Teach Poetry.

The Teaching of English. Chubb, Percival. Macmillan Co.

How to Teach. (Chapter on "Memorization." Strayer and Norsworthy. Macmillan Co.

## LITERATURE IN THE UPPER GRADES.

GERTRUDE SUMPTION BELL, Assistant Director of Education.

### General Principles and Aims.

The book long ago ceased to be a luxury. Literature has become a prime necessity to cultivated human life. Its contributions to the equipment of an open-minded, generous and effective boy or girl are of the highest potential value, and should be clearly apprehended by everyone who expects to plan or direct the reading of literature in the school.

It is quite evident that the method appropriate to "Evangeline" should not be used in teaching "The Chambered Nautilus"; and "Hunting the Deer" would demand still another mode of procedure, while either "Treasure Island" or "Quentin Durward" would exact a special treatment. Very few general directions may be given for the teaching of literature. Clear-cut conceptions of aims are, for the intelligent teacher who appreciates good literature, the best guides to methods.

Oral reading should not be an exercise or performance for the sake of learning to read. To the child there must be a genuine reason for reading *orally*: viz, to prove his point, to show that his conclusions are warranted by the words of the author, to illustrate peculiarities or excellences of style, to entertain or to please others. The wise teacher utilizes many real motives for oral readings. Pupils prepare and read to their own classmates or to others something which their hearers have not read, and the purpose to make others understand or enjoy is genuine and not assumed. Such reading, stimulated by attentive, appreciative listeners, really results in ability to read orally. Reports upon material read silently should be as sincere; if made upon something all have read, a report must have in it more than mere reproduction to raise it above meaningless, insincere farce.

Intensive study, paragraph by paragraph and word by word, with use of the dictionary and other aids, needs motivation most of all. Competitive recitations, in which each group works out good questions to be answered by those who really understand the text, result in live study.

Throughout the literature work, sincerity must be the watchword. The pretense of admiring or loving what is really distasteful, uninteresting or stupid is an evil all too prevalent, and is due to the academic cult of "classical" literature.

Supplementary reading is stimulated and directed by means of a recommended list given each pupil. He reports from time to time as to the books he has read and his impressions of them, and he often tries to lead others to read the ones he has liked best by telling them the most interesting features. A surprising amount of collateral reading is being done by the sixth, seventh and eighth grade children.

### Fifth Grade.

#### *Literature and Reading.*

These subjects are undifferentiated now because elementary problems of mechanics should be mastered by this time to such a degree that all additional technique may be acquired through reading several texts and real literature.

Special emphasis is laid upon learning to use the dictionary intelligently, forming the reading habit or taste, increasing speed and accuracy in silent interpretation, and acquiring good habits of oral reading.

From the following list of material, choice is made from term to term in the light of other subjects which give dominant interests for a period, or as determined by season of year or particular occasion:

Hawthorne -----	Tanglewood Tales.
	Wonder Book.
Spyri -----	Heidi.
De la Ramée, L. -----	The Nurnberg Stove.
Defoe -----	Robinson Crusoe.
Long, W. J. -----	Animal stories.
Kipling -----	Animal stories.
Thompson-Seton -----	Animal stories.
Baldwin -----	Siegfried, Roland, etc.
Burnett -----	Little Lord Fauntleroy.
	Sara Crewe.
Lanier -----	King Arthur.
Pyle, H. -----	Robin Hood.
Johnston, S. F. -----	"Little Colonel" series.
Harris, J. C. -----	Uncle Remus.
Page, T. N. -----	Captured Santa Claus.
	Two Little Confederates.
Richards, L. E. -----	Captain January.
	Florence Nightingale.
Stockton, F. -----	Fanciful Tales.
Stoddard, W. O. -----	Talking Leaves.
Van Dyke -----	The First Christmas Tree.

Biographies of such men and women as Daniel Boone, David Crockett, Paul Jones, Helen Keller, Clara Barton, Sir Francis Drake, Lafayette, Lincoln, Washington, Franklin, Edison, Wright, Marconi, are read.

Groups of stories, myths or poems about flowers, birds, dogs, cats, horses, etc., are included.

Dramatizations, as subject matter and the children's interest demand, correlations with language, nature-study, history and geography, whenever possible, are developed.

Much reading is individual and silent, often at home. Oral reading is usually given place in response to the child's desire to give pleasure to others.

**Sixth Grade.**

All that is outlined under "Fifth Grade" applies here, and much of the material listed under that caption is equally appropriate at this stage. Selection is made from such additional material as the following:

Irving -----	Rip Van Winkle. Legend of Sleepy Hollow.
Ruskin -----	King of the Golden River.
Browning -----	Pied Piper of Hamelin.
Bible -----	Beatitudes. Psalms XIX, XXIV, XC.
Mark Twain -----	Joan of Arc. Prince and Pauper.
Barbour -----	For the Honor of the School.
Dudley -----	Following the Ball.
Henning -----	Jeanne D'arc.
Ingersoll -----	Book of the Ocean.
Kipling -----	Captains Courageous.
Lamb (Charles & Mary) -----	Tales from Shakespeare.
Van Dyke -----	The Other Wise Man.
Wiggin -----	Rebecca of Sunnybrook Farm. The Birds' Christmas Carol.

Another group of biographies is read, with groups of poems about flowers, animals, heroes, etc. Memorizing and dramatization are especially stressed and yield rich returns at this age.

**Seventh and Eighth Grades.**

The intensive study of a few well-chosen, typical poems, essays, short stories, myths, legends, novels, etc., by pupils and teacher working together to get from each whatever each may have for all and to acquire intelligent methods of reading, should lead directly to the extensive reading of the same type after each introduction. If the intensive study is not exhaustive, analytical, oversentimental, or critical, it should result not only in enjoyment and appreciation of the thing studied, but also in a keen desire to read more by the same author or of the same type.

Most of this work must of necessity be silent, individual reading, with only occasional discussions, questions, recitations, or *well-motivated* oral readings. The method varies with the type. An illustration may make this clearer.

In teaching *Evangeline*, a narrative poem, the teacher prepares the class by an interesting account of the historic background, describes the physical Acadia of the time, and tells how Longfellow heard the story of the separation of the two lovers by the conditions of the exile. Thus she creates the atmosphere of knowledge and feeling necessary for the interpretation of the poem. She then reads aloud (every teacher of literature should be able to read well orally), with a few explanations and pauses for effective imaging, until the rhythm and the poetic conceptions and imagery have caught the children; then without further discussion or assignment, she allows them to go on reading silently and as rapidly as they can to the end. Following this, the teacher leads a discussion in which the story is briefly told, the characters are grouped and the poem is reread for answers to such questions as, What do we know of the appearance of *Evangeline*? of *Gabriel*? of *Father Felician*? of the character of each? Lines are quoted to prove

that the poem really tells us these things and that our fancies are not running riot. If the children wish to dramatize all or part, they should be aided in doing so in as natural and spontaneous a manner as possible. They may preserve the poetic form and spirit by using the exact words of the poem wherever possible, and by making other speeches as consistent in form as they can write them. Children should be encouraged to memorize beautiful or quotable lines which appeal to them, rather than be required to memorize those which the teacher prefers and imposes upon them.

The purposes of the first or intensive type of work are (a) to increase the child's ability and skill in getting thought from the printed page, (b) to increase his word and phrase vocabulary, (c) to give him a method of study appropriate to different types of literature, (d) to teach him how to use such aids as dictionary, cyclopedias, and other reference books, (e) to give skill in oral reading.

The purposes of the second or extensive type of work are, (a) to increase skill and speed in reading, both silent and oral, (b) to increase vocabulary, (c) to establish as habitual the methods of interpretation given in intensive work (d) to increase skill in use of aids to study, (e) to give breadth of knowledge of literature appropriate to this stage of development, (f) to arouse, stimulate and feed interest in and appreciation of the best examples of the types of literature studied, and in the best writers.

The types studied are, (a) narrative, in the form of short story, novel and poem, (b) drama in the form of dramatizations made by the class of stories read, and one Shakespearean drama, (c) essay in the form of biography, history, moral theses and scientific expositions, (d) poetry, especially narrative, lyric and didactic.

#### *Seventh year.*

##### Intensive:

Paul Revere's Ride (narrative poem).

King Robert of Sicily (allegorical poem).

Evangeline (narrative poem with moral theme. Girls study this).

Miles Standish (narrative poem with moral theme. Boys study this).

Treasure Island (tale of adventure).

Group of patriotic selections: Preamble to Constitution, Gettysburg Address, O Captain! My Captain! The Ship of State, God Give Us Men, Selections from Wilson's Speeches.

A Man Without a Country (class dramatization).

Rab and His Friends (nature story).

Pamphlets published on Citizenship by State Commissioner.

##### Extensive:

(Silent reading, followed by a few class discussions or recitations.)

The Birds of Killingworth.

Columbus (oral reading stressed).

Evangeline (boys).

Miles Standish (girls).

The Perfect Tribute (read by teacher to pupils).

Gold.

Individual readings followed by reports to class:

Group of nature stories from Kipling, Seton-Thompson, Burroughs, Long, Warner.

Group of stories of heroism.

\*Group of lives of great men of the twentieth century, each boy choosing one of the following: Wilson, Roosevelt, Foch, Pershing, Edison, Marconi, Wright brothers, Rockefeller, Henry Ford, Carnegie, Hoover, Jacob Riis, Russell Sage, Schwab, Ty Cobb, Charlie Chaplin, Douglass Fairbanks, Armour, Booker T. Washington, Billy Sunday, Josef Hoffman, Mischa Elman, St. Gaudens, Rodin, Jack London, Lloyd George, etc.

\*Group of lives of great women of the twentieth century, each girl choosing one of the following: Jane Addams, Maud Adams, Maud Ballington Booth, Ella Flagg Young, Mrs. Burnett, Ellen Terry, Pavlowa, Mary Pickford, Marguerite Clarke, Madam Curie, Madame Schumann-Heink, Nordica, Calve, Anna Howard Shaw, Clara Barton, Emmeline Pankhurst, Katherine Breskovsky, Selma Lagerlof, Jeanette Rankin, etc.

\*Some of the names in these groups have been selected from the pupils' points of view.

Reading to pupils by teacher of—

Poems valuable especially for rhythm, music, etc.

Poems valuable especially for imagery (sensuous).

Poems valuable especially for adaptation of form to ethical theme.

Poems valuable especially for symbolism.

### *Eighth year.*

Intensive:

Chambered Nautilus.

Daffodils.

Horatius.

Incident of a French Camp.

Herve Riel.

Merchant of Venice (girls).

Julius Cæsar (boys).

Quentin Durward.

Silas Marner.

Extensive:

The teacher reads to the class, *The Three Things*, *Message to Garcia*, *How the Water Came Down at Lodore*, *How They Brought the Good News from Ghent*, *The Perfect Tribute*, etc.

The children read silently, rapidly, with occasional discussions or reports, books which they choose from a well-selected and pretty large collection of books placed at their disposal.

As much time as can be spared from the intensive work is given to reading in circumstances which help to form the "library habit." The books are at hand and the pupils are made responsible for those which they take out for reading, either in the class room or at home. The teacher is the librarian, ready to advise and direct when difficulties are encountered and to see that pupils are not wasting time or becoming discouraged by grappling with books that are too advanced in thought or language. The reading goes on very much as the reading in the ordinary citizen's life is to proceed, but with the advantages that may be derived from the equipment and the intelligent interest of the school.

**Supplementary Reading Recommended for the Seventh and Eighth Grades.**

At least three books from the following list each year:

*Seventh Grade.*

Up from Slavery, Booker T. Washington; Heroes Who Fight with Fire, Jacob Riis; Ramona, Helen Hunt Jackson; In African Forest and Jungle, Du Chaillu; Boys' Life of Edison, Meadowcraft; The Jungle Book, Kipling.

*Eighth Grade.*

The Story of Hull House, Jane Addams; The Children of the Tenements, Jacob Riis; Men of Iron, Howard Pyle; Last Days of Pompeii, Bulwer-Lytton; John Halifax, Gentleman, Mulock; Things a Boy Should Know About Wireless, St. John.

Books used for class study have been omitted from the following list. Honors will be awarded those pupils in each class reading and reporting upon the greatest number of these books. Not more than one-half of the books read may be from Division VI. After the three recommended books from the first list have been read, any of the others on that list will count.

## I. INVENTION AND SCIENCE.

- |                                                      |                                                                                          |
|------------------------------------------------------|------------------------------------------------------------------------------------------|
| Baker, Ray Stannard.<br>Boys' Book of Inventions.    | Maule, Harry E.<br>Boys' Book of New Inventions.                                         |
| Black, Alexander.<br>Photographs, Indoors and Out.   | Price, Overton W.<br>The Land We Live In (Boys' Book of Conservation).                   |
| Duncan, F. M.<br>Seashore.                           | Simmonds, Ralph.<br>All About Airships (All About Aircraft: new & rev. ed., Funk, 1916). |
| Harpers' (Publishers).<br>Boys' Book of Electricity. | Story, Alfred T.<br>The Story of Photography.                                            |
| Holland, R. S.<br>Historic Inventions.               | Wheeler, Francis Rolt.<br>Thos. A. Edison.                                               |
| Howden, J. R.<br>Boys' Book of Locomotives.          |                                                                                          |

## II. ANIMAL STORIES.

- |                                                           |                                                    |
|-----------------------------------------------------------|----------------------------------------------------|
| Atkinson, Eleanor.<br>Greyfriar's Bobby.                  | Jordan, David Starr.<br>Story of a Salmon.         |
| Baldwin, James.<br>The Wonderbook of Horses.              | Kipling, Rudyard.<br>Jungle Books.                 |
| Burroughs, John.<br>Sharp Eyes.                           | London, Jack.<br>White Fangs.<br>Call of the Wild. |
| Comstock, John H. and Anna B.<br>How to Know Butterflies. | Miller, Olive Thorne.<br>First Book of Birds.      |

Culbertson, Anne.  
At the Big House.

Ollivant, Alfred.  
Bob, Son of Battle.

Dana, Richard K.  
The Boy with the U. S. Fisheries.

Ouida (De la Ramée, L.).  
A Dog of Flanders.

Fox, John, Jr.  
The Little Shepherd of  
Kingdom Come.

Roberts, Charles G. D.  
Red Fox.

Harris, Joel Chandler.  
Uncle Remus Tales.

Seton-Thompson, Ernest.  
Wild Animals I Have Known.

### III. TRAVEL AND ADVENTURE.

Bacon, Alice M.  
Japanese Girls and Women.

Jackson, Helen Hunt.  
Father Junipero and the Mission  
Indians of California.

Boyesen, Hjalmar Hjorth.  
Boyhood in Norway.

Jenks, Tudor.  
Boys' Book of Explorations.

Du Chaillu, Paul.  
Country of the Dwarfs.

Lee, Yan Phon.  
When I Was a Boy in China.

Finnemore, John.  
Peeps at Many Lands.

Moffett, Cleveland.  
Careers of Danger and Daring.

Grenfell, J. B.  
Dr. Luke of the Labrador.

Muir, John.  
The Mountains of California.

Hale, E. E.  
Stories of Discoveries Told by  
Discoverers.

Nansen, Fridtjof.  
Farthest North.

Higginson, Col. Thomas W.  
Young Folk's Book of American  
Explorers.

Stanley, Sir Henry Morton.  
Through the Dark Continent.  
How I Found Livingstone.

Hough, Emerson.  
Story of the Cowboy.  
Story of the Indian.

Stratemeyer, Edward.  
Dave Porter in the South Seas.

Hillegas, Howard C.  
Oom Paul's People.

Twain, Mark.  
Life on the Mississippi.  
Innocents Abroad.

Ingersoll, Ernest.  
The Book of the Ocean.

Irving, Washington.  
Fur Traders of the Colorado River.

White, S. E.  
The Riverman.

## IV. MYTHS, LEGENDS, FANCIFUL TALES, ETC.

- |                                                                                                                                                       |                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Baldwin, James.<br>Story of Siegfried.<br>Story of Roland.                                                                                            | Hawthorne, Nathaniel.<br>Wonderbook.<br>The Snow Image.<br>Tales of the White Hills.<br>Great Stone Face. |
| Barrie, J. M.<br>The Little White Bird.                                                                                                               |                                                                                                           |
| Boyesen, Hjalmar Hjorth.<br>Norseland Tales.                                                                                                          | Holbrook, Florence.<br>Northland Heroes.                                                                  |
| Brown, Abbie Farwell.<br>Robin Hood and His Forest Rangers.                                                                                           | Howells, William Dean.<br>The Howell Story Book (Scribners).                                              |
| Bulfinch, Thomas.<br>Legends of Charlemagne.<br>Age of Fable.<br>Age of Chivalry.                                                                     | Irving, Washington.<br>The Alhambra.                                                                      |
| Bunyan, John.<br>Pilgrim's Progress.                                                                                                                  | Lamb, Charles and Mary.<br>Tales from Shakespeare.                                                        |
| Butler, Isabel.<br>The Song of Roland.                                                                                                                | Lanier, Sidney.<br>Boys' King Arthur.                                                                     |
| Carroll, Lewis.<br>Alice's Adventures in Wonderland.<br>Through the Looking Glass.                                                                    | Longfellow, Henry W.<br>Hiawatha.                                                                         |
| Chapin, Anna Alice.<br>Wonder Tales from Wagner.<br>Wotan, Siegfried and Brunhilde.<br>The Story of the Rhinegold.                                    | McSpadden, J. W.<br>Stories from Wagner.                                                                  |
| Child, Clarence G.<br>Beowulf.                                                                                                                        | MacManus, Seumas.<br>In Chimney Corners.<br>At the Bend of the Road.                                      |
| Church, Alfred G.<br>Heroes of Chivalry and Romance.                                                                                                  | Pyle, Howard.<br>Robin Hood Stories.                                                                      |
| Frost, William Henry.<br>Knights of the Round Table.<br>The Court of King Arthur.                                                                     | Raspe, Rudolph.<br>Baron Munchausen.                                                                      |
| Guerber, H. A.<br>Story of the Greeks.<br>Story of the Romans.<br>Myths of Greece and Rome.<br>Legends of the Middle Ages.<br>Legends of Switzerland. | Stockton, Frank.<br>Fanciful Tales.                                                                       |
|                                                                                                                                                       | Swift, Jonathan.<br>Gulliver's Travels.                                                                   |
|                                                                                                                                                       | Wilkins, Mary E.<br>The Pot o' Gold.                                                                      |

## V. HISTORY AND BIOGRAPHY.

- Abbott, J. S. C.  
David Crockett.  
Daniel Boone.  
Kit Carson and Others.
- Abbot, Willis J.  
Blue Jackets of '61.
- Addams, Jane.  
Twenty Years of Hull House.
- Barnes, James.  
With the Flag in the Channel.  
Midshipman Farragut.
- Bishop, J. B.  
Panama Gateway.
- Bolton, Sarah K.  
Famous Gifts and Givers.
- Brady, Cyrus Townsend.  
Indian Fights and Fighters.
- Coffin, Charles C.  
Boys of '76.  
Building of the Nation.
- Comstock, Harriet T.  
A Boy of a Thousand Years Ago.
- Ewing, Juliana.  
Story of a Short Life.
- Fiske, John.  
The War of Independence.
- Franklin, Benjamin.  
Autobiography.
- Frothingham, Jessie Peabody.  
Sea Fighters from Drake to Peabody.
- Holland, Rupert Sargent.  
Historic Boyhoods.  
Historic Girlhoods.
- Jackson, Helen Hunt.  
Father Junipero and the Mission  
Indians of California.
- Johnson, Rossiter.  
The Hero of Manila.
- Keller, Helen.  
Autobiography (Story of My Life).
- McLaren, Barbara.  
Women of the War.
- Monvel, Boutet de.  
Joan of Arc.
- Morris, Charles.  
Heroes of Progress in America.
- Nicolay, Helen.  
Boy's Life of Lincoln.
- Page, Thomas Nelson.  
Robert E. Lee.
- Parkman, Francis.  
The Struggle for a Continent  
(ed. by P. Edgar).
- Richards, Laura E. (Mrs.).  
Florence Nightingale.
- Rideing, W. H.  
Boyhood of Famous Authors.
- Riis, Jacob.  
The Making of an American.  
Hero Tales of the Far North.  
How the Other Half Lives.
- Seelye, Elizabeth.  
Story of Columbus.  
Life of Washington.
- Twain, Mark.  
Joan of Arc.
- Warner, Chas. Dudley.  
Being a Boy.
- Willard, Frances.  
Nineteen Beautiful Years.

## VI. FICTION.

- Alcott, Louisa M.  
(Any of her books.)
- Alden, W. L.  
The Cruise of the Canoe Club.
- Aldrich, Thomas Bailey.  
Story of a Bad Boy.
- Austin, Mary.  
The Basket Woman.
- Blackmore, R. D.  
Lorna Doone.
- Boniface, J. L.  
Picciola.
- Burnett, Frances Hodgson.  
Editha's Burglar.  
Sara Crewe.  
The Dawn of a Tomorrow.
- Churchill, Winston.  
The Crisis.  
Richard Carvel.
- Cooper, James Fennimore.  
Leather Stocking Tales.
- Craik, Dinah Mulock.  
The Little Lame Prince.
- Davis, Richard Harding.  
Stories for Boys.  
The Bar Sinister.
- Davis, Wm. Stearns.  
A Victor of Salamis.  
A Friend of Cæsar.
- Defoe, Daniel.  
Robinson Crusoe.
- Jewett, Sarah Orne.  
Betty Leicester.  
The White Heron.
- Johnson, Owen.  
Varmint.
- Kingsley, Charles.  
Westward Ho!
- Kipling, Rudyard.  
Wee Willie Winkie.  
Captains Courageous.  
Jungle Books.  
Kim.
- Lytton, Bulwer.  
Last Days of Pompeii.
- Martineau, Harriet.  
Peasant and Prince.
- Mitchell, Weir.  
Hugh Wynne.
- Montgomery, L. M.  
Anne of Green Gables.
- Ouida (De la Ramée, L.).  
The Nurnberg Stove.
- Porter, Gene Stratton.  
Freckles.  
Michael O'Halloran.
- Porter, Jane.  
Thaddeus of Warsaw.  
Scottish Chiefs.
- Rice, Alice Hegan.  
Mrs. Wiggs of the Cabbage Patch.
- Scott, Sir Walter.  
Quentin Durward.  
Ivanhoe.  
The Talisman.

Dickens, Charles. David Copperfield.	Stevenson, Robert Louis. Kidnapped. The Black Arrow. Prince Otto.
Dodge, Mary Mapes. Hans Brinker.	Tarkington, Booth. Penrod.
Dumas, Alexander. The Count of Monte Cristo. The Man in the Iron Mask. The Three Guardsmen.	Trowbridge, J. T. Cudjo's Cave.
Eggleston, Edward. The Hoosier Schoolmaster. The Hoosier Schoolboy.	Twain, Mark. Tom Sawyer. Huckleberry Finn. The Prince and the Pauper.
Gilder, Jeanette. Autobiography of a Tomboy.	Wallace, Lew. Ben Hur.
Grant, Robert. Jack Hall, or the Schooldays of an American Lad.	Wiggin, Kate Douglas. Rebecca of Sunnybrook Farm.
Holland, J. G. Arthur Bonnicastle. Seven Oaks.	White, Stewart Edward. Gold. The Blazed Trail.
Short stories by Tolstoi, Kipling, Poe, Hawthorne, Van Dyke, Stockton, etc.	

### GENERAL DIRECTIONS FOR READING FICTION.

(Adapted, slightly modified, for Biography and Narrative Poems.)

#### 1. *Who.*

- Be able to tell interesting things about the author.
- Name the principal characters in order of their importance. If there is a hero or heroine, tell who it is.
- Describe the appearance and character of the principal personages.

#### 2. *When.*

- If story has a *time setting*, give it. Over how long a period does the story extend?
- If story is independent of time (could have happened at any time), why do you think the author made it so?

#### 3. *Where.*

If story has place setting, give it. Does it change, one part of the story occurring in one place and another part in another place?

#### 4. *What.*

Be able to tell the story simply and briefly.

5. *Why.*

- a. Does the author seem to have had a purpose in writing the story? If so, what? (Every piece of literature either makes us know something, makes us feel in some way, or makes us determine to do something. It may do all three, but one of these purposes is always strongest.)

6. *How.*

- a. In what does the author excel? Does he describe persons better than places or places better than persons? Is he especially strong in description, or in narration? (Narration means action, movement.)
- b. What kind of language does the author use? (Simple, easily understood, or difficult. Beautiful, artistic, poetic, harsh, ugly, or commonplace.)
- c. Where is the climax in the story?
- d. Which have you the greater interest in, what happens or how the characters think and feel?

*Bibliography of Pedagogy of Literature and Reading.*

- Literature and Life.....J. Rose Colby—Houghton-Mifflin Co.  
 Literature in the Elementary School...Porter Lander McClintock—University of  
 Chicago Press.  
 The Teaching of English.....Percival Chubb—Macmillans.  
 The Teaching of English.....Carpenter, Baker, and Scott—Longmans,  
 Green & Co.  
 Great Books as Life's Teachers.....N. Dwight Hillis—F. H. Revell.  
 Special Method in Reading of English  
 Classics .....Chas. McMurry—Macmillans.  
 Teaching Children to Read.....Paul Klapper—D. C. Appleton & Co.  
 Interpretation of the Printed Page.....S. H. Clark—Row, Peterson & Co.  
 Psychology and Pedagogy of Reading...E. B. Huey—Macmillans.  
 Francis Parker School Year Books.

## LANGUAGE.

IRVING E. OUTCALT, Head Department of English, and  
GERTRUDE SUMPTION BELL, Assistant Director of Education.

### *General Principles and Aims.*

"Functional" English for the Elementary School:

The results achieved by the "language" class or department are notoriously less satisfactory to its teachers and to the school in general than those of any other class or department. This is partly because the control of the subject can not be completely departmentalized. It sometimes seems as if the "English" classes had been devised to relieve other classes of responsibility for supervision of the oral and written expression of the pupils, the apparent assumption being that "English" instruction is susceptible to the same exclusive control as instruction in geography or arithmetic.

This assumption is obviously unwarranted. A vernacular is acquired by imitation and use, and the process goes forward in one class as well as in another, out of school as well as in school; since the same language is everywhere the medium of communication. The "language" class is constantly being credited with an authority which it can not exercise and burdened with a responsibility which it can not discharge. Many a thoughtful teacher has seriously questioned whether it would not be better to abolish the special "language" class or department, in order that the responsibility of the entire school for guidance in the mastery of the vernacular might be clearly established.

Be that as it may, the "language" class in the elementary school, if not in the high school, can best justify its separate existence by becoming a special agency for the promotion of what we may call "functional" English; but it should not permit its activity or effectiveness to relieve any other department or class of responsibility for the same subject.

By the time the child enters school, he has already made great progress in the mastery of his vernacular. He has learned by the natural method, imitation, and has been assisted over immediate difficulties by the apt, if not scientific, pedagogy of parents and playmates. The effectiveness of this course of training is not surprising when we reflect that the final arbiter of the vernacular is always usage.

There is no reason why the method should be changed. The school takes its place in the child's environment. It surrounds him with interesting material and deals with it in ways and under circumstances which emphasize the need for expression. Its equipment is particularly rich in facilities for supplying the requisite words and in models of correct usage. The effectiveness of the imitative method should be greatly enhanced by the conditions which prevail in the school.

Since usage provides the standard and since the child carries his experiments with language into all his activities, it is clear that guidance can not be left exclusively to any department or class, or even to the school as a whole. Wherever expression is evoked by an occasion or by interest in a concrete object, there the conditions necessary to progress in the vital mastery of the vernacular are present. The needed words are likely to be nearest at hand; the desire for accuracy, adequacy, and appropriateness in the expression is likely to be keenest. Only with a few of the mechanical accessories to expression, such as spelling and pronunciation, can there be profit in the kind of drill that might be fitly assigned to a particular hour or teacher. The best work that a "language" class can do must be tested elsewhere, in the use of language for the expression of ideas for a genuine purpose.

No language class can determine, within itself, the efficacy of its instruction, nor can such a class establish the speech of its members. The pupils go to other classes, they play on the school grounds or in the street, they spend much of their time at home; and everywhere they use their vernacular, adding to its scope and variety and establishing habits. Moreover, habit formation in speech proceeds more rapidly, to the degree that interest is centered in things (ideas) for themselves, rather than in language for itself.

Every department of the school is dependent upon speech for its own effectiveness. We do not, therefore, conclude that the history class should be transformed into an "English" class; but the history class must use the English language, not a slovenly, makeshift approximation to it. The attributes of a perfect medium of communication are needed, in the interest of an effective mastery of the material of history. The teacher should consider that, to adapt a French dictum, "if it is not clear, it is not English," and, moreover, that it is not history.

The "English" class, or department, has one advantage, however, in its opportunity to make use of the extra-school, unacademic interests and activities of the pupils. It has access to a wide variety of material about which it is important that children should be encouraged to speak and write, under supervision, and in which teachers may well interest themselves, in order that they may bridge the gap between school and life and make expression more immediately vital.

The most fruitful teaching of language, then, is possible only in circumstances which demand accuracy, adequacy and appropriateness in language because of respect for the material which is to be communicated. It matters little whether the work be designated "English" or "geography" or "arithmetic." A class which does not, consciously or unconsciously, promote effectiveness in the use of language can not be doing justice to any subject upon which it may be engaged. On the other hand, a class which labors upon expression as an end in itself has a harder task than that of the Israelites under their Egyptian taskmasters; for it is trying to make bricks out of nothing but straw.

"Functional" English tries to face the problem candidly, and refuses to treat the language as itself an object of study in the elementary school. It repudiates the assumption that instruction in language can be relegated to a special department or class, since the usage which determines speech can not itself be determined by any academic authority. English usage is particularly arbitrary, not amenable to those classifications and not exhibiting those orderly sequences which give delight to the grammarian. Such generalizations as can be made are of very little assistance in furthering the mastery of a vernacular that is pressing in from all sides with peremptory examples. Indeed, they are more likely to be impediments, if they are taken seriously. They may be very helpful in the interpretation of the phenomena of language, when these are questioned for light upon human psychology or linguistic evolution, but that is a different matter.

There is no adequate justification for the study, in the elementary school, of anything that can rightly be called "English grammar." Where our usage exhibits uniformity or system, as in regular plurals and the past tense of weak verbs, the child has already caught the trick of it. Where system is practically nonexistent, as in pronouns, strong verbs, and irregular plurals, the *ipse dixit* of usage is final. These irregular forms have been called into use by the child in its earliest efforts to speak. They are generally the commonest and most necessary words in the language; in fact, they owe the persistence of their irregularities chiefly to their universal familiarity and homeliness, and are, therefore, most safely and inevitably referred to everyday usage, rather than to any sort of system. The vestiges of ancient inflections still to be deciphered in these apparently lawless forms are

interesting to the etymologist or historian, but can mean nothing helpful to the child, whose only interest in words rises from his imperative desire to make himself understood.

"Functional" English recognizes the fact that our language is still alive and growing, and that the growth is from within, directed by the nature of the material which rises to demand expression. It refuses to assume that present forms are final. It does not regard rigid standardization as possible or even desirable. It considers that a language that has ceased to grow—that is, to change—has ceased to live. It contemplates a living language as a medium which must develop as the thoughts of men are widened, and expects it to grow in grace or to deteriorate as the ideas of the men who use it become more or less worthy. It insists that the preservation of a language in health and vigor depends not upon the watchfulness and diligence of linguistic purists and specialists, but upon the spiritual health and vigor of the people who use that language from day to day as a medium for the communication of their thoughts and feelings.

The school should regard as mischievous any form of instruction that would present mere facility in the use of language as a thing of importance; but it is the business of the school to enrich and inspire the lives of children and at the same time to lead them to adequate self-expression through the common speech of man.

### COMPOSITION.

The expressive side of the English problem consists in leading a child, inexpressive, almost inarticulate at times, with a meager and inaccurate vocabulary, with environment constantly pulling the standard down, through natural social relationships, interest in facts and skills which he is acquiring, to think clearly and to acquire a degree of freedom in expressing himself which is adequate to his life needs. Since skill in speech is the end, all the laws of habit formation are guiding principles.

The child gains skill in expression only as a result of using language for a sincere purpose. Growing out of the work of the school in all its phases there are so many genuine, urgent needs for saying and writing things that the skillful, alert teacher of composition, watchful of the children and their varied activities, is fairly overwhelmed with their number. From these she chooses the best for her purpose and aids the children in expressing effectively what they have a real need for expressing.

In the first six grades, in so far as possible, the child should have his mind upon purpose and content and *not* upon form. Discriminative observation, clear thinking and sincere effort to make another understand should be uppermost. The teacher's task is to present only correct language forms, prevent errors, and, when errors do occur, to substitute the correct form with as little shifting of attention from content to form as possible. Every legitimate device should be used to secure imitation of good models and frequent repetition of correct forms until they feel right. The utilization of the most vital and most interesting activities of the child's school life leads to the most sincere language work.

In the seventh and eighth grades the additional problem of meeting the child's increasing power of self-direction and his tendency to be reflective modifies procedure. We now need to make him conscious of his errors *as such*, and to awaken a sincere desire to acquire better speech habits. He now asks, "How may I know which is right?" Therefore, he needs such grammar as really functions in helping him to better expression.

Oral composition has the right of way throughout school, as it does in life. We speak a thousand times oftener than we write. All the child's oral speech in all

recitations and on playgrounds should be carefully watched, and the most kindly, sympathetic spirit of mutual helpfulness in improving speech should dominate the school, so that a general sensitiveness to error and an appreciation for the word "fitly spoken" becomes manifest. Teachers and pupils alike need much higher standards of oral speech than those prevailing now.

As the need for writing comes relatively late, so written composition has a very slight place in the lower grades. Little by little, as real needs arise for recording or communicating, the child acquires such written forms as meet these needs. Principles of habit formation guide procedure here. Drills upon forms which children feel a need for function and are interesting.

The child is brought to a realization of his need of guidance and help when he has something worth saying and a real desire to express it to someone for the purpose of making him know or feel or do. Then, in order to accomplish this purpose effectively, the pupil gladly works over his expression until it is the best he can make it. In so doing he acquires language skill. A project may illustrate what can be done.

A class of seventh grade boys studying the early history of California became interested in the missions. In geography they studied the physical conditions of southern California in relation to the needs of the early missionaries, made relief maps of El Camino Real, locating missions upon it, etc. In "industrial arts" each boy chose a mission and spent weeks in constructing a satisfactory model reproducing its essential features. In "literature" each boy read all available material on his mission from our own and the city library. Extensive use of cyclopedias, dictionaries, reference books of all kinds, indexes and tables of contents was involved. In "language" the notes taken while doing this reading were organized, and a coherent account of each mission was written. The following term the same class typed these accounts in good form. A term later, in the printing class, the children printed this material in the form of a book, and in the industrial arts class bound it.

## LANGUAGE IN THE LOWER GRADES.

CAROLINE I. TOWNSEND, Assistant Director of Education.

### *Purpose of the Work.*

- I. To help the children into possession of the power to express themselves creditably, orally and in writing:
  1. By making every lesson during the day incidentally a language lesson,—*i. e.*, by noting carefully mistakes in English and correcting them, with attention given to training in organized thinking in connection with every subject.
  2. By utilizing the natural opportunities for real self-expression and communication that grow out of the life of the school, home or community.
  3. By protecting the children against the demand for talking or writing merely as a class exercise.
  4. By recognizing the limitations of children of primary age, *i. e.*,—
    - (a) Stressing composite group work both oral and written;
    - (b) Limiting the amount of individual work to something within the power of the individual.
  5. By stressing a few definite, formal points in each grade.

### Outline of the Course in Language.

#### GRADE I.

##### Oral language.

1. Retell stories in part and whole.
2. Dramatize stories: Informal dramatization growing out of the work in history and literature.
3. Records of group experiences:
 

Nature study excursions, school gardens, sand-table problems relating to history and literature, primitive life dramatized and worked out industrially, all furnish illustration for these records. They are contributed compositely by the group, written upon the board by the teacher, and, if possible, are returned to the group for reading material after being printed in the school print shop.
4. Original stories suggested by a picture.

##### Written language.

1. One-word labels written by the children where the need for words is felt:
  - a. For pictures of the child's making which tell the story of some school activity;
  - b. For scrap-books;
  - c. For weather, flower, bird charts;
  - d. In explanation of a sand-table problem;
  - e. Child's own name to identify his work.
2. Very simple records, not more than one sentence each in length, pertaining to the life of the school,—an explanation of some group experience.
3. A letter of appreciation or invitation, one sentence in length.

#### GRADE II.

##### Oral language.

1. Retelling and dramatizing of stories.
2. Composite records of group experiences. (See Grade I.)
3. Original prose riddles.

These may be short descriptions of tame or wild animals, wild flowers, garden flowers, birds, something that lives in the sea, on the desert, underground,—showing reaction to interest in nature study, geography or some other phase of school activity.

The prose riddles may be worked out compositely or individually by one group for another group to guess. The group problem would be to think out *characteristic* traits, *distinctive* marks of appearance, etc., and to follow a definite outline such as: "where it lives"; "how it looks"; "what it does."

4. Imaginary situations.
 

If a fairy should grant you three wishes.  
If you could do just as you pleased on Saturday.  
If you should get lost down town.
5. How to make something.
 

Children tell of home activities,—i. e., toys made, something cooked, home gardens.
6. Habits of home pets. How to care for these pets.

## Written language.

1. Records or explanations of group experiences. (See Grade 1.)  
Records for this grade are limited to two sentences. They may take the form of a diary reporting progress on a group project.
2. Letters, children given the salutation and closing:
  - a. To absent children.
  - b. To a similar group in another school.
  - c. To personal friends or relatives.  
The "quantity problem" may be solved by having the group decide on some one thing to write about,—*i. e.*, "What we are studying in history." "What we are reading." "The new game we learned to play."
  - d. Invitations and letters of appreciation when the need demands.

## Formal points stressed in this grade.

## Capitalization:

- Beginning of sentence.
- Pronoun "I."
- Persons and places.
- Days of the week.

## Punctuation.

- Period at the end of a sentence.
- Interrogation point.

## GRADE III.

## Oral language.

1. Retelling and dramatizing of stories.
2. Original stories.  
Composite work at first,—*i. e.*, a new "Mother West Wind" story, after one or two of the Thornton Burgess books have been read.
3. Charades.  
These may be thought out compositely by the group and written upon the board in dramatic form by the teacher.  
Group problem:
  - a. To choose a compound word or a word of two syllables, such as undertake, seaweed, reindeer.
  - b. To think out three scenes, stating, if necessary, the time, place and characters.
  - c. To use the first part of the word in the first scene, the second part in the second scene, and the whole word in the last scene.
  - d. To limit each "scene" to as few words as possible. If the word seems obscure bring it in more than once, or possibly emphasize it vocally.
4. Records.  
Composite records of school experiences. These records may be printed in the school print shop and combined in books, bound and illustrated by the children. The geography and history for this grade furnish fine inspiration for the work,—*i. e.*: 1. A series of five or six records growing out of study of life among the Eskimos, Japanese, or Mexicans,—the climate, homes, dress, food, games. 2. See "Third Grade Project," page 144.

## Written language.

## 1. Letters and invitations :

To absent children; to groups in other localities; to personal friends and relatives of the individual. Quantity limited as in Grade II.

## 2. Diaries. See Grade II under "Written language."

## 3. Original rhyme riddles.

The nursery rhyme riddles enjoyed in the first two grades furnish background for this work. These riddles may reflect any work in which the group is interested, the nature study furnishing rich material.

Among the simplest subjects for rhyme riddles worked out in the training school were those suggesting a character in Mother Goose, a third grade problem presented by them to the first grade.

## Group problem :

To make riddles about characters in Mother Goose.

To make each riddle two lines long.

To tell about the character without using his name.

To make the lines "sing" alike.

## 4. Original rhymes.

1. A four-line stanza fashioned after "A Boy's Song," but descriptive of California life.

2. Verses fashioned after Christina Rossetti's "What Is Pink?," but applicable to this part of the country,—a third grade project for the first grade.

3. A jingle for a Christmas card, valentine or birthday greeting.

## 5. Records.

Brief individual records of school experiences much shorter than those worked out compositely. See "Oral Language" for this grade.

## Formal points emphasized.

## Capitalization.

Beginning of sentence.

Every line of poetry.

Proper names.

Days of week, months, holidays.

Child's own address, including punctuation marks involved.

How to address an envelope.

## Punctuation.

Period and interrogation point at end of sentence.

Abbreviations, such as,—Mr., Mrs., Calif.

## Homonyms.

Such as,—their, there; hear, here.

## Indentions and margins.

## GRADE IV.

## Oral language.

1. Retelling and dramatizing of stories.

2. Individual reports to the group on silent reading relating to history, geography, nature study or any other phases of school activity.

3. Individual reports to the group on story books read at home or as extra reading in school.

4. Individual or composite reports of projects worked out by the individual or the group. These may be given for the benefit of the Friday assembly, meeting of parents or other group.

5. Original fables, after the spirit and form of some of the old fables have been studied.
6. Original stories centering around some hero used for class study,—*i. e.*, a new story of St. Francis.
7. The dramatization of these original stories.
8. Original dialogues suggested by a picture.
9. Original dialogues suggested by an imaginary situation,—*i. e.*, "John's mother sent him to the store to buy a loaf of bread. He came home with sugar cookies."
10. Superlative situations.
  - "The happiest birthday I ever had."
  - "The jolliest ride I ever took."

#### Written language.

1. Friendly letters, with date. (Limited in quantity.)
2. Business letters, when the need demands.
3. Invitations.
4. "5," "6," "9," "10," "11," under "Oral language," may carry over into the written work.
5. Diaries, recording nature study excursions, the growth of gardens or pets, the coming of California wild flowers, the study of birds of California.
6. The end of an original story after the first part has been read by the group. Problem: Each child to finish it, in his own way, using as few sentences as possible.
7. Original verses and rhyme riddles:
  - a. See suggestions for third grade.
  - b. About California birds or wild and garden flowers studied in this grade.
  - c. A *new* "Goop" rhyme.
8. Records explaining how group or individual projects were carried out. In group problems, this would be composite work, compiled in book form, illustrated and bound by the children.

#### Formal points emphasized:

1. Review of work in third grade.
2. Capitalization.
  - Titles of books, poems, stories.
3. Punctuation.
  - Comma in a series and after names used in direct address.
  - Comma after "yes" and "no."
  - Apostrophe in singular possessives.
  - Quotation marks in unbroken quotations.
4. Common and needed homonyms.
5. Stricter attention to margins and indention.

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**LANGUAGE IN THE UPPER GRADES.****Fifth Grade.**

**FLORENCE L. SMITH, Class Supervisor, Training School.**

The language needs of the child of fifth grade school age appear chiefly in connection with school activities and the content subjects of the elementary school curriculum. In the "language period," conscious, definite help is given to him in meeting these needs. Letter writing, making records, books, newspaper, etc., motivate written language, and every lesson is a lesson in oral English.

Word study leads to familiarity with the literal meaning of a number of the roots which recur oftenest, and of the commonest prefixes and suffixes. Rules for spelling (two or three) which are most practical are developed, and are applied until their observance becomes habitual.

**Sixth Grade.**

**ALICE GREER, Class Supervisor, Training School.**

The problem is practically the same as in the preceding grade, with a higher standard for both oral and written speech. Greater skill in using the dictionary and other reference books is aimed at.

A study is made of a daily newspaper as to what it contains, how it is made, how news is collected, how the staff is organized, etc. The class is organized as a newspaper staff, each pupil studying his own duties, and trying to discharge them as the class makes up a newspaper, or, rather, a school paper which is printed near the close of the school year. This problem motivates a great deal of work, not only in this class but throughout the school.

Spelling and word study follow the lines suggested above.

**Seventh and Eighth Grades.**

**GERTRUDE SUMPTION BELL, Class Supervisor.**

## 1. Letter writing.

- (a) To children in all parts of United States.  
(From three to eight letters exchanged.)
- (b) To missionaries in China and India known to the teacher.
- (c) To members of the faculty absent on leave.
- (d) To former student teachers in army and navy.
- (e) To publishers, etc., for information, material, etc.
- (f) To an author, expressing appreciation of his book and inviting him to visit the school.
- (g) To parents, inviting them to Parents' Meetings.

## 2 Book making (either as gifts to the teacher or for the Training School library for use of the children).

- (a) Original stories for lower grades.
- (b) Original stories suggested by Poe's Devil in the Belfry.
- (c) Original poems and stories suggested by Why the Chimes Rang.
- (d) The missions.
- (e) History of the English language.
- (f) Accounts of excursions.
- (g) Dramatizations.
- (h) Roosevelt Memorial.

## 3. Programs for training school assemblies.

- (a) Dramatizations from literature.
- (b) Four-minute speeches.
- (c) Thrift Stamp speeches.
- (d) Liberty Bonds drive.
- (e) Junior Red Cross appeals.
- (f) "Better English" drive.
- (g) Celebrations of birthdays.
- (h) Memorial for Roosevelt.

## 4. School newspaper.

- (a) News.
- (b) Original stories and poems.
- (c) Accounts of school activities.
  - a. Red Cross work.
  - b. Parties.
  - c. Assemblies.
  - d. Moving pictures.
  - e. Lectures.

## 5. Extended projects.

- (a) Newspapers.
- (b) California missions.
- (c) Book making.
- (d) Pageant on growth in freedom.

## 6. Games and drills to secure specific skills or to extend vocabulary.

## 7. Grammar (Eighth Grade).

Study of sentence as a whole; kinds of sentences on basis of purpose and complexity; essential elements, parts of speech, phrases and clauses, such properties of parts of speech as are necessary to the understanding of the few rules which are most frequently violated. Study of such rules and drill exercises in applying them complete the eighth grade work.

## 8. Standard tests and scales.

- (a) Kelly Silent Reading Test.
- (b) Trabue Completion Scale.
- (c) Ayres' Spelling Scale.
- (d) Studebaker Spelling Tests (sentence tests).
- (e) Thorndike's Understanding of Sentence Test.

*Bibliography of Pedagogy of Language and Grammar.*

The Teaching of English-----	Percival Chubb.
The Teaching of English-----	Paul Klapper.
The Teaching of English-----	Carpenter, Baker, and Scott.
The Elementary Course in English-----	James Hasic.
Linguistic Development and Education-----	M. V. O'Shea.
Report of Committee of Thirty on Reorganization of Courses in English.	
Language Teaching in the Grades-----	A. N. Cooley.
Self Cultivation in English-----	Palmer.

**COURSE OF STUDY IN TYPING.**

JANE ADAMS, Instructor in Typing.

**7A GRADE.**

## Aims.

Fundamentals of typing, including the names of the various parts of machine in order that the pupil may express himself in clear English regarding them.

1. Ready use in all common operations of typewriter.
2. Ability to follow copy continuously, using a light, staccato stroke and maintaining an easy, erect position.
3. Care and cleaning of typewriter.
4. Beginning of language correlation.

## Methods.

1. Dictation, as means of fixing habits of good position, steady rhythm and even touch, staccato stroke, with eyes on copy.
2. Selected exercises to perfect knowledge of keyboard, with frequent use of blindfold tests and the making of quick keyboard sketches.
3. Supplemental exercises to correct errors of fingering and technique when necessary for a particular group or individual.

Net speed, 12 to 20 words per minute (using 10-count penalty).

**8B GRADE.**

## Aims and methods.

1. Introduction and practice of more complicated operations of typewriter as needed in connection with correlation with language work, *e. g.*, copying of outlines, letters, poetry, stories, election ballots, programs, tabulated records of tests in spelling, typing, etc.
2. Increase of speed and accuracy through:
  - a.* Weekly tests,—records of progress to be kept in tabulated or graph form.
  - b.* Special attention before it becomes fixed to any error or practice which would tend to lower speed or accuracy.

Net speed, 15 to 30 words per minute.

**8A GRADE.**

Same as for 8B, except that tabulation problems, etc., are more complicated, and greater independence is expected of the pupil in working them out.

Net speed, 25 to 40 words per minute.

NOTE.—Typing is given for its effect on language, rather than as a vocational subject.

**PENMANSHIP.**

FLORENCE L. SMITH, Class Supervisor, Training School.

In grades three and four the attention of the child may readily be directed to the easy, flowing quality which is the basis of all excellent writing. He is interested not particularly in the results of his writing, that is, the appearance of his forms, but in the act of producing them. This is made as pleasurable as possible through the introduction of much rhythm and the spirit of play into the period of practice. Any device which rhythmically teaches movements that may later be applied to the formation of letters is here practicable. Precision should not be expected from children in this stage of development; in fact, the attention to perfect letter forms demanded by some teachers tends to inhibit the very grace of action and relaxation of the muscles which must come before the writing

process produces beauty of line. Practically all of the models presented to the child here should be executed in the presence of the class by the teacher, attention being called to the movements used rather than to the appearance of the form after it is complete. Much drill to fix correct posture of body, arm and hand is given here, and the simpler movements which tend to develop the muscles in right habits of pressure and force are stressed. That is, a child is taught the value of a light, continuous pressure, and also experiments with his own arm to see how much more muscular force he must use to produce the capital letters than the small, how the "push-up" for l, h, b, k, and f is the same in each case, and the corresponding "down-pull" for g, y, q, z and f also the same in each case. In general the synthetic method rather than the analytic is used in all work; that is, words containing letters to be studied are presented rather than the single letter forms.

In the upper grades much emphasis is placed upon the frequent measurement of his writing by the pupil himself. The great danger always is that a child, even though perfectly trained in the lower grades, gradually becomes a poorer and poorer writer unless the tendency to carelessness is constantly restrained. This tendency to relaxing effort to write well is no doubt a natural result of the sudden plunge into the multiplied interests of the older child life, with the accompanying need of more rapid, more abundant expression in writing. Such a situation can not adequately be met by further practice carefully executed during the writing period; rather, the teacher must arouse a new comprehension on the part of the child that his writing can be above or below a certain standard acceptable for his grade as he himself determines, and further that he can attain and retain the desired standard only by continuously exercising care in all writing, whether that done in the writing period or in any other period. He must patiently learn to eliminate the ugly things present in his writing due to haste or thoughtlessness,—as the half-finished letter, the inaccurate scrawl, the imperfectly formed b which resembles f, the faulty spacing and alignment. With the consciousness of need for study awakened, the pupil is ready for the detailed analysis of letter forms presented in the upper grades.

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### **SPELLING.**

**GERTRUDE SUMPTION BELL,** Supervisor.

The purpose of teaching spelling is to give skill in spelling words correctly under the impetus of need for expression. Until this reaction becomes automatic when consciousness is focused upon content and not upon form, the end of spelling has not been realized.

Essential factors in securing this skill are:

1. A vivid, correct visual image of the word.
2. A vivid, correct auditory image of the word.
3. A vivid, correct auditory image of the syllables and their corresponding visual representations.

4. Ear images of letters in their proper sequence may aid some types of children.
5. Meaning and use.
6. Etymology.
7. Law of spelling involved, if it is one of the few vital, uniform laws, such as—
  - (a) doubling final consonant;
  - (b) dropping final e;
  - (c) syllabication.

Spelling is best taught incidentally to the thought subjects, but this does not relieve the teacher of the obligation to meet the most pressing spelling problems specifically. A period set apart or regularly taken from language seems best. Prevention of wrong impression or reaction is much more important than correcting mistakes and breaking habits.

The study of the origin and structure of many words as the child meets them in content subjects is supplemented by specific lessons, drills and games for the purpose of giving a new word sense, a keener appreciation of the structure of our language and keys which unlock many doors.

Latin and Greek roots, prefixes and suffixes which recur often, become keys to the great variety of combinations in which they occur,—e. g., *graph*, a Greek root meaning *to write*, gives the key to a large number of words coined in recent years to name new things; *tele*, meaning afar off or distant, unlocks not only *telegraph* but *telephone* and many others. The literal meanings of words in the group containing *graph*, *graphy*, *grapher*, *graphic*, incidentally give a clue to all those others in which *auto*, *bio*, *geo*, *tele*, *steno*, *photo*, *phono* and many others are found. The value of this work can scarcely be overestimated.

Sheppe's Word Studies and the dictionary are used for such lessons. The Ayres spelling scale and the Courtis tests based on it are used throughout the grades.

#### *Bibliography of Pedagogy of Spelling.*

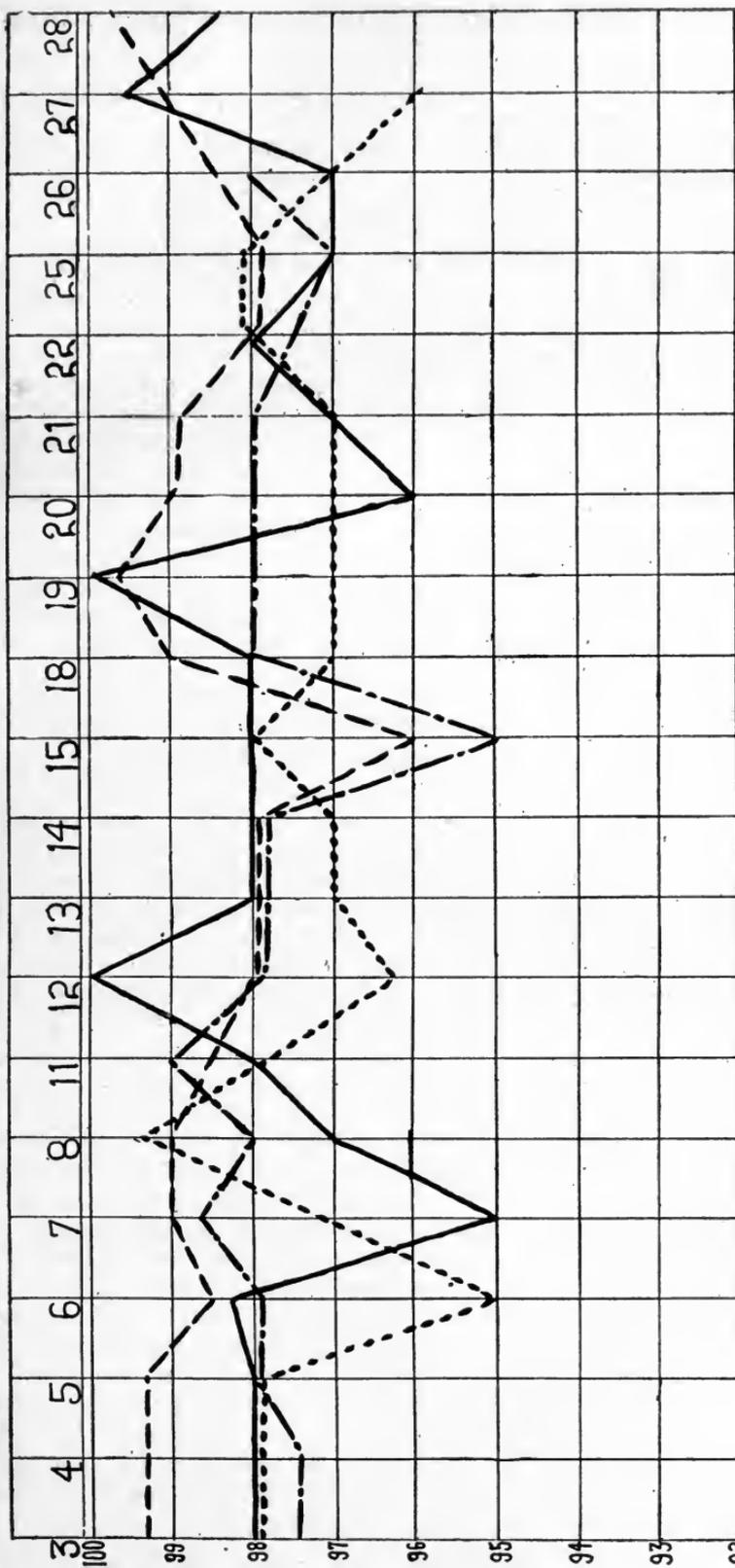
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 The Teaching of Spelling-----Suzzallo—Houghton-Mifflin Co.

#### State Text.

- Bulletin No. 3, Bureau of Research, Kansas City, Mo. (Sept. 1918).  
 Teaching Spelling by Plays and Games—S. A. Courtis, Detroit.  
 State Text (Dr. Fernald) (going to press).

Since a bulletin on the teaching of spelling, written by Gertrude Longenecker, former head of the school's department of education, and published in 1914, has gone out of print, and since a considerable demand for it continues, the following reprinted pages taken from it are offered as a help to the teacher in training and the teacher in service:

Spelling Record of the Third and Fourth Grades, May, 1914.



LEGEND:

- 3 B —————
- 3 A - - - - -
- 4 B . . . . .
- 4 A - . - . -

Note.—The figures at the top of the chart show the days of the month.

## IMPROVEMENT OF SPELLING THROUGH CHANGES IN SUBJECT MATTER.

Improvement in spelling can be effected through changes in subject matter, and through changes in methods of work.

The changes in subject matter include changes in the form, the kind, and the number of words taught.

### (a) Simplified Spelling.

First, as to the form: Just as rapidly as it is feasible, schools the country over should adopt the simplified forms recommended by the Simplified Spelling Board, 1 Madison avenue, New York. The present difficulty is that the school books are still printed in the old form and confusion may follow the attempt to teach the simplified forms. Only the inertia of old habits prevents the ready acceptance of the simplified forms. Philologists favor them. The ordinary citizen holds back. It is a nuisance to change the old habits. The awkward irrational forms "look better" to us than the new and unaccustomed forms. But these excuses should not be strong enough to lay the burden upon the oncoming generation. Huey, in "Psychology and Pedagogy of Reading," estimates that simplified spelling would reduce the printing of every book by one-fifth. With the prevalent eyestrain of school children, this saving is worth considering. In addition, when one considers the reduction of the difficulty in the teaching of spelling, one must believe that simplified spelling would be a large item in the elimination of waste in the elementary school.

### (b) Selection of Words.

Next, as to the kind of words to be taught: In a period gone by, "catch-words," long and difficult words, held a conspicuous place in the speller's repertory. Ability to spell was an accomplishment, a case of "art for art's sake." When one hears of fourth grade children today being required to spell *category*, *paragon*, *irremediable*, one is impressed again with the fact that educational practice improves very slowly. Ordinary words, everyday words, should constitute, in the main, the subject matter of spelling lessons. Indeed, if one is desiring difficulties, the difficulties of English orthography are largely exhausted in the common words. But it is not because of their difficulty that they should be given, but because they form the bulk of the average person's writing vocabulary. And here is the key to the selection of words: They must be those words which children need to use *in their writing*. Not necessarily the new words found in the reading lesson, not necessarily those found in the geography or history lesson, but those which the children have immediate need for in their written work of all kinds. When the teacher grants this to be the function of the spelling lesson—to teach the children to spell those words which they wish to write, certain consequences follow. First, the list of words is sufficiently reduced in number to make the task possible. Second, she need no longer require the children to give definitions of the spelling words and use them in artificially made sentences; for these are the well-known, the oft-used words of the children's own vocabularies. They will not wish to write them until they are quite accustomed to using them orally. How shall the teacher select these ordinary words? Whenever the children are writing compositions, they should be encouraged to ask for the spelling of any words they are uncertain of, or should look them up in the dictionary. In either case, a list of such words should be kept by the children or the teacher. From such a list the most frequently used words should be made the basis of spelling lessons. In addition to such words called for

by individuals, there are some five hundred to a thousand words which are the stock of all writers of English. It is safe to assume that all children need these words in their writing. Such a core of words Mr. Leonard Ayres furnishes in "Spelling Vocabularies of Business and Personal Letters," published in 1913 by the Russell Sage Foundation. Mr. Ayres collected 2,000 business and personal letters written under a variety of circumstances and by and to a variety of people; he listed the first word of every line of these 2,000 letters and tallied the number of times each was used. The first surprising result was that he found that in all the letters together only 2,001 different words were used. That is, the composite writing vocabulary of these 2,000 letters was only 2,001 words. The second surprising fact was that he found 542 words were used seven-eighths of the time. No doubt, further investigations should be made in order to determine indisputably that this list of 542 words is the common burden bearer of written communications. But even now it may be tentatively so considered. These 542 words are not the words usually found in spelling books. They are so insignificant as to be beneath the notice of makers of textbooks on spelling. And yet they are indispensable to the average adult writer. Would it not seem wise, then, to incorporate these 542 little words in the spelling lessons given throughout the elementary school? Since the bulletin reporting this investigation is out of print at present, the Ayres list of words has been added to this pamphlet as an appendix.

There are other lists of words which for various reasons might well be incorporated in the spelling lists of the elementary school. "When the team of Cleveland children won the spelling championship at the N. E. A. Convention in 1908, they had to spell a list of what is considered by educators the best collection of ordinary words ever prepared for test purposes. The list was compiled by Prof. L. C. Lord, Miss Adelaide S. Baylor, President H. B. Brown of Valparaiso, and Mason S. Stone of Vermont. Hicks has taken this list as the finest that can be compiled, and has made it the final test of the pupils that will use his new book, the "Hicks' Champion Spelling Book." (See Cleveland Plain Dealer, January 17, 1909. The list is to be found in the Champion Speller, part 2.)

Mr. W. E. Chancellor offers a list of 1,000 words which he believes to be the most needed. (See Journal of Education, May 26, 1910.)

The lists of words in which perfection has been reached in each of the lower grades of the Milwaukee schools may also be found suggestive. (See Journal of Education, February 10, March 10, April 4, 7, 1910.)

In addition to these suggestive lists the teacher should keep a record of words taught in her grade from year to year. By sorting and comparing these records she will find those words which are peculiar to the community and its interests. One such list has been printed in the appendix of this bulletin.

A selection of words made on the basis of individual and social need is much more vital than the selection of words provided by any spelling book, made up without reference to any particular group of children. At best, the ordinary spelling book will be useful only as a reference book to the teacher.

### (c) The Number of Words.

When Mr. Hicks took charge of the spelling of the Cleveland schools, he insisted that children of all grades were given too much work in spelling to do it well. Mr. Hicks would have but 312 words taught intensively each year, two a day, with repeated reviews. The two words are thoroughly taught by the instructor. Eight words are reviewed the same day. Next day the two words intensively taught the day before go into the review column, and two new words are emphasized. Every eight weeks the eighty words taught are reviewed.

In the training school of the San Diego Normal School, two words have been taught daily in third and fourth grades during the past year, and from three to five words in grades above the fourth. Spelling lessons, as such, have not been given below the third grade.

It is possible to restrict the list of words in this way, when one makes the children's need in written work the basis for the selection of words. While this may seem an unambitious daily stint to the teacher accustomed to the formidable daily lists of fifteen to twenty-five words, upon consideration she may think it preferable that the children master unquestionably three hundred to four hundred words a year than that they smatter over two thousand and in the end be uncertain of all. In this connection, the following newspaper item will be of interest to California teachers: "Spelling books used at present by the public schools of California contain approximately 15,000 words, many so technical that not one in 1,000 children would ever use them. Miss Anne M. Nicholson, secretary of the Textbook Committee of the California State Board of Education, is convinced of the inutility of crowding so many words into a school speller. Acting upon her recommendations, the State Board of Education proposes a spelling book with a basic vocabulary of 3,000 words and a series of supplementary spellers to be used in the higher grades and high school and made up with reference to the anticipated future work or employment of the pupils." (Christian Science Monitor, 1914.)

### IMPROVEMENT OF SPELLING THROUGH CHANGES IN METHODS OF WORK.

Besides the increased effectiveness of instruction in spelling by changes in the form, the kind and the number of words taught, much improvement can be wrought by changes in methods of teaching, testing, and drilling.

#### (a) The Teaching of the Spelling Lesson.

The first psychological law of habit formation, the focalization of attention, can be used to advantage. The teacher speaks and writes the word to be learned, while the children watch her or trace it in the air accompanying her movements. The class should spell this first word orally, and each child should write it in a note book kept for spelling lists, the word remaining upon the board during this time. The teacher should throw particular emphasis upon any letters which may cause trouble. These are near the middle of the word, usually. She should say, for instance, "Remember that 'separate' is spelled s-e-p-a-r-a-t-e." Later she should say, "What letter in 'separate' must you be sure to get right, John?" Never should she, nor should the children, say what wrong letter might be used instead. We must see to it that the right impression, only, is made, and that it is made as clearly and forcefully as possible.

Any analysis of the word which will facilitate the child's grip upon the order of letters in it should be resorted to. Sometimes syllabication will accomplish this; as in such words as *independent*, *Mississippi*, *argumentation*—words in which the syllables are phonetic. We do not favor visually breaking words into syllables by hyphens or marking them diacritically, for the reason that the children should always see the word as it will be read or spelled in normal use. Pointing out the syllables in the continuously-written word will serve the purpose. Sometimes the analysis can best take the form of showing familiar words in the new; as in *review*, *headache*, *disappoint*, *preparation*, *breadth*. Sometimes discovering phonograms simplifies the problem; as in *field*, *shield*, *thoroughness*, *loveliness*. In this

connection the playing of Dumb Crambo, particularly in the lower grades, contributes to finding likenesses in words. For instance, the new word is "stand." It is written upon the board. The teacher says, "I am thinking of a word that rhymes with "stand." The children guess. She answers, "No, it is not 'band'," writing "band" below "stand," and so making a column of phonogrammic words. Sometimes noting a prefix or a suffix and telling briefly the significance of it, adds to the ease of comprehension. The word, itself, should be considered in choice of devices for teaching it, rather than the following of any few devices constantly. Indeed, variety of device is one of the requirements for keeping attention active. The teacher's ingenuity here will be paid for in the alertness of the class. Focalization of attention is our object at this point.

After discussion of the sort indicated above, several children should be sent to the blackboard to write the word. Others may spell it orally. In similar ways each of the two to five words should be taught. Among the various devices for attentive repetition, Mrs. Nellie Sebree, of our sixth grade, finds it effective to let one child call upon another to spell three words which the first dictates from the review words of the week, together with the words of the new lesson, all of which are written upon the board. The first child faces the board in order to dictate, the second turns his back to the board so that he shall not see the spelling. The second, after spelling successfully, then calls upon a third, who turns his back to the board while the second dictates three words—and so on through the class.

The intensive teaching of each word employs the principle of multiple association; the eyes see, the ears hear, the voice utters, and the hand forms the succession of letters in the word, all within the minute in which the new word is being focalized. This fullness of association is fundamental to memorization. Of the four kinds of impression, the visual is probably most potent. H. E. Kratz tested the ability of 743 pupils to spell words after they had been clearly and slowly pronounced; the average result was 44.8 per cent. He then displayed the words in large type; the average result of the subsequent test was 66.2 per cent. He then displayed them in large type, at the time having them clearly and slowly pronounced; the average result was 73.7 per cent. (See Kratz: *Studies and Observations in the School Room.*) In addition to the auditory-visual impression used in these tests, the Bailey-Manly system of teaching spelling and Mr. Hicks' method employ the motor machinery both of vocalization and of hand and arm movements. Tests made by Mr. W. A. Lay in 1899, teaching spelling by these several appeals, showed that motor activity of vocal organs and hands is most important in the work of memorizing, and that visual impressions are more important than auditory. (See Burnham: *Hygiene and Psychology of Spelling*, Ped. Sem. December, 1906.)

The essentials to be kept in mind during this teaching drill are: *first*, attention shall be focalized upon the word at its first appearance and shall be kept active in all subsequent repetitions of the order of letters in the word. This can be secured through varieties of devices which will occur to the teacher from time to time; *second*, the right form shall be repeated many times. If a child falters he shall be told correctly, or shall glance at the board,—he must not be permitted to give expression to a wrong form; *third*, multiple associations shall be made in the brain through the employment of four kinds of sensory apparatus.

#### (b) The Testing of Spelling.

Some hours after the spelling has been taught, there should be a brisk oral drill, followed by a writing of the words—(1) in a list at the teacher's dictation, and (2) in sentences either made by the children or dictated by the teacher. In the

third and fourth grades of our school Miss Pauline Black finds it helpful to require the class to pronounce the word after her, then to pause a moment and think it through, and then to write it. After the dictation the children should put away their pens and should take their pencils, and, as the teacher respells each word, orally or in writing on the board, they should check any misspelled word and rewrite it correctly. Each child should then place his score at the head of his paper. The class may have been divided previously into two groups of approximately equal spelling ability. Each group may now report the individual scores to the opposing group, which may then figure up the group-average, which should be recorded on a chart, like the one shown on page 7. The teacher should then take up the papers, and glance over any which she may think it best to supervise.

#### (c) Making Correct Spelling of Words Habitual.

Because habits are formed by attentive repetition, there should be frequent review drills. At least once a week all the words of the past two weeks should be reviewed. Once a month the more troublesome words should be reviewed. Once in two months the words of the past two months should be reviewed. Whenever these words occur in any of the children's written work, misspelling of them should be tallied and incorporated in the spelling mark of the month. These reviews may take the form of oral spell-downs, or of written list-tests, or of dictated context into which the words are woven. The latter has the advantage of being more nearly like the test which daily situations make. When the oral spell-down is used certain poor features in the old-fashioned spell-down should be eliminated. By the old practice, the poorest speller, the child who most needed drill was discarded early in the drill; a troublesome word was repeatedly misspelled down the line. In our spell-downs, which we should call spell-ups, perhaps, when a child misspells, the teacher checks one point for the opposing side; immediately she spells the word correctly orally and in writing on the board, so that the wrong impression may be overcome; she hands a slip to the child who failed, on which he himself writes the correct form; and she allows the poor speller to remain in line so that he may get the advantage of the entire drill. At the end of the drill, that side wins, of course, which has received the most checks from its opponents. Before taking his seat, every child who holds a slip on which he has written the word which he missed, must spell the word correctly, write his name on the slip, and put it on the teacher's desk and spell it again correctly, on the following day.

#### (d) The Children's Alphabetized List.

Under the caption, "The Teaching of Spelling," reference was made to a notebook in which the children enter their daily spelling lists. The last half of the book should be alphabetized, the children cutting large capital letters from magazines or newspapers, and pasting one at the head of each page; or, if the school owns a price marker or a set of rubber stamps, using these to mark each page. Once a week the children re-enter the words of the week under the proper letters. Not only does this provide another opportunity for attentive repetition, but it makes the words easy of reference whenever a doubt arises as to the spelling of a word. If a child who is writing a composition asks for the spelling of a word which he has already had, the teacher refers him to his spelling book. In the frequent reviews and tests, any mistake made by a child can be corrected by his reference to his spelling book.

This notebook should be passed on with the child into the next grade, in order that the next teacher may hold her class responsible for the words previously learned. She should give occasional reviews of these words, and any mistake in

spelling them in written work should be tallied and incorporated in the spelling mark of the month. It is by such persistent reviews and unflinching demand that the children spell correctly a comparatively small number of words, that satisfactory results are to be secured.

### HOW TO PROVIDE MOTIVE FOR SPELLING LESSONS.

In content subjects the actuating motive for their study should be found within the subjects themselves. But in the drill subjects, subjects which are merely artificial tools for the handling of some content subject, the motive is likely to be extraneous to the subject. Spelling is essentially a drill subject, skill in which is necessary for the adequate handling of written composition. One of the problems in teaching spelling is to find motives sufficiently compelling to keep attention active in the learning process. Of such motives competition is the most effective, and perhaps the most legitimate to appeal to. Group competition is preferable to individual rivalry, not only because it is a more social motive, but also because it spurs on the poorest speller for his group's sake, whereas he could have no hope of individually excelling his class.

Group competition may be secured in the following way: Let the class be divided into two groups approximately equal in spelling ability. This can be done by appointing captains who choose sides, or on the basis of spelling marks won on a test or during a month. Under the caption, "The Testing of Spelling," reference was made to securing the group averages after every written spelling lesson. Each group can figure out the average of the opposing group from the individual scores which are reported,—this, in itself, is a good exercise in practical arithmetic. When these group averages are secured, they should be entered upon the monthly spelling chart, which should be posted in a conspicuous place so that all may see. The chart is made by drawing vertical and horizontal lines to form squares. At the head of each vertical line enter the date of a school day. At the left of each horizontal line a per cent, beginning with 100 per cent at the top and decreasing by steps of 1 per cent to 90 per cent. It will be found that the range is usually from 95 per cent to 100 per cent. Trace the curve made by each group, from day to day, using two colors of chalk so that the standing of each group will be evident at a glance. A similar score chart of individual daily scores may be kept in the back of his spelling book by each individual. The contest may be made among several rooms of a school building, and the chart posted in the hallway where all may see it as they pass. Such group competition enlists the efforts of all the good spellers in a group on behalf of the weak speller. If, as occasionally happens, the efforts of the good spellers to reform the poor become too strenuous, and resentment of repeated failures runs too high, a redistribution of groups will break the tension.

The results of oral spell-downs of groups may be kept on a similar chart. (See page 47 for the chart form.)

### AMOUNT OF TIME TO BE USED FOR SPELLING.

In our school we are using fifteen to twenty minutes daily for spelling. The teaching of spelling requires ten minutes, and the written test, the averaging of scores, and the marking of the chart requires from five to ten minutes. Mr. Wallin (*Spelling Efficiency*, p. 21) finds that the average amount of time used by a number of the leading cities of the country is 7.22 per cent of the school day, or, if the day is five hours in length, twenty-two minutes. He finds that Cleveland uses 5.96 per cent of the available time, or again, if the day is five hours long, about eighteen minutes.

## TENTATIVE COURSE OF STUDY IN ARITHMETIC.

MIRIAM A. BESLEY, Director of Education.

The purpose of the work in arithmetic throughout the school is fourfold:

(1) To help children to come into the possession of the power to use or apply number intelligently wherever it is needed in their daily school, home, or community life.

(2) To secure through scientific practice the degree of accuracy and speed in figuring or calculating which is commensurate with the child's age and ability. The attainment of this skill is to be determined by measuring his ability three or four times a year with the Courtis Standard Research Tests.

(3) To protect children against unjust demands for explanations of their mental processes—sometimes called "analysis"—with the consequent waste of time and energy.

(4) To insure careful reading habits by insisting upon intelligent interpretation of problems *before* their solution is begun.

From the child's standpoint the purpose of number work is merely a direct means to some end which he wishes to gain.

In history, geography, and all forms of manual activity, the child is constantly measuring, comparing, analyzing and judging the number element coming consciously or unconsciously into all of the work. If it is so planned that the work commands the best effort of the child without going beyond his mental grasp, there will be a distinct advance in knowledge of arithmetic from grade to grade.

These outlines for each grade are simply attempts to show what the outcome in each grade may be. It is not meant that facts and processes will be taught and abandoned in any given grade. They will be used, when necessary, throughout the child's school life, but for economy's sake there is a place, for example, where the multiplication tables should become automatic.

Although number work may seem from the child's viewpoint to be incidental to some other work, the teaching of number is not at all a haphazard or fragmentary performance and there is a very definite minimum requirement in formal work to be accomplished by the pupils of each grade. In every grade certain difficulties in the form of new facts or new processes will be presented. These must be overcome in order to gain new ideas. This is the economical place to teach a process and a legitimate time for drill.

To the end that these purposes may be realized in a measure and arithmetic be recognized as an important factor in helping a child to gain control of his environment, the elimination of certain traditional topics as contributing nothing to the attainment sought is desirable. The list follows:

1. Greatest Common Divisor.
2. Least Common Multiple, except by inspection.
3. Complex and Compound Fractions.
4. Long confusing problems in Fractions.
5. Apothecaries and Troy Weight, Surveyor's Measure, Paper Measure, rood in Square Measure, dram and quarter in Avoirdupois Weight, and any obsolete units of other tables, tables of foreign money, and all reduction of more than two steps.
6. Cases in percentage.
7. True discount.
8. Profit and Loss, as a separate topic.
9. Partnership.

10. Problems in taxes, insurance, bonds, stocks, partial payments, bank discount, compound interest, longitude and time, and lumber measure, except for informational value.
11. Mensuration, except such phases as are based on common experience, as problems in papering, painting, plastering, etc., belong to specialized trades and should be taught vocationally.
12. The Metric System.
13. Cube and square root, except possibly the squares and corresponding roots of numbers to 12, and the cubes to 5 with the corresponding roots.
14. The puzzle type of problem.

With these eliminations, due emphasis can be placed upon the topics remaining in the field of elementary mathematics, as—

1. Reading and writing of numbers.
2. Primary number facts.
3. Fundamentals, *i. e.*, addition, subtraction, multiplication, and division of—
  - a. Integers.
  - b. Fractions (to twelfths).
  - c. Decimals (to three places).
4. Reductions.
  - a. Fractions changed to higher and lower terms.
  - b. Mixed numbers to improper fractions and the reverse.
  - c. Fractions to decimals and the reverse.
5. The tables of linear, square, cubic and liquid measure, avoirdupois weight, time, and U. S. money.
6. The common aliquot parts.
7. Finding the perimeter and surface of common plane figures, and the volume of solids.
8. Percentage applications in—
  - a. Trade discount.
  - b. Profit and loss.
  - c. Commission.
  - d. Simple interest.
9. Applications to social and economic conditions, *i. e.*, issues involved in saving and loaning money:
  - a. Taxation, taxes and tax levies.
  - b. Banking.
  - c. Borrowing.
  - d. Bonds and stocks.
  - e. Insurance.
  - f. Public expenditures.
  - g. Public utilities.
  - h. Profits and investments.

The textbooks should be used as a guide and a help, but the real life of the school and the community should furnish the material for real mathematical problems. Thus the art of problem making as well as the art of problem solving should receive consideration.

### First Grade.

No conscious instruction of number work. Where measuring in connection with making things, such as a playhouse, valentines, calendars, etc., is desirable, frequent use of the linear unit of inch, etc., may be taught. Counting with and without objects satisfies the strong rhythmic impulse of this age.

**Second Grade.***Suggestions for 2B.*

- (1) Reading and writing numbers to 100.
- (2) Counting.  
By 1's and 2's with objects to 20; without objects by 5's to 50; and by 10's to 100.
- (3) Addition and Subtraction.  
Oral: The first 25 combinations and the reverse subtraction facts.
- (4) Measurement.  
Cent, nickel, dime, inch, foot.
- (5) Fractions.  
Idea of halves objectively developed.
- (6) Signs.  
+    -    =

*Suggestions for 2A.*

- (1) Reading and writing numbers to 1,000.
- (2) Counting.  
By 3's to 30, by 4's to 40, and by 5's to 100.
- (3) Addition.  
Oral: The 45 combinations.  
Written: Small sums, no carrying.
- (4) Subtraction.  
Oral: Reverse of the 45 combinations.  
Written: With numbers of two figures and no borrowing.
- (5) Measurement.  
Monetary units from cent to dollar; dozen; inch, foot; pint, quart, cup.
- (6) Fractions.  
Ideas of halves and fourths objectively.
- (7) Signs.  
+    -    =
- (8) Problems.  
Simple one-step problems arising from the children's own experience during the year.

*Required of Children Leaving the Second Grade.*

1. Notation and Numeration.  
To read and write three-place numbers.
2. Addition and Subtraction.  
The 45 combinations and the corresponding separations.  
To add and subtract two-place numbers with no carrying or borrowing.
3. Measurements.  
Inch, foot; pint, quart, cup; cent, dime, nickel, quarter, half-dollar, dollar; dozen.
4. Problems. Simple one-step.
5. Terms and signs.  
Meaning of add, subtract, plus, minus.

*Texts.*

Perhaps the most useful and suggestive single book is *First Journeys in Numberland*, by Harris and Waldo, published by Scott, Foresman & Co.

Hoyt and Peet's *Everyday Arithmetic*, Book I, Part I, Chapter I, published by Houghton-Mifflin Co.

Chadsey-Smith *Efficiency Arithmetic*, published by Atkinson, Mentzer & Co.

**Third Grade.***Suggestions for 3B.*

- (1) Reading and Writing Numbers to 1,000. Roman numerals as needed.
- (2) Counting.
  - By 2's, 3's, 4's, etc., from 0 to 60.
  - By 2's, 3's, 4's, etc., from 1 to 60.
  - By 2's, 3's, 4's, etc., downward from any multiple of the number.
- (3) Addition.
  - Oral: 45 combinations made automatic.
  - Written: Sums with carrying involving the first steps.
- (4) Subtraction.
  - Oral: Reverse of the 45 combinations made automatic.
  - Written: Simple with borrowing.
- (5) Multiplication.
  - Oral: Tables of 2's, 4's, 5's, 10's and 3's developed.
  - Written: Multipliers of one figure corresponding to the tables learned. No carrying.
- (6) Divisions.
  - Oral: Simple divisions within the tables.
  - Written: Divisions of one figure corresponding to the tables learned. No carrying.
- (7) Measurement.
  - Inch, foot, yard; pound, pint, quart, cup; hour, day, week, month, and year; time by the clock.
- (8) Fractions.
  - Ideas of halves, fourths, and thirds objectively developed.
- (9) Terms and signs.
  - Plus, minus, sum, difference.
  - +    -    ×    ÷    =
- (10) Problems.
  - Simple one-step oral problems concerning things within the child's own experience.

*Suggestions for 3A.*

- (1) Reading and writing numbers to 10,000. Dollars and cents in decimal form.
- (2) Counting.
  - As in 3B.
  - By 2's, 3's, 4's, etc., from 1 to any number.
  - By 2's, 3's, 4's, etc., from any number.
  - By 2's, 3's, 4's, etc., downward from any number
- (3) Addition.
  - Oral: 45 combinations made automatic and carried to higher orders.

- (4) Subtraction.  
 Oral: Reverse of the 45 combinations made automatic and carried to higher orders.  
 Written: Three digit numbers with borrowing.
- (5) Multiplication.  
 Oral: Tables of 9's, 6's, 7's, 8's developed.  
 Written: Multipliers of one and two figures with carrying developed according to suggestions.
- (6) Division.  
 Oral: Simple divisions within the tables.  
 Written: Divisors of one figure the reverse of multiplication with one figure.
- (7) Measurement.  
 Review measures of previous grades. Add parts of a dozen and parts of a pound.
- (8) Fractions.  
 Fractional parts of numbers within the limits of the tables learned; *i. e.*,  $\frac{1}{6}$  of 42 and  $\frac{1}{7}$  of 42.
- (9) Signs and terms.  
 Those of preceding grades.
- (10) Problems.  
 Simple oral one-step problems made from material within the child's own experience, such as store keeping.

*Required of Children Leaving the Third Grade.*

1. Reading and writing numbers to 10,000, and amounts of money as dollars and cents. Reading the clock.
2. All addition and subtraction facts to 19 made automatic.
3. Addition and subtraction of numbers to three places, including money.
4. Multiplication and corresponding division facts through 9's. Employ carrying in the written work.
5. Standard measurements.

*Suggestions for the Third Year.*

Teachers should insist that pupils write numbers legibly and in conformity with the system of penmanship prescribed by the state law. Let there be a need for writing numbers, as for example the children's own house and telephone numbers.

In order to make the combinations automatic, there should be daily short drills and frequent use in games. Observe carefully the scientific classification of the combinations as follows:

1—very easy: 0 0 0 0 0 0 0 0 0 0  
 0 1 2 3 4 5 6 7 8 9

and the reverse.

2—easy: 1 1 1 1 1 1 1 1  
 2 3 4 5 6 7 8 9

2 2 3 4 5  
 2 3 3 4 5

and the reverse.

3—average: 2 2 2 2 3 3 3 3 4 2  
 4 5 6 7 4 5 6 7 5 7

and the reverse.

4—hard: 2 2 3 3 4 4 4 4 6 7 8 9  
 8 9 8 9 6 7 8 9 6 7 8 9  
 and the reverse.

5—very hard: 5 5 5 5 6 6 6 7 7 8  
 6 7 8 9 7 8 9 8 9 9  
 and the reverse.

Give particular attention to irregular counting as a good form of drill. Modified forms of the same combinations with carrying should be given for drill:

7 17 27 37  
 6 6 6 6 etc., etc.  
 — — — —

This drill is sometimes known as addition or subtraction by endings. See Hoyt and Peet, Book I, Part I, page 26, footnote.

In written addition, the first steps should be with two or three numbers in a column only, and no carrying. The following steps in carrying should be closely adhered to:

1. Carrying in one column only and the carrying figure 1:

12	541
6	132
3	56
—	—

2. Carrying in one column only with the carrying figure 2.
3. Carrying in one column only with carrying figure 1 or 2.
4. Carrying in any number of columns, the carrying figure being any number.

In teaching written subtraction, teach it as an imitative process. The "addition method" should be used in teaching children to make change as a preparation for store-keeping.

Multiplication.

Pupils should be led to see that multiplication is but a short or quick way of adding a group of like numbers. For example:

3	}	is $4 \times 3 = 12$ , an expression of the same result by a short cut.
3		
3		
3		
—		
12		

As in the case of the 45 combinations and separations, the multiplication tables are not really learned until they have become automatic. But this does not mean that pupils should not be required to multiply numbers in written multiplication. Written work in multiplication should be given as the tables are being developed, for written multiplication is in itself a way of reviewing the tables.

Teachers must not make elaborate explanations of each process. The fundamental processes should be taught largely through imitation. The problem in all the lower grades is to fix a habit of accurate and quick response.

Operations in written multiplication should progress in the order of difficulty:

1. Single multipliers without carrying:

$$\begin{array}{r} 214 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 514 \\ \times 2 \\ \hline \end{array}$$

2. Same with carrying in one place and the carrying figure 1:

$$\begin{array}{r} 219 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 516 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 432 \\ \times 4 \\ \hline \end{array}$$

3. With carrying figure 2:

$$\begin{array}{r} 216 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 516 \\ \times 4 \\ \hline \end{array}$$

4. A combination of 2 and 3:

5. Quick multiplication by 10.

Quick multiplication by 20.

6. Multipliers of two figures using 12, 14, 16, etc.

The suggestions made for multiplication apply in many ways to division, especially as to the steps in progress.

Measurements.

The tables of measurement need not be learned as such in the lower grades. The object in introducing them is that the need for them generally arises through gardens, and other projects. They offer excellent opportunities for estimating or guessing, and testing the "guess" by actual measurement.

In developing a feeling for fractional parts, the pupils should make their own circles, oblongs, squares, etc., which they can use to work out the ideas of fourths, halves, under the teacher's direction. The purpose of teaching fractions in this grade is to enable pupils to recognize the expressions  $\frac{1}{2}$ ,  $\frac{1}{3}$ , etc., and to know what they mean.

The problems should be simple oral ones. For example:

Our flag has 7 red stripes and 6 white ones. How many stripes has it?

There are 20 children in this room. One rainy day  $\frac{1}{4}$  of them were absent. How many were absent?

Everyday Arithmetic, Book I, Part I, by Hoyt and Peet, will be found helpful to use in connection with this course of study. Also Efficiency Arithmetic, Primary, Part I, by Chadsey-Smith.

#### Fourth Grade.

##### *Suggestions for 4B.*

- (1) Reading and Writing Numbers to 100,000. Dollars and cents in decimal form.

- (2) Counting.

Continued as in 3A outline.

- (3) Addition.

Oral: Quick drill, especially in higher orders.

Written: Sums with any number of columns continued. Apply simple tests for accuracy and speed occasionally. Those in Studebaker practice tests will be found valuable.

## (4) Subtraction.

Oral: Quick drill, particularly in subtracting by "endings" carried to higher orders:

$$\begin{array}{r} 57 \quad 47 \quad 27 \quad 87 \quad 37 \quad \text{etc.} \\ -9 \quad -9 \quad -9 \quad -9 \quad -9 \\ \hline \end{array}$$

Written: Apply simple tests frequently as suggested above for addition.

## (5) Multiplication.

Oral: Table completed through  $12 \times 12$ .

Written: Multiplicands with dollars and cents. Multipliers of two and three figures. Short process of multiplying by 10 and 100. The zero difficulty.

## (6) Division.

Oral: Finding factors within all the tables—

$$72 \div 9, \quad 72 \div 8, \quad \text{etc.}$$

Written: Short division with and without remainders. Use dividends of dollars and cents. Short process of dividing by 10 and 100.

## (7) Measurements.

Use of units previously learned. Mile, square inch, and foot. Easy surface measurements if needed. Reading thermometer.

## (8) Fractions.

Oral: Ideas of halves to tenths, inclusive. Comparison of halves with fourths and eighths; thirds with sixths, etc. Finding fractional parts of things and groups.

## (9) Terms and signs.

Use of those previously used together with abbreviations used in measurements.

## (10) Problems.

One-step problems involving whole numbers based on school and home experience of the pupils. Store-keeping furnishes most of this material.

*Suggestions for 4A.*

(1) Reading and writing numbers to 1,000,000. Dollars and cents in decimal form.

(2) Counting.

Continued as in 3A outline.

(3) Addition.

Oral: Adding series of numbers given visually and orally.

Written: Apply simple tests for accuracy and speed more frequently.

(4) Subtraction.

Oral: Quick drills given orally and visually.

Written: Apply simple tests for accuracy and speed more frequently.

(5) Multiplication.

Oral: Tables automatic if possible.

Written: Multiplicands with dollars and cents. Multipliers with three or more places with zero in tens place. Emphasize short process of multiplying by 10 and 100.

(6) Division.

Oral: Dividing numbers to 50 by any number through 12 with remainder.

Written: Long division with simple divisors of two places without remainder.

- (7) Measurements.  
Review and use of those previously learned.
- (8) Fractions.  
Oral: Idea of fractional parts to twelfths.
- (9) Terms and signs.  
Use of those already learned. Abbreviations for any measurements learned.
- (10) Problems.  
Increasing use of store-keeping as material for simple one-step problems.  
Bills of goods.

*Required of Pupils at Close of the Fourth Year.*

1. Multiplication and division tables automatic.
2. Multiplication process complete.
3. Long division by simple two digit numbers: 11, 12, 21, 22, 31, 32, etc.
4. Attainment of the standard of accuracy and speed in addition and subtraction as measured by the Curtis Standard Research Tests.  
Addition: 6 attempted, 4 right, 67% accuracy.  
Subtraction: 7 examples attempted, 5.6 right, or 80% accuracy.
5. Problems arising from needed use of standard measures,—money, areas of garden plots, etc., required in the pupils' projects.

*Suggestions for Fourth Year.*

1. Be sure to introduce the zero difficulty in reading and writing numbers. Eliminate the use of the word "and" in reading numbers. Notice suggestions under "Third Grade."

2. Beginning with this grade, those pupils who are not making progress with their tables should receive individual attention and concentrate on their special difficulties. Try to prevent the formation of such habits as counting on fingers, whispering or saying any formula, or giving the answer in wrong form. Children should be taught to see the result in the most direct and economical way. Remember that perfect oral work does not transfer to the written form perfectly.

Drill periods must be short and snappy. Five to ten minutes daily will accomplish standard results if your practice is intelligently planned, *i. e.*, has sufficient variety to hold the attention of all during the drill or game.

Do not expect to complete the process of long division. Make only an intelligent beginning, a good foundation for the next grade to build on. Above all things, do not attempt more than the standard degree of accuracy and speed in any of the four fundamental operations.

Teaching long division is merely the establishment of another mechanical habit, and is therefore subject to all the laws of habit making. Observe carefully the graduation of the steps. Use 11, 21, 31, 41, etc., and 12, 22, 32, 42, etc., as the first two digit divisors. Let the first figure of the dividend be divisible by the first one of the divisor, and so on. For example:

$$\begin{array}{r} 11 \overline{)131} \quad 21 \overline{)231} \quad 21 \overline{)252} \quad 21 \overline{)672} \quad 21 \overline{)106} \\ 21 \overline{)1197} \end{array}$$

Problems may be read from the printed text, blackboard or typewritten sheet. Interpret all problems before solving them, to make sure that the difficulty is not one of reading rather than mathematics. Keep them simple, mostly oral, and well within a child's experience. Examples of problems of this kind may be found in

Efficiency Arithmetic (Primary Book), by Chadsey-Smith, published by Atkinson, Mentzer & Co. Everyday Arithmetic, by Hoyt and Peet, Book I, Part II, is a good text to put into the hands of the children. The Studebaker Economy Practice Tests can be used to good advantage several times a week.

### Fifth Grade.

#### *Suggestions for 5B.*

- (1) Reading and writing numbers to 1,000,000. Dollars and cents.  
 (2) Counting.

Continued as in previous grades. Counting by  $12\frac{1}{2}$ , 25, and 50 to 100.

- (3) Addition and Subtraction.

Oral: Occasional quick drills in the combinations carried to higher orders:

$$\begin{array}{r} 29 \quad 49 \quad 59 \\ 8 \quad 8 \quad 8 \quad \text{etc.} \\ \hline \end{array}$$

Rapid adding of vertical columns for practice in recognizing the sum.

$$\begin{array}{r} 6 \\ 8 \\ 6 \\ 3 \\ 4 \\ \hline \end{array} \left. \vphantom{\begin{array}{r} 6 \\ 8 \\ 6 \\ 3 \\ 4 \\ \hline \end{array}} \right\} \text{Adding from the bottom up, the pupil should read 7, 13, 21, 27.}$$

Subtractions by endings:

$$\begin{array}{r} 25 \quad 45 \quad 65 \\ - 8 \quad - 8 \quad - 8 \\ \hline \end{array}$$

Also making of change quickly.

Written: Practice with the Studebaker Economy Practice Tests or similar device.

- (4) Multiplication.

Oral: Tables automatic. Quick dictation of products:

$$\begin{array}{r} 146 \\ \times 15 \\ \hline 730 \\ 146 \\ \hline 2190 \end{array} \left. \vphantom{\begin{array}{r} 146 \\ \times 15 \\ \hline 730 \\ 146 \\ \hline 2190 \end{array}} \right\} \text{Should be 0, 3, 7, and 6, 4, 1.} \quad 0, 9, 1, 2.$$

Written: Multipliers of three and four figures. Multiplicands of dollars and cents. Short process of multiplying by 10, 100, and 1,000. Emphasize the zero difficulty.

- (5) Division.

Oral: Dividing numbers to 100 by any number through 12, as 2 to 20; 3 to 30; 4 to 40; 5 to 50, etc.

Written: Review and complete the process of teaching long division.

- (6) Measurements.

Use of those already learned and the addition of new ones as needed.

## (7) Fractions.

Classification, reduction, addition and subtraction of simple fractions.

## (8) Terms.

Those used in common fractions and measurements.

## (9) Problems.

Problems involving integers and fractions, the making of problems from the pupils' school and home experience.

*Suggestions for 5A.*

(1) Reading and writing numbers to 1,000,000,000. Common fractions with denominators to twelfths and decimal fractions of two places.

## (2) Counting.

Continued as in 5B.

(3) Fundamental operations with whole numbers practiced daily for about 10 minutes.

## (4) Measurements.

Continued as in 5B.

## (5) Fractions.

Addition and subtraction continued. Multiplication and division of very simple common fractions.

## (6) Decimal fractions.

Other uses than in dollars and cents with which the children are familiar.

Addition and subtraction of decimals of two places. Multiplication and division of decimals, multiplier and divisor being an integer.

## (7) Problems.

Problems growing out of school or home activities involving integers, fractions and decimals. Simple fractions in use of recipes for candy, etc., and in drawings for woodwork are suggested.

*Requirements at the Close of the Fifth School Year.*

## SUMMARY.

The reading and writing of numbers to billions; four fundamental operations with whole numbers, including long division; weights and measures learned; easy problems in addition, subtraction, and multiplication of fractions. See *Everyday Arithmetic*, Book II, Part III, pages 28-80. *Efficiency Arithmetic (Intermediate)*, pages 51-95.

Attainment of the standard of accuracy and speed in the four fundamental operations with whole numbers as measured by the *Courtis Standard Research Tests*:

	Attempted.	Right.
Addition -----	8	5.6 or 70%
Subtraction -----	9	7.4 or 83%
Multiplication -----	8	6 or 75%
Division -----	6	5 or 77%

*Suggestions for Fifth Year.*

Pupils should be given the *Courtis Standard Research Tests*, omitting long division, some time during the first month of school, and their performance judged by the 4A standard which follows:

	Attempted.	Right.
Addition -----	6	4 or 67%
Subtraction -----	7	5.6 or 80%
Multiplication -----	6	4.6 or 67%
Division -----	4	2.2 or 57%

This is for the purpose of "taking stock" and appreciating what each child needs to do to attain the goal of the 5A standard.

Daily practice of about ten minutes should be given with the Studebaker tests—each child keeping his daily score as per directions. Strict attention should be paid to all children who are not making reasonable progress, with a view to diagnosing each case and applying the remedy for the inaccuracy or lack of speed. In other words, study the individual to help him form a correct habit.

About the midyear test the class again to see how far each individual has progressed toward the goal and at the same time to judge whether the teaching has been efficient or not. At the close of the year test again.

Meantime continue the daily practice with the Studebakers. If at any time your class would appear to be tired of the tests, give the drill in some other way for a week or so. In case all the group should be weak in a certain operation, as for example long division, give the long division tests in succession.

Remember that there must be constant emphasis upon the fundamentals, because *all pupils* should know how to add, subtract, multiply and divide whole numbers as accurately and as rapidly as other children of about the same age. The Courtis tests tell you whether your pupils are able to do this or not.

In 5B begin long division as if the children had never been taught it. During the long vacation they have forgotten this process for which they have had no use whatever. See suggestions for 4A.

Problems may be read from the text, blackboard, notebook, or typewritten sheet. Interpret all problems before solving, to be sure that the children read correctly; then most of the difficulties will never exist. Keep all problems simple and well within a child's experience. Work in problems as well as other phases will be found in Efficiency Arithmetic (Intermediate), by Chadsey-Smith, published by Atkinson, Mentzer & Co. The fraction work in Everyday Arithmetic, by Hoyt and Peet, Book II, Part III, is particularly good to follow, and these books should be put into the hands of the children *after* the subject has been introduced without them.

### Sixth Grade.

#### *Suggestions for 6B.*

- (1) Reading and writing of large numbers in connection with geography, war statistics, etc.
- (2) Practice in fundamental operations three or four times a week.
- (3) Measurements: Review tables.
- (4) Fractions.
  - A. Common: Review addition, subtraction; multiplication and division thoroughly taught.
  - B. Decimals: Review reading and writing of two places. Continue to three and four places.
 Review addition and subtraction. Continue work in multiplication and division, using decimals as multipliers and divisors. Develop rules for pointing off in the above *inductively*.
- (5) Problems in whole numbers, fractions and decimals, as in finding averages and grades in spelling, etc. Simple business forms in keeping simple accounts.

*Suggestions for 6A.*

- (1) Notation and numeration continued as in 6B.
- (2) Four fundamental operations continued as in 6B.
- (3) Measurements: Continued.
- (4) Fractions.
  - A. Common: Reviewed through use in problems.
  - B. Decimals: Continued as in 6B.
- (5) Percentage.
 

Oral: Give per cents as other form of common or decimal fractions. Per cents of quantities, etc. See *Everyday Arithmetic*, Book II, Part IV, pages 78-84.

Written: Finding per cents of numbers when too difficult to do orally. See *Everyday Arithmetic*, Book II, Part IV, pages 84-101.
- (6) Problems: Continued as in 6B.

*Requirements at the Close of the Sixth School Year.*

## SUMMARY.

The reading and writing of any whole numbers, fractions and decimals. Review and thorough treatment of the four fundamental operations with common and decimal fractions; beginnings of percentage; weights and measures; and the attainment of the standard degree of accuracy and speed in the four fundamental operations with whole numbers as measured by the Courtis Standard Research Tests:

	Attempted.	Right.
Addition -----	10	7.3 or 73%
Subtraction -----	11	9.3 or 85%
Multiplication -----	9	7 or 78%
Division -----	8	6.9 or 87%

*Suggestions for Sixth Year.*

Some time during the first month of the school year the pupils should be given the Courtis Standard Research Tests, and their performance in the use of the four fundamental operations with whole numbers be judged by the 5A Standard which follows:

	Attempted.	Right.
Addition -----	8	5.6 or 70%
Subtraction -----	9	7.4 or 83%
Multiplication -----	8	6 or 75%
Division -----	6	5 or 77%

Compare the average of the class with the above average as well as the score of each pupil with it, in order to help him to understand what he needs to work on to attain the goal for the 6A grade.

Daily practice of from 8 to 10 minutes should be given with the Studebaker tests, each child keeping his own daily score as per instructions. The teacher's attention should be directed particularly toward those pupils who are not making satisfactory or reasonable progress, with a view to diagnosing each case and applying the remedy for inaccuracy or lack of speed. In other words, study the individual to help him break incorrect habits.

About the middle of the year test the class again to see how far each individual has progressed toward the goal and at the same time to judge whether the teaching has been effective or not. At the close of the year make a final test.

Meantime continue the daily practice with the Studebakers. If at any time the class appears tired of this form of practice, vary it by giving some other examples or suspending such practice for a few days. In case a pupil or the whole group should be weak in a certain process, as for example, addition, give the addition tests in succession.

THERE MUST BE CONSTANT EMPHASIS UPON THE FUNDAMENTALS BECAUSE ALL PUPILS SHOULD KNOW HOW TO ADD, SUBTRACT, MULTIPLY AND DIVIDE WHOLE NUMBERS AS ACCURATELY AND AS RAPIDLY AS OTHER CHILDREN OF ABOUT THE SAME AGE. The Courtis tests tell you whether or not your pupils are able to do this.

All problems should be read and interpreted before being solved. Many times have the children interpreted some of the problems in their books without solving them at all. Keep problems within the child's experience as far as possible. Suggestive material may be found in Efficiency Arithmetic (Intermediate), by Chadsey-Smith, published by Atkinson, Mentzer & Co., pages 178-279.

Introduce any subject first without any text in the children's hands. After a lesson or two without books, take the Everyday Arithmetic, Book II, Part IV, which can be given to the children.

An article on sixth grade storekeeping by Mrs. N. B. Sebree, formerly supervisor of that grade, may be obtained in the Training School Library. Copies of the Efficiency Arithmetic herein alluded to may be obtained there also.

### 7B Grade.

(1) Test the ability of the pupils in reading and writing large numbers in connection with their geography work, war statistics, etc.

In this connection, cover the work in Everyday Arithmetic, Book III, Part V, Chapter II. Each pupil may have a copy of this book from the T. S. Library.

(2) Daily practice in fundamental operations with integers must be continued with all pupils who are not above the standard for their grade in this particular. Use of the Studebaker practice tests several times a week has been found the most desirable way of conducting this practice so that each individual shall receive drill in the operation in which he particularly needs it.

(3) Review fundamental processes and fractions in Everyday Arithmetic, Book III, Part V, Chapter I. The teacher will find supplementary material in Efficiency Arithmetic (Advanced), Chapters I and II. Apply at the T. S. Library for this book.

(4) Review percentage in Everyday Arithmetic, Book III, Part V, Chapters III and IV. Supplementary material in Efficiency Arithmetic, Chapter III.

(5) Chapters IV and VI in Everyday Arithmetic, Book III, Part V.

### *Suggestions for Seventh Grade.*

Good as all the practical problems in decimals, percentage, etc., are, the one outstanding fact is that the world demands that *all boys and girls should know how to add, subtract, multiply and divide whole numbers as accurately and as rapidly as other children of about the same age.* In order to bring about this result, follow this plan:

Some time during the first month of the school year the pupils should be given the Courtis Standard Research Tests and their performance measured by the 6A standard which follows:

	Attempted.	Right.
Addition -----	10	7.3 or 73%
Subtraction -----	11	9.3 or 85%
Multiplication -----	9	7 or 78%
Division -----	8	6.9 or 87%

Compare the score of each with the above in order to help him to understand what he needs to work on to attain the goal for the 7A grade.

Daily practice of from 8 to 10 minutes should be given with the Studebaker tests, each child keeping his own daily score as per instructions in the manual. The teacher's attention should be directed particularly toward those pupils who are not making reasonable progress, with a view to diagnosing the case and applying the remedy for the inaccuracy or lack of speed. Help the pupil to break any incorrect habits. Keep a record of each child's progress on the sheets provided for the purpose.

About the close of the 7B work test the class again with Curtis tests to see how far each individual has progressed toward the goal and at the same time to judge whether the teaching has been efficient or not. At the close of the 7A work, test again and judge performance by the 7A standard, which follows:

	Attempted.	Right.
Addition -----	11	8.2 or 75%
Subtraction -----	12	10 or 86%
Multiplication -----	10	8 or 80%
Division -----	10	9 or 90%

Meantime, daily practice with the Studebakers should be continued all through the 7A Grade. If at times the class appears tired of this form of practice, vary it by giving some other examples or suspending such practice for a few days entirely. In case a pupil or the whole group is weak in a certain process, as for example, division, give the division tests in succession.

Emphasize the interpretation of problems before solving them.

Introduce or review any subject orally without the books in the pupils' hands.

### 7A Grade.

- (1) Daily practice in fundamental operations with integers must be continued with all pupils who are not above the standard required for the 7A grade.

*See Suggestions for 7B Grade.*

- (2) Everyday Arithmetic, Book III, Part V, Chapters V, VII, VIII and IX.

*Suggestions for 7A Grade.*

Instead of (2) it would be an excellent plan to study some phase of business arithmetic in the dramatic form, or devote the time to working out the arithmetic problems connected with any projects which may be in process of development in the grade.

Suggestive material for dramatizing a business will be found:

Francis W. Parker School Year Book, Vol. IV, June, 1915, pages 97-103.

Catalogue of the Francis Parker School, 1915-16, page 74.

### 8B Grade.

- (1) Daily practice in fundamental operations with integers must be continued with all pupils who are not above the standard required for the grade.

Every 8B pupil should measure up to the 7A standard (see Suggestions for 7B Grade) at the beginning of 8B. At the close of 8A he should be able to measure up to the following as a result of the Courtis tests:

	Attempted.	Right.
Addition -----	12	9.1 or 76%
Subtraction -----	13	11.3 or 87%
Multiplication -----	11	8.9 or 81%
Division -----	11	10 or 91%

For suggestions with regard to all of the above, see 7B Grade suggestions.

- (2) Everyday Arithmetic, Book III, Part VI, Chapters I-VI. Supplementary work may be found in other arithmetics.

#### *Suggestions for 8B Grade.*

Instead of (2) it would be far better to devote the time to working out the arithmetic problems connected with any projects which may be in process of development in the grade. War problems in connection with geography and history would be good.

#### **8A Grade.**

- (1) Same as 8B Grade.  
 (2) Everyday Arithmetic, Book III, Part VI, Chapters VII-XIII. Supplemented by work in State text, especially the chapter on the equation.

#### *Suggestions for 8A.*

Instead of (2) work on projects, or make a study of San Diego's taxing machinery, or study stocks and bonds in a dramatic way. See Elementary School Journal, December, 1917, pages 264-267. Other suggestive material will be found in Efficiency Arithmetic (Advanced), Part II, which can be obtained in the T. S. Library.

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## GEOGRAPHY.

VINNIE B. CLARK, Supervisor of Geography.

The purpose in formulating the following course of study is to furnish an outline for teachers who have no time for constructive planning.

The aim of the course is to suggest the presentation and use of geographical material in ways that will form good geographical habits with special reference to their use in life both in a cultural and in a practical or economic fashion. Cognizance is taken of the fact that a very large majority of the pupils will have no further opportunity to study this subject either in the high school or in the university or college.

In planning the course the main task has been one of elimination. There is no attempt to study each continent from an elementary and later from a more advanced point of view; neither has there been an attempt to study a large number of the countries of the earth. The ones of greatest international importance and those of closest interest to us are stressed; but through the habits cultivated it is hoped that the pupils will be able to learn intelligently of the others as they become the center of international or personal interest.

The elements of social geography (manners and customs), and of industrial geography, occupy the greater part of the time, but some of the fundamental principles of economic geography form a part of the work of the upper grades. Locational geography is not taught as an end in itself, but it is used as a daily tool in all grades with a realization that comparative position is an important factor in the interpretation of geographical facts. Physical geography, too, is not taught in any given part of the course, but in each grade those topics are developed which are needed in explanation of the subjects under discussion, as, for instance, vulcanism is explained when the class is studying a region of volcanic activity, and the formation of a delta is studied when the class is studying a prosperous agricultural community or large city which is the outgrowth of delta conditions.

Beginning in the fifth grade there is definite correlated instruction in climatic control of geographical factors, but most of meteorology and climatology is altogether too scientific for introduction into the elementary curriculum.

In each grade, the children are expected to add to their geographical vocabulary, learning the new terms as they have use for them. More than one-fourth of the time is devoted to the study of local and United States geography in recognition of the fact that that most closely touches the pupils' lives. A small amount of the subject matter is chosen because it is especially interesting to children. Some is chosen for culture, whether it has or has not direct economic bearing. The work as outlined constantly furnishes excellent material for correlation in industrial arts, language and literature.

The course of study is so arranged that it represents the logical development of the subject matter, but not necessarily the order in which the topics are studied in each particular grade. The subject matter is arranged as it appears below in order that the student teacher may be aided in seeing it in its entirety. The order of presentation is constantly changed, being adapted to each particular group of children and to the texts and other materials and opportunities available at the time.

As the aim in making the course is to make geography function in life, the eighth grade work deals with the interpretation of those current events which are based wholly or largely on geographical laws. This is the spirit of the "new geography."

The course represents a transitory stage,—one step in the adaptation of the given subject to the best interests of modern development. It is hoped that before many have read this outline that we shall have reached the next step—a better adaptation.

### Third Grade.

The work of this year includes local geography and stories of child life in other lands. The topics in local geography seek to begin the interpretation of maps and globes through the association of known places and map symbols. This map work precedes the study of child life, so that the children may use their knowledge of maps in determining the relative positions of the countries under discussion.

The greater portion of the time is devoted to stories of other countries. It is not intended that all classes shall study all of the countries which are included in the list below, but that a suitable selection shall be made for each group of children. The aims of this portion of the work are to arouse interest in the manners and customs of other people through the story form, and so to broaden the child's interest, also to give an idea of the world as a whole.

The climate and topography of a region are not taught as subjects in themselves, but only as factors in determining the life and activities of the inhabitants. There is no attempt made to have the children fully understand life responses, or to generalize; but they acquire details which will find their places later when the principles of geography are more fully developed.

Through the class work interest in geography is stimulated and the children are introduced to books which they may read in their library reading and at home. The bibliography below furnishes a list of books from which the children may choose. Every stimulation is given to this outside reading, and pupils are also encouraged to subscribe to the magazine "Everyland," as it is particularly adapted to children's interests.

#### I. Introductory local geography.

- A. Points of compass,—at San Diego, map of schoolroom, map of school block, map of San Diego, globe, use of compass.
- B. San Diego and its environs,—
  1. San Diego bay,—uses, meaning of bay.
  2. Pacific ocean.
  3. Point Loma, meaning of peninsula.
  4. Coronado islands, meaning of island.
  5. Coronado, meaning of land-tied island.
  6. Strand, development of sandbar, use; sand dunes.
  7. Jetty, construction, use; fog horns.
  8. Buoys, piers, wharf, Dutch Flats.
  9. Lighthouses, use; life in; other kinds; supported by whom.
  10. Sand table problems.
- C. Mission Valley (Trip to Mission Cliff Gardens)—Characteristics of valley floor and upland, formation of valley and side canyons, the river in summer and winter, ground water and wells.
- D. Day and night.

#### II. Child life in other lands.

- A. Eskimos (Alaska)—Primitive people of high latitude. Winter and summer homes, dress, food, boats, dog teams and sleds; musk ox, walrus, seals, salmon, bear, reindeer; northern lights; Indians, white people; farming in summer; volcanic activity.

B. Pygmies,—Primitive people of low latitude.

Appearance, dress, houses, food, nature of people, weapons, pastimes; forests of central Africa.

C. Holland,—Temperate lowland.

Dikes, canals, windmills; rural life, houses, dress, markets, dog carts, sports; dairying, raising of tulips, truck gardens, fishing.

D. Switzerland,—Free mountainous country.

Playground of Europe; rural life, homes, stables, dress, food, herders, haying, carving; life in city, clocks and watches; mountains and glaciers, mountain passes, St. Bernard dogs, tunnels, winter and summer sports; schools.

E. Mexico,—Our nearest neighbor.

Life on hacienda, the rich and the peons, dress, schools, food, pulque; desert vegetation, henequen; life in city, markets, national sports, festival days; tropical vegetation, bananas, coconuts; trip to a silver mine.

F. Japan,—Oriental island empire.

People, homes, manners, street scenes, method of travel, games, festival days, schools; tea, fishing, silk, rice, unusual plant life, as cherry trees, wistaria, lotus, chrysanthemums.



Third Grade Geography: Japanese Home and Garden.

G. Philippine Islands,—Our island possessions.

People, homes, food, schools, water buffalo, sports, manila hemp; a day in Manila.

H. Arabia,—Nomadic people.

Homes and journeyings on desert; oases, dates, clothing, food; children's playthings, schools of the cities; camels, ostriches, horses.

I. France,—A country of great present interest.

Village life, homes, dress, ways of living; child life in Paris, markets, Eiffel Tower, underground tubes; manufacture of silk, of perfume; vineyards, chateau life; schools, fairs.

J. Child life in United States.

Winter and summer sports in eastern and western United States and in northern and southern United States.

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 Perkins. *The Twin Series—Eskimo, Dutch, Belgian, French, Japanese, Irish, Mexican*. Houghton-Mifflin Co.  
 Smith. *Holland Stories*. Rand-McNally & Co.  
 Smith. *Eskimo Stories*. Rand-McNally & Co.  
 Grover. *The Overall Boys in Switzerland*. Rand-McNally & Co.  
 Grover. *The Sunbonnet Babies in Holland*. Rand-McNally & Co.  
 Olmstead & Grant. *Ned and Nan in Holland*. Row, Peterson & Co.  
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 Headland. *The Chinese Boy and Girl*. Revell Co.  
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**Fourth Grade.**

This year's work teaches the geography of California and of the United States through the geography of San Diego.

The aims are: (1) to encourage the pupil's power of observation; (2) to develop the questioning attitude and so to lead to an intelligent attitude of mind; (3) to gain some insight into the relation of the home city to the other parts of the United States; (4) to furnish a certain amount of first-hand knowledge which will form a background in interpreting conditions in other parts of the world; and (5) to teach children how to acquire information from books.

In the development of many of the subjects the most important source of information is found in the trips to local points of interest. These should be, preferably, class exercises. The second important source of information is various kinds of pictures. Books form a third source, and information furnished by the teacher in story form the last. It is as the first sources predominate over the last that the work is considered vital.

In handling subjects which are correlated with an excursion, the work falls into three distinct parts: first, the preparation for the trip; second, the trip; and third, a discussion of the trip with additional teaching and a general summary. Taking the subject of Wheat, (Topic XIII in outline) as an illustration, the preparation for

the trip consists in a study of the conditions of growth, stories of harvesting and preparation for the market as outlined under A. Each child is then provided with the following questions which the children read and discuss in class in order that each child may know what to look for on the trip.

#### FLOUR MILL.

1. Where did the mill get the wheat?
2. How was the wheat brought to San Diego?
3. How was the wheat put into the storage bins?
4. Discuss the storage bins.
5. What is first done to make wheat into flour?
6. What are middlings?
7. How is the flour sifted? How many times is it sifted? Why is it sifted?
8. What is bran?
9. What is whole wheat?
10. What is graham?
11. How is the flour put into sacks?
12. What sizes of sacks are used?
13. Why does the man who sews up the sacks have a magnet?
14. What are the chief markets for this flour?
15. What advantage is there in the location of this factory?
16. How is corn meal made?

#### MACARONI FACTORY.

1. From what is macaroni made?
2. How is the dough kneaded?
3. How is it molded? How dried?

#### CRACKER FACTORY.

1. Of what are crackers made?
2. How is the dough set?
3. How is the dough kneaded?
4. Explain how the crackers are rolled and cut.
5. How are they baked? Packed?
6. To what other cities are these crackers shipped?

After the trip the questions are answered in class.

Both in the preparation for the trip and in the discussion, the children are aided in getting their own material and information from their texts and from other books.

In developing subjects which are not correlated with excursions, the acquisition of information falls into five parts: first, information furnished by any child's experience gained in local observation or travel; second, information found in the text, which is usually very meagre; third, that given by a child in the form of a special report prepared as library work; fourth, that told or read to the class by the teacher; and fifth, that acquired from pictures which are used in explanation with the first four sources.

As an illustration of the development of such a subject, take Topic IV—Irrigation and Water supply. First, questions to be answered from the children's knowledge:

1. How do you irrigate your gardens? Why?
2. How are citrus groves irrigated?
3. From where does the water come?
4. Describe Sweetwater Dam and other dams in the back country.

5. Where are dams built?
6. Why do we have dams?
7. Why is irrigation necessary?
8. The children should then add any personal knowledge they have of any other irrigated region.
9. Who has lived in a region in which irrigation is not necessary? Describe.

The children's texts do not furnish additional material on this subject, but Fairbank's "Western United States" furnishes material for the teacher.

In summarizing, the children should see that irrigation is common to the western states but not to the eastern, should know why so much of the western part requires it, should understand why the area of irrigated land is increasing rapidly and the part that the government takes in development projects.

The subjects in this year's work are so selected that they are directly related to the children's lives, most of them dealing with their food, clothing or homes. The details of manufacturing of even familiar objects are generally omitted, stress being laid on the simple processes of our industrial and agricultural life. Attention is here given to physiographic controls, and at the end of the year's work the children should have some knowledge of the main physiographic provinces of North America in regard to their extent, characteristic features and climate, and the effect of these upon life, both plant and animal, and upon human activities.

Various forms of motor work are used, having for their purpose, first, the developing, systematizing and rounding out of the subject matter; second, the increasing of the interest by making the work more playful and at the same time more concrete; and, third, the developing of ideas. The motor work includes such types as making of product belt maps, sand table problems, scrapbooks, paper cutting, posters and the making of collections.

As in the third grade, the children are encouraged to supplement their school work by reading along geographical lines. Attractive books are called to their attention in class and then permitted to circulate under the guidance of the geography teacher. These books are on the subjects studied in class, but also on any geography subjects of special interest to children. In order to sustain the world interest developed in the third grade, and also to prepare the children for the more intensive work on the continents later, the grade is furnished with the current numbers of three monthly magazines, the National Geographic Magazine, Travel, and Everyland.

In order that the reading of these magazines may be directed, a weekly assembly of the entire fourth grade is held. The time is devoted to music, reading and geography. During this time children give reports on magazine articles, and also on trips which they have taken or of which they have knowledge from their families.

#### *Outline of Subject Matter. (40 weeks.)*

- I. Trip to Old Town,—site of old San Diego; olive industry, citrus fruits, cacti; sand table problem (out of doors if possible).
- II. Trip to Fort Rosecrans and the new lighthouse.
- III. Interpretation of maps of San Diego County; automobile maps for each child; location of places already known.
- IV. Irrigation and water supply, in this region; contrast with regions of heavier rainfall.
- V. Balboa Park (Trip to Zoo),—gift, purpose, uses; city parks in general; compare with national parks, Yosemite, Yellowstone, Grand Canyon of Colorado.

- VI. Transportation, by land and water.
- VII. The fish industry.
- A. Of San Diego (trips to piers, market and canneries),—tuna, albacore, yellowtail, sardines, lobsters, turtles, etc.
  - B. Of west coast and Alaska,—salmon, herring.
  - C. Of east coast,—cod, oysters.
- VIII. Fruits.
- A. Figs.
  - B. Grapes,—raisins, table grapes.
  - C. Prunes, apricots, peaches, etc.
- IX. Nuts,—walnuts, almonds, pecans.
- X. Truck gardening,—its relation to a city.
- XI. Lumber industry, of San Diego (a trip to mill), of the Northwest, of New England, of the South; paper making; purpose of National Forests, conservation; shipbuilding.
- XII. Imperial Valley.
- A. Formation.
  - B. Irrigation.
  - C. Industries.
    1. Dates,—introduction from Asia, conditions of growth, varieties, harvesting crop, marketing, food value.
    2. Cotton (the subject of cotton is introduced here, but is taught for the cotton belt at the same time),—regions, conditions of growth, ginning, baling, manufacturing, use of water power, products from cotton seeds.
    3. Poultry.
    4. Melons and cantaloupes,—marketing.
    5. Stock raising. (These industries in Imperial Valley are used to introduce the subjects. Discussions of these industries in the regions where they are more important follow.)
      - a. Hogs,—method of raising, regions, reasons.
      - b. Cattle,—ranching, regions, reasons.
      - c. Sheep,—life of a flock of sheep, regions, reasons.
      - d. Difference between cattle and sheep ranches.
      - e. Transportation to meat packing centers,—work at packing houses, refrigerator cars.
      - f. Export trade,—live animals, fresh meat, canned and smoked products.
      - g. Wool,—shearing, cleaning, baling, transportation, spinning, carding, weaving.
      - h. Hides,—tanning, uses.
      - i. Horses and mules,—main regions.
    6. Alfalfa.
- XIII. Wheat.
- A. Raising of wheat.
    1. In West.
    2. In Central States,—life on a farm, sowing, harvesting, threshing, marketing.
  - B. Trip to flour mills, cracker factory and macaroni factory.
  - C. Flour,—making, uses, substitutes, marketing.
  - D. Wheat belt,—its relation to other parts of the United States from an economic point of view.

E. Milling centers,—Minneapolis, Buffalo.

F. Transportation routes for export to foreign countries.

G. Importance as a food in this country and in other countries.

XIV. Corn,—maize or Indian corn. (This would be included in a trip to the flour mills.)

A. Uses.

1. As a food to man.

2. As a food for stock.

a. Hogs.

b. Milch cows and cattle.

3. Other uses.

B. Corn belt.

XV. Kaffir corn and other sorghums.

XVI. Rye, barley, oats.

XVII. Rice,—conditions of growth, regions, preparation for market.

XXVIII. Dairying,—trip to dairy, work of a separator, making butter, making of cheese, making of ice, a dairy farm, dairying in main dairy states, market for dairy products.

XIX. Sugar.

A. Beet,—conditions of growth, regions producing, refining centers.

B. Cane,—conditions of growth, regions, by-products, refining centers as San Francisco, New Orleans, Philadelphia.

C. Maple.

D. Honey.

E. Importance of sugar.

XX. Tobacco,—trip to cigar factory, study of method of manufacture, conditions of growth, main regions, main markets as Louisville, Ky.

XXI. Petroleum,—how formed, drilling, regions, products.

XXII. Coal,—method of mining, miners, kinds, coal fields, relation to manufacturing, other uses, coke.

XXIII. Iron,—important regions, mining, transportation to coal fields, pig iron, iron and steel products, Pittsburg, Birmingham.

XXIV. Copper, gold and silver treated by the same method as iron and coal.

XXV. Onyx and granite,—quarrying, uses, comparison of buildings in regions having building stone and those without it.

XXVI. Semi-precious stones of San Diego County,—trip to mine exhibit.

XXVII. Type cities,—New York, San Francisco, Washington.

XXVIII. Summary.

A. Climate.

1. Difference between north and south.

2. Difference between east and west.

B. Physiography,—compare density of population and products of the plain and mountain states.

C. Main regions for manufacturing, mining and farming.

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Frye. New Geography. Bk. I, pages 75-177.

Shillig. The Four Wonders. Rand-McNally & Co.

Hall. Weavers and Other Workers. Rand-McNally & Co.

Dutton. In Field and Pasture. American Book Co.

- Mott and Dutton. Fishing and Hunting. American Book Co.  
 Tappan. The Farmer and His Friends. Houghton-Mifflin Co.  
 Chamberlain. How We Are Fed. The Macmillan Co.  
 Chamberlain. How We Are Clothed. The Macmillan Co.  
 Chamberlain. How We Are Housed. The Macmillan Co.  
 Chamberlain. How We Travel. The Macmillan Co.  
 Tolman and Hart. Around the World. Bk. IV. Silver, Burdett & Co.  
 Fairbanks. Geography of California. Whitaker.  
 Chase and Clow. Stories of Industry. Bks. I and II. Educational Publishing Co.  
 Fairbanks. Rocks and Minerals. Educational Publishing Co.  
 Fairbanks. Stories of Mother Earth. Educational Publishing Co.  
 Carpenter. How the World Is Fed. American Book Co.  
 Carpenter. How the World Is Clothed. American Book Co.  
 Carpenter. How the World Is Housed. American Book Co.

#### BOOKS FOR THE TEACHER.

- Companion Series. Our Country East. Perry Mason Co.  
 Companion Series. Our Country West. Perry Mason Co.  
 Companion Library. The Great Lake Country, Along the Atlantic, In New  
 England, On the Plains, On the Gulf, etc. Perry Mason Co.  
 Rocheleau. Great American Industries. (3 volumes.) Flanagan.  
 Carpenter. North America. American Book Co.  
 Crissey. The Story of Food. Rand-McNally & Co.  
 Freeman and Chandler. World's Commercial Products. Ginn & Co.

For additional references for the teacher's use, see the bibliography for 7B.

#### Fifth Grade.

The aims of this year are: (1) to develop correct habits of study; (2) to teach the correct use of geographical materials; (3) to cultivate logical thinking through constant relation of cause and effect, and also to cultivate a logical and correct expression of the same; (4) to develop a desire to travel; (5) to furnish a certain amount of information to aid in intelligent living.

The work includes the study of South America, Australia, and Asia. South America is selected as the first continent for intensive work, first, because it is the continent in which the effect of physiographic and climatic controls on human activities, products and commerce is most clearly and simply shown; and, second, because of its rapidly increasing relations with the United States. Australia repeats many of the same geographical laws, and Asia introduces the more complicated physiographic conditions as well as the more difficult climatic conditions of the temperate zone. In studying each of these continents the main topics are the manners and customs of the people, the products supplied to the United States or to other parts of the world, and also those commodities which are handled as imports. The interdependence of temperate and tropical countries is developed.

The topics given under each continent are suggestive, the work being adapted, increased, diminished or modified in various ways for successive groups of children. The list of reference books aims to furnish a variety of books large enough to meet the tastes of the different children, and also to be adequate in number for the class.

In this grade training in the following subjects is begun as the need for each one of them arises:

##### I. Latitude and longitude.

Latitude is taught thoroughly before beginning longitude.

- II. Zones.
- III. Doldrums, trade winds, horse latitudes, westerlies. The subject of winds is taught by itself, and each belt is also emphasized where it is the controlling factor in the subject under discussion.
  - Order of procedure.
    - A. Characteristics of doldrum belt.
    - B. Trades.
      - 1, approximate extent of each belt; 2, causes; 3, migration;
      - 4, location in South America and world.
    - C. Horse latitudes.
    - D. Westerlies.
  - IV. Use of index.
  - V. Use of scale of miles.
  - VI. Use of legend.
  - VII. Use of pronouncing gazetteer.
  - VIII. Use of reference books.

*Outline of Subject Matter.*

South America. (20 weeks.)

- I. Climate (taught as a factor of control).
- II. Topography.
  - A. Highlands,—Andes mountains, Brazilian highlands, Guiana highlands.
  - B. Valleys and rivers,—Amazon, Orinoco, Paraguay, Parana, La Plata.
- III. People, government, and languages (relation to history).
  - A. Native Indians,—Incas, Tehuelches, Onas, Yaghans, Caribs.
  - B. Negroes.
  - C. Whites.
- IV. Vegetation zones (taught in connection with other subjects).
  - A. Tropical forests.
  - B. Grassy regions,—Campos of Brazil, Llanos of Venezuela, Pampas of Argentina, Gran Chaco (parklike).
  - C. Deserts.
    - 1. Dry desert,—Atacama (nitrate of soda).
    - 2. Cold desert.
- V. Plant products.
  - Tropical,—rubber, coffee, Brazil nuts, coconuts, vegetable ivory, Panama straw hats, cacao, bananas, manioc.
  - Temperate,—wheat, corn, flaxseed, mate.
- VI. Animal products,—cattle and sheep and related products.
- VII. Mineral products,—nitrate of soda, guano, tin, asphaltum, copper, emeralds, diamonds.
- VIII. Animals.
  - A. Domesticated,—llama, vicuna, alpaca, guanaco.
  - B. Wild.
- IX. Commerce,—reasons for exportation of raw products and importation of manufactured articles.
- X. Trade routes,—land and water, causes for lack of ample railroads.
- XI. Possible excursions,—tire company, wholesale grocery, jewelry and gem stores, municipal pier.

- XII. Suggestive motor work,—beasts of burden, methods of transportation (especially types of boats), types of homes, weapons, Argentine ranch scene, Carib or other Indian village, rubber plantation, etc. The motor work furnishes material for correlation with industrial arts.

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 Allen. *Geographical and Industrial Studies, South America*. Ginn & Co.

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 Pan American Union. Washington, D. C.  
 The South American Magazine. 310 Lexington avenue, New York City.  
 Everyland Magazine. 160 Fifth avenue, New York City.  
 Bowman. *South America*. Rand-McNally & Co.  
 Carpenter. *South America*. American Book Co.  
 Carpenter. *South America*. Advanced. American Book Co.  
 Freeman and Chandler. *World's Commercial Products (pictures)*. Ginn & Co.  
 Chamberlain. *Home and World Series*. The Macmillan Co.  
 Coe. *Our American Neighbors*. Silver, Burdett & Co.  
 Youth's Companion. *Strange Lands Near Home*. Ginn & Co.  
 Wade, etc. *Cousin Series,—Brazil, Argentina, Panama*. Page Co.

Australia. (5 weeks.)

- I. Position and size.  
 II. Topography, Continental Border, and Barrier Reef.  
 III. Climate. (Review winds.)  
 IV. Animals.  
     A. Native,—causes of peculiarity, varieties.  
     B. Imported,—sheep, cattle.  
 V. Plants.  
     A. Native,—varieties, types of commercial value.  
     B. Imported,—cereals.  
 VI. People.  
     A. Aborigines.  
     B. Europeans. (Relate to history.)  
 VII. Minerals,—gold.  
 VIII. Pearl fisheries.  
 IX. Government aid in industries and education.  
 X. Trade routes.  
     A. Oceanic,—Melbourne, Sydney, Adelaide.  
     B. Railroad,—transcontinental roads, Perth.  
 XI. Tasmania.  
 XII. New Zealand,—compare with Australia.  
 XIII. East Indies,—general location and character of products.

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- Fox. *Peeps at Many Lands—Australia*. A. & C. Black.  
 Nixon. *Our Little Australian Cousin*. Page Co.  
 Carpenter. *Australia*. American Book Co.  
 Herbertson. *Australia and Oceania*. A. & C. Black.  
 Kellogg. *Australia and Islands of the Sea*. Silver, Burdett & Co.  
 National Geographic Magazine. Washington, D. C.  
 Asia. *World and Its People*. Book VII. Silver, Burdett & Co.

## Asia. (15 weeks.)

## Introduction.

## Eurasia.

Size in comparison with other continents.

Comparison in size of Asia and Europe.

Boundary line between Asia and Europe.

I. Topography, coastline, review of zones with deductions as to climate and products.

## II. Philippine Islands.

A. Location, number, topography, climate.

B. People (relate to history),—natives, Spanish, Americans, others.

C. Manners and customs,—homes, dress, religion, etc.

D. Education.

E. Products,—Manila hemp.

F. Development of islands with American aid.

## III. Japan.

A. Position, topography (Fujiyama), climate.

B. Manners and customs,—homes, gardens, shops, dress, games, school, farm life, religion, pagodas.

C. Industries.

1. Agriculture,—rice, tea, silk, bamboo.

2. Fishing.

3. Mining,—coal.

4. Manufacturing,—textiles, lacquer, basketry, pottery, toys, paper, lumber.

D. Density of population and necessity for territorial expansion.

E. Korea.

F. Merchant marine.

G. Modern improvements,—telegraph, telephone, railroads.

## IV. China.

A. Size and topography.

B. Climate,—include floods.

C. History,—isolation, Great Wall, Grand Canal, curious inventions, ancient buildings.

D. Manners and customs (China proper),—ceremonial life, homes (include house boats), dress, foods, primitive methods of work, methods of travel, education and religion.

E. Industries.

1. Agriculture,—tea, rice, silk, millet, cotton.

2. Mining,—future of.

3. Manufacturing,—textiles, brick tea, paper.

4. Fishing.

F. Density of population,—effect on labor.

G. Manchuria.

H. Thibet.

## V. India.

- A. Comparative size.
- B. Topography,—Himalayas, plains, plateau.
- C. Climate,—special reference to monsoons.
- D. Density of population as related to plenty and famine.
- E. Relation to England.
- F. People.
  - 1. Manners and customs,—old and new.
    - a. Castes.
    - b. Homes.
    - c. Foods. (Mainly vegetable diet.) See religion.
    - d. Dress.
    - e. Religion,—of the Hindus, with scenes on Ganges and at Benares; Mohammedanism, with scenes at Delhi.
    - f. Education.
    - g. Travel.
- G. Industries.
  - 1. Agriculture,—wheat and other cereals, cotton, tea (reference to Ceylon), rubber (reference to Ceylon), coffee.
  - 2. Lumbering.
  - 3. Manufacturing.
- H. Government improvements,—railroads, schools, postal system, telegraph, electric power, factories.
- I. Commerce,—Calcutta, Bombay.

## VI. Siberia.

- A. Possibilities in the future.
  - 1. Resources,—agricultural, mineral, forest.
- B. Needs for development,—government, education, transportation.

## VII. Holy Land.

- A. Present scenes.
- B. Relation to Christianity,—Bethlehem, Jerusalem, Jordan River, Dead Sea, Sea of Galilee.

## VIII. Oriental rugs,—Turkoman, Persian, Kirghiz.

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## Texts.

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Allen. Geographical and Industrial Studies of Asia. Ginn & Co.

## References.

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Redway. All Around Asia. Scribner's Sons.

Youth's Companion Series. Toward the Rising Sun. Perry Mason Co.

Little Cousin Series. Chinese, Korean, Japanese, Arabian, Indian, Hindu, Persian, Armenian, Jewish, Siamese. L. C. Page.

Peeps at Many Lands Series. Japan, Ceylon, Burma. A. & C. Black.

McDonald & Dalrymple. Ume San in Japan. Little, Brown & Co.

Headland. Chinese Boy and Girl. F. H. Revell.

Holland. Things Seen in Japan. E. P. Dutton.

Scidmore. Jinrikisha Days in Japan. Harper Bros.

Fink. Lotus Time in Japan. Scribner's Sons.

## Sixth Grade.

### EUROPE.

The aims in the sixth grade are the same as those which govern the work in the fifth grade. In these two years each continent is taken up separately as preparation for more intensive work on North America. As in the fifth grade, in studying each country special emphasis is laid on the manners and customs of the people. This leads to a discussion of the various nationalities which have emigrated to the United States. Special distinctive industries, the reasons for the same, and their relation to the United States, are of the next importance. Great manufacturing industries which are common to most of the great countries of the world receive less attention. Art and architecture are discussed in so far as they affect the life of the people.

Topics and book reports are important parts of the work. The topical reports are short, are given by individual children before the entire class, are on the subject or country which the class is studying at the time, cover material found in reference books instead of in the texts, and have as their chief aim the increasing of interest by furnishing additional explanatory material. These topics are generally selected by the teacher, and outlines are given to the children to aid both in their preparation and in giving the report before the class.

One book report is given each week by some child. The bibliography indicates books which may be used. Generally a book is selected which is not directly associated with the class work but which is interesting from a child's point of view. Iceland, or Finland, from "Peeps at Many Lands Series," "Our Little Bohemian Cousin," and "Dutch Days" are illustrations of good books. An outline for the book report is also given to the child to help him in selecting the important parts. Reports on articles in the National Geographic Magazine are given during the same period.

### Europe. (1 year.)

- I. Eurasia,—review position, relative size, coast line, topography, drainage, climatic belts.
- II. Europe as a whole.
  - A. Location,—value of lying in temperate zone, proximity to Asia and Africa, relation to western hemisphere.
  - B. Coast line.
  - C. Topography.
  - D. Vegetation zones,—tundras, steppes, temperate forests, subtropical forests.
  - E. The position, topography, coast line and climate of each country is studied when that country is taken up. They are taught as the factors determining all human activities, and so the development of nations.
- III. France.
  - A. Coast line and seaports,—Bordeaux, Havre, Cherbourg, Brest, St. Nazaire, Nantes, Calais, Marseilles. Note how recent events have brought some of these ports into prominence.
  - B. Climate,—importance of westerlies, difference between northern and southern France, comparison with other countries in same latitude.
  - C. People,—in rural districts of southern and northern France, in Paris.
  - D. Industries,—agriculture, dairying, vineyards and wine industry, grazing, fishing, mining; manufacture of silk, cotton, wool, iron and steel, porcelain, gloves, lace, imitation jewelry, etc.
  - E. Paris and Versailles.

## IV. Belgium.

- A. Position with respect to other European countries and to main ocean routes.
- B. Industries,—relation of present progress in reconstruction to former important industries.
- C. Density of population,—pre-war and present.

## V. Holland.

- A. Topography,—hilly regions and their value, plains, reclamation of land in past and future.
- B. People,—life in rural districts, in cities.
- C. Occupations,—agriculture, dairying, raising of bulbs, truck gardening, making of pottery, diamond cutting and other manufacturing.
- D. Important cities,—Hague, Amsterdam, Rotterdam.

## VI. Germany.

- A. Resources,—mineral, agricultural, forest.
- B. Development of manufacturing.
- C. Political parts of. See current events.

## VII. Austria-Hungary.

This country should be studied in relation to the varied types of people who made up the old Austria-Hungary: Magyars, Slavs, Germans, etc. This will naturally lead to the discussion of the regrouping and location of the various peoples as determined by the Versailles Peace Conference. This readjustment from the old to the new can be best brought out through the making of two maps by the individual members of the class, the first representing the former political parts and the second representing the new boundaries when determined. Special attention is given to the manners and customs of the Magyars, Bohemians and Servians, as being topics on which material suitable for children may be found.

## VIII. Italy.

- A. Climate in comparison with California.
- B. People,—life in rural districts, in cities.
- C. Agricultural products,—compared with Southern California; raising of chestnuts.
- D. Industries,—marble, mosaics, fishing, manufacturing, dairying.
- E. Typical cities,—Rome, Naples, Venice.

## IX. Spain and Portugal.

- A. People,—life in rural districts, in cities.  
Spanish customs in southwestern United States.
- B. Industries,—reasons for backward condition.
- C. Typical cities,—Lisbon, Oporto, Madrid; Barcelona.
- D. Special topics,—Gibraltar; Granada and the Alhambra.

## X. British Isles,—Meaning of Great Britain, United Kingdom, British Isles, British Empire.

- A. Ireland,—rural life, round towers, Blarney Castle, Lakes of Killarney, peat bogs, linen industry, shipbuilding, Giant's Causeway, etc.
- B. Scotland,—life of the people, collie dogs, heather, sheep raising, shipbuilding, mining.
- C. England.
  - 1. People,—life in rural England.
  - 2. Industries,—manufacturing of cotton, wool, steel, toys, mining of coal and iron, agriculture, fishing.

3. Commerce,—imports and exports.
4. Colonies,—the commercial relation of England to each of her larger colonies.
5. Transportation,—railroads, canals, merchant marine.
6. London.

XI. Russia. The following outline may be used, providing that Russia remains as in 1914, or may apply to any remaining portion. Any part which is set up as an independent country should be treated separately.

- A. Area,—comparison with United States.
- B. Vegetation zones and resources of each,—tundras, forest belt, agricultural belt, black earth region, steppes or the pastoral belt.
- C. Mineral resources,—petroleum, coal, iron, platinum, precious stones, etc.
- D. Fishing resources,—Arctic, Baltic, Black Sea, Caspian Sea.
- E. Life in rural districts.
- F. Government as it has affected the people, general lack of education, poverty, democratic spirit as exemplified in local representative bodies.



Geography: Model of project to be made by children.

G. Transportation,—railroad mileage in proportion to area, Trans-Siberian Railroad, Murmansk Railroad, Archangel Railroad.

XII. Norway and Sweden.

- A. Position, coast line, topography.
- B. Climate,—compared with others in same latitude.
- C. The midnight sun.
- D. Manners and customs,—of Norway, of Sweden.
- E. Characteristic scenery.
- F. Main industries,—of Norway, of Sweden.

XIII. Denmark. Its development into a great agricultural country.

XIV. Switzerland.

- A. Position in Europe, topography.
- B. Rural life,—homes, pastoral industries, dairying, wood carving, embroidery.
- C. Glaciers and other types of scenery.
- D. Mountain passes and tunnels.
- E. Industries,—watch making, nitrate industry.

- XV. Greece. Type cities,—Athens and Salonika.  
 XVI. Turkey. Constantinople,—scenes in that city.

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 Carpenter. Geographical Reader. Europe. American Book Co.

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 Herbertson. Europe. Clarendon Press.  
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 Little Cousin Series,—Scotch, Irish, English, Russian, French, Belgian, Dutch, Danish. L. C. Page & Co.  
 Peeps at Many Lands Series,—Wales, Scotland, London, France, Iceland, Denmark, Sweden, Russia, Hungary, Finland, Ireland, Holland, Norway, etc. A. and C. Black.  
 Little People Everywhere Series. Donald in Scotland, Kathleen in Ireland, Marta in Holland, Gerda in Sweden, Boris in Russia, Rafael in Italy, Josefa in Spain. Little, Brown & Co.  
 King. Northern Europe. Lothrop.  
 Cole. Modern Europe. Silver, Burdett & Co.  
 De Groot. When I Was a Girl in Holland. Lothrop, Lee and Shepard.  
 Hall. Dutch Days. Moffat, Yard & Co.  
 Ambrosi. When I Was a Girl in Italy. Lothrop, Lee and Shepard.  
 Irving. Alhambra.

### 7B Grade.

#### NORTH AMERICA.

The work of the seventh grade is devoted to the study of North America, the greater portion of the time being given to the United States. The work consists of the working out of certain problems and is very frequently correlated with the work in English and in arithmetic. The time devoted to any one problem varies from one week to six weeks, and the problem is sometimes a class and sometimes an individual one. The subjects for discussion are so selected that they arouse the pupil's interest in the development and growth of the United States, and also in the relation of the United States to other nations.

Some of the problems which have been studied are: Shipbuilding, the work of the U. S. government in reclamation of land, establishment of national parks and forests, the Weather Bureau, the place of immigrants in industry, infant industries, the commerce on the Great Lakes, transcontinental railroads, the chief exports and imports of the United States, our trade with South America, the mineral resources of Canada and of Mexico compared with those of the United States, the railroads and natural resources of Alaska, the geographical factors determining growth of the large cities, and the development of waterways in the United States.

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 U. S. Agricultural Yearbook. Department of Agriculture, Washington, D. C.  
 Mineral Resources of Canada. Department of Mines, Ottawa, Canada.  
 Mineral Resources of United States. Department of Interior, Washington, D. C.  
 Trade of the United States: Imports, Part I; Exports, Part II. Department of  
 Commerce, Washington, D. C.  
 Geography of the World's Agriculture. Department of Agriculture, Washington,  
 D. C.

**8B Grade.**

## THE GEOGRAPHY OF CURRENT EVENTS.

The first six weeks is given to a study of mathematical geography, the following topics being discussed: Solar system, movements of the earth, zones, seasons, length of daylight, latitude, longitude, standard time, phases of the moon, and eclipses of the sun and moon.

The remainder of the time is devoted to the geography of current events. The problems studied differ each year, but the outlines below indicate some of the types of work.

## I. New boundary lines in Europe.

- A. The old parts of Austria-Hungary.
- B. The Czechoslovaks,—economic resources of Bohemia, etc.
- C. The Jugoslavs.
- D. Ukraine,—its peoples and resources.
- E. Poland.
- F. Finland.
- G. Lithuania.
- H. The former kingdoms in Germany.

## II. The food of the war.

Wheat, corn, barley, rye, oats, rice, sugar, potatoes, beef, pork, mutton, fish, beans, butter, cheese, condensed milk, eggs.

In developing the above topics, each of the following was discussed: The amount produced by each country, the amount formerly consumed by each country, the relation of the supply of the United States to the world's supply, and the relation of the world's needs to the world's supply.

### III. Food conservation necessitated by the war.

To emphasize the need of conservation each child made an illustrated book on foods which should be eaten, foods which should not be eaten, substitutes for sugar, substitutes for wheat and substitutes for meat.

Newspapers and current magazines will suggest topics of future geographical importance, and the class work will consist in the interpretation of those events. The readjustments in Europe will furnish commercial and economic problems; the economic development of China will probably furnish excellent international topics; the trade of the United States always furnishes excellent material, and many less important questions will add zest to the work. There is always an abundance of topics rather than a dearth.



Dolls dressed by eighth grade geography class.

## NATURE STUDY AND AGRICULTURE.

WILLIAM T. SKILLING, Supervisor; ETHEL CUNNINGHAM, Assistant

### The Purpose of Nature Study.

A very large part of the environment of every child is or should be nature. To interest him in this environment and to teach him how to interpret his surroundings is the work of the nature study lesson. There can be no doubt that a proper study of nature will give the child more zest in the enjoyment of his natural environment and make him more observant and thoughtful.

### Principles Which Guide in the Selection of Material.

The future seems very far removed to the mind of a little child, and there is need for an immediate object of interest. His pets, the wild flowers among which he plays, and the quick-growing vegetables of his garden are proper objects of his study. As he grows older the goal to which his interest is directed may be advanced a little into the future. He can now be interested in learning the principles of gardening, for he has the hope of learning how to make a good garden of his own at home. Or, his desire to make a mineral collection may be a sufficient stimulus upon which to base a study of mineralogy. A little further along, the boy begins to look forward toward manhood and the girl toward womanhood. This forward look of the boy and girl gives the teacher an opportunity to substitute future aims for those of the immediate present.

With the coming of this changing view of life (say in the eighth grade) should come a change in both the aims and the methods of nature study. For the boys, topics of economic importance such as agriculture, electricity, mechanics, etc., should be substituted for the merely cultural subject matter of the lower grades. Physiology and hygiene, including social hygiene, though necessary in all grades, should find their fullest development in the upper grades, where the growing desire for manly strength furnishes the necessary motivation.

With girls the economic sense is not so strong, but their growing interest in the well-known womanly qualities, love of beauty and of home making, suggests an opportune time for hygiene, domestic science and ornamental gardening.

### Arrangement of Subject Matter by Grades.

Up to the sixth grade it has been thought best to utilize a great variety of topics, for interest can not be sustained without novelty. But as the children become older a more definite sequence in subject matter becomes possible. As the nursery rhyme period of childhood gives way to the serial story period, the purely observational period of nature study should give way to a more consecutive study of some given subdivision of nature.

The name "nature study" may advantageously be dropped at about the sixth grade, and such terms as "agriculture," "elementary science," etc., be used instead.

Localizing important phases of nature study at some definite place in the school course is likely to be productive of better teaching than if portions of each phase are distributed indiscriminately throughout the curriculum. Their segregation enables us, also, to place them in their proper sequence relative to the needs of the developing child.

## Pedagogical references.

- The Teaching of Science. Trafton. Houghton-Mifflin Co.  
 Teaching Elementary School Subjects. Rapeer and others. Scribner's Sons.  
 Teaching the Common Branches. Charters. Houghton-Mifflin Co.  
 Agricultural Education in the Public Schools. Davis. The University of  
 Chicago Press.  
 The Teaching of Agriculture. Nolan. Houghton-Mifflin Co.  
 Natural Education. Stoner. The Bobbs-Merrill Co.

**Grades 1-4.**

## A. Aims,—to develop the child, not to give information.

## I. Individual.

1. To get the child out of doors.
2. Contact with and knowledge of environment through accurate observation and reasoning from such observation.
3. Inspiration from beauties and wonders of nature.
4. Use of vacation time.

## II. Social.

Making of more effective citizens.

## B. Methods.

- I. Studying of living material in natural environment where possible.
- II. Living material in school room for class discussion, and close observation.
- III. Collection and preservation of specimens,—as seeds, cocoons, shells, minerals.
- IV. Garden planting,—all grades at school.  
Encourage home planting.
- V. Have a flower show, each grade being assigned a certain flower to raise at home and for later exhibition. Seed to be furnished children. Not what a child grows so much as assumption of responsibility to be the chief consideration.
- VI. Pet exhibit,—each child to bring his pet, be able to tell how to care for it, etc.
- VII. Familiarize child with excerpts from literature relative to nature study topics.

## C. Materials.

## I. Animals.

1. Wild.
2. Tame.
3. Aquatic.

## II. Seeds and plants.

## III. Insects.

## IV. Birds.

1. Land.
2. Water.

## V. Inanimate nature.

1. Weather.
2. Sky study.
3. Rocks.
4. Magnets.

## D. General method.

In all grades where possible make use of any material brought by the children. Make use also of the child's knowledge of this material. Watch closely the interests of the group and modify all outlines to meet its need. Each grade is assigned the care of some animal. Definite trees, flowers and birds are studied in each grade through outdoor observation. Encourage the children to collect seeds, insect eggs and cocoons, that life cycles may be observed. Insect cages and aquaria of specified grades should be available for all grades. For animal study observe:

1. Method of food getting.
2. Method of protection.
3. Caring for young.
4. Relation to man.

## Grade I.

## A. Animal Life.

I. Fish,—aquarium for goldfish in room. See "Nature Study Review," April, 1918, for making. Children assist in its preparation and assume entire care of fish. Observations of adaptation of body to swimming and breathing. During study of "Sea People," have sea life aquarium and sand table beach, to be arranged by children from their own collections as far as possible. Individual mounts of seaweed and shells.

## II. Birds.

1. Pigeon.
2. Blackbird.

Recognition and outdoor study of each. Pigeons later to be brought into school room for closer observation. Note calls, flight, coloring of each. Tell of nests. Read stories of each.

## B. Plant Life.

I. Vegetable garden. Children to plant and care for garden. Teach needs of plants,—moisture, cultivation, sunshine,. Encourage class in observing all that is happening in the garden. Teach earth worm as friend of garden.

## II. Flowers.

1. Nasturtium.
2. Geranium.

To be recognized and enjoyed growing and in class room. Seed of nasturtium planted, cuttings of geranium rooted to take home.

3. Wild flowers enjoyed through field trips. Teach conservation in gathering,—also artistic arrangement.

## III. Trees.

1. Palms.
2. Pepper.

Through field trips, also by branches brought into school room, learn recognition of trees. *Discover* pepper trees with flowers only, with flowers and berries.

3. Native shrub to be studied, and planted on campus.

**Grade II.****A. Animal Life.**

I. Fresh water aquarium in school room. Stock with snails, water boatman, etc. See suggestions for first grade.

II. Guinea pigs. Care of school guinea pigs. Observe habits. Teach cleanliness of housing and feeding. Also teach regularity of care.

**III. Cat.**

Begin with an observation lesson. Let one or two pupils bring pet kittens and a little milk. Notice manner of drinking. Discuss kinds of food most liked by cats. Probably their taste for fish and game is inherited from wild ancestors. Notice that the teeth are especially fitted for tearing.

Keep in the dark for a while and observe form and size of pupils. Notice that the pupil slits are vertical (as in all the cat tribe), enabling cats to look down from trees more easily, and up into the tree when on the ground.

Study means of defense and protection (ability to fight, climb, etc.). Notice how the cat is fitted for getting food. Observe its cleanly habits, and use it as an object lesson to the children in cleanliness.

As in the study of all domestic animals, strive to cultivate in the hearts of the children a kindly feeling for anything dependent upon us as these animals are.

**IV. Birds,—observe as in first grade.**

1. Linnet.
2. Sparrow.

**B. Plant Life.****I. How plants work for man.**

1. Seeds and their holders.
  - a. Edible,—apples, nuts, pumpkin, etc.
  - b. Inedible,—pepper berries, eucalyptus, etc.
2. Other parts used as food: root, stem, leaves, sap.
3. Shelter,—lumber.
4. Clothing,—fibers.

**II. Garden. Plant and care for same.**

Teach recognition of seeds, needs of plants (see first grade outline). Record kept of observations made. Individual gardens.

**III. Flowers.**

1. English daisy.
2. Carnation.
 

Follow suggestions for first grade.
3. Wild flowers as in first grade. Make class calendar by pressing and mounting specimens. Label with date, where found, by whom.
4. Appreciation of abelia hedge planted by former second graders.

**IV. Trees,—to be studied as in first grade.**

1. Eucalyptus.
2. Camphor.
3. Torrey pine.
4. Native shrub to be studied, and planted on the campus.

## Grade III.

## A. Animal Life.

I. Dog,—to be studied as suggested for cat in second grade. Dwell upon breeds; also uses to man. Read stories.

II. Rabbit. Care of school rabbits. Observations made. Discuss breeds for pets; for economic purposes.

## III. Birds.

1. Mocking-bird.

2. Kildee.

Follow suggestions above. Note specially flash colors, method of flight, peculiar run of kildee, songs of the mocking-bird, notes of the kildee. Encourage telling of interesting things children have seen birds do.

## IV. Insects.

1. Bees.

Tell the story of the community life of the hive; of the three kinds of bees; the life of the young bee while in the brood comb; the character of the comb, the honey, the bee bread, etc., and how each is gathered and prepared by the workers.

Observe carefully all that can be seen in the observation hive.

2. Ants,—study colony in yard. Have ant colony in room for observation of eggs, larvæ, etc. See list of apparatus for construction of nest.

3. Moths and butterflies. Observe and note differences.

Collect eggs, keep in insect cages and observe life cycle of swallow-tail butterfly; and find eggs on carrot, sweet annis or parsley.

## B. Plant Life.

## I. Garden.

1. Begin the work of gardening with a study of the *germinating seed*. Soak seeds of various kinds, preferably large ones, and distribute to the children. Continue observation lessons upon seedlings at different stages of growth, from the first sign of germination until the plant has developed leaves and roots, and has absorbed as nourishment the food material in the seed. Let pupils sketch from nature some of these stages.

2. While carrying on the observation lessons above suggested, begin practical work upon germination in the garden. That the work may be of more personal interest to the child, assign to each an individual garden plot.

3. Plant onion sets, after study of them as true bulbs.

NOTE.—In connection with the garden work have pupils learn to recognize different seeds used, and the seedlings as they come up; let them verify their indoor observations by examining from day to day the sprouting seeds. See Morley's "Seed Babies."

## II. Parts of a plant and uses to itself.

1. Root,—to obtain food. Study kinds of roots.

2. Stem,—to carry food.

3. Leaves,—factory.

4. Flowers,—to reproduce.

5. Fruit,—treasure box.

## III. How seeds travel,—how they—

1. Fly,—dandelion thistle.
2. Roll,—nuts.
3. Shoot,—castor bean, alfilaria.
4. Steal a ride,—broncho grass, anemone.
5. Are thrown about,—dates, pepper.
6. Are often aided by water, by birds, by man.

## IV. Flowers.

1. Bulbs.
  - a. Chinese lily.
  - b. Daffodil.
  - c. Hyacinth.
  - d. Tulip.

To be studied in connection with geography work on Holland. A potted hyacinth to be presented to each grade by this class.

- c. *Gladiolus montbretia*, *watsonia* recognized,—bulbs to be taken home.
2. Wild flower excursions as in previous grades. Encourage marking of bulbs while in bloom,—*brodiaea*, chocolate lily, etc.,—later to be dug up and planted upon campus.

## V. Trees.

1. Eucalyptus.
  - a. Sugar gum.
  - b. Blue gum.
  - c. Lemon gum.
  - d. Red flowering gum.
2. Native shrub planted. Appreciation of cotoneaster.

## C. Inanimate nature.

- I. Observations on time of rising and setting of sun,—weekly record kept. Shadow stick used,—observations recorded.
- II. Constellations. (January study.)
  1. Big Dipper.
  2. Cassiopeia's Chair.
  3. Orion. Drawings on board by teacher. Legends and stories told to children.
- III. Magnets,—place box with sand from playground, iron filings, tacks, needles, bits of various metals, on table. Let children make discoveries, and try experiments. There should be several horseshoe magnets supplied.

**Grade IV.**

## A. Animal Life.

- I. Wild animals studied in connection with literature. (See outline.)
- II. Cow,—studied in correlation with geography work. (See outline.)
  1. Care of milk demonstrated in school room.
  2. Making of butter, cottage cheese and custard.
- III. Care of a school hen through rearing of brood of chickens.

## IV. Birds.

## 4B—1. Quail.

2. Humming birds. Observations in field recorded in form of outline for 4A grade.

4A—Field studies of birds in general. Make interesting field trips with outlines in hands of children. Class divided into groups of three to observe and record birds seen. Class discussion of records supplemented by references to books,—Wheelock's "Birds of California," especially.

## V. Insects,—terrarium in room. (See list of apparatus.)

1. Spiders. Find and observe webs, manner of catching prey. Closer observation of parts of body,—special note of spinnerets.

2. Moths and butterflies.

4B—Study stages in development of tomato worm moth, also cabbage butterfly. Teach how to combat.

4A—Study silkworm from egg to cocoon. Reeling of silk and weaving in industrial arts course. Individual records of observations.

## VI. Frogs and toads.

Procure eggs and watch development.

## B. Plant Life.

I. Gardens,—individual. Review work of third grade. Intensive study of selection of seeds, methods of planting, care of garden.

## II. Flowers.

1. Continue work with wild flowers. Blueprint of first specimen of each kind brought,—labeled with name, date and child's name.

2. Sweet peas.

Pansies.

Roses.

Proceed as in former grades.

3. Appreciation of woodbine planted by former grade.

4. Native shrub planted on campus.

## III. Trees,—review previous grades.

Acacia.

1. Baileyana.

2. Armed.

3. Knife.

4. Black.

5. Long.

## C. Inanimate nature.

I. Weather conditions in San Diego and locality. See "Carpenter's Climate and Weather in San Diego." Keep record of yearly rainfall. Compare with preceding year. Class chart of weather kept for one month, using standard symbols for wind, temperature, clouds, etc. Clouds.

II. Minerals and metals. (See geography course.)

D. Outline for field bird study. (Mimeographed copies supplied to children.)

*Underscore the Words Which Describe the Bird.*

Date-----

Name of bird-----

1. Where is the bird seen: Woods, border of woods, bushes, open fields, trees or bushes along fences, roadsides, border of stream, marsh, pond or lake, garden, orchard, about buildings.
2. Compare the size of the bird with that of the gull, mocking-bird, or the linnet.
3. Its most striking colors are: Gray, slate, brown, chestnut, black, white, blue, red, yellow, orange, green, olive.
4. Does it show flash colors when flying? If so, where and what color?
  - Wing,
  - Rump,
  - Tail,
  - Under tail,
5. In action is it: Slow and quiet or active and nervous?
6. Does it occur alone or in a flock?
7. In flying does it go:
  - Straight and swift,
  - Dart about,
  - Up and down, wave-like,
  - Flap the wings constantly.
  - Sail or soar with wings steady,
  - Flap the wings and then sail?
8. Describe its song or call note.
9. Where does it sit when singing?
  - Does it sing while flying?

## FOR CLOSER OBSERVATION.

10. Colors and markings of:
  - Breast,
  - Wings,
  - Tail,
  - Top of head,
  - Eye streak,
  - Back.
11. Is the bill: Slender and long, short and thick, medium, curved, hooked?
12. Is the tail: Forked, notched, square, rounded?

**GRADE V.**

In this year's work the purely aesthetic purpose of the nature study of the lower grades begins to give place to the more practical and vocational motives.

(1) **SOIL STUDY.** Collect samples of sand, silt and clay. Mix them to make loam. Use microscope. Teach origin of soil. Make a set of sieves and separate soil into samples of various degrees of fineness. Do the same by shaking up soil in a tall jar of water and allowing it to settle.

Children collect as many different soil samples as possible.

(2) **MINERAL STUDY.** Use the school mineral cabinet, and specimens brought by children. Encourage them to make mineral collections for themselves. Study the minerals by groups as follows:

(a) *Soil forming rocks:* Granite and its constituent parts, namely quartz, feldspar and mica.

(b) *Building stone*: Limestone, marble, sandstone, granite.

(c) *Ores*: Of iron, copper, gold, lead, etc.

(d) *Lavas*: Volcanic glass, pumice, etc.

(e) *Semiprecious stones*: Garnets, tourmalines, onyx, etc.

(3) **MARINE STUDY.** Aim,—to make the children see with intelligent eyes the things likely to be met with in a trip to the beach.

(a) Study of inanimate objects of interest, as sand and pebbles, their origin and composition; the water, why salty, amount of salt (found by evaporation), weight of the water; the tides, frequency, amount of rise and fall, with cause simply explained.

(b) Aquatic animal life. Birds, fish, shellfish, star fishes, anemones, crabs, lobsters, etc.

(c) Aquatic vegetable life. Various kinds of kelp and other sea weeds.

Proceeds from the sale of school garden vegetables will be used to help defray the expense of excursions necessary in this study.

(4) **STUDY OF TREES, SHRUBS, VINES AND FLOWERS ON THE CAMPUS.**

The teacher will bring to class specimens of leaves and flowers, and teach the pupils to identify them quickly at sight. Make frequent excursions about the grounds, and with scratch pads and pencils have a few notes and quick sketches made from observation. All plants on the campus should be recognized by the end of the year.

With the help of Bailey's "Encyclopedia of Horticulture" give pupils a few facts which they can not observe for themselves, as to native country, means of propagating, etc.

Continue garden work throughout the year.

References:

Birds of San Diego County—Stevens. Natural History Society, San Diego 10 cents.

Bailey's Cyclopedia of Horticulture, 6 vol. Macmillan. \$24.00.

Fishes—Baskett. Appleton. 75 cents.

Stories of Rocks and Minerals—Fairbanks. Educational Pub. Co. 60 cents.

### 6B Class.

The work of this class centers in the school and home gardens.

(1) *Plant Study.* Roots: Study root development, using radish seed on wet blotting paper. Collect plants with various kinds of root systems,—tap root, fibrous roots, etc.

Stems: Study circulation, using red ink. Collect samples showing annual rings, stems with piths, stems with joints.

Leaves: Show transpiration with glass jars turned over plants, grass, etc. Teach use of leaves for manufacture of starch, sugar, etc. Need of sunlight.

(2) *Fertilizers.* Show samples of artificial fertilizers. The school should have samples containing the four chief fertilizer elements, nitrogen, potassium, phosphorus and calcium (saltpeter, ashes, ground bone, lime, etc.).

Teach methods and importance of using barnyard manures. Make compost heap. Use various fertilizers on the gardens.

(3) *Humus.* Visit canyons to find leaf mold under bushes. Bring a sample to school and compare its behavior with that of soil deficient in humus. Teach methods of increasing humus content of soil.

(4) *Preparation of Soil.* Teach how to use spade, hoe, rake, etc., properly. *Why* the ground should be mellow, free from clods, and loosened to good depth.

(5) *Planting.* By garden practice and classroom instruction teach proper depth for various seeds and soils, amount of seed to use (thinning), avoiding crust, securing proper amount of moisture.

(6) *Cultivation of crop.* Why the garden must be free from weeds and kept mellow. Water holding power of dirt mulch. Insist on use of hoe after each irrigation.

(7) Practice in raising as many kinds of garden crops as possible. Teach varieties of each.

(8) Make a hotbed and start cabbages, tomatoes, etc.

(9) Plant and transplant trees, etc., in lath house.

(10) Visit with whole class some of the best gardens of the neighborhood.

References :

Agriculture for Beginners—Burkett, Stevens and Hill. Ginn. 75 cents.

First Principles of Agriculture—Goff and Mayne. Amer. Book Co. 80 cents.

California Vegetables—Wickson. Pacific Rural Press. \$2.00.



The War Garden Market.



## 6A Class.

Agricultural nature study is continued in this class. Animal life is the theme here.

(1) *Poultry Study.* The work of caring for the four poultry yards is divided among the children. The various breeds kept are studied and also other important breeds. Principles and practices of feeding and housing. Hens are set and pupils operate incubator. Chicks are sold to the children.

(2) *Dairying.* Here pupils must depend on classroom instruction and possible visits to dairies or neighborhood cows. Breeds (taught from pictures). Methods used in producing clean, healthy milk. Feeding to make milk. Demonstrate use of Babcock tester.



Nature Study and Agriculture: Trap Nest.

(3) *Bee Study.* From the observation hive learn all that can be seen about habits of bees. Let class observe as many manipulations as possible of the commercial hives in the yard. Teach both the fascinating habits of bee behavior and practical operations of bee keeping.

(4) *Harmful and beneficial insects.* Have the pupils, by collecting specimens of caterpillars, maggots, chrysalids, butterflies, insect eggs, etc., observe and study the various forms and the processes of metamorphosis. Teach the two classes of insects with respect to manner of eating, and give the proper sprays for each class. Give practice in spraying. Show methods of attacking poultry insects. Demonstrate use of carbon disulphide for weevils, etc. Teach insects parasitic upon other insects, upon animals, and upon man.

(5) *Bird Study.* Taken from the economic point of view. The harm and good that birds do. Try to find whether the good outweighs the harm. Study classes,—as seed eaters, insect eaters, birds of prey, etc.

## References:

- Principles and Practices of Poultry Culture—Robinson. Ginn. \$2.50.  
 Farmers' Bulletins 413, 893, 287, 806, 898, 513, and 447. (Free from the Dept.  
 of Agr., Washington, D. C.)  
 See 6B references.



Manual Training and Agriculture: Cementing poultry house floor. Seventh and eighth grade boys.

## ELEMENTARY SCIENCE.

### 8A (Boys).

(1) *Astronomy.* Teach the real nature of the heavenly bodies which can be seen,—the sun, moon, stars, planets, meteors, comets. Illustrate by means of diagrams and models the relative motions, sizes and positions of these. Show especially their relation to the earth. Spend an evening at the school observatory.

(2) *Machinery.* Demonstrate with small models the simple machines,—lever, pulleys, cogwheels, belt wheels, crank and axle, inclined plane, wedge, screw. Teach “advantage” of each. Pupils give examples of each.

(3) *Engines.* Steam. Explain and demonstrate with toy model. Gasoline. Explain and demonstrate with engine in automobile or motor wheel.

(4) *Sound.* Pupils bring violins or other musical instruments and demonstrate the methods of securing various pitches,—by differences in length, size, tension, material.

Find by experiment velocity of sound.

Demonstrate speaking tube by using a section of garden hose.

(5) *Air.* Make a barometer and take it to as high and low places as are accessible. Explain change in reading.

Teach constituents of air. Make carbon dioxide with soda and vinegar, and oxygen with sodium peroxide.

(6) *Heat and cold.* Teach ways of insulating heat. (Refer to fireless cooker, icehouse, clothing, etc.) Explain chemical changes taking place in fire,—usually carbon changing to carbon dioxide gas and hydrogen to water vapor. Demonstrate these products of fire.

(7) *Electricity and magnetism.* Demonstrate behavior of magnets and compass needle. Show how to connect cells. Teach parts of cells,—a chemical and two plates of different materials. Show several kinds. Structure and action of electric bell and telegraph instruments. Make telegraph outfit. Heating and lighting action of electricity,—toaster, flatiron, incandescent and arc lights. Visit and explain all electric appliances about the building,—meters, switchboard, clock, motors, dynamo, etc.

References :

The Sciences—Holden. Ginn. 60 cents.

\* First Science Book—Higgins. Ginn. 65 cents.

Star-Land—Ball. Ginn. \$1.00.

## ORNAMENTAL GARDENING.

### 8A (Girls).

Aim: (a) By a discussion of the simpler principles in landscaping to make the pupils more observant and discerning, and more appreciative of artistic and tasteful arrangement, especially of small gardens. (b) To teach recognition by name of the common ornamental plants of San Diego.

(1) *Garden Plans.* Place on board sample plans for planting city lots of ordinary size. Discuss these, bringing out the guiding principles, *e. g.*, avoidance of straight lines, planting in masses with open centers, etc.

Pupils invent their own plans and discuss them. Visit some of the best examples of ornamental gardens within reach.

(2) *Street Planting.* Kinds of trees suitable for streets. Uniformity desirable. Compare well and badly planted streets which the pupils can see.

(3) *Lawns and Lawn Making.* Kinds of grass. Preparation for planting. Future care.

(4) *Ornamental Plants.* By means of excursions on the campus and along near-by streets, as well as by the aid of specimens brought into the room for study, learn the names and some of the characteristics of the common trees, shrubs, vines and herbaceous flowering plants.

References :

Gardening in California—McLaren. Robertson. \$3.75.

California Gardens—Murman. E. O. Murmann, 644 S. Broadway, Los Angeles. \$2.00.

California Garden Flowers—Wickson. Pacific Rural Press. \$1.50.

The Garden Beautiful—Braunton. Cultivator Pub. Co., Los Angeles. \$1.00.

Standard Cyclopedia of Horticulture—Bailey. (See below.)

## Apparatus.

Ants' nest,—for description see Comstock, page 286.

Beehive,—observation hive in laboratory.

Insect net,—piece of wire bent into hoop. Twist ends together, fasten to a stick, sew on pointed bag of net or mosquito bar. Use for air or water insects.

Terrarium,—for observation of insects in schoolroom. See description under caption "Pets" in Comstock; or use plant pots with moist earth, glass chimney, piece of net.

Aquarium,—use laboratory jars with wide tops, straight sides. Stock with aquatic plants and insects or fish. See Comstock.

Cyanide jar,—poison. Place cyanide in pint jar. Cover with thin coating of plaster of paris. Be careful to keep lid on.

Shadow-stick,—see Comstock. Children to make.

Hectograph,—see "Nature Study Review," February, 1918.

Fern dish with glass cover,—see example in science laboratory.

*Bibliography.*

## References.

## I. General.

Comstock—Handbook of Nature Study. Comstock Pub. Co. \$3.25.

Hodge—Nature Study and Life. Ginn. \$1.50.

Cornish and others—Standard Library of Natural History. Univ. Soc. 5 vols., \$33.00.

Creighton—Nature Songs and Stories. Comstock Pub. Co. 75 cents.

Poulson—In the Child World. Bradley. \$2.00.

Gibson—Eye Spy. Harper. \$2.50.

## II. Animals.

## 1. Wild.

Hornaday—Animals of North America. Amer. Nat. Hist. Scribner. \$3.50.

Stone and Cram—American Animals. Doubleday. \$3.00.

Wright—Four-Footed Americans. Macmillan. \$1.50.

Kipling—Jungle Books, Just So Stories. Century. \$1.50.

Harris—Nights With Uncle Remus. Houghton. \$1.50.

Seton Thompson—Lives of the Hunted. Scribner. \$2.00.

Seton Thompson—Wild Animals I Have Known. Scribner. \$2.00.

Seton Thompson—Trail of the Sandhill Stag. Scribner. \$1.50.

Pierson—Among the Forest People. Dutton. \$1.00.

Tappan—Farmer and His Friends. Houghton. 60 cents.

## 2. Domestic.

Johonnet—Cats and Dogs. Amer. Book Co. 17 cents.

Comstock—Pet Book. Comstock Pub. Co. \$2.00.

Gaye—Great World Farm. Macmillan. 50 cents.

## 3. Aquatic Animals.

Kellogg and Jordan—Animal Life. Appleton. \$1.20.

Woodruff—Pond in the Marshy Meadow. Saalfeld. \$1.50.

Long—Wilderness Ways. Ginn. 45 cents.

Cooper—Animal Life on Land and Sea. Amer. Book Co. \$1.25.

Baskett—Story of Fishes. Appleton. 75 cents.

Baskett and Ditman—Amphibians and Reptiles. Appleton. 60 cents.

Holder—Half Hours with Lower Animals. Amer. Book Co. 60 cents.

## III. Insects.

## 1. Moths and Butterflies.

Dickerson—Moths and Butterflies. Ginn. \$1.25.

Weed—Life History of American Insects. Macmillan. 50 cents.

Kellogg—American Insects. Holt. \$4.00.

Nature Study Review, April, 1914; May, 1916; September, 1917.

Morley—Insect Folk. Ginn. 55 cents.

## 2. Ants.

Daulton—Wings and Stings. Rand. 75 cents.

McCook—Nature Craftsmen. Harper. \$2.00.

## 3. Bees.

Morley—Bee People. McClurg. \$1.25.

Morley—Honey Makers. McClurg. \$1.25.

Daulton—Wings and Stings. Rand. 75 cents.

Farm Bulletins. Published by U. S. Dept. of Agriculture.

## 4. Spiders.

Hodge—Nature Study. Ginn. \$1.50.

Nature Study Review, 1915. Comstock Pub. Co., Ithaca, N. Y.

\$1.00 a year, 15 cents a copy.

## 5. Beneficial and Harmful Insects. Bulletins in filing case in school library.

## IV. Birds.

Miller—First Book of Birds. Houghton. \$1.00.

Miller—Bird Stories. Houghton. 60 cents.

Miller—Little Brothers of the Air. Houghton. \$1.25.

Wheelock—Birds of California. McClurg. \$2.50.

Wright and Coues—Citizen Bird. Macmillan. \$1.50.

Nature Study Review, October, 1915; December, 1917. A. W. Mumford, Pub., 536 S. Clark St., Chicago. \$1.50 a year, 25 cents a copy.

Keeler—Bird Notes Afield. Elder. \$2.00.

Mumford—Birds and Nature Magazine.

## V. Plants and Seeds.

## Seeds.

Morley—Seed Babies. Ginn. 30 cents.

Morley—Little Wanderers. Ginn. 30 cents.

Morley—Flowers and Their Friends. Ginn. 60 cents.

Beal—Seed Dispersal. Ginn. 35 cents.

## Plants.

Gibson—Blossom Hosts and Insect Guests. Newson. 80 cents.

Payne, Theodore, Los Angeles—(Pamphlet) Calif. Wild Flowers. 15 cents.

Chase—Buds, Stems, Roots. Educational. 40 cents.

Osterhaut—Experiments with Plants. Macmillan. \$1.25.

## VI. Sky Studies.

Pratt—Storyland of Stars. Educational. 40 cents.

Martin—Friendly Stars. Harper. \$1.25.

Nature Study Review, February, 1914; March, 1915; January, 1918.

Proctor—Giant Sun and His Family. Silver. 50 cents.

*Key to the Abbreviations Used Above.*

Amer. Book Co.	American Book Co.	Los Angeles.
Appleton	Daniel Appleton & Co.	Chicago.
Bradley	Milton Bradley Co.	Los Angeles.
Century	Century Co.	New York.
Comstock	Comstock Publishing Co.	Ithaca, N. Y.
Doubleday	Doubleday, Page & Co.	Garden City, N. Y.
Dutton	F. P. Dutton & Co.	New York.
Educational	Educational Publishing Co.	Chicago.
Elder	Paul Elder & Co.	San Francisco.
Ginn	Ginn & Co.	Los Angeles.
Harper	Harper & Bros.	New York.
Holt	Henry Holt & Co.	New York.
Houghton	Houghton-Mifflin Co.	San Francisco.
Macmillan	The Macmillan Co.	San Francisco.
McClurg	A. C. McClurg & Co.	Chicago.
Newson	Newson & Co.	New York.
Rand	Rand-McNally & Co.	Los Angeles.
Robertson	A. M. Robertson	San Francisco.
Saalfield	Saalfield Publishing Co.	Akron, Ohio.
Silver	Silver, Burdett & Co.	San Francisco.

## COURSE IN HISTORY.

W. F. BLISS, Supervisor.

EDITH HAMMACK, GERTRUDE LAWS, ALICE GREER, Assistants.

### Introductory.

The course of study in history is based on the belief that the supreme purpose of public school education is to enable the individual to become a useful member of society. A useful member of society must be both efficient and agreeable. He must find happiness for himself and contribute to the happiness of others through social service—that is, by becoming a *citizen*. To do this he must not only have special knowledge and skill in some productive activity, but he must also possess general culture. Only a person of broad interests and sympathies can be a complete citizen.

Everything that contributes to the general culture of the pupil is desirable and "practical" in education, even though it may not be immediately and directly transmutable into material products, or develop physical and mental powers that may be exchanged for, or produce, wealth.

There is a widespread misapprehension as to what the term "practical" really includes. Most persons, apparently, would limit it to the connotation implied above, viz: that which produces material wealth. On the contrary, perhaps the most necessary and most truly practical powers and virtues, indispensable to the useful citizen, are only remotely connected with the producing or procuring of wealth, and the sooner we come to realize this truth the better for our citizenship.

Everything that contributes to the moral and spiritual development of the individual is practical to the very highest degree. Subjects that tend to develop fine sympathies, correct attitudes, lofty motives, and high ideals should find a place in the school curriculum, along with those other indispensable subjects, the study of which will enable the future citizen to earn a decent living.

History is not a trade or a profession by means of which any large number of persons may ever hope to make a living, but, in the light of the above, it is an extremely practical subject, nevertheless. History is the record of the human race, the story of civilization. It links the past with the present and sometimes dares, even, to take a peep into the future. Through it we see the great drama of human life unfolding in all its phases from the tree dweller in his primeval forest to the wizards and the savants of the present age.

If presented properly, history enables pupils, in a spiritual and intellectual sense, to live over again in their own emotions and thoughts the experiences, the vicissitudes, the struggles, the failures and the victories through which have been developed the aspirations and the ideals which we cherish and acclaim as the guiding principles of the democracies of the new era. They perceive for themselves the slow but constant groping from chaos to order; from darkness and ignorance to at least a modicum of light and knowledge; from isolation to (may we say it?) internationalism. They will be led to discover that, in the long run, might does not make right, but just the opposite; that tyranny and oppression, in the end, will always react upon the tyrant, whether it be an individual, a social group, a state or an empire; that honesty is the best policy with nations as with individuals. Are these things not practical?

All these and many more the pupils will learn, not from studying the desiccated biographies of a few individuals, unrelated in time, space or race; nor in celebrating a few patriotic holidays and birthdays of notables; but through the presentation to them, in such form and manner as to be comprehensible, this

splendid story of the sweep of civilization down the ages,—or to use less flamboyant phrases—the presentation to them of connected, unified, correlated history from the first grade upwards.

It will be perceived that although the necessity of starting with the child “where he is”—that is, getting on to his standing ground for a beginning—is not ignored, still the course does not depend upon the erroneous theory that only the actual, physical experiences and environment of children are of interest to them and that they can not take over and assimilate any information or knowledge that has not, in some way, directly grown out of these experiences. We have amply demonstrated that such is not the case. For example, most of the children of the training school were born and are living in a highly complex, municipal society, governed and regulated by an intricate charter and system of ordinances that present problems that baffle the comprehension of the ablest lawyers. These children are totally unrelated to such an environment. The manner in which their food, clothing, housing, etc., are prepared and secured involves a vast industrial and economic system which is entirely beyond the powers of their most vivid imaginations. Physically, of course, they depend upon these activities for their very life, but spiritually and intellectually, at least, they form but little part of the younger children’s experiences.

The course in the primary grades rests upon the theory, which experience has confirmed, that every child comes into the world endowed with a considerable abundance of racial experiences and instincts. For a number of years it lives, to a large extent, unconscious of the complex civilization which its otherwise parents and teachers assume to be “the child’s real environment.” It dwells in a sort of imaginary world, made up of vestiges and phantoms of the childhood of the race; dreams of the simple and elemental manners, customs and instincts of its primeval ancestors. Primitive racial instincts and emotions are also strong and lie near the surface in young children—such emotions as curiosity, wonder, awe, veneration, fear, affection, etc.

These instincts and racial inheritances gradually become blurred and fade away as the growing child comes more and more into actual spiritual contact with present-day activities. It is a serious question in the minds of many students of social philosophy whether a forced and rapid abandonment of what may be called natural instincts, impulses and hereditary powers, and an attempt to substitute therefor what we are pleased to call “rational” methods, may not, in the end, weaken the race. However this may be, the doubt is strong enough to cause us to be a little cautious in rushing our pupils too swiftly from fancy to fact; from wonderland to stern reality; from instinct to reason.

Following this underlying principle, the theme of the course in history in the primary grades very naturally is Primitive Civilization. Not the primitive life of any particular nation or people, except for illustrative purposes, but primitive life as the first stage of progress of civilization in general. We thus begin with the child “where he is” and his real, natural, primary “interests” are at once enlisted. It must not be inferred from what has been said that the children are confined exclusively to the study of primitive civilization. On the contrary, in so far as they are able to comprehend them, present-day manners, customs and activities are constantly examined and discussed by way of comparison and contrast.

The instruction consists in the presentation of simple, realistic, dramatic and correct accounts of the development of the arts of living grouped around the following topics: dwellings, clothing, securing and preparing food, war, social

organization including religion, games, etc. Out of these spring ethical, aesthetic and cultural ideas and the opportunity for the introduction of much interpretative matter in the way of myths, folklore, fairy tales, poetry, games, drama, pictures, etc. Concrete facts illustrative of primitive life are drawn from ancient sources, *e. g.*, Egyptian, Persian, Hebrew, Greek, Roman, Teutonic; also from modern sources, as the Indians of North America and South America, Eskimos, native Africans, etc. The introduction of material from the latter sources lends reality to the instruction.

In the fifth and sixth grades, an attempt is made to teach something concerning the civilization of the medieval and early modern periods, as exemplified in the histories of England, France, Spain, Holland, Switzerland, Germany and the United States. The work in these two years forms a background for the formal study of American history, which follows. Ample opportunity is afforded by the topics of this portion of the course for the introduction of much matter along the line of interpretation in the form of ballads, romances, song cycles, dramas, pictures, etc. It has been fairly well established that children of this stage of development are hero worshipers, and that romance of action appeals to them very strongly. They are getting beyond the more purely imaginative period and now demand *true* stories. The topics presented in these grades supply this demand.

The last two years of the course are devoted to the business of acquiring a comprehensive and fairly accurate account of the history and government of our own nation and to the study of citizenship.

Beginning with the pupil's local environment, the various obligations resting on the citizen, and his duties, rights and privileges, are discovered, discussed, and traced through the various civil units up to the State and the Nation. Easily and naturally the learner is led to see the peculiar relations existing between the states of our Union and the national government. The effort is made to instruct children as to the duties and privileges of the average citizen and to inspire them with a desire to fulfill them completely, rather than to indulge in learned discussions of the abstract theories which lie at the basis of government.

This course of study has been developed to comply with the requirements of the present organization of the elementary schools, made up of eight grades. If, as seems probable, a reorganization should take place according to which the purely elementary work should cease with the sixth grade and some type of intermediate or junior high school should be established to include the seventh and eighth grades, all elementary courses would require revision.

In that case, the only material change necessary in the courses herein suggested for the first six grades would be to complete European beginnings of American history in the fifth grade and devote the sixth year to a study of American history. Further formal study of the history of the United States should then be deferred until near the close of the intermediate high school period.

### Methods of Instruction—Elementary School.

(NOTE.—For detailed methods in instruction, see Bliss—*History in the Elementary Schools*. American Book Company.)

Throughout the elementary grades the oral method of presentation should prevail, both by preference and through necessity. To succeed, teachers must become expert story-tellers. Here learner, content, method all agree, being primitive. The teacher, in imitation of the story-teller of the clan or tribe, must work up the subject matter until it is literally at her tongue's end.

*The "Quiz."*

(For specimen questions see "Teaching Plans" below.)

First, she prepares the pupils for fresh knowledge and new ideas by a brief, coherent review of the work of previous lessons. This is done by means of a "quiz," consisting of many brief, direct, specific questions, requiring precise but brief answers, and reaching as many of the class as possible. These questions should not usually call for statements of facts, but rather for answers demanding judgment on the part of the pupils and tending to arouse their curiosity. Such questions serve to develop an inquiring state of mind and prepare the children for the "apperception" of new material.

*Instruction.*

The teacher then proceeds to unfold the new installments of the story. This portion of the recitation, while usually oral, must not consist in a mere reproduction of memorized words. If so, it becomes mechanical, lifeless, dull; and the children will soon discover its emptiness. Neither should it be reading aloud. In this case it is soothing, hypnotic in its effects. It is the rhythm, the regular ebb and flow of sound, that delights. The story must come to the children as if direct from the lips of the living teacher, but it must be somewhat informal, broken up by frequent questions, "anticipatory" and otherwise, with opportunity for questions and intelligent comment on the part of the pupils.

Beginning with the second grade much of the matter to be presented has been put into such form that the average child can easily and profitably read it. It is advisable that teachers give all the aid possible to encourage pupils to get notions, ideas and impressions from the printed page as soon as possible.

(For study methods see "Teaching Plans" below.)

The use of crayon and the blackboard should not be overlooked by the ambitious teacher. Nothing is more effective in any grade of the elementary school, or higher schools for that matter, than the ability of the teacher to illustrate the story or lecture by pictures, sketches, maps, etc., quickly, though roughly, drawn while the instructor talks. Along this line all sorts of illustrative material should be utilized. Pictures from newspapers, magazines and other sources should be employed. The magazines of the day furnish abundant material of this character, not only in the literary departments, but in the advertising sections as well. Relics in the shape of weapons, utensils, clothing, etc., used by primitive peoples, should be displayed to the classes. In many instances excursions can be made by the older pupils to historical spots, monuments, buildings, etc. All these are included under the head of instruction.

**Specimen Teaching Plan, No. 1.**

(Illustrating the "Quiz" and impromptu drama.)

General Topic—Primitive Life in Africa.

Topic for today—"Osam, the African Boy," story of the pygmies.

Reference—Bliss—*History in the Elementary Schools*, pp. 195-198.

## I. Quiz.

A. Theme—The houses of the pygmies.

B. Type questions.

1. How would you like to live in a pygmy's house?
2. What did these houses look like?
3. How did the pygmies get into and out of their houses?
4. What other people live in houses something like these?

5. Of what use were the great palm trees? What does that tell us about the climate?
6. Tell me some things the pygmies used for food?
7. How do you know that they ate those things; the story did not say so? (Bananas, melons, beans, etc., were growing in the clearing outside the houses and the hunters had brought in game.)
8. What sort of noises did the pygmies hear in the forests at night? (Referring to the wild animals.)
9. Why did these people not need big houses?
10. What does "pygmy" mean?
11. How big do you suppose Osam was?
12. After the pygmies had eaten their supper what did they do? Who came along at this time?
13. Would you like to hear the story the old mother pygmy told?

II. Instruction—Oral by the teacher.

A. Topic—"The Story of Mr. Rabbit," p. 198.

(NOTE.—Mr. Harris' exquisite stories are supposed to represent African folklore, hence are introduced for that purpose here.)

1. How Mr. Rabbit got a supper of antelope.
2. Why the hippopotamus has a short lip.
3. How the Tar Woman fooled Mr. Rabbit.
4. How Mr. Rabbit escaped.

III. Reproduction.

A. Impromptu drama.

1. Representing how the Tar Woman caught Mr. Rabbit.
2. Characters.
  - a. Mr. Rabbit.
  - b. The Tar Woman.
  - c. Chief of the Animals.



Scene from Third Grade Drama—"Aeneas' Visit to the Underworld."

### Reproduction.

The next step should be the reproduction of various oral portions of the recent story by the pupils. Usually this is in the form of a topical recitation, the children relating or discussing episodes or features of the story at the suggestion of the teacher. One important purpose of this form of reproduction is to develop the power, on the part of the pupils, to talk before the class, or, in other words, the power of oral expression. The fundamental aim, however, is to discover the mental images produced in the minds of the pupils by the instruction.

### Drama.

These mental pictures may be ascertained in various other ways, the most important of which perhaps are simple games and dramas. Here the play instinct may be utilized with pleasure and profit. "Children's spontaneous plays are idealized reproductions of the real activities of primitive peoples," says Miss Dopp. This social instinct should certainly be employed in teaching history. The plays should be simple, devoid of elaborate ceremonies or costuming, and, as far as possible, spontaneous on the part of the children. As everyone knows, little children are highly imitative, and, if skillfully guided by intelligent teachers without too much design or authority being displayed, they will often work out for themselves simple and effective little plays illustrative of the life of the people under consideration. These are by far the most valuable for our purposes. Occasionally, however, the teacher, with the assistance of the pupils, prepares a drama somewhat more ambitious, calling for more formal drill and some ingenuity and resourcefulness in costuming. All the "properties" for such plays are made in the school by the pupils and teachers.

(For specimen dramas see Bliss' *History in the Elementary Schools*, Appendix.)

### Drawing.

Drawing and water-color painting are important modes of expression and furnish great delight to children. Most children learn to draw readily and derive great enjoyment from this manner of story-telling. One of its advantages lies in

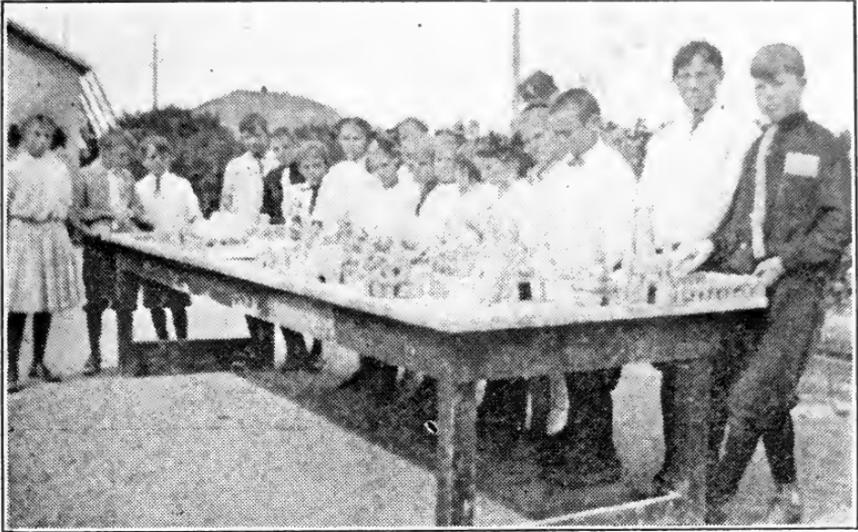


Eskimo Sledge Team. Second Grade. Model Made of Plasticene.

the fact that it is always available. No attempt should be made to produce drawings *technically* correct, though, of course, sufficient instruction must be given to enable pupils to reproduce on blackboard or paper some semblance of the actual pictures floating in their minds. As in the drama, so in drawing, the greater the spontaneity the more valuable the results. Drawing seems to be a primitive method of expression and comes naturally to children. As little interference as possible should occur in their freedom in their work. Various methods of drawing may be employed, the most interesting and profitable to children are (1) blackboard; (2) paper and ordinary pencil; (3) colored crayon and paper; (4) charcoal. The last, while somewhat "mussy," is excellent for young children whose drawings naturally are in broad lines. Water colors also may be used with profit.

*Modeling.*

For everything in the nature of extensive geographical representation sand is to be preferred over any other material for modeling. Papier mache is cheap, easily made from old newspapers and is excellent for representing towns, cities, forts, landscapes, etc., and is used frequently in the training school. For models that are to be preserved, clay is the best material, but the models should be fired. Plasticene, modelene and other forms of prepared substitutes for clay are very convenient, always ready for use and not expensive.



**Primitive Industry at the Modeling Table.**

Very useful in this direction will be found the reproduction or imitation of certain primitive industries, such as hunting, fishing, developing fire, building wigwams and tents, preparing skins for use, making clothing, weapons and primitive utensils, grinding grain, preparing and cooking foods, etc.—the list is almost endless. These activities not only afford great delight to the children and provide very effective means for representing their mental images, but also reinforce and vivify the formal industrial training which is becoming such a prominent factor in our elementary school instruction. (See chapter on “Projects” in this course of study.)

Among the activities employed are not only drawing and sand and clay modeling as already described, but also paper folding and cutting, sewing, weaving, wood-work, decorating, and simple building operations of various kinds. A complete list of models for these activities has been worked out but space prevents its insertion here, since it aggregates about 500 subjects. The list ranges from an Indian arrow to an Indian village; from the baby tree dweller’s cradle to a papier mache model of a Dutch city. All these activities are based on the history stories.

### **History Projects.**

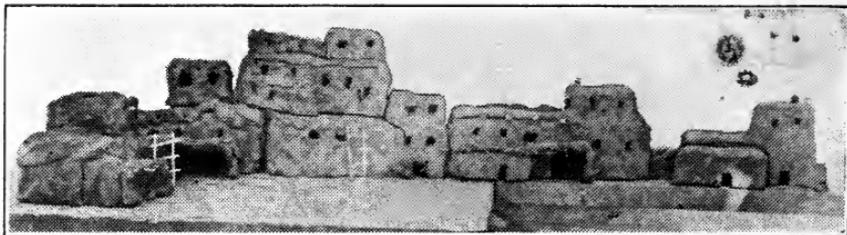
The so-called “project” method has been employed in the history department for upwards of a dozen years, though it was not known by so ambitious a name. If properly guided, excellent results may be obtained by its use and the interests of the children developed. Practically all the departments of the school are

cordially co-operating in the production of dramas, building old missions, erecting castles, constructing medieval manors, Indian villages, Dutch towns, etc., etc.

The most elaborate of the many dramas produced illustrated episodes in the stories of Robin Hood, Joan of Arc, the Cid and Greek legends. They are too long for insertion here. The dramas were worked out entirely by the pupils, under the guidance of their teachers. All the costumes, properties, etc., were prepared as part of the regular work in the various departments, and the writing of the plays furnished motives and materials for valuable work in English.

A miniature dwelling of each of the peoples studied is worked out by the children. Development and preparation of food in the primitive way is illustrated—roasting, boiling, baking, drying, etc. Record-making is developed by this method from picture-writing to the modern book. In the line of amusements, an Olympic "meet" is the culmination of the Greek stories, and, lastly, records are kept by the children of all such activities.

One caution in project work in history must be noted. As in all such methods, there is great danger that interest in the material features of the so-called "project" itself—in the castle, the Indian village, the "business" of the play—may be so intense as to cause the children to lose sight of the very history which it is intended to illustrate. In history, projects create atmosphere, arouse interest, lend, sometimes, an air of verisimilitude, but they do not teach co-ordinated history. They may easily be overdone. They often require an immense amount of time and energy. They should not become mere "fads."



Indian Pueblos.

### IMPORTANCE OF GEOGRAPHY.

The use of maps and the teaching of geography in connection with history can not be urged too strongly. We must connect history with territory, location, defined space, or it evaporates into mist. Maps should be used constantly. The best map for young children is that made by the teacher herself, showing only essentials, omitting all useless details. Direction, distance, altitude, area should be developed, but referred to in general terms at first,—*e. g.*, "long, long ago," "very far away," "across this great ocean," "up this very high mountain," are suggestive phrases. Geographical terms and specific distances, directions and locations should, however, rapidly be introduced as the work progresses, and by the time the fourth grade is reached political geography should become a matter of habit with both teacher and pupil.

#### Outlines for Primary Grades.

(NOTE.—For elaboration of the brief outline given below, and for reference books, see Bliss—*History in the Elementary Schools.*)

##### *General Recitation Plan.*

1. Quiz and "anticipatory" questions, one-sixth of the period.

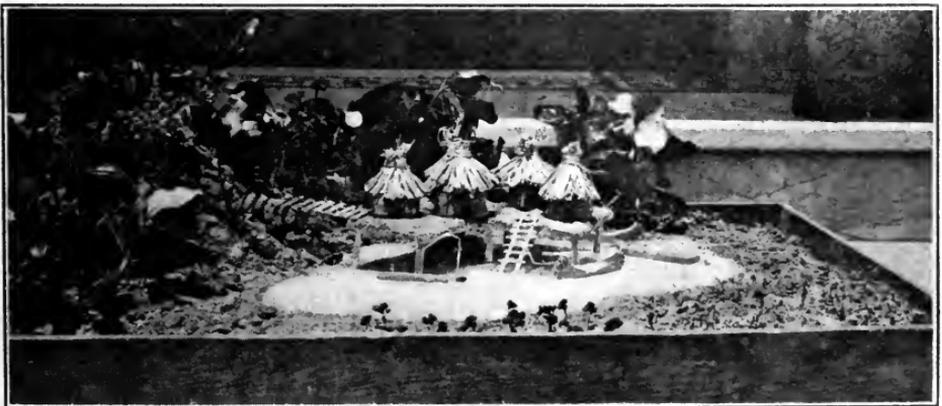
2. Presentation of new installments of the story, about two-thirds of the period.
3. Reproduction by pupils, if oral, one-sixth of the period; time for other methods of reproduction to be determined by their nature.



Third Grade History: Indian Village.

#### First Grade.

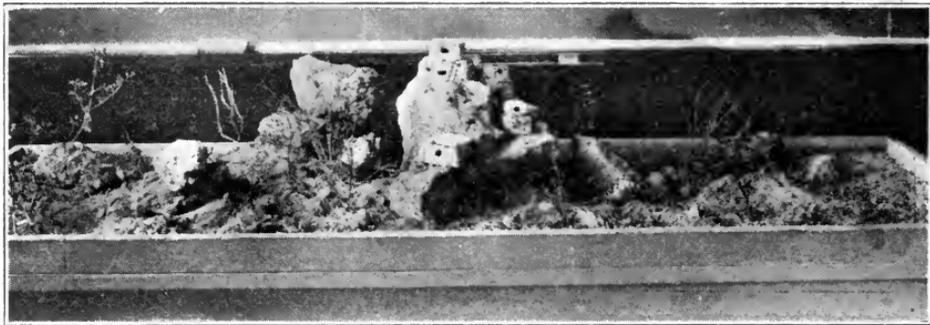
1. The Tree Dwellers. Dopp—*The Tree Dwellers*.
2. The Cave Dwellers. Dopp—*The Early Cave Men; The Later Cave Men*.
3. The Sea Dwellers. Dopp—*The Deep Sea People*.
4. The Cliff Dwellers. Wiley and Edick—*Children of the Cliff; Hopi, the Cliff Dweller*.
5. The Lake Dwellers. Wiley and Edick—*Lodrix, the Little Lake Dweller*.  
Holbrook—*Cave, Mound and Lake Dwellers*.



First Grade History: Lake Dwellers.

### Second Grade.

1. Life in Ancient Egypt. Kemp—*History for Graded and District Schools*, "How Kufu Lived Among the Old Egyptians."
2. The Early Phœnicians. Kemp—*History for Graded and District Schools*, "How Hiram Became King."
3. The Early Persians. Andrews—*Ten Boys*, "Story of Darius." Wells—*How the Present Came from the Past*.
4. Primitive Life in Modern Africa. Bliss—*History in Elementary Schools*, "Osam, the African Boy."
5. Primitive Life in the Far North. Scandlin—*Hans, the Eskimo Boy*.
6. Primitive Life in Japan. (Correlated with geography). Ayrton—*Child Life in Japan*.
7. Primitive Life Among the Indians. Jenks—*The Childhood of Ji-Shib*. Lansing—*Mevance*.



History: Cliff dwellers.

(NOTE.—The last four topics represent primitive civilization of the present day. Longfellow's *Hiawatha* is also used in correlation with literature.)

### 8. Greek People of Long Ago.

(NOTE.—This represents the mythical period of Greek history and is presented in correlation with literature.)

### Third Grade.

1. Beginnings of Anglo-Saxon Civilization. True—*The Iron Star*, I-VIII.
2. The Beginnings of White Man's Civilization in America:
  - \*a. Pratt—*America's Story for America's Children*, Vol. I. (Or any other suitable account of early explorations in America.)
  - b. Winterburn—*The Spanish in the Southwest*, to p. 160.
  - \*c. Snedden—*Docas, the Indian Boy of Santa Clara*.
  - \*d. Pratt—*Stories of Colonial Children*.
  - e. Warren—*Little Pioneers*.

### Fourth Grade.

1. Stories of the Ancient Greeks. Kemp—*Greece in Her Infancy; A Visit to Athens*. Terry—*Historical Stories of Other Lands*. Guerber—*Story of the Greeks*, to p. 259. (This is used only as a guide to the teacher. The stories must be simplified, amplified and adapted to the age of the children.)
2. Stories of Old Rome. Kemp—*Rome in Her Infancy*. Andrews—*Horatius*. Guerber—*The Story of the Romans*. (See note to *Story of the Greeks*, above.) Terry—*Historical Stories of Other Lands*, Book III.

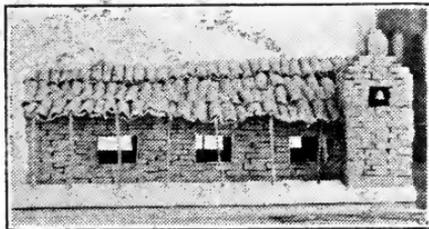
\*May be read by children.

**FIFTH AND SIXTH GRADES.****Methods of Instruction.**

The methods above outlined apply in a large measure to the fifth and sixth grades; but the pupils here are able to get a larger part of their instruction from books. The teacher, therefore, will not be so prominent a factor in the work of instruction. The oral or story-telling method, nevertheless, will necessarily be followed largely on account of lack of suitable books for children. Stress in these grades is laid on biography and dramatic and romantic incidents illustrating medieval and early modern civilization, consequently opportunities for dramas and written compositions are more frequent. In these grades also occasional formal written tests or examinations may be held with benefit at the completion of a given portion of a topic. Such examinations should call for expressions of opinions, impressions, and conclusions rather than statements of bald facts.

The importance of training children to read for themselves and actually to apprehend the contents of ordinary books is often overlooked. The tendency at present, especially in the training school, is for the teacher to do most of the instructing in the way of interpreting and summarizing the texts. It is certainly time for pupils in these grades to develop the power of analyzing, classifying, and generalizing information, impressions and ideas gained from printed books. The teacher still should be the leader and guide, but not the burden bearer of her pupils. Self-activity and self-reliance on the part of the children are desired goals.

The fifth grade closes with the reading of the California State Text on History of the United States.



Model of Old Mission.

**Specimen of Teaching Plan.**

(Illustrating a "study lesson" in sixth grade.)

General Topic—The Rival Kings, Henry VIII, Charles V and Francis I.  
Topic for today—The "Field of the Cloth of Gold."

I. Quiz and class discussion. (See topics for yesterday's study.)

(NOTE.—The purpose of this quiz and discussion is to review the previous lesson and prepare pupils for today's study.)

**II. Instruction:**

A. Pupils read Pitman's *Stories of Old France*, pp. 105-115.

B. Topics and questions to be placed on the blackboard for guidance of pupils and for discussion at next lesson.

1. What did Francis and Henry see about them when they met?
2. How did they greet each other? Do you think they were sincere?  
Give reasons.
3. Describe a tourney.

4. In what manner did Bayard enter the lists?
5. How do you know that he was a brave knight?
6. What was the result of Bayard's encounter with each of the English lords?
7. How did Norfolk and Bayard greet each other?
8. On what terms did Henry and Francis part? Why?
9. What important information do you get from this story?
10. Why may the meeting be called a failure?
11. What impressed you most in the story?

If possible, the above topics and questions should all be read by pupils before they begin the study.

The teacher should encourage pupils to depend upon themselves and get the information and ideas called for out of the book for themselves, but the teacher should use the study period for individual help and guidance, especially for the poor readers.

Do not encourage pupils in asking questions while they are studying. It should be a period for quiet, thoughtful study and meditation.

The period for history in the fifth and sixth grades is divided into two parts—about two-fifths for the quiz and discussion and three-fifths for the instruction, either oral by teacher or in silent reading by pupils.



Scene from Drama of Robin Hood. Fifth Grade. All the Properties Were Made by the Class.

### Fifth Grade.

#### *The Early Middle Ages.*

- A. The End of the Roman Empire and the Beginnings of the Middle Ages.
  1. Downfall of Rome and Coming of the Barbarians. Lansing—*Barbarian and Noble* (selected stories). Harding—*Story of the Middle Ages*, pp. 9-49.
  2. Charlemagne and His Work. Harding—Chaps. VII, IX. Tappan—*European Hero Stories*, 38-47.
    - a. Stories of Roland (selected stories illustrating this period, to be given orally for the most part). Baldwin—*The Story of Roland*.
  3. Monks and Monasteries. Harding—*Middle Ages*, Chap. XVI.

## B. Beginnings of English History.

1. Alfred the Great and Knute the Dane. Tappan—72-76. Warren—*Stories from English History*, 26-41. Haaren and Poland—*Famous Men of the Middle Ages*, 119-125.
2. William the Conqueror and the Conquest of England. Haaren and Poland, 120-130; 163-172. Tappan—77-93. Harding—Chap. 11. Warren—47-80. Hancock—*Children of History, Later Times*. Bevan—*Stories from British History*.

C. The Crusades. Harding—Chaps. XII, XIII. Haaren and Poland—173-196. Tappan—136-151. Terry—*Hist. Stories of Other Lands*, Book IV.

## D. The Struggle for Liberty and Struggle for Nationality.

1. How the Magna Carta Was Obtained (to be presented by the teacher).
2. Robin Hood (selected stories illustrating the oppression of the poorer classes). Pyle—*Some Merry Adventures of Robin Hood*.
3. Wallace, Bruce and Douglass. Lang—*The Story of Robert the Bruce*. Warren—107-119. Tappan—185-189.
4. Joan of Arc and the Unification of France. Pitman—*Stories of Old France*. Lang—*Joan of Arc*, 15-52. Tappan—136-157. Harding—Chap. XVIII.
5. Louis XI and Charles the Bold, Beginnings of French Nationality. Pitman—53-100.

## E. Reading State Textbook in U. S. History.

**Sixth Grade.***The Modern Period.*

- A. Life in the Middle Ages. Tappan—118-135. Harding—Chaps. XIV, XV.
- B. The Revival of Learning (to be presented orally by the teacher, for the most part). Haaren and Poland—257-262. Tappan—152-170.
- C. Ferdinand and Isabella and the Unification of Spain. Haaren and Poland—*Modern Times*—16-39.
  1. Stories of the Cid (as an introduction). Wilson—*Story of the Cid*.
  2. Columbus and the Discovery of America. Johnson—*The World's Discoverers*.
- D. The Elizabethan Period.
  1. The Rival Kings, Henry VIII, Francis I, Charles V. Pitman—101-150. Haaren and Poland—60-85. Warren—171-208.
  2. The Rival Queens, Elizabeth and Mary, Queen of Scots. Rolfe—*Tales from Scottish History*, 92-120. Warren—206-228. Hancock—*Children of History, Later Times*.
  3. Drake and the Sea Fighters of the Sixteenth Century. Tappan—209-214. Warren—229-241. Haaren and Poland—96-110. Johnson—*The World's Discoverers*, 235-271.
- E. The Struggle for Freedom by the Swiss. Niver—*Great Names and Nations, Modern*, 158-162. Haaren and Poland—226-233. Tappan—190-194.
- F. William the Silent and "Brave Little Holland." Tappan—204-209. Griffis—*Brave Little Holland; Young People's History of Holland*.
- G. Review of European Background of American History. (See list of books for general review and sixth grade in the bibliography at end of the course in history.)

**SEVENTH AND EIGHTH GRADES.****Methods of Instruction.**

In these grades the California State Textbook in American history forms the basis of the work. History during these years is taught largely by a modified outline or "topical" method. Lessons should be assigned, as a rule, from the outline by topics and not by pages of the textbook. The learner should be led to feel that there are usually several points of view from which almost every subject may be considered, and should be encouraged to get into touch with as many of these viewpoints as possible.



7A History and English (Boys): Santa Barbara Mission.

The outline for these grades is constructed on the assumption, confirmed by years of experience, that it is advisable in the intermediate school for students to escape from the rigidity and narrowness of the best textbook to some extent, and be stimulated to develop powers of comparison, elimination, selection and arrangement of historical material. Pupils are expected to keep notebooks in which to copy outlines, place maps, pictures, sketches, etc., illustrative of the subject, and are encouraged to make brief extracts of their readings and the talks of the teacher. Here the first steps are taken in the research or library method of studying history. Teachers should make an effort to induce pupils to realize that no one textbook, whatever may be its general merits, is sufficient on all points. Even if such a book could be produced, it is well for children by this time to begin to develop the critical habit in reading history. In order to accomplish this purpose it is desirable that they have access to supplementary material. This is supplied by the school in ample quantities.

If this method is to be successful it will be necessary to train the pupils how to use books as instruments in the process of learning. For example, supposing the topic under consideration is "How George Rogers Clark Saved the Old Northwest," the plan would be about as follows:

1. Pupils should look through the table of contents of their textbook. Nothing will be found there on this topic.
2. They will search the index and will find a reference to p. 183. On turning to the page indicated they will find only a brief account.
3. Next, if books are available, they will look up the pages given in their outlines in at least one other satisfactory book.
4. After reading carefully the various accounts they will put down in their notebooks a brief epitome of what they have read.
5. If time permits, they should copy the map of the Northwest territory and Clark's operations, placed on the board by the teacher.

Or, supposing, from a single book, the pupils are to gather together a coherent account of the acquisition of territory by the United States since the adoption of the constitution. They will be taught to search the table of contents under various heads, *e. g.*, "Expansion," "Territory," "Westward Movement," "Mexican War," etc.; then, to examine the index and to use skill and ingenuity in searching under various suggestive terms; finally to scan marginal notes and paragraph headings in the textbook, noting down on separate slips of paper all the important data that can be found. Lastly, they should be taught how to sort and arrange their materials into a connected coherent account.

Pupils should be drilled in the process of preparing outlines of topics which they have studied thoroughly. The broad topical outlines given in the complete course of study,\* modified to suit the pupils and the occasion, are copied into pupils' notebooks, and are intended to assist them in such work.

Teachers must be cautioned, however, against overdoing the outline or topical plan. All such work must be of a very simple and elementary character. While the attention of pupils is directed to original documents for the purpose of vivifying the secondary matter found in the texts, nothing in the way of so-called "original research" is attempted. Telescoping periods, violent dislocation of the chronological order, much emphasis on "institutional" development, tend to confuse the young student and to destroy the perspective. Teachers must never lose sight of the fact that one of the fundamental purposes of any course of study in American history at this stage should be to unfold a clear and unbroken view of the co-ordinated history of these United States from their origin to the present time. It must not be disjointed or incoherent. Whatever threatens this sense of unity and continuity, should be discarded. A judicious combination of the topical and chronological arrangement is, doubtless, the best plan. In taking up the subject at first, while the process of building up the perspective and developing the historical imagination is going on, emphasis should be laid on the sequence of events and periods, in short, on chronology. For purposes of review, summaries, special reports, etc., the topical method may be effectively employed.

Story-telling and simple lecturing are often commendable in these grades. By these means the desultory and scattered readings of pupils may be co-ordinated, additional information given, and the work enlivened and made much more interesting by word pictures and vivid descriptions of picturesque and romantic occurrences and the presentation of biographies of important personages. Occasionally reading aloud to the class may be permitted, but, on the whole, pupils are

\*Bliss' *History in the Elementary Schools*.

expected to gain most of their information from printed material. The power to do this rapidly and accurately is an important end of history teaching.

#### *The Recitation.*

In recitations the question method should prevail. Every teacher, not only in these grades but all along the line, is expected to develop the ability to conduct a lively, interesting, logical "quiz" and class discussion. This requires thorough knowledge of the subject-matter, alertness, resourcefulness, self-possession, force. It is the most difficult part of the class instruction. Care should be taken to distinguish between the "quiz" and the "topical recitation" or class discussion. The former should consist of direct, penetrating, clear-cut questions that can be answered in a few words. The quiz is the best method for conducting a general review, the topical recitation for reproducing and discussing the contents of the recent lessons. More subjects can be mentioned and more pupils can be reached through the quiz, more originality on the part of pupils displayed through the use of the topical method. The topical recitation is employed to discover with what logical coherence the learner has received the instruction and also to aid in developing his power to talk consecutively for a short time on a given subject in the presence of the class.

The best recitation is that in which is used a judicious mixture of the quiz and the topical method. Questions of all sorts should usually be indirect rather than direct, calling for opinions, judgments, impressions, in which knowledge will be revealed instead of bald facts depending upon mere memory,—questions that stir the curiosity, incite the reasoning powers, and develop interest, instead of questions that seek for mere information.

Teachers must be cautioned against going into the details of every topic. One of the main purposes of the course is to build up a perspective of American history in the minds of pupils. This can be accomplished most effectively by taking a brief and rather superficial survey of the whole course of the history of the country in chronological order, yet pausing frequently to make a minute study of certain typical events, personages, institutions and movements. These "type studies" are indicated in the outline. In fact, the most important aim of an outline is to preserve the continuity and co-ordination of the subject, while at the same time furnishing all necessary suggestions for the study of the special topics.

### AMERICAN HISTORY.

The formal study of American History, including civics, or, as we prefer to call it, *citizenship*, occupies at present about one and one-half of the remaining two years of the course. As before suggested, a different arrangement would be necessary, providing the plan is adopted of completing the strictly elementary subjects in the first six years. As it is now, we must conform to the requirements of courses of study as they appear in practically all the counties of the state. About twelve weeks of this period is devoted to the investigation and study of problems pertaining to citizenship.

A complete outline of the course, with ample bibliography, appears in Bliss' *History in the Elementary Schools*, American Book Co., and it is unnecessary to reproduce any portion of it here. The chief feature of the course is the provision for "type" studies; that is, the study of a few typical colonies pretty thoroughly rather than a superficial study of all the thirteen. In the period of exploration a few representative Spanish Conquistadors, for instance, are taken up and as interesting and complete stories as possible woven out of their accomplishments.

It is very necessary, with the new views, new attitudes and ideals developed, and the great political changes produced by the war, that a new type of text should appear. This text, while dealing sufficiently with occurrences and problems of the present, should not, however, as has been suggested in some quarters, devote less time and attention to the history of the past. It is a false doctrine that, either young pupils or mature adults can successfully secure a true perspective of the history of any nation or people by "studying backwards." No one can understand nor interpret the present without a tolerably clear knowledge of how the present came to be, whence and how it evolved. No child can clearly understand the Mexican situation without first a thorough study of the wonderful story of the conquest of Mexico by Cortez, which encrusted the Spanish civilization upon that of the native Aztecs. We do not need to study the past less thoroughly but with different purposes and methods, hence textbooks must be rewritten.

To note only a few examples of different treatment expected: More attention should be given to the "European beginnings of American history." It must be clearly developed that European nations took possession of the new world and attempted to reproduce each its own particular brand of civilization here. And so we had little "New Frances," "New Spains," "New Englands," etc. The new histories of the United States will cease to imply, through woeful omissions, that Jamestown and Plymouth were the sole centers of important colonization. In short, they will be much less provincial and egotistic. The new history will also take a different attitude towards England and the revolt of the colonies from the mother country. It will be shown that the American revolution was only a phase of a great English movement towards a wider franchise and more equitable representation; that certain circumstances in the relationship between the colonies and the home government, at whose head at that time was a despotic German king, aggravated the situation and brought the struggle to a focus in America much sooner than at home, and that it was over half a century before the revolution (a comparatively bloodless one) succeeded in England. In fact, colonials will be treated as Englishmen until the Revolution.

Another fundamental change needed in texts is less unrelated, desiccated facts, strung like beads on a chronological thread, and more interpretation and explanation revealing cause and effect, showing the relations between occurrences widely separated in time or place—briefly, a little bit more of the simple philosophy of history. Current textbooks have suffered from the doctrine, spread abroad by the devotees of the so-called "research method," to the effect that it is the business of historians to state facts only, without comment, interpretations or deductions. Such texts might be sufficient in schools supplied with specialists in history who could clothe the dry skeleton of chronology with the flesh and blood and garments of living, breathing history. This not being the case in our schools, the textbooks must, to a much greater extent, run the chances of "personal bias," "opinion for fact," "imposing the author's notions upon the pupils," and the other supposed dangers from textbooks from which all ideas, doctrines and conclusions of the writers have not been carefully excluded.

American textbooks of the future must also contain at least one line of propaganda—they must reveal clearly the story of liberty. They must bring into the vision of the pupils the processes of development through which the peoples of the United States and their ancestors in Europe have been, and still are, slowly and painfully progressing from autocracy to democracy.

Until such books are produced American teachers must do the best they can to eliminate, supplement and transform the matter and methods of the present texts somewhat along the lines suggested.

### Citizenship.

In teaching citizenship no formal course or outline is, or ought to be, used. The supreme purpose is to induct the pupils into citizenship, as far as possible, through their own experiences and observations.

First, the social machinery of the school is utilized for this purpose. As stated elsewhere in this course, various social groups are formed in the school, such as class organizations, athletic clubs, current history clubs, the associated student body, Junior Red Cross, thrift clubs, and lastly, "Correct English" clubs, etc. All these afford training in citizenship and are studied with that end in view.

Next, the larger school units are studied, such as the training school, the normal school, and the city system, and the relationship which the intermediate school and the individual pupils sustain to each of these is determined. This is well within the experiences of the children.

Further, the civic organizations of the community are taken up. This work is done almost wholly through observation accompanied by reports and talks by city officials and others. Visits are paid to the city hall; council meetings are attended; court trials witnessed; water, fire, police and other departments inspected.

Then, the social agencies of the local community and also, to a limited extent, those of the state and nation are considered. As a rule, the class is broken up into committees, each committee being assigned the study of a particular agency of its own choice. As far as possible, the pupils themselves interview the officials of these agencies, receiving their information at first hand. Current publications of every description are utilized in this work—newspapers, magazines, trade journals, government bulletins, advertising matter, etc., etc. The committees collect and collate their data, and oral, and sometimes written, reports are made to the class, followed by discussions. Of course only a limited number of social agencies can be studied during any given term.

All such work needs careful guidance and supervision, otherwise it will become confused, slovenly and futile. Before the class starts out on excursions plans must be carefully formulated, questionnaires of information desired drawn up and the purpose of the visit never lost sight of. Too many such excursions degenerate into mere social picnics.

Finally, through this method, the pupils are led to an intelligent study of the organization and functions of the county, state and national governments, and, particularly, to a realization of the reciprocal relations of citizens and governments. No stress is laid upon abstract theories of government nor upon the minute details of constitutions and laws. These are deferred to a later stage of the pupils' school life. Not even our ridiculous and complicated method of electing the President of the United States is committed to memory!

As a suggestive text the California State Textbook, Dunn's "The Community and the Citizen" is used. The author, Prof. Arthur Dunn, is now a member of the Federal Bureau of Education at Washington, and is doing important work along the line of civics. Teachers interested should address him for bulletins and bibliographies. Hughes—*Community Civics*, Allyn & Bacon, has recently been adopted as a supplementary text.

### *Bibliography.*

A few useful books on the teaching of history.

Bliss—History in the Elementary Schools. American Book Co. 80 cents.

- Dyne—Socializing the Child. Silver, Burdett & Co. 60 cents.  
 Report of the Committee of Eight—The Study of History in the Elementary Schools. Scribner. 50 cents.  
 Robinson—The New History. Macmillan. \$1.50.  
 Johnson—Teaching of History. Macmillan. \$1.50.
- Books recommended in course of study.
- Andrews—Ten Boys. Ginn. 50 cents.  
 Ayrton—Child Life in Japan. D. C. Heath. 20 cents.  
 Baldwin—The Story of Roland. Scribner. \$1.50.  
 Bevan—Stories from British History. Little, Brown & Co. 50 cents.  
 Dopp—The Early Cave Men. Rand McNally. 45 cents.  
 Dopp—The Later Cave Men. Rand McNally. 45 cents.  
 Dopp—The Tree Dwellers. Rand McNally. 45 cents.  
 Dopp—The Deep Sea Dwellers. Rand McNally. 45 cents.  
 Dopp—The Place of Industries in Elementary Education. University of Chicago Press. \$1.00.  
 Dunn—The Community and the Citizen. D. C. Heath. 75 cents.  
 Eggleston—A First Book in American History. American Book Co. 60 cents.  
 Griffis—Brave Little Holland. Houghton-Mifflin Co. \$1.25.  
 Griffis—Young People's History of Holland. Houghton-Mifflin Co. \$1.50.  
 Guerber—Story of the Greeks. American Book Co. 60 cents.  
 Guerber—Story of the Romans. American Book Co. 60 cents.  
 Haaren and Poland—Famous Men of the Middle Ages. American Book Co. 50 cents.  
 Hancock—Children of History. Little, Brown & Co. 50 cents.  
 Harding—Story of the Middle Ages. Scott, Foresman & Co. 50 cents.  
 Holbrook—Cave, Mound and Lake Dwellers.  
 Jenks—The Childhood of Ji-Shib. Atkinson, Mentzer & Co. 60 cents.  
 Johnson—The World's Discoverers. Little, Brown & Co. \$1.50.  
 Kemp—History for Graded and District Schools. Ginn. \$1.00.  
 Lang—The Story of Joan of Arc. E. P. Dutton & Co. 50 cents.  
 Lansing—The Story of Robert, the Bruce. E. P. Dutton & Co. 50 cents.  
 Niver—Great Names and Nations, Modern. Atkinson, Mentzer & Co. 40 cents.  
 Pitman—Stories of Old France. American Book Co. 60 cents.  
 Pratt—America's Story for America's Children. D. C. Heath. 35 cents.  
 Pratt—Stories of Colonial Children. Educational Publishing Co. 60 cents.  
 Pyle—Some Merry Adventures of Robin Hood (School Edition). Scribner. 50 cents.  
 Rolfe—Tales from Scottish History. American Book Co. 50 cents.  
 Scandlin—Hans, the Eskimo Boy. Silver, Burdett & Co. 50 cents.  
 Sneddin—Docas, the Indian Boy. D. C. Heath & Co. 35 cents.  
 Tappan—European Hero Stories. Houghton-Mifflin Co. 65 cents.  
 Terry—History Stories of Other Lands. Row, Peterson & Co. 40 cents.  
 True—The Iron Star. Little, Brown & Co. \$1.50.  
 Warren—Little Pioneers. Rand-McNally & Co. 45 cents.  
 Warren—Stories from English History. D. C. Heath & Co. 65 cents.  
 Thompson & Bigwood—Lest We Forget. Silver, Burdett & Co. (Stories of the Great War.) \$1.00.  
 Wells—How the Present Came from the Past. Macmillan. Vol. I, 56 cents; Vol. II, 64 cents.

Wiley and Edick—Lodrix, the Little Lake Dweller. Appleton. 30 cents.

Wiley and Edick—Children of the Cliff. Appleton. 30 cents.

Wilson—The Story of the Cid. Lothrop, Lee & Shepard Co. \$1.25.

Winterburn—The Spanish in the Southwest. American Book Co. 55 cents.

For general review and useful in all grades to teachers, and especially as texts for the sixth grade, the following are recommended:

Atkinson—European Beginnings of American History. Ginn & Co. \$1.00.

Bourne and Benton—Introductory American History. D. C. Heath & Co. 60 cents.

Hall—Our Ancestors in Europe. Silver, Burdett & Co. 76 cents.

Harding—The Story of Europe. Scott, Foresman & Co. 60 cents.

Mace and Tanner—The Story of Old Europe and Young America. Rand

McNally & Co. 75 cents.

Nida—The Dawn of American History. Macmillan. 80 cents.

**COURSE OF STUDY IN INDUSTRIAL ARTS.**

C. R. SCUDDER, Director of Industrial Arts, and  
 MARY BENTON, Supervisor, Department of Fine Arts.

*For First Six Grades.*

The immediate aim of this course of study is to complete and bring together in an organized way the work done in industrial arts in the various subjects. The future aim is constantly to enrich the field of subject-matter and experience in the industrial arts that the child may live with an intelligent understanding of the industrial world.

This course correlates with history, geography and nature study, much of the subject-matter and project work being covered in those studies, the remainder being covered in the fine arts period, as the fourth grade only has a period set apart for project work. The unification of the work can not be grasped without following the course of study of any given grade in all of the other subjects.

**Grade I.****I. Records.**

Through various approaches.

1. As an incentive to reading,—picture making to tell stories, making of picture book to tell story of some activity. (Need of words felt.)
2. To keep a record,—preserving work to take home by putting in book form. \*\*Keeping records of weather conditions, spring flowers, etc.
3. \*To experience and appreciate ways of primitive man,—picture writing on bark or skins, notched sticks, cairns.

**II. Shelter.**

## 1. The doll's house.

(Subject,—the house typical of pupil's environment.) Its location, ventilation, parts, material, and the workers needed to build it.

Project,—planning and building of house with group divided into carpenters, masons, painters, paperhangers, etc. Making furniture of wood or cardboard, weaving paper rugs. Choosing materials and making curtains. Laying out grounds. Making figures of clay or twigs. Twisting of cords for clothesline.

## 2. \*Subject,—shelter of primitive man.

Projects,—making models of shelter, with immediate surroundings, using sand tables, of tree dwellers, cave dwellers, sea people, cliff dwellers and lake dwellers. Making of primitive boats.

**III. Clothing.**

Subject,—clothing suitable to climate and present needs; care of clothing.

Recognition of wool, cotton, and silk through handling of fabrics.

\*Clothing of primitive peoples.

Project,—dressing dolls or figures for the doll's house and grounds, stress being on choice of suitable materials. \*Dressing figures in skins, beads, etc., for sand-table problems of primitive life.

**IV. Food.**

\*Subject matter and projects,—food of primitive peoples.

\*Covered in history period.

\*\*Covered in nature-study period.

NOTE.—All work not starred done in the fine arts classes.

## V. Utensils.

Subject matter,—primitive baskets. How they are made of bark, reeds, splints; how they are colored; how they are used at meals and in cooking. Making of May baskets of palm fiber or rushes.

This is followed by a study of the myths of the discovery of pottery, and of the uses and forms of clay bowls, with the making of clay dishes for the playhouse.

## VI. Tools.

\*Primitive implements are studied and illustrated.

**Grade II.**

## I. Records.

Subject matter,—study of records of primitive man, continued.

\*1. Picture writing, on skins and bark with burnt sticks, colored earth, etc.

\*2. Symbolism, as shown upon pottery, baskets and clothing.

\*3. Memory aids, as notched sticks, knotted cords, blazed trails, monuments, etc.

Projects,—individual books made, illustrating school and neighborhood activities. Group manuscripts compiled and used in printed booklets as reading lessons.

\*\*Record kept of weather, birds, flowers, etc.

## II. Shelter.

Subject matter,—\*shelter of primitive man, continued. Primitive life in Africa, Far North, Japan, among the Indians, Early Greece.

Projects,—\*sand-table expressions of typical dwellings of primitive man, including clay figures of people and animals, making of boats, trees, etc. The first grade playhouse may still furnish the motif for much second grade work.

Illustration of Mother Goose village on sand table.

\*\*Illustration of a public market on sand table.

## III. Clothing.

Subject matter,—\*clothing of primitive peoples. \*Weaving of Indian blankets and rugs.

Projects,—\*drying a rabbit skin and making clothes for figures of primitive people for sand tables. Making cardboard looms and weaving rugs for first grade playhouse. Dressing the figures in Mother Goose village project.

## IV. Food.

\*Food of primitive peoples, continued.

## V. Utensils.

Subject matter,—Indian pottery and baskets, and symbolism.

Projects,—making of pottery with stress on symbolic form and decoration; palm-leaf May baskets; Christmas boxes or baskets; envelopes for valentines or any need; clay dishes for first grade playhouse.

## VI. Tools.

\*Tools of primitive man, continued.

Study of Indian loom.

\*Covered in history period.

\*\*Covered in nature-study period.

## Grade III.

## I. Records.

\*Subject matter: Ancient libraries of Babylon,—clay tablets, writing on stone. The library at Alexandria,—papyrus, how made. Rival library at Pergamum.

Classic Greek life. Manuscript through dictation,—use of waxed tablets, codex and stiles. Greek hero tales,—Homer and the Odyssey.

The alphabet. Origin of Phœnician alphabet; Greek alphabet; Roman alphabet,—borrowed from Greek and later developed into what we use.

Children of third grade age enjoy the rebus, giving the transition from an ideographic form of writing to the phonetic form (John Martin's Book).

Projects,—\*\*\*making of a rebus, waxing of tablet and etching of letters. Group manuscripts, some written, some printed with rubber stamps.

\*\*Records kept of weather, birds, flowers, seeds etc. Preserving work to take home in simple books. Cataloging books in school room and making box for index cards.

## II. Shelter.

Subject matter,—\*Greek houses, home life; evolution of Roman house, marking growth of family as community unit.

Greek theater and architecture of temples and public buildings.

Projects,—\*model of Greek or Roman houses, Greek amphitheater, galley ship, Roman arch, Roman chariot.

Dutch and Eskimo villages in correlation with geography.

\*\*\*\*Dutch houses, wind mills. Japanese houses. Dwellings of the Eskimos, Irish, Filipinos, Mexicans and Pigmies.

## III. Clothing.

Subject matter: \*Greek and Roman garments,—material, form, names, colors and decoration.

\*\*\*\*Kinds of clothing worn by Dutch, Japanese, Eskimos, Filipinos, Mexicans and Pigmies.

Projects,—making and dressing paper dolls or clothes-pin dolls in correlation with geography.

Making of costumes for Greek or Roman festival.

Budget of child's clothing in correlation with arithmetic through dressing paper dolls.

Weaving of runner for desk, with Roman striped border, on two-heddle loom as community work.

## IV. Foods.

Subject matter,—\*\*\*\*foods of peoples studied in geography.

## V. Utensils.

Subject matter: Greek, Roman and Mexican pottery,—typical forms and uses.

Projects: Making of Greek vase and Roman lamp,—decorated and fired.

Making of boxes for store project and for Christmas.

Envelopes and portfolios for any need.

## VI. Tools.

Study of potter's wheel for making vase forms; the two-heddle loom, names of parts and uses.

\*\*\*\*Filipino weapons, Australian boomerang.

\*Covered in history period.

\*\*Covered in nature-study period.

\*\*\*Covered in language period.

\*\*\*\*Covered in geography period.



Primitive Life (Pottery) Project.

## Grade IV.

## I. Records.

Subject matter.

1. \*\*\*Alphabetizing, spelling tests, use of dictionary.
2. \*Record making of American Indians and Mission Fathers.

Projects.

Cataloging classroom books, making bibliography cases and index cards.  
 Pamphlet binding of records of class work.  
 Blue-printing of wild flowers, leaves, etc., and binding.  
 \*\*\*\*Binding of diaries of trips, and keeping scrap books.

## II. Shelter.

Subject matter.

- \*Shelter of American Indians, the Mission Fathers, the Pilgrims.  
 \*\*\*\*Pioneer homes in United States,—cabins, sod houses.  
 Shelter of Aztec Indians.

Projects.

On the sand table,—Aztec shelter and garden, Pilgrim settlement.  
 Making of a large model of San Diego Mission of adobe bricks, with figures of priests, Indians and animals in clay, roof-tiles of clay, colored and fired. This will necessitate a trip to the mission to study construction, roof timbers, environment, etc.  
 Building an adobe oven such as Indians used for baking.  
 Building a Pilgrim cabin of sufficient size for children to enter, using slab wood to represent logs.  
 \*\*\*\*This includes study of lumbering, with trip to mill, figuring amount of lumber needed, getting bids, purchasing, planning and constructing house and furniture, building fireplace of stones, dipping and molding candles, making braided rag rug, and, for community problem, weaving a strip of cloth for table cover on two-heddle loom.  
 Making models of boats,—Indian canoe, Mayflower, etc.

## III. Clothing.

Subject matter.

- Clothing of American Indians; Mission Fathers and Pilgrims,—materials, how made.  
 \*\*\*\**Cotton*,—from plant to cloth, with story of Eli Whitney and the cotton gin.  
*Silk*,—\*\*raising of cocoon.  
 \*\*\*\*Process from cocoon to cloth.  
*Wool*,—\*\*\*\*from sheep to cloth.

Projects.

Carding, spinning, weaving and dyeing of cotton.  
 Carding, spinning, weaving and dyeing of wool.  
 Reeling silk fiber from cocoon, spinning, weaving and dyeing.  
 Making costumes for Pilgrim play, centered about Pilgrim cabin.  
 Darning in pattern while weaving textile, as a community problem.

\*Covered in history period.

\*\*Covered in nature-study period.

\*\*\*Covered in language period.

\*\*\*\*Covered in geography period.

## IV. Food.

Subject matter.

Dairy products,—food value of milk and eggs.

Projects.

Care of milk taught and demonstrated in classroom.

Making of butter, cottage cheese and custard.

See geography outline covering "Interpretation of United States industries through local industries."

## V. Utensils.

Subject matter.

\*Baskets and pottery of North American Indians.

\*Pewter dishes of Pilgrims.

\*\*\*\*Churns of different forms.

Projects.

Making a raffia basket with Indian pattern; pottery with Indian design in under-glaze; dishes for Pilgrim cabin; tea tiles with incised line design, glazed and fired; boxes and envelopes for any need.

## VI. Tools.

Subject matter.

Demonstration of carding, spinning and weaving.

Visit to kiln to study process of firing.

Implements of Indians and Pilgrims.

Projects.

Using potter's wheel; making bow and arrow.

\*Covered in nature-study period.

\*\*\*\*Covered in geography period.



Industrial Arts: Soap Making.

## Grade V.

## I. Records.

Subject matter.

\*\*\*\*Record keeping by the Incas.

\*Copying books by Romans and monks contrasted with duplicating by printing today. Materials used in monasteries,—parchment, ink, paint, quills.

Development of the book, the scroll. Folded pages,—printing and folding by machine.

Evolution of paper industries; paper in the war; materials and substitutes.

Projects.

Blue-printing wild flowers and binding them in a book, with hinge-joint cover, eyelets and Japanese lacing.

Making ink of nut galls, gum arabic and copperas,—paint of soot and glue,—quill pens, and paper of rags.

## II. Shelter.

Subject matter.

\*The feudal castle, monasteries, the manor house.

\*\*\*\*Shelter of South American Indians, Tehuelche, Caribs, and Incas. The dwellings of Chinese and Japanese.

\*\*\*\*Types of boats and vehicles in Egypt, China, Japan and South America.

Projects.

\*\*\*\*Making models of dwellings, boats and vehicles mentioned in subject matter.

## III. Clothing.

Subject matter.

East Indian printed textiles and batiking.

\*Armor of knights, garb of monks.

\*\*\*\*Inca jewelry.

\*\*\*\*Rubber.

Projects.

Making costumes for class plays,—weaving of textile with pattern on four-heddle loom for community problem.

## IV. Food.

Subject matter.

\*\*\*\*Tea, coffee, cocoa.

## V. Utensils.

Subject matter.

Pottery industry of United States,—Indian, Colonial, Dedham, Grueby, Markham, Newcomb, Rookwood, Teco.

Japanese and Chinese pottery.

Projects.

Tiles,—decorated and fired, or cast in cement and colored with cement wash.

Making and decorating a plate to be fired.

Making of two-piece molds for reproducing vase forms; pouring molds; glazing and firing.

Making basket of reed or native rushes.

Envelopes and boxes for any needs.

\*Covered in history period.

\*\*\*\*Covered in geography period.

## VI. Tools.

Subject matter.

Study of Inca implements; Egyptian water wheel.

Four-heddle loom,—new parts and uses.

Projects.

Making bola of Tehuelche Indians.

Experience in stacking kiln.

## Grade VI.

## I. Records.

Subject matter.

Block printing as transition between manuscript and printing.

Invention of movable types. Simple printing press. \*\*\* (Dramatization of "Tust and His Friends"—Browning.)

Lead type, monotype, linotype, electrotype. Book binding, old and modern books.

Projects.

Binding records of class work in sewed sections with buckram and paper covers.

Making of lead type.

Making gift books,—such as address or receipt books.

Publishing of a newspaper, special holiday edition, the grade dividing itself into editorial and managerial groups, the paper printed on the school press.

Making blue-print paper, printing wild flowers and binding into booklet.

Making of a pin-hole camera.

Cutting a wood block for book plate.

## II. Shelter.

Subject matter.

\*\*\*\*Types of homes of European peoples.

Egyptian pyramids and the Sphinx.

Projects.

Making models of types of transportation,—as jaunting car, Irish; droshky, Russian; gondola, Italian; dog wagon, Dutch.

## III. Clothing.

Subject matter.

\*\*\*\*Flax,—from plant to linen.

Silk,—from industrial viewpoint.

Cotton and wool,—from point of view of geography of Europe.

Projects.

Weaving individual bags with pattern on four-heddle loom, or of textile for the school room, of linen or raw silk.

Retting, spinning, weaving of flax.

## IV. Food.

Handled in domestic science class.

\*\*\*\*European foods.

\*\*\*Covered in language period.

\*\*\*\*Covered in geography period.

## V. Utensils.

## Subject matter.

Pottery,—Delft, Dresden, English, Italian and French.

Growth of pottery industry.

Stories of Wedgwood, Pallisy and Enoch Wood.

Paper box and bag industry.

Bohemian glass.

## Projects.

Casting simple box in cement, and coloring.

Tiles,—Dutch design, glazed and fired.

Making vase or bowl with three-piece mold,—decorating and firing.

Covering boxes with cretonne.

Decorated wooden and paper boxes.

Pine-needle baskets.

## VI. Tools.

## Subject matter.

The industrial revolution. The flying shuttle, the spinning jenny, water wheel, power loom, steam engine, printing press; to show change in industrial life due to invention of machinery.

*Bibliography.*

## For General Reading on Industrial Arts.

Dewey, John—Moral Principles in Education. Houghton-Mifflin Co. 35 cents.

Bonser, Frederick—Fundamental Values in Industrial Education.

Russel, James E.—The School and Industrial Life.

Bound in a bulletin called "Industrial Education." Teachers College, Columbia University, N. Y. 50 cents.

Dopp, Katherine—The Place of Industries in Elementary Education. University of Chicago Press. \$1.00.

Kilpatrick—The Project Method. Teachers College Record, Columbia University. September, 1918.

*For Specific Study as Teacher's Aids.*

## RECORDS.

Clodd, Edward—The Story of the Alphabet in The Library of Useful Stories. D. Appleton & Co. 50 cents.

Shaylor, H. W.—Book of Alphabets. Ginn & Co. 10 cents.

Stevens, Thomas W.—Lettering. Prang Company. \$2.00.

Smith, A. M.—Printing and Writing Materials. Miss A. M. Smith, 111 W. Seventy-sixth street, N. Y. \$1.36.

\*John Martin's Book—Magazine. John Martin Co., N. Y.

\*Butler, F. O.—The Story of Paper Making. J. W. Butler Paper Co., Chicago. 75 cents.

Sindall, R. W.—The Manufacture of Paper. D. Van Nostrand Co. \$2.00.

Putnam, Geo. H.—Books and Their Makers of the Middle Ages. Part I. G. P. Putnam Sons. \$2.50.

Davenport, Cyril—The Book, Its History and Development. D. Van Nostrand Co. \$2.00.

\*Stein, Evaleen—Gabriel and the Hour Book. The Page Co. \$1.00.

\*For children's use also.

- Rawlings, Gertrude—The Story of Books in The Library of Useful Stories. D. Appleton & Co. 35 cents.
- \*Forman, S. E.—Stories of Useful Inventions. Century Company. 60 cents.
- Mills, J. C.—Searchlights on Some American Industries (Paper Making). A. C. McClurg & Co. \$1.50.

## SHELTER.

- Herbertson, A. J.—Man and His Work. The Macmillan Co. 60 cents.
- Chamberlain, James F.—How We Are Sheltered. The Macmillan Co. 40 cents.
- \*Forman, S. E.—Stories of Useful Invention (The House, p. 123). Century Company. 60 cents.
- Carpenter, Frank—How the World Is Housed. American Book Co. 60 cents.

## CLOTHING.

- Brooks, E. C.—The Story of Cotton. Rand-McNally & Co. 75 cents.
- Chamberlain, J. F.—How We Are Clothed. The Macmillan Co. 40 cents.
- Corticelli—Silk. The Corticelli Silk Mills, Florence, Mass.
- Earle, Alice Morse—Home Life in Colonial Days. The Macmillan Co. 50 cents.
- \*Forman, S. E.—Stories of Useful Inventions (Sch. Ed.). Chap. IX, The Loom. Century Company. 60 cents.
- Mowry—American Inventions and Inventors (Cotton, Wool, etc.). Silver, Burdett & Co. 60 cents.
- Bassett, Sara Ware—The Story of Silk (Illus.). Penn Pub. Co. 90 cents.
- Kinne and Cooley—Shelter and Clothing. The Macmillan Co. \$1.10.
- Pellew, Charles E.—Dyes and Dyeing. Robt. McBride & Co. \$2.00.

## UTENSILS.

- Binns, C. F.—The Potters Craft. D. Van Nostrand Co. \$2.00.
- Talbot, Mary White—How to Make Pottery; How to Make Baskets; More Baskets and How to Make Them. Doubleday, Page & Co. \$1.00 each.
- Smiles—Josiah Wedgwood. Harper & Bros. \$1.50.
- Ries, Heinrich—Clays, Their Occurrence and Use. Wiley. \$5.00.
- \*Howliston, Mary H.—Cattails Myth of Grandma Kaolin. Flanagan. 40 cents.
- James, George Wharton—Indian Baskets and How to Make Them. \$2.50.
- James, George Wharton—Practical Basket Making. Flanagan.
- Davidson, R. C.—Concrete Pottery and Garden Furniture. Munroe. \$1.50.
- For texts on types of primitive shelter, clothing, tools, utensils, etc., see history and geography bibliographies.

*Equipment and Supplies.*

- Needles, for book binding and basketry, chenille needle, No. 21 or 22. Raffia needle. Milton Bradley Co., San Francisco, Cal.
- Thread, for book binding, Barbour's Machine Thread No. 25 or any heavy linen thread.
- Buckram, for binding books, per yard 18 cents. Norman Hall Co., 545 Mission street, San Francisco, Cal.
- Eyelets, solid head, at any book store, per box 25 cents.
- Solid head punch and eyelet set, at any book store, \$1.50.

\*For children's use, also.

Paste, Spontem.

Carter's.

Flour and water, made with 1 tablespoon of flour to one cup of water and boiled till thick, with  $\frac{1}{2}$  teaspoon of powdered alum to each cup of paste for preservation.

Glue, flexible glue for book binding, at any drug store. Le Page's Glue.

Raffia, natural and colored, by the pound or skein. Send to Milton Bradley Co., San Francisco, for samples and prices.

Rug yarn. Milton Bradley Co.

Looms, for bead loom get Apache looms, 50 cents. American Bead Company, Fifth avenue at Forty-fourth street, New York City, N. Y.

Table or bedside looms, 4 harness type, No. 660—4 weaving 22 inches (reed 15d). School Loom Company, 1009 Lincoln Highway West, Mishawaka, Indiana.

Foot treadle loom, 4 harness type, weaving 24 inches, \$31.00. Dr. Herbert Hall, Devereaux Mansion, Marblehead, Mass.

Reeds, 23 to inch, \$1.20.

Reeds, 18 to inch, \$1.20.

Reeds, 12 to inch, \$1.20.

Warps, 304 threads, 15 yards.

Warps, 144 threads, 10 yards.

Apron for loom, from Dr. Herbert Hall.

Shuttles, 30 cents.

Drawing-in hooks, 15 to 20 cents, from Miss Elna De Neegaard, 96 Fifth avenue, New York City, New York.

Mercerized cotton by pound (send for color samples), from Mrs. Anna P. Goodchild, Herter Looms, 841 Madison avenue, New York City, N. Y.

Clay, in flour form, from any builders supply company, or Milton Bradley Co.

Cement, white and gray, from builders supply company; plaster of paris, from any paint store.

Cement colors, from Pedro J. Lemos, Director of the Museum, Stanford University, Palo Alto, California.

#### LOCAL MATERIALS AVAILABLE IN CALIFORNIA.

Eucalyptus bark for primitive records.

Palms—

(a) Leaves, split into strips for baskets.

(b) Fibers, twisted for cords, thongs, etc., for primitive records or weapons.

(c) The bark or sheath, for primitive records.

Oak Galls, for ink,—mix with copperas and gum arabic.

Papyrus, rags and wood shavings or sawdust, for paper making.

Pine needles, wire vine, papyrus heads, willows, bulrushes and grasses for baskets.

Clay, reduced to a thin liquid or slip, strained through sieve, settled and partly dried, for pottery and modeling.

Adobe, wet and mixed with tules, for bricks.

Twigs, tied together and dressed in skins or grasses, for primitive dolls.

Stone, sticks and bits of leather, for weapons.

See also Fine Arts supplies.

**MANUAL ARTS COURSE.**

C. R. SCUDDER, Director of Industrial Arts.

**For Grades 5, 6, 7 and 8.**

The several purposes or objectives of instruction in the industrial arts are stated below, as drawn up by a committee of educators during the past year (1918). The order in which they stand has no reference whatever to their relative importance. A given purpose may be of prime importance in one grade and of comparatively minor importance in another.

Purposes in industrial arts.

1. To develop handiness.
2. To promote the immediate carrying over of ideas into action.
3. To help discover special interests and aptitudes important for vocational guidance.
4. To provide a means for developing technical skill.
5. To provide a means for imparting technical knowledge.
6. To enable the pupil to apply the test of practice to some of his thinking.
7. To develop the mind by providing constructive problems in materials which demand a vigorous mental reaction.
8. To interest in school work those pupils to whom the traditional studies do not appeal.
9. To create interest in the arts and industries without any reference to their vocational significance.

**Grade Five.**

Purposes 7, 6, 2, 1 and 8.

Main objectives: (Purpose 7) "To develop the mind by providing constructive problems in materials which demand a vigorous mental reaction."

(Purpose 6) "To enable the pupil to apply the test of practice to some of his thinking."

A secondary consideration: (Purpose 2) "To promote the immediate carrying over of ideas into action."

Minor considerations: (Purposes 1 and 8) "To develop handiness." "To interest in school work those pupils to whom the traditional studies do not appeal."

Practical characteristics of projects.

1. Processes must be varied.
2. They must be simple and therefore easily comprehended, and such as may be applied by the pupils themselves without too much dictation and oversight by the teacher.
3. The projects must be of such a nature that the pupils can judge readily as to the degree of excellence of the results attained.
4. The projects must be such that they can be completed in a reasonably short time.
5. They must be such as can be designed or modified easily by the children themselves, so that each pupil may have what amounts to an individual problem.

Practically all of the work done by the children up to the time they pass into the fifth grade is illustrative of their academic subjects, or is what we call project work. (Illustration—The making in shop or classroom in paper, cardboard and wood, of the cart, prairie schooner, boats, train, auto truck, aeroplane, etc., showing the development of mechanical means of transportation.)

When the boys pass into the fifth grade, while the project work is by no means abandoned, yet it is only a portion of the work, as they have arrived at an age where the desire is to create something which is not merely illustrative, but which they or someone else may use after it is made. They have also more or less dimly come to a realization of the fact that they must know something about how to handle tools correctly and to put things together in the right way, if the product is to be strong enough for practical use. Besides the joy that the child of this grade finds in creating an article for use, there is the pleasure and development he finds in the proper control and co-ordination of muscles and mind in working for fairly exact results in a somewhat difficult medium.

About a third of the time this year may profitably be given to project work, in conjunction with other school activities. This type of work is scattered through the school year, as occasion and need for it arise. Another third of the time is devoted to the making of toys and small projects for the pupil's own use. The rest of the time is devoted to making toys and small articles for the Children's Home, or articles to be used in the school or home.

Because of the child's limitations in the matter of strength and control, the tools are limited to the cope saw, file, auger bit and brace, bradawl, hand saw, hammer and nails. Materials are limited to  $\frac{1}{4}$ ",  $\frac{1}{2}$ " and  $\frac{3}{4}$ " soft wood, oil paints, and shellac varnish.

Toys consist of two-piece animal silhouettes, animals mounted on wheels, jointed men and animals, action toys, like the pecking chicken, wood choppers, tops, gliders, etc., all painted in representative or contrasting colors. Useful articles consist of spool holders, child's wheelbarrow, cart, child's chair, key racks, etc., etc. Two periods per week.

### Grade Six.

Purposes 4, 9, 1 and 6, 8.

Main objectives: (Purpose 4) "To provide a means for developing technical skill." It is obviously impossible to develop the techniques of several trades, but it is possible to select one trade or industry and to treat it as illustrative of trade technique in general. Even though the vocational significance of the work may not be important for the boys, it is highly important to emphasize this question of trade technique for social and educational reasons.

(Purpose 9) "To create interest in the arts and industries without any reference to their vocational significance." While only woodwork is given in this grade, it is made partially to fulfill the above purpose by class discussions of the various trades and industries in which wood is used, as well as of the logging and milling operations involved.

Secondary purpose: (Purposes 1 and 6) "To develop handiness." "To enable the pupil to apply the test of practice to some of his thinking." These purposes will be inherent in any work that is carried out in strict accordance with the above-stated principles.

Minor considerations: (Purpose 8) "To interest in school work those pupils to whom the traditional studies do not appeal."

#### *Practical characteristics of projects.*

Projects should be such as to demand the use of the truly typical woodworking tools, and the methods employed should be such as to show step by step the correct use of these tools in the fundamental operations.

The child of this age has gained considerable control of his muscles, and there are many things that he is interested in making because of his increased responsibilities at home and because of his more sustained interest in different types of

play or work. For these reasons we are able to introduce work of a more technical nature, involving most of the carpenter's hand tools and the simple principles of construction. The pupil works directly from working drawings or blue prints. The course is arranged to give him as much training as possible in the fundamental tool operations and principles of construction, so that he has some idea of how to do the many jobs of a useful nature that a boy or man has to do about home all through life. Projects are so classified that the tool operations and constructional principles necessary are covered and yet the interest of the boy is held; and a reasonable freedom of selection within the individual's capacity is allowed. Emphasis is placed upon the necessity for accuracy. Few toys are made in this grade, most of the projects being for practical use.

Pupils are required to make out a stock bill, figure waste, spoilage, cost of accessories, etc. As opportunity offers, the class works some general school or class project, which involves direct correlation with the other subjects in the grade.

Projects are classified and offered in groups, and the class may select from the group. After the selected project is completed, the individual who finishes ahead of the class may select another from the same group. Work on each project is divided into five steps.

1. Material,—selection, cost, etc.

During the year, at least five different woods of those most common in commercial use must be used by each pupil.

2. Layout.

This, during the year, is to include frequent use of the rule, try square, framing square, bevel T, protractor, compass (as well as free-hand curves), gauge (both with tool and with pencil and finger), etc.

3. Execution.

Squaring up with plane should be done on almost every project. Smoothing with plane, cabinet scraper and sandpaper. Sawing to line with both cross-cut and rip saw. Use of chisel and spoke shave on curved surfaces, etc. Accuracy, and proper handling and sharpening of tools are emphasized.

4. Assembling. (Showing the necessity for accuracy in execution.)

Use of common and finish nails, flat head and round head screws, and glue, both hot and cold.

5. Finish.

Use of oil paint, stain, shellac varnish, and furniture wax. When an occasional project calls for it, silax filler is used.

Emphasis all the way through the work of this grade is placed on the right method of doing things, and when poor results are obtained the class is urged to discuss the matter and determine the cause.

### Grade Seven.

Purposes 9, 1, 2 and 6, 3, 8.

Main objectives: (Purpose 9) "To create interest in the arts and industries without any reference to their vocational significance." At this point it is our purpose to introduce the pupil to a variety of materials, and incidentally to a variety of processes fundamental to the different arts and industries. Work of this nature should widen the social horizon of the pupils by giving them glimpses of a number of occupations.

(Purpose 1) "To develop handiness." Considered in its relation to Purpose 9, this would mean that the pupil's manipulative ability should be developed considerably by his contact with a variety of materials and processes.

Secondary purposes: (Purposes 2 and 6) "To promote the immediate carrying over of an idea into action." "To enable the pupil to apply the test of practice to some of his thinking." These two purposes will be continued as objectives, but will be decidedly subordinate to purposes 9 and 1, because of the fact that the pupil will be called upon to make the acquaintance of materials and processes rather than to apply himself to constructive problems involving these materials. The processes in each case must be elementary because of the limited time. The pupil, in the course of his fifth and sixth grade work, has developed the desire and ability to attack simple problems in construction. The work of the seventh grade attempts to build upon this problem-solving ability, rather than to make any special effort to develop it.

Minor considerations: (Purpose 3) "To help discover special interests and aptitudes important for vocational guidance." This purpose is of some importance as it helps the pupil to select his high school course with greater intelligence; or, if he leaves school after graduating from the eighth grade, enables him to select a job for which he is better adapted.

(Purpose 8) "To interest in school work those pupils to whom traditional studies do not appeal." This purpose is particularly pertinent here, because the boy has reached the age when he is restless and inclined to scoff somewhat at the value of the subjects which do not hold his interest.

#### *Practical characteristics of course.*

Of the eight basic arts (graphic, woodworking, plastic, metal-working, textile, printing, agricultural and commercial) we have selected work in four.

Mechanical drawing: Two and three-view drawings to scale, isometric projection, pencil tracing, blue-printing.

Cement work: Making of simple moulds with clay, plaster and wood. Casting in them. Casting of small beams of different mixtures and reinforcements, and testing their strength on a home-made testing machine.

Art metal: Etching, saw-pierced work, and soft soldering with iron and torch. Later we expect to do some tinsmithing in connection with this work.

Printing: Six periods per week, last half of year. This course is outlined to follow the logical order of processes,—lay of cases, use of printers' stick, type setting, justification of lines, imposition, lockup, press work, etc.; also the different sizes and styles of type, and their artistic and practical arrangement in setting up various jobs. This knowledge is applied in conjunction with the pupil's academic subjects in the issuing at least twice a year of a training school newspaper, as well as various other projects. During the past year the class has put out a thirty-page Roosevelt memorial pamphlet; a book on California missions, the binding and decoration of which were done under the supervision of the art department; a reading book of twenty pages, compiled by the third grade pupils for use of the first grade pupils; a number of different record cards for the different departments of the school; tickets, etc., etc. Our printing work has had a very vital place in the school life of the children.

In addition to the training in the various materials, tools and processes, a number of industrial excursions are made to the local industries that are representative, and to other industries by stereopticon or moving pictures. Not a great deal of this excursion work can be done, because it takes too much time from the regular school work.

### Grade Eight.

Purposes 5, 4, 8 and 3, 6 and 7.

Main objectives: (Purpose 5) "To provide a means for imparting technical knowledge." By "technical knowledge" is meant an understanding of those mechanical, mathematical and scientific principles which are intimately involved in practical construction in wood. In other words, the pupil learns the why of every thing he does. He learns the composition and methods of manufacture of the various finishes, materials and tools he uses, the principles upon which his tools are constructed and upon which they work. And this is all very naturally reflected in the better use of these tools and materials.

(Purpose 4) "To provide a means for developing technical skill." With the fulfillment of purpose 5, and with emphasis placed on high ideals of workmanship, the pupil can not help but gain very materially in the development of "technical skill."

Secondary purpose: (Purposes 8 and 3) "To interest in school work those pupils to whom the traditional studies do not appeal." "To help discover special interests and aptitudes important for vocational guidance." These purposes are of almost equal importance in the work of this grade, because at this time the boys need vocational guidance and particularly that kind of guidance that will lead them to enter high school, and to select wisely from the vocational courses there offered.

Minor considerations: (Purposes 6 and 7) "To enable the pupil to apply the test of practice to some of his thinking." "To develop the mind by providing constructive problems in materials which demand a vigorous mental reaction."

#### *Practical characteristics of projects.*

To reach the above-named objectives, the work of this grade should be carried on in such a way as to reduce class instruction to a minimum, and consequently to afford considerable latitude to individual pupils in the choice of projects. These projects may, and should in many cases, combine two or more of the handicrafts that the pupils have worked in during the past year. In most instances, projects in this grade should be selected from an approved list, the instructor being careful, of course, to see that the project in each instance is well adapted to the ability and the requirements of the individual pupil in question. Community and group work are encouraged, and a few visits to industrial plants are made every year.

## PROBLEMS AND PROJECTS.

MARY BENTON, Supervisor, Department of Fine Arts.

The terms problem and project as applied to method in teaching are rapidly acquiring a limited and technical significance.

Both problems and projects are activities in which the accomplishment of an end chosen by the children because of their own interests and needs necessitates the acquisition of certain facts and skills heretofore taught formally as a preparation for a *future* need. Essential elements of each are sincere motivation based upon the child's present needs, and the skillful direction by the teacher of the child's activities in accomplishing his purpose so that knowledge and skill of permanent value result.

With these points of similarity in mind the differences are the more obvious. A problem is relatively simple, motivates work in one or very few subjects, and the resulting knowledge or skill is limited and specific and a short time is required for its completion. The project, on the other hand, is more complex, motivates and correlates work in practically all the school subjects, yields a great variety of knowledge and skill, and requires an extended period of time for its completion.

In both methods the adult logic of subject matter imposed upon the child gives place to the child's logic of need growing out of his life. The child's interest is centered upon the end to be accomplished, and this is vital enough to lead him to master all sorts of difficulties. The teacher's interest is focused upon making the activities yield the greatest possible educational returns.

The following detailed account of a few typical problems and projects actually worked out in the training school will suffice as illustrations.

### Third Grade History Project.

This project was an outgrowth of a desire on the part of the third grade children to imitate the old Greeks. They had been studying Greek stories and wished to hold an "Olympic Meet" similar to those of the old Greeks. The "3B's" called themselves Spartans and the "3A's," Athenians. The Athenians sent a written challenge to the Spartans to meet them on the Olympic field. Planning and preparing for the "Meet" furnished the basis for a great portion of the work in history for twelve weeks.

Other subjects motivated were the following:

#### 1. *Games and Music.*

The games and tests of strength and skill chosen by the children were races,—simple, relay, torch, armor and chariot; wrestling matches; disk throwing, and jumping. Boys were chosen to take part in these. After much practice "try outs" were held, and the most promising contestants for each event were voted upon by the group.

The girls decided to be "altar maidens." One procession was planned to escort the players to the field, during which the altar maidens sang and danced. A second procession was to sing and strew flowers in the path of the victors on their way to the temple after they were crowned.

### 2. *Art and Handwork.*

Each boy designed and made his own armor, costume, standard, weapon, or anything used in his event. Each girl designed and made her own costume, wreath and lyre.

Greek pottery was made to hold the flowers used in the procession. This became a group problem involving design, color and proportion.

### 3. *Reading and Language.*

The children discovered the need for reading in order to get appropriate ideas of costume and design.

Composite records of the work done were put into book form to be presented to the incoming third grade.

Invitations to the "Meet" were written to parents and friends, and an oral announcement was made to the entire school by a "Greek runner," chosen by the group. Another child, chosen in the same way, "called" the various events and proclaimed the victors to the audience. All activities involved in the "Meet" carried over into the children's free play period, so anxious was each child to win for his side in the final event.

### A Fourth Grade Project.

A trip to Old Town, California's real beginning, was planned, which proved to be the basis of a term's work in history, geography and nature study, and in part of practically all of the other subjects.



4B Boys Building Model of Mission and Making Adobe Bricks.

The children decided that the best way to give to others an understanding and appreciation of their excursion would be to make a book including many of their experiences. There was much class discussion about the subject matter to be used, and the phrasing of each chapter was carefully developed through these discussions. While the work was directed by the teacher, the contributions to the book were entirely the composite work of the group. The "story" of their trip to the olive

factory in Old Town included the following points: The raising of olives, the curing and canning of olives and the making of olive oil. Examples of other "chapters" in the book were, "What We Saw on the Way," "What We Saw from the Hill," and "The First Mission."

The following outline indicates how the project motivated other subjects:

A. Geography:

- Physiography of the site of San Diego.
- Olive industry.

B. History:

- Early explorers; discovery of San Diego Bay; founding of the Mission; founding of San Diego.

C. Arithmetic:

- Weight of rollers used in crushing fruit for olive oil.
- Number of bottles filled per minute.
- Liquid measure.

D. Nature Study:

- Study of wild flowers found on trip.
- Oak galls gathered, studied and used for ink.
- Acacia trees studied because of gum arabic used in making ink.

E. Manual Arts:

- Measurements for size of book.
- Making of paper for title page.
- Making ink for class names for book.
- Quill pens made for writing.
- Blue prints made from films taken on trip.

F. Language group:

- Oral and written composition.
- Spelling.
- Reading in the library for further information upon many of the topics listed above.

Another year, as a result of such an excursion, a model mission was built. The children discovered adobe suitable for bricks, near the Normal School; tules were shredded and used with the adobe; molds for bricks were made in the manual arts period; a floor plan was drawn to a scale; four elevations of the Mission were drawn; tiles for the roof were molded and painted.

### Illustrations of Some Fourth Grade Problems.

1. Making a sand table model of an Aztec garden, resulting from a study of American Indians.
2. Making and designing Indian food bowls and water jars following "history" excursion to the Exposition.



4B—Indian Pottery.

Designed from Memory, After a Visit to the Indian Village at the Exposition.

3. Making and presenting a puppet show based upon the Story of Pinocchio.
4. Making Christmas toys and quilts for the Children's Aid Home. This problem became a project.
5. Butter and cheese making.
6. Chicken raising.
7. Making of money and money boxes for the model store.

### A Fifth Grade Project.

As a part of their geography work last spring, the children of the fifth grade classes went on an excursion around San Diego Bay and to the fisheries. The trip proved to be delightfully interesting, and on their return they discussed the best method of telling other children in the school about it.

It was suggested that it would be much easier to show what they had seen if they had pictures; and as they had none large enough they agreed that they would make lantern slides, which could be thrown upon the screen in the assembly room. Each child, then, chose some feature of the trip in which he was most interested, selecting such subjects for pictures as the following: the patrol boat, the fishing boats, the kelp dredge, the lighthouses, the seagulls and pelicans, the map of the bay, the hydroplanes, the Battleship Oregon, etc. The pupil then looked up material of which he was uncertain, as, for example, the habits of the pelicans, presented this orally to the class for criticism, wrote a composition embodying what

seemed to be most interesting, and then learned this as his part. Slides were made from free-hand drawings or copied from books or magazines by the children. After the drawing was approved by the class and the teacher, the child placed it under a cover glass and traced his picture very carefully with lantern-slide ink upon the glass. A framing mat was then placed upon the glass, another cover glass placed on top of this first one, and both bound together with passe partout paper. The slides were then numbered in accordance with the order of descriptions chosen by the class. The "class lecture," illustrated with these slides, was delivered before the other children of the Training School.

The work of this project was grouped under the following subjects:

- A. Geography (local).
  1. Map of the bay (outline).
  2. Location of points of interest.
    - a. The fisheries.
    - b. The kelp-drying plant.
    - c. Rockwell Aviation Field, etc.
  3. Marine life.
- B. English.
  1. Oral discussion and criticism.
  2. Written description.
  3. Spelling.
  4. Silent reading (investigation).
  5. Oral reading of composition.
  6. Memorizing for delivery.
- C. Drawing and handwork.
  1. Freehand, with pencil.
  2. Copying or tracing with ink.
  3. Practice in judging proportion.
  4. Making of lantern-slide mats.
  5. The passe partout process with glass.
- D. Penmanship. (Careful writing of composition.)

#### Other Projects Carried on in the Fifth Grade.

##### *War Work.*

1. Food Conservation. This project created interest in the class work of geography (transportation facilities), language (the material was orally discussed, then put into written form), penmanship, drawing and handwork (books were made) and domestic science (recipes).
2. Red Cross. This project motivated work in domestic science and shop work, chiefly. The girls made infant layettes, sewed rags for carpets and did considerable knitting of afghans, sweaters, etc. The boys made book-ends and sold them. All work was recorded in the language and writing periods.
3. Flags of the allied nations. A drawing project, into which much arithmetic entered, as the flags were made to scale from large prints.

*Medieval Castle.* A history project which required much careful estimating in arithmetic, much reading and oral discussion.

*A Japanese Corner.* A geography project, the work being carried on in the periods devoted to geography, handwork, art, spelling, composition, reading and writing.

## Playhouse Project.

5-B Grade.

The playhouse project grew out of the desire of a 5-B class to build a "playhouse, big enough to get into." The idea was not to have a house built scientifically, either from the standpoint of architectural construction or of finish, but to have one which should be an expression of children's activities, within the sphere of their experiences and on the level of their abilities.

The class first decided upon the size and proportions of the house, and the number and placing of windows and doors. This involved the problems of proportion and correct spacing. Then they figured to a scale and made their individual tag-board models. Meantime a committee of boys, chosen by the class, visited wrecking companies and secured bids on the required amount of second-



5B Boys' Playhouse.

Correlating Arithmetic, Language and Drawing.

hand lumber which the class had estimated as necessary. After submitting the bids to the class, they attended to the purchase and delivery. The boys did the actual construction, the teacher working out each problem with them and with the class as a whole. The girls made the wall paper from original designs, the best being chosen by the class, stenciled curtains and wove one jute rug and one rag one. They dyed their own rags for the rag rug and made their designs, while the boys built the frame for weaving. The girls also made a bedspread, bed linen, bureau scarf, table runner, candlesticks, pottery, etc.

Each problem and step was discussed and solved by the class when it arose, and each was written up as a chapter in the playhouse record book. Even such incidents as the placing of a placard asking other children of the school to refrain from playing on the premises during the course of construction, small mishaps and amusing incidents relating to the work, were elected by the children to be

included in their compositions, which, on the completion of the work, were bound into loose-leaf books.

The main class activities for the entire year centered about the project. They might be grouped as follows:

1. Arithmetic.
  - (a) Practical application of fractions.
  - (b) Elementary surface measure.
  - (c) Elementary linear measure.
  - (d) United States money.
  - (e) Fundamental operations.
2. Oral and written composition and record keeping.
3. Spelling.
4. Study of housing conditions of other nations.
5. Manual Arts.
  - (a) Figuring to a scale.
  - (b) Applied design.
  - (c) Weaving.
  - (d) Sewing.
  - (e) Clay work.
  - (f) Basket work.
  - (g) Wood work and construction.
  - (h) Dyeing and tinting.

6. Agriculture.

The following composition from one of the loose-leaf record books will illustrate the nature of the work:

"The 5-B grade decided to make a playhouse, big enough for us all to get into. It will be six feet high. It will be eight feet wide and ten feet long. The roof will have a pitch of two and one-half feet. We figured in arithmetic that it would take two hundred and sixteen feet of lumber one foot wide for the sides of our house. It will take seventy-two feet of two by fours for the case and the top. It will take twenty-four feet of two by fours for supports. It will take twelve feet of two by fours for the ridgepole. It will take five feet of two by fours to support the ridgepole. So we will need one hundred and thirteen feet of two by fours.

Joseph Elmer and Thomas Hawley were chosen as representatives of the Fifth Grade to see about buying lumber for our playhouse. Miss Harper took Joseph and Thomas into the Exposition through the North Gate. They went first to the Sinking of the Titanic. The amount of lumber which we needed would cost \$8.32 there. Next the boys went to the Race Through the Clouds. The lumber at the Race Through the Clouds cost twice as much as it did at the Sinking of the Titanic. The lumber was delivered on January 31, 1917. The cost of delivery was \$1.25. The complete cost of the lumber was \$9.57."

### Proposed Project—Seventh or Eighth Grade Boys.

#### *Shipping and Shipbuilding.*

#### English.

1. Record of time, materials used, difficulties and ways of overcoming them.
2. Letters.
3. Oral reports.

## Literature.

1. "Captains Courageous"—Kipling.
2. "Two Years Before the Mast"—Dana.
3. "Twenty Thousand Leagues Under the Sea"—Jules Verne.
4. Poems of sea life.

## Geography.

1. Locations of United States Shipyards.
  - (a) Climatic conditions.
  - (b) Transportation and sources of supplies.
  - (c) Leading steamship lines of the world.
    - (1) The kinds of cargoes carried.

## Arithmetic.

1. Costs of various kinds of ships.
2. Taxes.
3. Insurance.
4. Tonnage.
5. Statistics.

## Science.

1. Plates for use in the lantern.
2. Chemistry of materials used.
3. Applied electricity.

## Physical Education.

1. Games used by sailors.

## Art.

1. Conventionalized ships for designs for tiles or other decoration.
2. Camouflage.

## THE ASSEMBLY PROGRAMS.

GERTRUDE LAWS, Principal of Training School.

The assembly motivates much of the work done in the training school. No attempt is made at entertainment, but opportunity is offered for each group of children to put on an interesting program for the other groups of the school. Lack of self-consciousness, the natural childish way of doing things, and sympathetic appreciation of one another's work are always conspicuous in these exercises. The almost parental pride of the older children when the little first and second grade people have charge of the period is very gratifying. There is no clapping of hands in applause of the good work done. The eager attention to all that goes on is strong evidence of the thing clapping of hands is supposed to express, but too often does not.

Once a week, Friday morning at 9 o'clock, all the children of the training school go to the assembly room when there is always the chant of the Lord's Prayer, the singing of America, and the flag salute by the entire assembly. Some group then gives a phase of its regular work for ten or fifteen minutes. The kinds of things done are: reading, arithmetic, games, music, original poems and riddles (which are guessed by the auditors), acting Mother Goose rhymes (which are also guessed by the other children), rhythmic work, gymnastic drills, reports of excursions (with lantern slides, made by the children themselves, illustrating their trips), elementary science experiments, exhibitions of industrial arts problems, with reports of the development of each, dramatization of history and literature. Special attention is given to such dates as Admission Day, Labor Day, Saint Valentine's Day, Thanksgiving Day, Christmas Day, Washington's Birthday, etc.

Besides the general assemblies, we have a seventh and eighth grade assembly once a week, when more advanced work is done, as reports from the language classes on such subjects as Americanization, shipbuilding, "Great Gifts and Givers," the Missions of California. Debates, discussion of various phases of the life of the school, discussion of vocations open to boys and girls add to the value of these assemblies. Considerable attention is given to parliamentary practice at these meetings. Twice a year officers are nominated and elected by ballot, and the children gain considerable practice in handling elections and in study of common occurrences at municipal and state elections.

A children's orchestra was organized the first of this year and it has added greatly to the interest of the assemblies.

The assembly, regarded as a social project, is one of the most important of the activities of the school.

## FINE ARTS.

MARY BENTON, Supervisor, Department of Fine Arts.

The purpose of art study and experience in the grades is not to make artists of the children, neither is it the finished product in itself; it is rather to develop the power to see and that sense of good taste which functions in all walks of life in the better production and choice of those things with which man surrounds himself. A certain degree of skill in expression and execution, as well as a growth in culture, will follow from association with the world's most beautiful examples of space art.

This course of study is based on the stages of growth and development of the child outlined in the introductory chapter of this bulletin. In the first three years the work is largely guided expression of the child's activities and interests through art mediums. The fourth, fifth and sixth years show the growing consciousness of the need of more adequate means of expression, and the interest in the result increases. The desire for the approval of others spurs the child to increase his skill in the use of the art elements and principles. In early adolescence the interest becomes more individualized, and the art problems grow out of personal rather than group needs.

The fine and industrial art courses are so closely associated that one should not be read without the other. Both motivate and illuminate much of the content of the other school subjects.

### Grade I.

#### I. Design.

1. Line: Repetition of lines for good spacing in borders, rug designs and panelling for rooms in a doll's house; repetition with rhythm worked out with chalk on the blackboard, or with charcoal on large paper, in original expression of different bars of music with varying rhythmic movements.
2. Dark and light: Two values studied from the child's own work in cut paper in relation to good massing and placing.
3. Color: Names of hues are learned and the first steps in harmony are studied through combining colored papers and choosing the color schemes for the rooms in the doll's house. The making of flat washes for the wall paper is the first step in water-color work.
4. The elements (line, dark and light and color) and good spacing are studied through making surface patterns and borders by means of stick printing, or simple motifs worked out from seeds, leaves, etc., for wall paper, curtains, dishes, rugs, etc., for the house; in making furniture and laying out the grounds about the house; in cover designs for booklets, holiday cards and boxes, and in landscape studies of spring and autumn.

II. Representation: Paper cutting, mass painting and modeling of toys, animals, birds, fruit, flowers, etc., for study of form.

III. Illustration: Using the same mediums as in representation, also crayola, the children tell in pictures the story of vacation, home and school experiences, games, industries, and stories from history, literature, etc., for free expression of thought.

## IV. Art study: Emphasis on story element.

Reynolds—Age of Innocence.

Raphael—Madonna of the Chair.

Millet—Feeding Her Birds.

Millet—First Steps.

Van Dyck—Baby Stuart.

Correggio—Holy Night.

Illustrations by—

Jessie Wilcox Smith.

Elizabeth Shippen Green.

Rose Cecil O'Neill.

### Grade II.

#### I. Design.

1. Line: Character of line. The children try to express an animal, fruit, vegetable or flower form by one expressive line with the brush, in this way observing the characteristic differences in objects. They also work on problems of line in repetition, rhythm and space division.
2. Dark and light: Two values are studied in cut paper or free-brush painting.
3. Color: Hue, value and harmony are studied through combining pieces of colored paper or fabrics.
4. The simple steps in these three elements and in the principle of proportion or good spacing are learned through making and applying surface patterns, borders and units to booklets, scrapbooks, holiday cards, boxes and baskets, rugs and furnishing for the first grade doll's house. Objects used by primitive man, such as pottery, weapons, clothing, etc., are studied with stress on symbolism, and are made by children. Group posters and landscape settings for scenes from Hiawatha and other stories furnish good problems.

II. Representation: Animal form is studied through cut paper and free painting or is incised in clay in correlation with the history of the cave man. Fruit, vegetable and bird forms are studied through paper cutting or wash painting, to develop ability to see and express form.

III. Illustration: Picture writing is done on rabbit skins prepared by the children, and on bark, with burnt sticks, colored earth, etc. Home and school experiences, vacation sports, etc., are told by free painting or crayola, to encourage freedom in expression.

#### IV. Art study.

In connection with the study of primitive man, use the "Dawn of Art" number of "Art and Archæology," August, 1916; also "Bird" number, December, 1916.

For character of line, use Japanese brush paintings of animals, children and flowers.

For study of Indian design the children are taken to the San Diego Museum of Indian Arts.

For the story element and simple elements and principles of art:

Millet—Feeding the Hens.

Millet—Digging Potatoes.

Landseer—My Dog.

Raphael—Madonna of the Chair.

- Mauve—Sheep, Autumn.  
 Rembrandt—Lion and Elephant.  
 Dürer—Rabbit.  
 Breton—Song of the Lark.  
 Illustrations by—  
 Jessie Wilcox Smith.  
 Elizabeth Shippen Green.  
 Arthur Rackham.  
 Edmund Dulac.  
 William Nicholson.

### Grade III.

#### I. Design.

1. Line: Rhythm, proportion and form are studied in Greek, Roman and Mexican pottery, and appreciation is gained through designing, building and decorating pottery.
2. Dark and light: Three values are analyzed and applied.
3. Color: Hues, values, intensities are studied through describing colors of papers, textiles, etc., and are applied to original designs in crayola, water color and tempera.
4. All three elements, with pattern and composition, are taught through designing Dutch, Japanese, Greek and Roman costumes by means of paper dolls, and in making costumes to be worn in Greek and Roman games, in making costumes for paper dolls, of plain, plaid or striped and figured fabrics in good combination, in correlation with making a budget of child's clothing in the arithmetic class, in lettering posters, in designing and weaving a Roman striped textile on the two-heddle loom as a group problem, in designing portfolios, book covers and holiday novelties.

II. Representation: Brush drawing in mass, or in few action lines, of children, animals, birds and flowers, is followed by memory sketches to develop sight and memory by eliminating all unnecessary details.

III. Illustration: Largely expressed through constructive problems in correlation with history, geography and literature, such as a stage setting for a Japanese story, with the dolls in costume, through cut paper scenes for study of child life in foreign lands, bound into booklets; and also through illustrations in water color, crayola or cut paper of original rhymes for a book.

#### IV. Art study.

Greek and Roman architecture, sculpture and pottery.

Mexican pottery at the San Diego Museum.

For line, Japanese prints and brush paintings.

For action, color and drawing, illustrations by—

Boutet de Monvel. (Drawings of children.)

Arthur Rackham.

Edmund Dulac.

Jessie Wilcox Smith.

Chas. L. Bull's animal drawings.

For interest in the painter as well as for art qualities, the Dutch masters, Rembrandt and Pieter de Hooch.

**Grade IV.****I. Design.**

1. **Line:** Characteristic action lines are studied in figure drawing. Outline is used for study of form in Indian basket and pottery forms.
2. **Dark and light:** Three and more values are analyzed and applied. (See 4.)
3. **Color:** Through inability to describe accurately the color of textiles, papers, etc., the need is felt of specific terms. Value and intensity of color are then studied.
4. The applications of 1, 2 and 3 are made in such problems as a frieze for the schoolroom showing the coming to California of the Mission Fathers, the discovery of America by Columbus, the landing of the Pilgrims, etc.—problems giving good opportunity for composition and study of color harmony and subordination, or the emphasis of a dominating figure or mass by means of color; also through dyeing of rags or wool and designing and weaving rugs or textiles, weaving of pattern in Indian baskets, decorating tiles and pottery in underglaze colors, in making and decorating books, boxes and all holiday novelties including carts and toys; and lettering for signs and posters cut from paper, painted with flat bristle brush or printed with spoonbill pens.

**II. Representation:** Sketches from figure poses for action and proportion, in cut paper, wash painting and charcoal. Memory work as in Grade III. When animal, bird or flower forms are drawn or painted, it is done in preparation for adaptation to design or to the arrangement of forms in a space, as in posters, patterns, etc.

**III. Illustration:** Of original rhymes and stories, as in Grade III.

**IV. Art study.**

Indian art at the San Diego Museum is studied, and drawings are made by children.

Japanese brush paintings are studied.

For composition, see William Nicholson's "Square Book of Animals."

Study of pictures showing Puritan furniture and pewter.

Picture for subject as well as art quality—

Boughton—Pilgrims.

Rembrandt—Windmill.

Ruysdael—Dutch Landscape.

de Hooch—Dutch Interiors.

Murillo—Beggars Boys.

Lives of the painters are studied, and an art notebook is commenced.

**Grade V.****I. Design.**

1. **Line:** Japanese and Chinese forms of writing and their effect on brush painting are studied, and the Japanese brush is used in problems which develop control and quality of line. The relation of lines and spaces is emphasized.
2. **Dark and light and color:** Value, intensity and harmony are more carefully analyzed and applied.
3. The elements and also the principles of spacing, composition and subordination are applied in making tile or plate designs, with Feudal Castle, Chinese or Japanese motifs, carried out in incised line, fired, then glazed by the children, or cast in cement and colored with cement

wash, in lettering and arranging group panels, posters, etc., in making surface patterns for textiles, carried out in batik or block printing; designs for book covers or end pages, costumes for class plays, pottery and holiday novelties. Lettering is also studied in connection with monastic printing and illuminating, and is done with quill pens and ink, made by the children, or with spoonbill pens, Japanese and flat bristle brushes.

- II. Representation: Pose drawing of figure, developed in flat areas of color with no features or detail. In drawing or painting animals, flowers, etc., composition, or the pattern quality, is stressed.
- III. Illustration has been largely absorbed in design, as all problems which in reality are illustrative are handled from the standpoint of conveying the story through careful use of elements and principles. Cartoons are made for lantern slides or the school paper.
- IV. Art study.

Early manuscripts, showing monastic lettering and illuminating.  
 Japanese and Chinese writing, brush paintings, prints and designs.  
 Japanese, Chinese, Indian and modern American pottery.  
 Old textiles, especially East Indian, for color and pattern.

For color—

Jules Guerin's and Maxfield Parrish's illustrations.

For color, figure drawing and composition—

Boutet de Monvel—Illustrations of Joan of Arc.

For line and spacing—

Sargent—Frieze of the Prophets.

Millet—The Gleaners.

Chapu—Figure of Joan of Arc.

For dark and light pattern—

Corot—Landscapes.

For correlation with history—

The Monk Masters—

Fra Angelico.

Filippo Lippi.

Bartolommeo.

The English artists—

Burne Jones—The Golden Stairs.

Gainsborough—The Blue Boy.

J. M. W. Turner—Rain, Steam and Speed.

Watts—Sir Galahad.

Abbey—Quest of the Holy Grail. (For subject.)

## Grade VI.

### I. Design.

- Line: Significant line in figure, and grace and rhythm of line, studied in Japanese figure drawings, in statuary and pictures. The children interpret prints or pose, from memory, by means of a few main lines, and also draw from pose, working for grace and rhythm in line.
- Dark and light and color: Ways of harmony building studied and applied.
- Elements and principles applied to much the same type of problems as in Grade V, with difference in application. The designs for tiles, bowls or cement boxes are carried out in intaglio, and the cement is colored

N. B.—The notebook commenced in Grade IV is continued in character, new books being made and decorated.

by the majolica method, calling for a more advanced understanding of the fitness of the design for the purpose in all cases.

- II. Representation: Study of perspective commenced. Experiments in elliptical and parallel perspective conducted by the children, and application made in still life and landscape problems. (See also work given under Line.)
- III. Illustration: Cartoons or illustrations are made for the school newspaper and for original stories or rhymes, and are done by cutting wood blocks, from which prints are made, or by photographing with pinhole cameras made by the children.

IV. Art study.

For line—

Sculpture by Michelangelo.

Cartoons by Raemakers.

Alexander—Pot of Basil.

Watts—Sir Galahad.

Watts—Hope.

Burne Jones—Aurora.

Raphael—Madonna of the Chair.

Raphael—Madonna of the Grand Duke.

For line and color—

Japanese prints, and costumes by Leon Bakst.

For pattern—

Pottery and textiles from Europe, Persia, Asia Minor and Egypt.

In correlation with European geography, the paintings of the following masters—

Dutch—Rembrandt and de Hooch.

Italian—Raphael and Botticelli.

Spanish—Murillo and Velasquez.

English—Watts and Burne Jones.

French—Rodin, Millet and Corot.

German—Holbein.

(Notebook work continued.)

### Grade VII (Girls).

I. Design.

1. Line: Effects produced by different kinds of line are studied and applied in costume and room planning, and simple stage settings for a toy theater. Quality of line and correct use of Japanese brush are emphasized.
2. Dark and light and color: Four or more values are analyzed, Munsell's color theory is studied, and the elements and principles are applied to costume and room planning and decoration, also through surface pattern, motifs and borders, by means of batik, tie-dyeing, wood blocking, stenciling, embroidering, etc., to aprons, scarfs, pillow tops, book covers, boxes, bottles and cans for vases, and to many objects for which the need arises,—also to posters where lettering forms the dominating pattern. Charcoal, oil paint, India ink and tempera are the usual mediums.

- II. Representation: Figure drawing as an aid to costume design and for its decorative use in poster making. Perspective in connection with room planning.

III. The art study course consists of research, written and oral work, and making and decorating an art notebook. The subject matter is:

7B—1. Architecture.

- Egyptian.
- Chinese and Japanese.
- Greek.
- Roman.
- Romanesque and Byzantine.
- Moorish.

2. Art—Period of Italian Renaissance.

7A—1. Architecture.

- Gothic.
  1. French.
  2. English.
  3. Recent war devastation in cathedrals.
- Colonial.
- Modern American.

2. Art—Time of American Revolution.

- French—Watteau, Le Brun, David.
- English—Gainsborough, Reynolds, Romney, J. M. W. Turner.
- Colonial and Revolutionary conditions in American art.

### Grade VIII (Girls).

I. Design.

Elements and principles of art are applied specifically to costume planning in such problems as smocks and dresses. Color, line, etc., are studied in relation to types in the class, and the garments are made in the sewing class. In interior decoration the furniture is studied as to line, strength, use, finish and period style, with its placing in the room. This includes visits to shops, and budget making.

II. Art study course:

1. Nineteenth century and modern art:

- French—David, Millet, Corot, Meissonier, Harpignies, Puvis de Chavannes, Rodin, Chapu, Meunier, Rosa Bonheur.
- English—Pre-Raphaelite Brotherhood, Watts, Burne Jones, Hunt, Rossetti, Brangwyn, Millais.
- Spanish—Goya, Zuloaga, Sorella.
- Dutch—Raemakers.

2. American—Artists and illustrators:

- James McNeil Whistler, John Sargent, George Innes, John Alexander, Edwin Abbey, Saint Gaudens, Jules Guerin, Maxfield Parrish, Elihu Vedder, William Chase, John La Farge, Abbot Thayer, Robert Henri, Cecelia Beaux, Charles Duvencek, Charles Livingston Bull, William Nicholson, Carton Moore-Park, Edwin Blashfield, Frank X. Leyendecker, Childe Hassam, Sarah Stillwell, and others.

3. The art of the Impressionists and its influence is studied.

4. The class is taken to all worth-while exhibitions of American painters at the San Diego Museum Art Gallery and encouraged in intelligent criticism and appreciation.

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- Industrial and Applied Art Books.
- Atkinson, Mentzer & Co.
- Speyer School Curriculum.
- Teachers College, Columbia University, New York. 60 cents.

*Equipment and Supplies.*

- Manila drawing paper, grey and cream, 24" x 36", \$6.00 per ream (500 sheets), select paper without sizing. Used for all drawing and painting.
- White water-color paper, 24" x 36", \$15.00 per ream. Used for water-color and crayola work.
- Rogus paper, sizes 9" x 12", 18" x 24", 24" x 36". Used for ink and crayola drawing, tempera and water-color.
- Kraft paper, 36" wide, No. 60, 5-9 cents per pound, 60 sheets to pound. For cut paper work and tempera.
- Black pattern paper. For cut paper work.
- Tag board, for constructive problems,—boxes, doll furniture, etc.
- Composition board, No. 35, 26" x 38", \$1.10-\$2.00 per bundle, 35 sheets to bundle. Used for posters and book covers.
- Industry bond, No. 24, 17" x 22", \$1.50 per ream. Used for originals for schapirograph.
- Solid pulp board, 30" x 40", No. 30, \$1.75-\$2.00 per bundle, 30 sheets to bundle. For posters.

Construction or cover paper, 20" x 25", 22½" x 28½", from 1 cent per sheet *up*. All colors. Select from sample books. Buy by sheet. Used for posters, cut paper work, tempera and book covers.

Linoleum, "A. A.," \$1.75 per square yard. For block printing.

Post and Higgins inks.

Fresco colors, with glue. (Order at any paint store.) For painting scenery for school plays and for posters.

Samples of crayola, pencils, paints, etc. Milton Bradley & Co.

Sloyd knives, \$3.00 per dozen; printing blocks, printing sticks. Wall Craft Co., 1625 N. Delaware street, Indianapolis, Ind.

Schapirograph, \$12.00 with ink and roll. W. W. Greenwood, Tajo Building, Los Angeles, Cal.

Paper cutter, \$15.00. Dyas & Co., Los Angeles, Cal.

Japanese paper and brushes. Catalogs from Bunkio Matsuki, Boston, Mass.

Munsell color material. Catalogs from Wadsworth, Howland & Co., Boston, Mass.

Photographic enlargements, large unmounted, 75 cents apiece in quantity.

Mr. Mechtlin, Coulter Building, Broadway, between Second and Third streets, Los Angeles, Cal.

Lewis & Co., 226 W. Fourth street, Los Angeles, Cal.

Slides.

Pacific Stereopticon Co., Wesley Roberts Building, Los Angeles, Cal.

C. C. Pierce & Co., Spring near Sixth street, Los Angeles, Cal.

Reproductions of Hunt and Millet charcoal sketches. Wm. Pierce & Co., 630 Washington street, Boston, Mass.

Prints. Order from catalogs.

Perry Pictures Co., Malden, Mass.

Bureau of University Travel, 136 Stuart street, Boston, Mass.

Printed publications of Boston Museum.

List of post cards and photographs.

Set of Japanese sword guard designs.

Printed publications of Metropolitan Museum, New York.

Indian designs (Huicol Indians). Natural History Museum, New York.

Japanese prints.

E. L. Shima, 20 E. Thirty-third street, New York.

Bunkio Matsuki, 2 Newberry street, Boston, Mass.

Matsumoto Do, Tokio, Japan.

T. J. Kitagawa Co., 119 E. Washington avenue, Madison, Wis.

Eizo Kondo, 1947 Broadway, New York.

Paper houses.

Zellerbach Paper Co., 113 N. Los Angeles street, Los Angeles, Cal.

Blake, Moffitt & Towne, 242-48 S. Los Angeles street, Los Angeles, Cal.

Cunningham, Curtis & Welch, Los Angeles, Cal.

Wholesale and retail firms. Paints, etc.

Lawrence Farrell Co., 455 S. Hill street, Los Angeles, Cal.

Duncan Vail Co., 730 S. Hill street, Los Angeles, Cal.

Arey-Jones Co., Fourth between D and E, San Diego, Cal.

Carpenters, Sixth between C and D, San Diego, Cal.

Catalogs for school supplies.

Milton Bradley Co., 20 Second street, San Francisco, Cal.

Atkinson-Mentzer Co., 2210 S. Park avenue, Chicago, Ill.

The Prang Co., New York, Chicago, Boston, Atlanta, Dallas.

Devoe & C. T. Reynolds, New York and Chicago.

Wadsworth-Howland Co., 82-84 Washington street, Boston, Mass.

## MUSIC.

DOROTHY F. SNAVELY, Supervisor.

## COURSE OF STUDY IN THE NORMAL TRAINING SCHOOL.

## General foreword.

In the summing up of this course of study for the Normal Training School, every effort has been made to avoid the idealization of classroom conditions and results achieved which is the temptation of teachers, particularly teachers of so-called "special" subjects. The song and sight reading material outlined for study in the respective grades has been selected with the view to spontaneous and independent work by the class itself, unsupported by the teacher's voice. A music recitation, like a well-organized language or reading lesson, is conducted through individual members of the class, not in concert. The analogy is not exact, for much valuable group activity should be given a place in the teaching of music; but this concerted recitation should find its place only in the singing of *familiar songs* where the natural result is an emotional enjoyment and the real community spirit. When the practice of general unison singing is carried over into the study of new songs or drill upon technical problems of sight reading, the natural result is the fostering of dependence and inaccurate habits in the individual. The habit of success must be cultivated,—not success because of the frequent prompting and support of the teacher, but as the result of a solid, *conscious* foundation from which the child himself works. In music, as in any other subject, the material studied must be made to fit the child's ability, not the child to fit the teacher's ideas of arbitrary work for a given grade. With this introduction, the following outlines found to be practicable in school work are submitted.

## GRADE 1.

- A. Rote songs.
- B. Singing games to develop feeling for rhythm and to bring out individual enthusiasm.
- C. Rhythmic exercises,—marching, clapping, skipping to music of action songs.
- D. Syllables of about ten simple songs taught by rote as the basis of later eye work.
- E. Drill in recognition of phrases of familiar songs.
- F. Daily and thorough individual work.

## GRADE 2B.

- A. Continuation and development of work outlined for Grade 1.
- B. Formal drill in the ear recognition of musical figures or tone words; drill organized under the headings of Chapters I-V, Book I, California State Text. *e. g.*—
  - Chapter I—Tonic chord figures.
  - II—Tonic chord with neighboring tones.
  - III & IV—Diatonic figures, simple and varied.
  - V—Interval drill, skip figures.

## GRADE 2A.

- C. Introduction of eye work through the method of "analytical approach," or *observation* of musical notation of entire familiar song, learning from each such lesson staff pictures of several tone words, already familiar by ear. No *new* eye material.
- D. Flash drills,—definite drill in instantaneous recognition of isolated tone words learned first from songs, organized under chapter headings stated under outline for the ear work of Grade 2B.

## GRADE 3.

A. Rote songs.

B. Reading of new songs with aid of the teacher.

Songs of Part Two, Book I, California State Text.

1. Rhythm of song learned by scansion of the text, no discussion of note values, or note to note beating.
2. Recognition and singing of familiar tone words, teacher supplying connecting links only.

## GRADE 4.

A. Rote songs.

B. Much sight reading by "scansion" method.

First study of note values.

C. Method for finding "do" in all keys.

D. Rounds preparatory to two-part singing.

NOTE.—It has seemed wiser to keep the class on the above type of reading and to require independent work, inasmuch as in cases observed too much has been done by the teacher when more difficult material has been used, the dependence of the class increasing in the upper grades. Sight reading songs should be of such grade that they can be sung at sight with a fair degree of spontaneity, with very little help from the teacher, the class getting the musical thought as they would read a new story written in a familiar vocabulary. Under such conditions, the result should not be a halting, stumbling lesson, continually supported by the teacher.

## GRADE 5.

A. Rote songs.

B. Sight reading, to be selected from organized song material, with no exercises.

C. Formal drill on points of tone, time and musical theory. All problems approached through songs,—never drilled upon abstractly unless a concrete occasion has arisen through the material studied.

*Tone Problems.**Time Problems.*

- |                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1. Intervals of the major scale.</li> <li>2. Sharp chromatics, diatonic half-step progression.</li> <li>3. Flat chromatics, diatonic half-step progression.</li> <li>4. Easy melodies in minor keys.</li> </ol> | <ol style="list-style-type: none"> <li>1. Quarter note beat, no division of the beat.</li> <li>2. Two equal tones to a beat.</li> <li>3. Dotted quarter and eighth notes.</li> <li>4. Phrases beginning on the eighth note before the beat.</li> </ol> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Alternate study of tone and time problems monthly, with theory problems as they appear in songs.

D. Pitch names of lines and spaces.

E. Rounds and simple two-part singing.

## GRADE 6.

A. Rote songs.

B. Sight reading, organized song material embodying the following problems:

*Tone Problems.**Time Problems.*

- |                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1. Formal interval study.</li> <li>2. Harmonic minor scale.</li> <li>3. Skips to sharp chromatics.</li> <li>4. Skips to flat chromatics.</li> <li>5. Three tones ascending chromatically.</li> <li>6. Three tones descending chromatically.</li> </ol> | <ol style="list-style-type: none"> <li>1. Dotted quarter note beat, two unequal tones to a beat.</li> <li>2. Dotted quarter note beat, three equal tones to a beat.</li> <li>3. Dotted quarter note beat, more advanced study.</li> </ol> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

More advanced problems as they appear in the songs to be read.

C. Writing of simple melodies, building of scales major and minor according to formula of steps and half steps.

### GRADES 7 AND 8.

Daily chorus singing for twenty-five minutes, one chorus of girls and one of boys; weekly singing of two groups together; two- and three-part singing by each group. Song material should be chosen with view to its interest, not as embodying technical problems. All work is toward the development of a love for singing and participation in community life. Sight reading is not drilled upon. Many children who for various reasons have not learned to read music with facility or accuracy, reach the seventh and eighth grades without the power to gain the musical thought on a page of music. However, if this is true, it is also true that the adolescent period of child development is not the time to emphasize the minute attention to detail and the serious drill upon mechanical symbols which real sight reading entails. Valuable time should be better devoted to suitable biography alive with real interest, to the hearty singing of songs which express the moods and emotions of the child himself. At this time music must be made a living language suitable for the expression of personal aspirations and ideals, not a school subject of dead lines and spaces, sharps and flats.

This is not a new platform, but the familiar ideal of very many teachers of music. Few live up to it; in the precious twenty minutes assigned to the music period only too frequently two-thirds of the time is given over to drill upon old bugbears which should have been mastered in the fifth or sixth grades. By a fine inspirational teacher these left-over ends of sight reading difficulties may be caught up without sacrifice of the real aim of music teaching, which is the joy of emotional expression in 'the community' group; but the average grade teacher can rarely accomplish both ends of her endeavor, and she should accomplish the one rather than sacrifice both.

Even seventh and eighth grades should learn some songs by rote,—songs suitable and interesting in their emotional content, yet perhaps too difficult technically for any really spontaneous singing without the material help of the teacher. The class should sing many such songs, even though the work should become chiefly rote teaching, for the larger ideal is being advanced. The development of sight reading may be, to a degree, overshadowed by the pleasure of real music. Only this attitude on the part of the teacher can develop through the public schools a really singing and music-loving nation.

### Listening Lessons or Music Appreciation.

Inasmuch as almost all school music has been up to this time the singing of songs or vocal musical performance, there remains a large field of child development comparatively untouched. During the life of an individual he hears and sees more art than he creates. Unless he is fitted to derive the fullest enjoyment and æsthetic development from his environment, the time spent upon his individual efforts at artistic activity might better be put to use on more direct and "practical" subjects. This unfoldment of emotional receptivity and response to the beautiful in all art should be the fundamental end and object of every music lesson; it is the very direct aim of the "listening" lesson, its reason for being.

Beginning with the first grade, listening lessons should be given at least once a month, preferably at the regular music period in the classroom. It is important that the study atmosphere be maintained at all times and that the class be not permitted to drift into the feeling of mere entertainment, a lapse in actual mental activity. It is difficult to maintain this attitude in an auditorium with a large group.

With little children the first lessons are primarily to develop concentration,—keen voluntary attention. Simple songs of the type sung by the children themselves are a splendid means for gaining strict attention, each child trying to be first to discover the “story” of the song. The teacher can invent innumerable games based on this one idea, in which the slowest child in the class will take part without urging. Simple descriptive music without words or a definite story stimulates the child’s imagination to the invention of his own story. The “Hunt in the Black Forest” is an example of this type of musical composition.

Discrimination is the aim toward which the teacher works after gaining the voluntary concentration of her class; discrimination between high and low voices, soft and loud tones, happy and sad moods, quick and slow tempi, string or brass instruments, solo or group performances, and so continued indefinitely, depending only upon the readiness with which the teacher herself can perceive the possibilities of her selections of records and upon her skill in questioning.

When the child reaches the associative period of his development, he is ready for more and more advanced subjects for his attention. The study of folk songs and dances of all countries, the growth of music since primitive times, musical form, absolute and program music, the instruments of the orchestra, the different types of song forms and of instrumental musical compositions, are all alive with interest when approached through hearing the music rather than studying a book *about* music. The success and value of listening lessons depends upon the teacher’s ability to stimulate the real interest of the class.

### The Selection of Rote Songs.

*Primary Grades.* Songs should be short, of not more than two or four lines, during the first year. This precludes the use of many attractive songs which are very generally taught in first and second grades, but which are more appropriate for older children. A good rote song is compact and clear in its structure, emphasizing in simple form the fundamental elements of all art,—unity and variety, repetition and contrast. Folk songs illustrate these musical elements, though not all folk songs found in school music books express in their texts real child emotions; rather they express an adult’s idea of child interest. The following songs are given as exemplifying the above principles:

Fido and His Master.

Bubbles.

Ring o’ Roses.

The Holiday.

Whippoorwill.

Playing Soldier.

California State Series, Book I.

Other books for supplementary use containing songs of this type are:

Lyric Music Primer. Scott, Foresman & Co., Chicago.

Congdon Music Primer. C. H. Congdon, Chicago.

Gaynor Songs (Grade Three). Clayton F. Summy, Chicago.

For fourth, fifth and sixth grades there is a wealth of material. The old home and patriotic songs of our country and several standard hymns should be learned. Book II of the California State Series is used as the regular music text, also Congdon Reader No. 4, “For Early Two Part Singing,” C. H. Congdon Co., Chicago.

Songs for seventh and eighth grades should be chosen from every available source. The following books are suggested, with a number of songs not published in collections:

- The School Song Book (McConathy). C. C. Birchard & Co., Boston.
- The Laurel Music Reader. C. C. Birchard & Co., Boston.
- Laurel Song Book. C. C. Birchard & Co., Boston.
- Book III, California State Text.
- Book IV, Progressive Music Series. Silver, Burdett & Co., Chicago.
- Fifty-five Songs for Community Singing. C. C. Birchard & Co., Boston.
- Rolling Down to Rio (Edward German).
- On the Road to Mandalay (Ole Speaks).
- Invictus (Bruno Huhn).

*Bibliography of Pedagogical References.*

1. Teachers' Manuals, Vols. I, II, III, Progressive Music Series. Silver, Burdett & Co., Chicago.
2. School Music Teaching (T. P. Giddings). C. H. Congdon Co., Chicago.
3. Education Through Music (Farnsworth). American Book Co., Chicago.
4. Listening Lessons in Music (Fryberger). Silver, Burdett & Co., Chicago.
5. What We Hear in Music (Faulker). Victor Talking Machine Co., Camden, N. J.
6. Victor Book of Opera. Victor Talking Machine Co.
7. Grove's Dictionary of Music. Theo. Presser, Philadelphia, Pa.
8. International Who's Who in Music. Current Literature Publishing Co., 65 W. Thirty-sixth street, New York.
9. How to Listen to Music. Krehbiel.

NOTE.—The department is very much interested in the possibility of the application of tests or measurement of ability to the teaching of music in the public schools, and has used, in a tentative way, the Seashore tests. Since the whole matter is in the stage of experimentation and development, a more definite statement is not possible at this time.

## HOME ECONOMICS.

ADA HUGHES COLDWELL, Dean of Women.

GLADYS NEVENZEL, Supervisor, Vocational Home Economics.

REBA FLETCHER DOYLE, Supervisor, Institutional Home Economics.

### Place in the Curriculum.

In the fifth to the eighth grades, inclusive, under the supervision of the home economics department.

In the first to the fourth grades, inclusive, under the supervision of the industrial arts department.

### Time Allowance.

Grade	<i>Sewing.</i>		<i>Cooking.</i>	
	Number of periods	Total minutes per week	Periods	Total minutes per week
5A & 5B.....	2	80	--	--
6A & 6B.....	1½	60	1½	60
7B.....	1½	60	1½	60
7A.....	2	90	2	90
8B.....	1½	60	3	120
8A.....	3	120	1½	60

### General Aims.

1. To create a clear understanding of the processes which support our daily lives.
2. To establish, through accurate manipulation of materials, an appreciative understanding of the labor involved in the manufacture of various products, and a respect for that labor.
3. To give training in neatness and orderliness, personal responsibility, co-operation with, and thoughtfulness for one another, brought about by the doing of things in fields in which children are naturally interested, namely: food, clothing and shelter.

### Specific Aims.

#### *Cooking.*

This course attempts to combine theoretical with practical work in cooking and cleaning, in purchasing and care of foods, together with a study of the use of the various foods in the body and of the effect of heat on the food principles. The elementary sciences are introduced by means of simple experiments, such as the action of soda and the acid of sour milk, the expansion of air and water when heated, the parts played by yeasts, bacteria and molds.

#### *Maintenance.*

The funds for the maintenance of the work are obtained from the sale, in our school cafeteria, of all foods prepared by the classes. An institutional class completes the menu each day, thus the demands of the cafeteria do not govern the lessons taught. The child's development, through a logical sequence, is considered first. This arrangement has its advantages as well as its disadvantages. It permits work with large recipes, more nearly of family size than is ordinarily possible in school work, and it presents a real need for the preparation of a given special dish. We are also able to help children to select more nourishing food for their own luncheons.

The costs of the recipes used afford arithmetic material. The seventh grade has the problem of planning a day's menu for a stated amount. This leads to the apportioning of the family income, done in the eighth grade. The class is given a family of known size, with definite amounts of money.

Changes are made in the course of study in both cooking and sewing, as occasion demands, especially to suit the different seasons of the year and world conditions.

### Outline of Course.

#### Grade 6.

Carbohydrates.

Uses in body.

Methods of cooking (alone and in combination with other foods).

Sugars and starches.

Where found.

Utilization of natural sugars in fresh and dried fruits.

School lunch boxes.

Vegetables.

House cleaning.

#### Grade 7.

##### 1. Proteins.

Use in the body.

Place in the diet.

Sources.

Effect of heat.

The cooking begins with a combination of starch (as review) and protein, such as cornstarch pudding and creamed soups.

##### 1. Dairy products.

Milk, eggs and cheese.

Special emphasis is given to milk, its place in the diet of young children, vitamine content, etc.

##### 2. Animal proteins. (Methods of cooking.)

Fish, flesh, fowl.

##### 3. Vegetable proteins.

Legumes,—also leafy vegetables with particular reference to vitamine and mineral content.

#### Grade 8.

##### 1. Batters and doughs.

(a) Leavening agents.

(b) Quick breads.

(c) Yeast breads.

(d) Substitute breads.

(e) Cakes.

##### 2. Salads,—fruits, vegetables, fish and meat.

##### 3. Ice creams.

##### 4. Preservation of foods.

Canning, preserving and drying,—the refrigerator and its care.

##### 5. Planning of menus.

The eighth grade will do more work with the planning and serving of meals when the training school has its own kitchen and dining room. At present the work is done in the room used by the institutional cookery class.

*Sewing.*

This course aims to give the pupil a knowledge of how and what to purchase, relative costs of materials, economic conditions and values, with the development of good standards in workmanship, care of clothing and appropriateness of materials and dress. The study of textiles is covered in the first six grades, in geography, history and industrial arts.

Articles made and methods used vary from year to year to satisfy the needs of the particular group of children, or to carry out some industrial arts project. A charitable need often furnishes the motive for doing a certain piece of work.

## Grade 5.

The work in this grade attempts the formation of habits of neatness and accuracy.

Thimble and needle drill.

Stitches used: basting, blanket stitch, running stitch, overcasting hemming, top sewing, darning, outline and feather stitch applied to the following articles:

1. Wash cloths.
2. Bags.
3. Holders.
4. Towels.
5. Stockings.
6. Aprons.

The divisions of the tape measure furnish the basis for some of the work in arithmetic.

## Grade 6.

Machine sewing is begun in combination with handwork, with a review of previous stitches and methods, followed by work on buttonholes, hems, seams, etc.

Models made: Cookery apron, towel, cap, princess slip, etc.

## Grade 7.

The work of this grade includes the use of patterns, adapted to fit the individual child. Materials are planned for after measurements are taken. Study of the uses of various materials and their suitability for the garment to be made, is included.

Models made: Aprons, garden and fancy; undergarments, such as bloomers, etc.

## Grade 8.

More advanced sewing, chiefly on outside garments. As the work progresses more careful work is demanded. Commercial patterns are used, adapted to the individual child.

Models made: Middies, smocks, children's dresses, etc.

The materials for garments made in the sixth, seventh and eighth grades are furnished by the pupils.

The materials for small models made in the fifth grade are furnished by the department.

*Bibliography of Educational References.*

Bulletins—U. S. Department of Agriculture.

Cooley, A.M.—Domestic Art in Woman's Education. Scribners. \$1.25.

Dewey, John—School and Society, Rev. Ed., 1915. University of Chicago Press. \$1.00.

Dewey, John—The Child and the Curriculum. University of Chicago Press (paper ed.). 25 cents.

Dewey, John, and Dewey, Evelyn—Schools of Tomorrow. Dutton. \$1.50.

Dopp, K.—The Place of Industries in Elementary Education. University of Chicago Press. \$1.00.

Journals—

The Journal of Home Economics. American Home Economics Association, Baltimore, Md. \$2.00 a year, 25 cents a copy.

Elementary School Journal. University of Chicago Press. \$1.50 a year, 20 cents a copy.

Rapeer, L. W.—Teaching Elementary School Subjects: Chap. 9, Household Arts, by Cora Winchell; Chap. 12, Industrial Arts, by Frederick Bonser. Scribners. \$2.00.

Teachers College Bulletin, No. 29. Tentative Course of Study in Household Arts for the seventh and eighth grades of the Speyer School,—Speyer School Curriculum. Columbia University Press. 50 cents.

Flagg, Ella Proctor—A Handbook of Home Economics. Little, Brown & Co. 75 cents.

Farmer, Fannie Merritt—Boston Cooking-School Cook Book. Little, Brown & Co. \$1.80.

Coldwell, Ada Hughes—Home Economics in the Rural School. Bulletin of State Normal School of San Diego.

**HYGIENE—ELEMENTARY SCHOOL.**

GEORGIA V. COY, Head Department of Biology.

The chief object of all work in hygiene throughout the eight grades of the school is the development on the part of the children of an appreciation of the value of health and the formation of habits that will lead to its preservation.

The work is carried jointly by the departments of physical education and biology, material in the lower grades being handled directly by the class teachers. Condensed outline:

**Grades One to Four.**

Physical examination.

All children are examined by the director of physical education for the detection of physical defects, and recommendations are made to parents for treatment by the family physician when necessary; or, as is sometimes the case, treatment is secured at public clinics.



Second Grade Group. The mid-morning cup of milk.

Daily inspection.

A. Health inspection.

As the result of daily inspection for evidences of communicable disease, all suspected cases are re-examined by the director, and excluded if conditions indicate infection.

B. Personal inspection.

This is supplementary to the instruction in personal hygiene, and varies with the needs of the class; for example, in grade one for a week or more it may be an inspection for clean finger nails.

Emergencies.

Immediate treatment is given all simple first-aid cases, and subsequent treatment or supervision of home care where necessary.

**Instruction.**

General topic: Personal hygiene—cleanliness.

Examples of lesson subjects:

Clean hands and faces. Clean teeth.

Clean desks. Clean books.

Mouths for food and drink only.

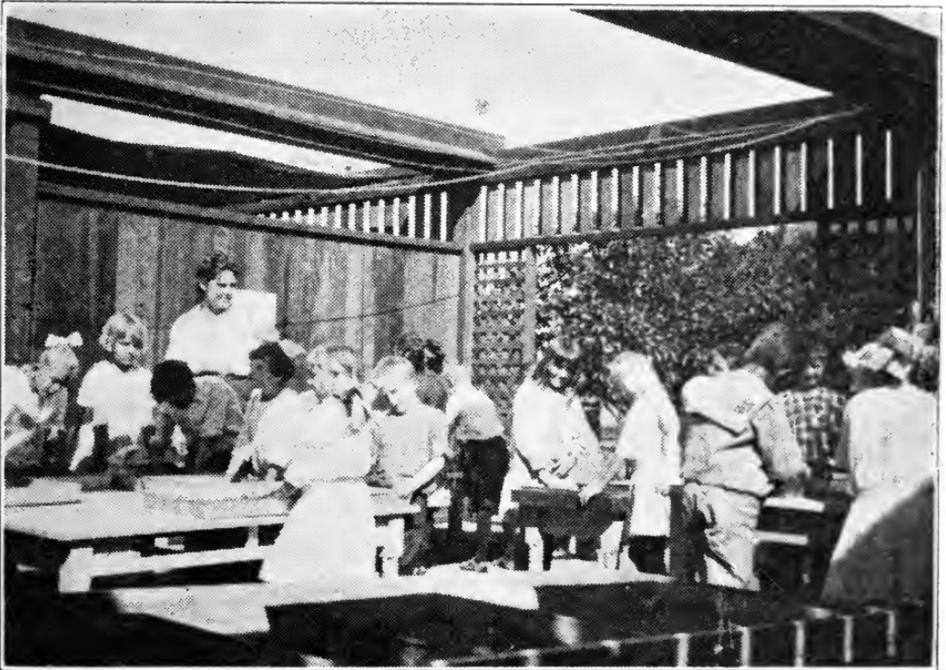
Individual towels and handkerchiefs as helps to keeping sleeves, jackets and dresses clean.

**Posture training.**

Careful adjustment of seats and desks to fit each pupil is made under the supervision of the class teacher and supplemented by classroom instruction in the why and how of correct sitting and standing. Further direct teaching of this kind is done in the gymnasium in connection with exercise designed to aid in maintenance of good posture.

**Grades Five to Six.**

In this group the physical examination, daily inspection and care of injuries are handled as already noted, except that inspection for personal cleanliness is made an individual rather than a class matter.



An Open Air Class Room.

**Instruction.**

General topic: Home and school sanitation—cleanliness extended to surroundings.

Examples of lesson subjects:

Clean schoolrooms.

Good light and how to use it.

Clean school yards.

How to dust and sweep.

The best way to sleep.

Why foods spoil and how to keep them.  
 The garbage can and its care.  
 The fly and the mosquito.  
 Towels and tooth brushes.

Credit for hygiene is given in these two groups for actual practice as shown in the results of the daily inspection.

## HYGIENE—INTERMEDIATE SCHOOL.

### Grades Seven and Eight.

Since health training is continuous from the first to the eighth grades, the work in this upper division represents merely the more advanced portion of a unified course and involves the same aims and methods.

Examination for physical defects, inspection for evidences of communicable disease, posture training and the treatment of small injuries form as important a part of the work as in the lower grades.

Instruction in hygiene in grade seven can best be given in connection with the course in civics, while in grade eight five hours weekly for one term are devoted to the subject.

#### Grade Seven.

General topic: Community hygiene.

Suggested lesson subjects:

The food inspector and his work.

The city markets, screening, cleanliness, etc.

The city parks and their value for health.

The bakery as it should be.

The city streets; sweeping, sprinkling, etc.

Accidents that occur in the city and how they may be avoided. The good record of the San Diego Electric Railway in preventing accidents.

The city sewerage.

Fires, their causes. Proper doors and fire escapes.

The water supply. The milk supply.

The influenza epidemic and its control.

How disease spread may be prevented.

#### Grade Eight.

General topic: Hygiene, sanitation and physiology.

All instruction in this course is given the children in talks by the teacher, with the aid of such good apparatus as a mounted human skeleton, a life-size model of the trunk and head of the human body, models of various sections and organs, good charts and compound microscopes. Demonstrations are made of internal organs of such animals as the frog and the rabbit, of material obtainable from the butcher shop, and of simple classroom experiments wherever efficacious. Textbooks are used only as supplements, and serve with the pupils' notebooks to fix material already given.

Emphasis is placed throughout on the value of health and its maintenance by hygienic practices, and the prevention of disease spread.

*Condensed Outline of Course.*

## I. Introduction.

A. General structure of the human body, its parts, organs and cells.

B. Health, its value and maintenance.

## II. Bacteria and other micro-organisms.

A study of molds, yeasts and bacteria, their growth and relation to the manufacture and preservation of food and to the cause and spread of disease.

A. Topics for reports by pupils on outside reading of current literature.

Sanitation in Panama.

The work of the Americans in Cuba.

California's fight against typhoid fever.

Quarantine, immunity and disinfection.

War on the fly.

Mosquitoes and malaria in California.

## III. Nourishment of the body.

A. Food and diet.

1. Sources of nutrients in common foods.

2. Pure-food movement.

3. Hygiene of diet, mouth, teeth and digestive organs.

B. Preparation of food in the body for use by the cells.

1. A study of the organs of digestion and their work.

2. Hygiene of exercise, bathing and rest, and their relation to digestion.

C. Supply of oxygen to the cells.

1. A study of the organs of respiration and their work.

2. Hygiene of the nose and throat. The relation of breathing to disease. The relation of posture to breathing. The importance of good breathing in athletics.

D. Delivery of supplies to the cells.

1. A study of the organs of circulation and their work.

2. Hygiene of the skin. Clothing and cleanliness. Heart training and athletics.

E. Waste from the cells.

1. A study of the organs of excretion and their work.

2. Hygiene of elimination. Avoidance of constipation.

F. Alcohol, tea, coffee, tobacco, narcotics and patent medicines.

1. Their effect on body development and results in athletics and business.

2. Reports.

What the magazines say about drinking and jobs.

The big business firms and the drinkers.

The war and alcohol.

Mr. Ford and his advice to boys.

G. Support, movement and control of the body.

1. A study of the bones, muscles and the nervous system and their work.

2. Hygiene of exercise and of posture.

Care of eyes and ears. Rest, sleep and habit formation.

3. Emergencies.

## H. Common animals and plants and their children.

1. A study of the reproductive methods of a selected series of plants from the algæ to the seed plants, and of animals from the one-celled forms to the vertebrates, including often both frog and and rabbit.

## Texts and references.

## A. For use by pupil.

- General Hygiene—Overton. American Book Co. 60 cents.  
 Good Health—Jewett. Ginn & Co. 50 cents.  
 Town and City—Jewett. Ginn & Co. 50 cents.  
 The Body at Work—Jewett. Ginn & Co. 50 cents.  
 Control of Mind and Body—Jewett. Ginn & Co. 60 cents.  
 A Handbook of Health—Woods Hutchinson. Houghton-Mifflin Co. 65 cents.  
 Community Hygiene—Woods Hutchinson. Houghton-Mifflin Co. 60 cents.  
 The Wonderful House That Jack Has—Millard. Macmillan Co. 50 cents.

## B. For teacher's reference.

- How to Live—Fisher and Fisk. Funk, Wagnalls & Co. \$1.00.  
 Teaching Hygiene in the Grades—Andress. Houghton-Mifflin Co. 75 cents.  
 Human Physiology—Stiles. Saunders. \$1.50.  
 Nutritional Physiology—Stiles. Saunders. \$1.25.  
 The Human Mechanism—Hough and Sedgwick. Ginn & Co. \$2.00.  
 Applied Biology—Bigelow (excellent for simple bacteriology). Macmillan Co. \$1.40.  
 Bacteria, Yeasts and Molds in the Household—Conn. Ginn & Co. \$1.00.  
 Plant and Animal Children—Torelle. D. C. Heath & Co. 50 cents.  
 Posture of School Children—Bancroft. Macmillan Co. \$1.50.  
 Health Work in the Schools—Hoag and Terman. Houghton-Mifflin Co. \$1.60.

## PHYSICAL EDUCATION.

JESSIE RAND TANNER, Head Department Physical Education.

The physical work of the first six grades follows closely the course of study prescribed by the state supervisor. Since all of the teaching material appears in the state manual, only such phases of the subject are indicated as are particularly characteristic of the work done in the Normal Training School.

### Grades I, II and III.

*Action Stories, Singing Games, Gymnastic Games.*

Formal gymnastics are not introduced in these grades.

Emphasis is placed upon the development of rhythm throughout the physical activities of the first three grades. This is done chiefly through vigorous singing games and the spontaneous interpretation of simple music in terms of movement. Music, in the time of the waltz, mazurka, polka, gavotte, etc., is played and the children are allowed to express it freely in action. When particularly appropriate exercises are developed, they are taught to the class as a whole. Some direct teaching of definite, simple body movements is necessary at first.

The games of skill, of which the various forms of bean-bag games are examples, are means of rapid growth in co-ordination and group consciousness. The little formal game may have but one rule, yet it belongs thereby to that large class of games where the team, the umpire, and the rules hold the group to its highest possibilities. The little people respond very quickly to the well-conducted game of skill if it is no more than "Cat and Rat." Growth in game skill keeps pace with growth in any subject. Games are used which are within the grasp of the group, but which are difficult enough to require time for complete mastery.

### Grade IV.

This is a transition period when the singing games give way to simple rhythmic folk games, called dances. Group activity and skill are more prominent in gymnastic games, and the drill element is introduced by means of the informal gymnastic lesson. Progress is necessarily slow, due to marked difficulties in co-ordination. It is imperative that the games be at once very simple and very vigorous. The simplest games of tag are examples of those which give best results in the fourth grade.

Postural training in these four grades should result from proper seating and the correct positions when sitting, standing or walking in the schoolroom.

### Grades V and VI.

These grades show a steady progression in intensity and seriousness of physical activities.

From the classes of the fifth and sixth grade girls there is a marked response to group drill. Much work is done in formal free gymnastics, exercises with wands, dumb-bells, and in simple marching tactics. Games of skill showing increase in complexity and the beginnings of team work form a prominent part of each lesson. The more elementary folk dances have a large place.

The fifth and sixth grade boys' classes need very simple, yet very vigorous, free gymnastics. The work in general follows that planned for the girls, except that athletic games and sports involve less team play and much running.

### Seventh and Eighth Grades.

Physical education aims to raise health standards, by means of improved posture and carriage, greater alertness and endurance and the formation of better *habits* of living. It is impossible to estimate how far those aims are translated into results, even under the most skillful teaching. It frequently happens that physical education accomplishes much in merely preventing extremes of overdevelopment during the years of childhood, when growth is rapid and often one-sided. All phases of human activity which tend to raise health standards must be practiced daily to produce results. The school can therefore look for results in physical education only in so far as it develops habits of proper exercise, hygiene and sanitation which appear in daily practice.

Physical activities for the seventh and eighth grades are grouped according to the divisions of the school year. The class work introduces seasonal games and events, which later are carried on outside of class. Interest is secured, early, by means of some game of wide appeal, such as basket ball for boys and captain ball for girls, or volley ball for both. As skill is acquired, less time is devoted to the game in class and more to formal gymnastics, gymnastic games, apparatus work and folk dancing. Finally the game is played outside of class only, during recess or after school, and the next seasonal game is introduced.

#### Grade VII (Girls).

Group drill is frequently at its best here. Excellent form is developed in free gymnastics, in work with light apparatus and in marching. Swedish apparatus is used, all tendency to stunts being avoided and emphasis placed upon form. Folk dances are only slightly more advanced than in the previous group, but games of skill are decidedly so, team playing being carried as far as possible.

#### Grade VIII (Girls).

The character of the work in this grade depends somewhat on class interest, which varies decidedly. Sufficient formal work is given to supply the corrective element favoring improvement in posture. Formal drill is less attractive to girls of this age, but individual technique shows marked improvement. Considerable time is given to folk dancing, varied by simple æsthetic dancing. Always the games of skill, such as volley ball and captain ball, are greatly in favor. The latter game is especially valuable as a substitute for basket ball, which, on account of the danger of heart strain, should not be included among the activities of girls in the grammar school.

#### Grades VII and VIII (Boys).

This group is given complete gymnastic lessons, including marching, light apparatus or advanced Swedish free exercises, supplemented by games with complex rules and team play, gymnastic dancing and track sports. For these boys, annual interclass and interscholastic track meets give incentive to much of the year's work.

Track work should be done by all of the class at regular class periods, so that the entire group may be brought into contact with the hygiene of training by receiving the training itself. The boy learns that athletic standards are raised by the formal class training, from which he gains better postures and carriage, more alertness and endurance.

*General References.*

1. Manual of Physical Education—Clark W. Hetherington. Issued by the State Board of Education of California.
2. Games for the Playground, Home, School and Gymnasium—Jessie R. Baneroff. Macmillan Co. \$1.50.
3. Physical Exercises, Games and Simple Folk Dances—Jessie R. Tanner and Georgia V. Coy. Bulletin from San Diego State Normal School.
4. Physical Education Complete—Lavinia H. Kaull. News Publishing Co., Sacramento. \$2.00.
5. Teaching of Elementary School Gymnastics—W. P. Bowen. Published by the author, Ypsilanti, Mich. \$1.00.
6. Spalding Athletic Library. Copies of various games, each 10 cents.
7. Music for the Child World—Marie R. Hofer. Summy.



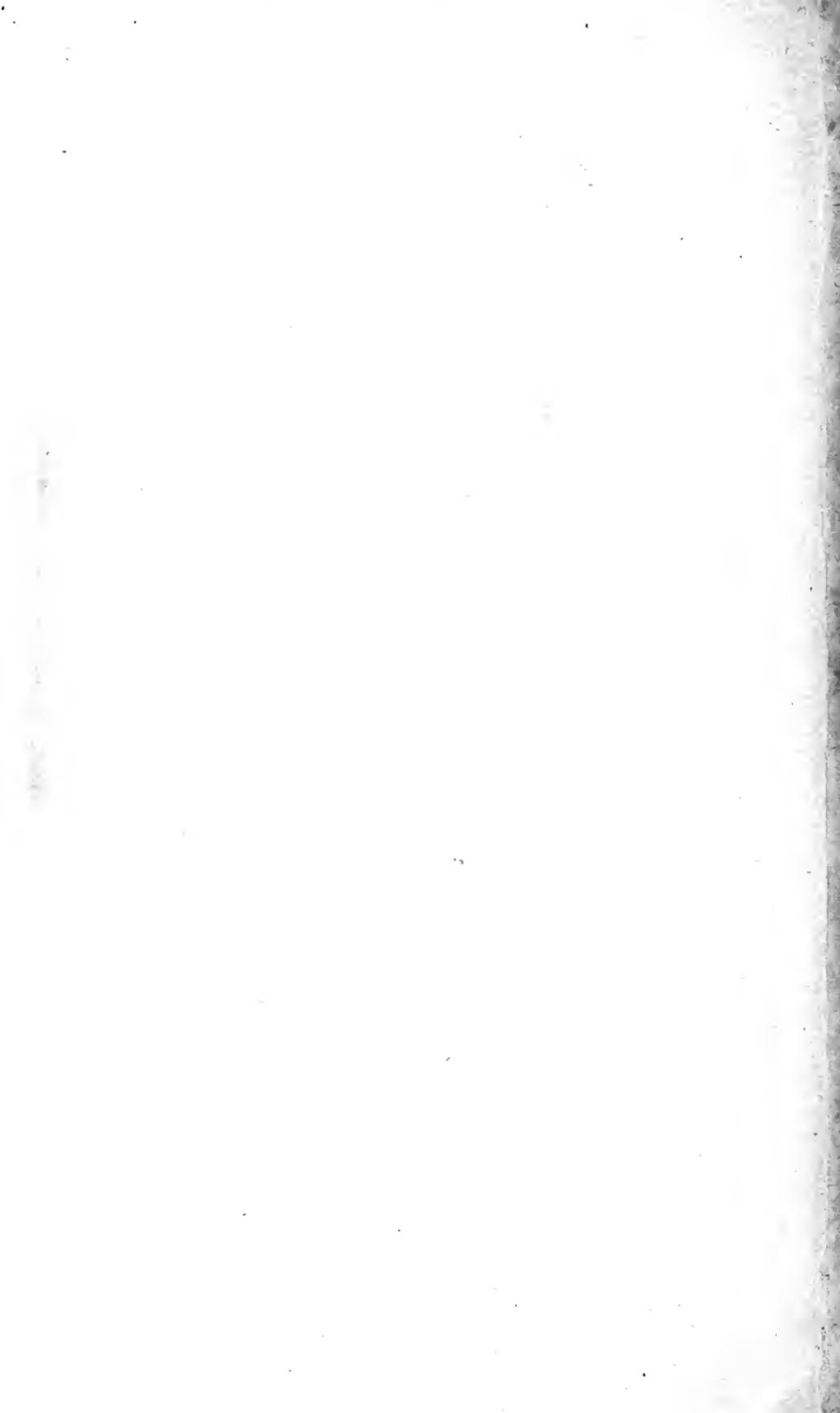


A Relay Race.









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