



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

EducT
118
43.522

LEONARD'S

PRIMARY
ARITHMETIC.

FOR CHILDREN.

STEREOTYPED.

BOSTON;

OTIS, BROADERS, AND COMPANY.

NEW YORK, ROBINSON, PRATT, & CO., AND COLLINS, BROTHER, & CO.;

PHILADELPHIA, THOMAS, COWPERTHWAIT, & CO.; BALTIMORE,

CUSHING & BROTHER; CINCINNATI, E. LUCAS & CO.;

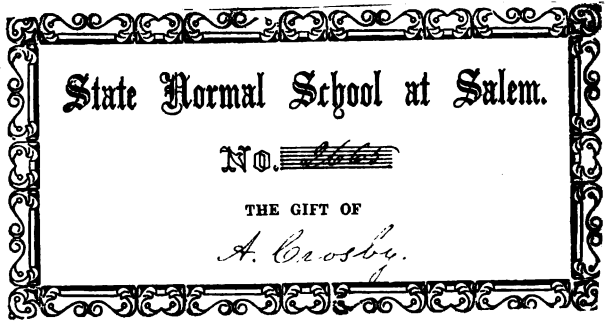
LOUISVILLE, NORTON & GRISWOLD.

1842.

5.

EduCT 118.43.522

100





3 2044 096 993 720



PRIMARY
ARITHMETIC.

FOR CHILDREN.

By GEORGE LEONARD, Jr.

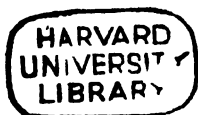
STEREOTYPED.

SECOND EDITION.

BOSTON;
OTIS, BROADERS, AND COMPANY.
NEW YORK, ROBINSON, PRATT, & CO., AND COLLINS, BROTHER, & CO.;
PHILADELPHIA, THOMAS, COWPERTHWAIT, & CO.; BALTIMORE,
CUSHING & BROTHER; CINCINNATI, E. LUCAS & CO;
LOUISVILLE, MORTON & GRISWOLD.

1843.

Educ T 118.43.522



Entered according to Act of Congress, in the year 1842, by
GEORGE LEONARD, Jr.
in the Clerk's office of the District Court of the District of Massachusetts.

CAMBRIDGE;
STEREOTYPED AND PRINTED BY
METCALF, KEITH, AND NICHOLS,
PRINTERS TO THE UNIVERSITY.

PREFACE.

THIS little book is intended for the use of children when they first begin the study of arithmetic, and should be put into their hands soon after they have learned to read. The minds of young persons are very easily rendered familiar with the simpler operations in arithmetic, if the subject is presented to them in a manner that is engaging, and suited to their capacities, and way of thinking.

Many questions here relate to things which children have a lively idea of; such as apples, cents, marbles, picture-books, &c. Experience shows, that they can solve questions concerning these little articles, and others which they play with, much easier than similar ones on abstract numbers. A boy, who can quickly tell how many 8 apples and 5 apples make, will be at a loss if asked the number made by 8 and 5. On this account, abstract numbers are not so often employed in the commencement of the work as in the latter part, after a little skill in reckoning has been acquired.

Some primary arithmetics have most of the examples solved for the scholar, by means of pictures and marks, so arranged that he has nothing to do but count. Such assistance renders his task easy enough, for he scarcely has to reckon, calculate, or think at all. But neither the author of an arithmetic nor the teacher can discipline a scholar's mind, in numbers, by thinking for him. He must think for himself. He must do his own work. He must be thrown on his own resources. If he meets with difficulty in any question, talk with him, discover the difficulty, and lead him to work out the question himself. Thus, if he is unable to add $6\frac{1}{2}$ cents to $12\frac{1}{2}$

cents, ask him how many $12\frac{1}{2}$ cents and $\frac{1}{2}$ of a cent make, and he will readily answer $12\frac{3}{4}$ cents; then ask him how many $12\frac{3}{4}$ cents and 6 cents make, and he will say at once $18\frac{3}{4}$ cents; now ask him how many $12\frac{1}{2}$ cents and $6\frac{1}{4}$ cents make, and he instantly will give you the true answer, or $18\frac{3}{4}$ cents.

It may be useful occasionally, for the sake of variety and illustration, to solve an example for a scholar or class, by arranging marks, or cents, nuts, &c., so that the answer can be obtained by counting. Indeed, it may be well sometimes, to do the counting after the marks, &c., are arranged, but in general these helps should not be offered.

Though the learner is injured by having too much assistance, he suffers still more by being indulged in a habit of guessing. To check this, he should be required sometimes to go through an operation audibly, and sometimes to tell how he obtains an answer.

In several arithmetics an enormous number of mental questions precede any work for the slate. The child who studies such a book becomes expert in mental operations, while totally ignorant of calculation by figures. It then requires a long course of severe training to teach him to work on the slate, even to write down a sum to be solved; and a long time passes before he perceives any resemblance between the mental and written methods. On the contrary, when mental and written operations are carried on in connexion, a similarity is soon observed, and they are mutually beneficial.

For these reasons the number of mental exercises to precede calculation by figures should be moderate. This book contains as many as are considered desirable, both in whole numbers and fractions.

ARITHMETIC.

COUNTING.

Lesson One.

Count these marks.

- one.
- two.
- three.
- four.
- five.
- six.
- seven.
- eight.
- nine.
- ten.
- eleven.
- twelve.
- thirteen.
- fourteen.
- fifteen.
- sixteen.
- seventeen.
- eighteen.
- nineteen.
- twenty.

NOTE. To recite, let the learner reckon the counters in Lesson 2; he should also be exercised in counting many other things.

- | | |
|----------------------|--------------------------|
| How many marks are | Ten and one more ? |
| One and one more ? | Eleven and one more ? |
| Two and one more ? | Twelve and one more ? |
| Three and one more ? | Thirteen and one more ? |
| Four and one more ? | Fourteen and one more ? |
| Five and one more ? | Fifteen and one more ? |
| Six and one more ? | Sixteen and one more ? |
| Seven and one more ? | Seventeen and one more ? |
| Eight and one more ? | Eighteen and one more ? |
| Nine and one more ? | Nineteen and one more ? |

Lesson Two.

Count these marks; learn how to make the first ten written figures on your slate, or on a black-board, and then tell what each one means.

The figures mean the same as the words.

	Printed Figures.	Written Figures.
— one	1	1
— two	2	2
— three	3	3
— four	4	4
— five	5	5
— six	6	6
— seven	7	7
— eight	8	8
— nine	9	9
— ten	10	10
— eleven	11	11
— twelve	12	12
— thirteen	13	13
— fourteen	14	14
— fifteen	15	15
— sixteen	16	16
— seventeen	17	17
— eighteen	18	18
— nineteen	19	19
— twenty	20	20

0 stands for nothing, and is called nought.

What does 0 stand for?

What figures do you use to make ten? Which figure do you place at the left hand side? Which at the right hand side?

How do you make eleven in figures? Twelve? Thirteen? Fourteen? Fifteen? Sixteen? Seventeen? Eighteen? Nineteen? Twenty?

Counters.



How many marks are there here for counters?
 How many marks are there above the widest space?
 Below it?

ADDITION.

Lesson 3.

1. Robert has 1 apple in his right hand, and 1 in his left hand; how many has he in both hands?
 How many, then, are 1 thing and 1 thing?
2. If you have 1 pin in your sleeve, and a boy puts in 2 more, how many will you then have?
 How many, then, are 1 thing and 2 things? How many are 2 things and 1 thing?
3. Jane had 3 picture books, and her father gave her another; how many had she then?
 3 things and 1 thing are how many? 1 thing and 3 things are how many?

4. A boy bought a top for 1 cent, and some apples for 4 cents; how many cents did his top and apples cost?
How many are 1 thing and 4 things? How many are 4 things and 1 thing?
5. Samuel had 5 chestnuts in one pocket and 1 in another; how many did he have in both?
5 things and 1 thing are how many? 1 thing and 5 things are how many?
6. Sarah has 1 cherry; if you give her 6 more, how many will she have?
How many, then, are 1 and 6? How many are 6 and 1?
7. 7 little boys were driving their hoops, and 1 was playing with a dog; how many boys were there?
7 and 1 are how many? 1 and 7 are how many?
8. How many cents would you have, if there were 8 in one of your hands, and 1 in the other?
How many are 8 and 1? 1 and 8?
9. If 1 man is sitting at the table, and 9 before the fire, how many are there in both places?
1 and 9 are how many? 9 and 1?
10. A little boy has 1 button in his hand, and 10 on his jacket; how many do these make?
1 and 10 are how many? 10 and 1?

Lesson 4.

1. If you count the fore legs of a dog with the hind ones, how many will they make?
How many, then, are 2 and 2?
2. James had 2 sheets of paper, and his sister gave him 3 more; what number did he then have?
2 and 3 are how many? 3 and 2?

NOTE. The learner should now have 20 counters, like those in lesson 2, on a piece of paper. To get the answer to this question, let him count down 2, and then 3 more, and then count the whole back again. After proceeding a short time in this way, direct him to count down one of the numbers, say 4, and then to take the other number, say 5, and count these four on to it; thus, 5, six, seven, eight, nine.

If any one inclines to use the fingers in reckoning, he should be allowed to do so.

3. If you had 2 marbles in one pocket, and 4 in another, how many would you have in both pockets?
2 and 4 are how many? 4 and 2?
4. 2 birds are on one part of a grape vine, and 6 on another; how many are on the vine?
2 and 6 are how many? 6 and 2?
5. If you count your fingers and thumb on one hand, and your thumb and fore finger on the other, how many will they make?
5 and 2 make what number? 2 and 5?
6. Julia rode in a chaise, 2 miles in the forenoon, and 7 miles in the afternoon; how many miles did she ride in the day?
2 and 7 are how many? 7 and 2?
7. If Harriet should give Louisa 2 pins, and Caroline should give her 9, how many would she then have?
What number are 2 and 9? 9 and 2?
8. There are 8 sheep in the barn, and 2 in the barn yard; what number are there in both places?
How many do 8 and 2 make? 2 and 8?
9. Thomas went over a bridge 10 times in one day, and 2 times the next; what number of times did he pass over it in both days?
10 and 2 are how many? 2 and 10?

Lesson 5.

1. If you had 3 quills in your hand, and John should put 3 more into it, how many would you have in your hand then?
3 and 3 are how many?
2. The brother of a little girl put 3 raisins in one of her hands, and 5 in the other; he told her she might have them all, if she could tell how many there were; she said 7; did she count right? How many were there?
3 and 5 are how many? 5 and 3?
3. George had 4 little apple-trees, and James had 3; how many did both of them have?
4 and 3 make what number? 3 and 4?

4. There is a house which has 3 windows in one end, and 6 on one side ; what number do these make ?
3 and 6 are how many ? 6 and 3 ?
5. Albert bought a popgun for 3 cents, and soon after lost 8 cents ; how many were then gone ?
3 and 8 are how many ? 8 and 3 ?
6. A man worked 3 hours before breakfast, and 7 after ; how many hours did he labor ?
3 and 7 are how many ? 7 and 3 ?
7. A hen has 9 chickens under her, and 3 more have hopped up on her back ; how many do these make ?
9 and 3 are how many ? 3 and 9 are how many ?
8. 3 little girls have come to visit Harriet, and there are 10 more invited ; how many will there be when they all arrive ?
3 and 10 are how many ? 10 and 3 ?

Lesson 6.

1. John wrote 4 lines in his writing book, and a short time after 4 more ; how many did he write at both times ?
4 and 4 make what number ?
2. Henry found 2 cherries, his mother gave him 3, and his brother 4 ; how many did he then have ?
5 and 4 are how many ? 4 and 5 ?
3. Edward gave 4 cents for one picture book, and 7 for another ; how much did both cost him ?
What number do 4 and 7 make ? 7 and 4 ?
4. A man bought 4 pounds of tea and 6 pounds of sugar ; how much did his tea and sugar both weigh ?
4 and 6 are how many ? 6 and 4 ?
5. 4 peaches are on one twig of a peach tree, and 8 on another ; how many are there on both twigs ?
4 and 8 are how many ? 8 and 4 ?
6. How many passengers are there in two stage-coaches, if 10 are in one and 4 in the other ?
10 and 4 are how many ? 4 and 10 ?

7. If you count 4 sheep in one part of a field and 9 in another, what number of sheep are there in both places?

4 and 9 are how many? 9 and 4?

Lesson 7.

1. How many fingers and thumbs have you on one hand? How many on the other? How many on both?

5 and 5 make what number?

2. Edwin found 5 apples in one place, 3 in another, and a little farther on, 4 more; when they were put together how many did they make?

5 and 7 are how many? 7 and 5?

3. 5 guns are lying in a row, and 6 more are scattered about on the ground; how many are there?

5 and 6 make what number? 6 and 5?

4. If you put 8 raisins and 5 raisins in your pocket, how many will they make?

8 and 5 are how many? 5 and 8?

5. Oliver put 3 books and 2 books on one side of a table, and 4 and 6 on the other; how many were then on the table?

What number do 5 and 10 make? 10 and 5?

6. If you add 5 quarts of rice to 9 quarts, how much will there be?

How many are 5 and 9? 9 and 5?

Lesson 8.

1. A fly has 6 legs; how many legs have two flies?

6 and 6 are how many?

2. If you recite 8 lessons in arithmetic in one week, and 6 in the next, how many lessons will they make, when added together?

8 and 6 are how many? 6 and 8?

3. A man has 6 cows on one farm, and 7 on another; how many do these make?

What number are 6 and 7? 7 and 6?

4. Charles has 6 hazlenuts and Hiram 9; how many have both?
6 and 9 are how many? 9 and 6?
5. 6 things and 10 things are how many?
How many are 10 and 6?
6. A man bought 7 sheep from a drover and as many more from a butcher; how many did he then have?
7 and 7 are what number?
7. 7 and 9 are how many? 9 and 7.
8. What is the number of trees in an orchard, that has 7 cherry trees and 8 apple trees?
7 and 8 are how many? 8 and 7?
9. A lady gave her daughter a pretty little picture book, when she was 7 years old, and 10 years after she gave her a handsome bonnet; how old was she when she had the bonnet?
How many are 7 and 10? 10 and 7?

Lesson 9.

1. Samuel read 8 lines in the forenoon and 8 in the afternoon; how many lines did he read that day?
8 and 8 make how many?
2. 10 chickens and 8 chickens are how many?
What number are 10 and 8? 8 and 10?
3. When Henry went fishing, he caught 8 fishes, and when Daniel went he caught 9; what number did they both catch?
8 and 9 are how many? 9 and 8?
4. A little girl had 9 pins in her pincushion, and her sister put in 9 more; how many had she then?
9 and 9 are how many?
5. Calvin was 9 minutes going to school, and 10 coming back; how many minutes was he going and coming?
9 and 10 are how many? 10 and 9?
6. 10 soldiers are in one row and 10 in another; how many are there in both rows?
10 and 10 are how many?

Lessons 10 and 11.

ADDITION TABLE.

NOTE. Questions in this table should not be asked in rotation, because when they are so asked the learner can answer by merely counting, without the least exertion of memory.

2 and 1 are 3	5 and 1 are 6	8 and 1 are 9
2 and 2 are 4	5 and 2 are 7	8 and 2 are 10
2 and 3 are 5	5 and 3 are 8	8 and 3 are 11
2 and 4 are 6	5 and 4 are 9	8 and 4 are 12
2 and 5 are 7	5 and 5 are 10	8 and 5 are 13
2 and 6 are 8	5 and 6 are 11	8 and 6 are 14
2 and 7 are 9	5 and 7 are 12	8 and 7 are 15
2 and 8 are 10	5 and 8 are 13	8 and 8 are 16
2 and 9 are 11	5 and 9 are 14	8 and 9 are 17
2 and 10 are 12	5 and 10 are 15	8 and 10 are 18
3 and 1 are 4	6 and 1 are 7	9 and 1 are 10
3 and 2 are 5	6 and 2 are 8	9 and 2 are 11
3 and 3 are 6	6 and 3 are 9	9 and 3 are 12
3 and 4 are 7	6 and 4 are 10	9 and 4 are 13
3 and 5 are 8	6 and 5 are 11	9 and 5 are 14
3 and 6 are 9	6 and 6 are 12	9 and 6 are 15
3 and 7 are 10	6 and 7 are 13	9 and 7 are 16
3 and 8 are 11	6 and 8 are 14	9 and 8 are 17
3 and 9 are 12	6 and 9 are 15	9 and 9 are 18
3 and 10 are 13	6 and 10 are 16	9 and 10 are 19
4 and 1 are 5	7 and 1 are 8	10 and 1 are 11
4 and 2 are 6	7 and 2 are 9	10 and 2 are 12
4 and 3 are 7	7 and 3 are 10	10 and 3 are 13
4 and 4 are 8	7 and 4 are 11	10 and 4 are 14
4 and 5 are 9	7 and 5 are 12	10 and 5 are 15
4 and 6 are 10	7 and 6 are 13	10 and 6 are 16
4 and 7 are 11	7 and 7 are 14	10 and 7 are 17
4 and 8 are 12	7 and 8 are 15	10 and 8 are 18
4 and 9 are 13	7 and 9 are 16	10 and 9 are 19
4 and 10 are 14	7 and 10 are 17	10 and 10 are 20

LESSON 12.

PROMISCUOUS QUESTIONS IN ADDITION.

1. If you buy a lead pencil for 4 cents, six sheets of paper for 5 cents, and some apples for 3 cents, how many cents will they all cost?

2. How many marbles are 8 marbles and 7 marbles?

3. How many sugar plums will you have, if your father gives you 1, your sister gives you 3, and your brother gives you 5?

4. One of John's picture books has 10 leaves in it, and the other has 8; how many leaves have both?

5. 11 cents and 4 cents make how many?

6. How many are 7 and 7?

7. 6 boys are in one class, and 9 in another; what number are in both?

8. If a harrow has 7 teeth on one side, and only 5 on the other, how many teeth has it?

9. How many are 2 and 3 added to 5?

10. What number of books are 7 books and 5 books?

11. If you have 1 chestnut, Rufus 4, Alfred 3, and Ira 5, how many will you all have?

12. How many are 6 and 4?

13. 7 and 3 added to 5, make how many?

14. Eliza had 4 little tea cups and 2 larger ones, when her father bought her 6 more; how many had she then?

SUBTRACTION.

Lesson 13.

1. If you have 1 apple in your hand, and Richard takes it; how many apples will you have in your hand then?

2. How many, if then, does 1 thing taken from 1 thing leave?

2. If I take 2 apples away from a place where there are 2 apples, how many will be left?
3. If I take 3 apples away from where there are 3, how many will be left?
4. There is a heap containing 4 hazelnuts; take away 4, how many will be left?
5. Take 5 from 5 how many will be left? 6 from 6? 7 from 7? 8 from 8? 9 from 9? 10 from 10?
6. If Thomas takes 1 inkstand from a place where there are 2, how many will he leave?
7. If he takes 1 inkstand from 3, how many will he leave?
8. A boy has 4 cents in his hand; if he drops 1 how many are left?
9. If he has 4 cents and drops 3, how many are left?
10. Take 1 from 5, how many will be left? 4 from 5? 1 from 6? 5 from 6? 1 from 7? 6 from 7? 1 from 8? 7 from 8? 1 from 9? 8 from 9? 1 from 10? 9 from 10? 1 from 11? 10 from 11?

Lesson 11.

1. There are 4 wine glasses on a table, but 2 of them are broken; how many are ~~left~~ **whole**?
- 2 things from 4 things leave how many then? Why?
- Answer. Because 2 and 2 are four.*

NOTE. To solve this question, let the scholar take his counters; and count down 4, then count up 2, and then, for the answer, count up the remainder.

A similar course is to be pursued in other cases.

2. If you let Benjamin have 2 pears for 6 walnuts, how many more walnuts will you have than you had pears?
- 6 from 6 leaves how many? Why? *Answer. Because 2 and 4 are 6.*
- 4 from 6 leaves how many? Why?
3. A hen had 5 chickens, but the cat caught two of them; how many had she left?

- 2 from 5 leaves what number? Why? 3 from 5? Why?
4. Ann had 7 needles, but she lost 2 of them; how many remained?
2 from 7 leaves how many? Why? 5 from 7? Why?
5. David recited 9 times in arithmetic in one week, and Andrew recited 2 times less; how many times did Andrew recite?
2 from 9 leaves how many? 7 from 9?
6. A man has 8 oxen and he wants only 2; how many can he sell?
2 from 8 leaves what number? Why?
7. If you have 10 cents, and lose 2, how many will be left?
2 from 10 leaves how many? 8 from 10?
8. If you take 2 dollars from 12 how many remain?
2 from 12 leaves what number? Why? 10 from 12? Why?
9. In a great storm at sea, 2 fishermen were lost out of a boat where there were 11; how many were saved?
2 from 11 leaves what number? Why?

Lesson 15.

1. 6 pigeons were on a tree, and a man shot 3 of them; how many flew away?
3 from 6 leaves how many? Why?
2. If I have 8 watermelons, and give you 3, how many will be left for me?
3 from 8 leaves how many? 5 from 8?
3. 3 marbles taken from 7 leave how many?
3 from 7 leaves what number? Why? 4 from 7? Why?
4. There were 9 horses in a pasture, but 3 have jumped out; how many remain?
What is the difference between 3 and 9? Why?

5. Arthur caught 11 butterflies under his hat, but 3 got away; how many did he have left?

3 from 11 leaves how many? Why? 8 from 11? Why?

6. If you buy a little book for 3 cents, and pay with a 10 cent piece, how many cents must be given back to you?

3 from 10 leaves what number?

7. A man bought 12 eggs, but in going home he broke 3; how many had he left?

What is the difference between 3 and 12? 9 and 12?

8. 3 things taken from 13 things leave how many? 3 from 13 leaves what number? Why? 10 from 13? Why?

Lesson 16.

1. Mark paid 8 cents for a book that was worth only 4; how many cents did they cheat him out of?

4 from 8 leaves what number? Why?

2. Francis rode 10 miles and William 4; which rode the farthest? How much the farthest?

4 from 10 leaves how many?

3. 4 taken from 9 leaves what number? 5 from 9?

4. If 4 boys agreed to play at half past noon, but 4 of them did not come, how many were present?

What does 4 from 11 leave? 7 from 11? Why?

5. A boy had 13 cents given to him; in his hurry to count them, he dropped 4; how many remained in his hand?

4 from 13 leaves how many? Why? 9 from 13? Why?

6. If you take 4 filberts out of a heap where there are 12, how many are left?

What is the difference between 12 and 4?

7. Jane is 14 years old, and Arabelle is 4; how many years the oldest is Jane?

4 from 14 leaves what? Why? 10 from 14? Why?

Lesson 17.

1. George had 10 plums given him, but he lost 5 of them out of his pocket ; how many did he then have ?
How many does 5 from 10 leave ? Why ?
2. Alexander has 12 marbles ; 5 of them are larger than the rest ; how many small ones are there ?
5 from 12 leaves how many ? 7 from 12 ?
3. A boy caught 11 fishes, and gave 5 of them to a poor woman ; how many did he keep ?
What is the difference between 5 and 11 ?
4. Eliza has 5 mint drops ; how many more must she have to make 13 ?
What is the difference between 13 and 5 ? 13 and 8 ?
5. A fox caught 5 geese out of 15 ; how many were left ?
How many does 5 from 15 leave ? 10 from 15 ?
6. A man who owed 14 dollars paid 2 at one time and 3 at another ; how many dollars were then due ?
5 from 14 leaves what number ? Why ?

Lesson 18.

1. There were 12 scholars in a class, and after reciting 6 went home ; how many remained ?
6 from 12 leaves how many ? Why ?
2. Anthony had 14 nuts in his pocket, he gave 2 to one boy, 3 to another, and ate 1 himself ; how many were left ?
What is the difference between 6 and 14 ?
3. 13 boys were playing on the ice, 6 were sliding and the rest were on skates ; how many were on skates ?
6 from 13 leaves what number ? 7 from 13 ?
4. 6 from 15 leaves how many ? 9 from 15 ?
5. Frederic had 16 cherries ; he gave 6 of them to his sister, and kept the remainder ; how many did he keep ?
How many does 6 from 16 leave ? Why ?

6. Sophia is 7 years old and Matilda 15; what is the difference of their ages?
7 from 15 leaves how many? 8 from 15?
7. James hit a mark with his arrow 7 times and William 14; how many times did William hit the mark more than James?
What is the difference between 7 and 14?
8. A farmer received 7 dollars at one time, and 9 at another, he then spent 7; how much had he left?
7 from 16 leaves what? Why? 9 from 16?
9. 17 men started to go hunting, but 7 of them grew faint-hearted, and returned; how many proceeded?
7 from 17 leaves how many? Why? 10 from 17?
Why?

Lesson 19.

1. 16 trees stand in a row, 8 of them are on one side of a path; how many are on the other?
8 from 16 leaves how many? Why?
2. If you have 18 cents and buy a little book for 8 cents, how many cents will you have left? Will you have enough left to buy another book for 12 cents?
8 from 18 leaves how many? Why? 10 from 18?
Why?
3. If a man has 17 lambs, and sells 8, how many will remain?
8 from 17 leaves how many?
4. Henry parched 18 kernels of corn and put 9 in his pocket; the rest he gave away; how many did he give away?
9 from 18 leaves how many? Why?
5. There were 19 swallows' nests in a bank of earth, but some bad boys destroyed 9 of them; what number did they leave?
9 from 19 leaves what number? 10 from 19?
6. If a man shoots 10 quails out of a flock that contains 20, how many will escape?
10 from 20 leaves how many?

Lessons 20 and 21.

SUBTRACTION TABLE

NOTE. Questions in this table should not be asked in rotation, because when they are asked the learner has answer by merely counting, without the least exertion of memory.

2 from 3 leaves 1	5 from 6 leaves 1	8 from 9 leaves 1
2 from 4 leaves 2	5 from 7 leaves 2	8 from 10 leaves 2
2 from 5 leaves 3	5 from 8 leaves 3	8 from 11 leaves 3
2 from 6 leaves 4	5 from 9 leaves 4	8 from 12 leaves 4
2 from 7 leaves 5	5 from 10 leaves 5	8 from 13 leaves 5
2 from 8 leaves 6	5 from 11 leaves 6	8 from 14 leaves 6
2 from 9 leaves 7	5 from 12 leaves 7	8 from 15 leaves 7
2 from 10 leaves 8	5 from 13 leaves 8	8 from 16 leaves 8
2 from 11 leaves 9	5 from 14 leaves 9	8 from 17 leaves 9
2 from 12 leaves 10	5 from 15 leaves 10	8 from 18 leaves 10
3 from 4 leaves 1	6 from 7 leaves 1	9 from 10 leaves 1
3 from 5 leaves 2	6 from 8 leaves 2	9 from 11 leaves 2
3 from 6 leaves 3	6 from 9 leaves 3	9 from 12 leaves 3
3 from 7 leaves 4	6 from 10 leaves 4	9 from 13 leaves 4
3 from 8 leaves 5	6 from 11 leaves 5	9 from 14 leaves 5
3 from 9 leaves 6	6 from 12 leaves 6	9 from 15 leaves 6
3 from 10 leaves 7	6 from 13 leaves 7	9 from 16 leaves 7
3 from 11 leaves 8	6 from 14 leaves 8	9 from 17 leaves 8
3 from 12 leaves 9	6 from 15 leaves 9	9 from 18 leaves 9
3 from 13 leaves 10	6 from 16 leaves 10	9 from 19 leaves 10
4 from 5 leaves 1	7 from 8 leaves 1	10 from 11 leaves 1
4 from 6 leaves 2	7 from 9 leaves 2	10 from 12 leaves 2
4 from 7 leaves 3	7 from 10 leaves 3	10 from 13 leaves 3
4 from 8 leaves 4	7 from 11 leaves 4	10 from 14 leaves 4
4 from 9 leaves 5	7 from 12 leaves 5	10 from 15 leaves 5
4 from 10 leaves 6	7 from 13 leaves 6	10 from 16 leaves 6
4 from 11 leaves 7	7 from 14 leaves 7	10 from 17 leaves 7
4 from 12 leaves 8	7 from 15 leaves 8	10 from 18 leaves 8
4 from 13 leaves 9	7 from 16 leaves 9	10 from 19 leaves 9
4 from 14 leaves 10	7 from 17 leaves 10	10 from 20 leaves 10

Lesson 22.

PROMISCUOUS QUESTIONS IN SUBTRACTION.

1. A boy bought 6 sticks of candy, and gave 2 of them to one of his young friends ; how many were left for himself ?
2. A ship in pursuit of a schooner during a storm, had 7 sails set, and the schooner had but 3 ; how many sails did the ship use more than the schooner ?
3. If you take 6 peaches out of a heap that contains 12, how many will you leave ?
4. Walter had 16 cents, but he lost 3 of them when he was chasing a dog, and he spent 6 more for some gingerbread ; how many were left then ?
5. A farmer raked some hay into 11 piles just before a shower, but the wind blew 7 of them over ; how many remained standing ?
6. 2 from 18 leaves how many ? 16 from 18 leaves how many ?
7. If you have 5 pears and Joseph 3, which has the most ? How many ?
8. There were 14 blackbirds on a tree, but a boy frightened 8 of them away ; what number stayed on the tree ?
9. What is the difference between 11 and 3 ?
10. 4 things taken from 7 things leave how many things ?
11. 10 boys were playing at ball, but 6 have just gone home ; how many are left ?
12. How many marbles must I take out of a box that contains 12 to leave 4 ?
13. What is the difference between 19 dollars and 10 dollars ?
14. James had 20 cents, but he gave 10 of them to a blind man ; how many did he keep ?

CONTENTS.

LESSON 23. PROMISCUOUS.

Count one hundred.

1 one	35 thirty-five	68 sixty-eight
2 two	36 thirty-six	69 sixty-nine
3 three	37 thirty-seven	70 seventy
4 four	38 thirty-eight	71 seventy-one
5 five	39 thirty-nine	72 seventy-two
6 six	40 forty	73 seventy-three
7 seven	41 forty-one	74 seventy-four
8 eight	42 forty-two	75 seventy-five
9 nine	43 forty-three	76 seventy-six
10 ten	44 forty-four	77 seventy-seven
11 eleven	45 forty-five	78 seventy-eight
12 twelve	46 forty-six	79 seventy-nine
13 thirteen	47 forty-seven	80 eighty
14 fourteen	48 forty-eight	81 eighty-one
15 fifteen	49 forty-nine	82 eighty-two
16 sixteen	50 fifty	83 eighty-three
17 seventeen	51 fifty-one	84 eighty-four
18 eighteen	52 fifty-two	85 eighty-five
19 nineteen	53 fifty-three	86 eighty-six
20 twenty	54 fifty-four	87 eighty-seven
21 twenty-one	55 fifty-five	88 eighty-eight
22 twenty-two	56 fifty-six	89 eighty-nine
23 twenty-three	57 fifty-seven	90 ninety
24 twenty-four	58 fifty-eight	91 ninety-one
25 twenty-five	59 fifty-nine	92 ninety-two
26 twenty-six	60 sixty	93 ninety-three
27 twenty-seven	61 sixty-one	94 ninety-four
28 twenty-eight	62 sixty-two	95 ninety-five
29 twenty-nine	63 sixty-three	96 ninety-six
30 thirty	64 sixty-four	97 ninety-seven
31 thirty-one	65 sixty-five	98 ninety-eight
32 thirty-two	66 sixty-six	99 ninety-nine
33 thirty-three	67 sixty-seven	100 one hundred
34 thirty-four		

NOTE 1. The learner to recite should count the marks in Lesson 24.

Note B.—The teacher should make the pupil observe that thirteen is a contraction of three and ten; fourteen of four and ten; fifteen of five and ten; sixteen of six and ten; seventeen of seven and ten; eighteen of eight and ten; and nineteen of nine and ten; also, that twenty is a contraction of two tens, thirty of three tens, forty of four tens, fifty of five tens, sixty of six tens, seventy of seven tens, eighty of eight tens, and ninety of nine tens.

Lesson 24

Count these marks.

—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—

- How many marks are there in **one row**?
- How many marks are there in **two rows**?
- How many marks are there in **three rows**?
- How many marks are there in **four rows**?
- How many marks are there in **five rows**?
- How many marks are there in **six rows**?
- How many marks are there in **seven rows**?
- How many marks are there in **eight rows**?
- How many marks are there in **nine rows**?
- How many marks are there in **ten rows**?
- How many are **2 10s**?
- How many are **3 10s**?
- How many are **4 10s**?
- How many are **5 10s**?
- How many are **6 10s**?
- How many are **7 10s**?
- How many are **8 10s**?
- How many are **9 10s**?
- How many are **10 10s**?

NOTE. The learner should now be taught to write the numbers from 1 to 100 in figures. The figures may be written on his slate or on a black-board. If the figures are but rudely made, still the exercise will be very useful.

MULTIPLICATION.

Lesson 25.

1. If I have a basket of apples, and hand Nathan 1 apple once, or 1 time, how many will he get?
How many, then, is once 1, or 1 time 1?
2. If I had handed him 1 apple 2 times, how many would he have got then?
3. If I had handed him 2 apples once, or 1 time, how many would he then have got?
How many are 2 times 1? 1 time 2?
4. If I had handed him 1 apple 3 times, how many would he have got?
5. If I had handed him 3 apples 1 time, how many would he have got?
6. How many would he have got if I had handed him 1 apple 4 times? 4 apples 1 time?
7. How many would he have got if I had handed him 1 apple 5 times? 5 apples 1 time? 1 apple 6 times? 6 apples 1 time? 1 apple 7 times? 7 apples 1 time? 1 apple 8 times? 8 apples 1 time? 1 apple 9 times? 9 apples 1 time? 1 apple 10 times? 10 apples 1 time?
8. If there had been a good many apples in the basket, say 58, and I had handed him 1 apple 58 times, how many would he have got?
9. If I had handed him the whole 58 at 1 time, how many would he have got?
How many are 58 times 1? 1 time 58?

Lesson 26.

1. Moses and William have 2 marbles apiece; how many have both?
2 times 2 are how many then?

2. Elizabeth has 2 little trunks, each of which has 3 dollars in it ; how many dollars has she in both trunks ?
2 times 3 are what number ? 3 times 2 are what number ?

NOTE. To solve this question, the learner should be instructed to count 3 of his counters twice, thus ; 1, 2, 3 ; 4, 5, 6. Another way to get the answer is, to count 2 of the counters over 3 times. The scholar can keep the number of times he counts over the marks on his fingers.

Other questions can be solved in a similar manner.

3. An ox has 4 feet, how many feet have 2 oxen ?
2 times 4 are how many ? 4 times 2 ?
4. If you pay 5 cents for toll every time you ride over a certain bridge, how many cents will it cost you to ride over it 2 times ?
2 times 5 are how many ? 5 times 2 ?
5. How many horses are there in 6 teams with 2 horses in a team ?
How many are 6 times 2 ? 2 times 6 ?
6. Samuel has 7 chestnuts in each of his 2 pockets ; how many chestnuts has he ?
2 times 7 are how many ? 7 times 2 ?
7. Daniel bought 2 little books and paid 8 cents apiece for them ; what did they cost him ?
2 times 8 are what number ? 8 times 2 ?
8. A little boy has 9 rabbits in a burrow, and as many more in another place ; how many has he ?
2 times 9 are how many ? 9 times 2 ?
9. A man has 10 sheep in one pasture and as many more in another ; how many has he ?
What number are 2 times 10 ? 10 times 2 ?

Lesson 27.

1. 3 large wagons are going to market ; each one has 3 tons of cheese in it ; how many tons do they all carry ?
3 times 3 are how many ?
2. Jonathan went fishing 4 times, and caught 3 fishes each time he went ; what was the number he caught ?
4 times 3 are what number ? 3 times 4 ?

3. Mary lost 3, 5 cent pieces one afternoon; how many cents were they worth?
3 times 5 are how many? 5 times 3?
4. If you buy 6 oranges at 3 cents apiece; how much will they cost?
6 times 3 are how many? 3 times 6?
5. A laborer earned 7 dollars a week for 3 weeks; how much did his wages amount to?
3 times 7 are what number? 7 times 3?
6. A gentleman agreed to give 8 men a dollar a day to labor for him; they worked 3 days; how much did they earn in that time?
3 times 8 are how many? 8 times 3?
7. Oliver picked up 9 walnuts, which he put in his pocket; he did so 3 times; how many did he have then?
How many are 3 times 9? 9 times 3?
8. 10 girls have 3 books apiece; how many books have they all?
10 times 3 are what number? 3 times 10?

Lesson 28.

1. 4 little boys gave a poor man 4 cents apiece; how many cents did they all give him?
4 times 4 are how many?
2. Melinda walked out 5 times a day for 4 days; how many times did she walk out?
4 times 5 are how many? 5 times 4?
3. Some stage-coaches have 6 horses; how many legs do so many horses have?
4 times 6 are what number? 6 times 4?
4. There are 7 days in a week; how many days are there in 4 weeks?
4 times 7 are how many? 7 times 4?
5. Ezra has 4 doves, and David has 8 times as many; what number has David?
How many are 8 times 4? 4 times 8?

6. There are 9 little girls in one class, and each one has 4 books ; how many books have the whole ?
9 times 4 are how many ? 4 times 9 ?
7. If I go out to shoot 4 times, and get 10 plovers each time, how many shall I have then ?
4 times 10 are how many ? 10 times 4 ?

Lesson 29.

1. A farmer has a small orchard with 5 rows of trees, and 5 trees in a row ; how many trees are there in the orchard ?
5 times 5 are how many ?
2. Philip bought 5 swan's quills at 6 cents apiece ; how much did they all cost ?
5 times 6 are how many ? 6 times 5 ?
3. A stage has 7 passengers, whose fare is 5 dollars apiece ; how much do they all pay ?
7 times 5 make what number ? 5 times 7 ?
4. Darius has 8 filberts, but his brother has 8 times as many ; how many has his brother ?
5 times 8 are how many ? 8 times 5 ?
5. If you have 5 quills and I have 9 times as many, how many have I ?
6. 10 times 5 are how many ? 5 times 10 ?

Lesson 30.

1. Lucretia bought 6 camel's hair pencils at 6 cents apiece ; what did they cost ?
6 times 6 make how many ?
2. A gentleman was 6 weeks on his passage from Boston to New Orleans in a packet ; how many days were there in that time ?
6 times 7 are how many ? 7 times 6 ?
3. 6 boys bought each of them a kite at 8 cents apiece ; how much did they pay for them ?
6 times 8 are what number ? 8 times 6 ?
4. 9 times 6 are how many ? 6 times 9 ?

5. Augustus travelled 6 miles an hour for 10 hours ;
how far did he go?
10 times 6 make how many? 6 times 10?

Lesson 31.

1. How many days are there in 7 weeks?
7 times 7 are how many?
2. Arthur read 7 times in one day, and 8 lines each
time ; how many lines did he read?
How many do 7 times 8 make? 8 times 7?
3. John bought 7 pounds of sugar at 9 cents a pound ;
how much must he pay for it?
7 times 9 are how many? 9 times 7?
4. A traveller in Philadelphia paid 10 dollars a week for
his board during 7 weeks; how much did he pay in all?
7 times 10 are how many? 10 times 7?
5. 7 boys had 9 nuts apiece, but each has eaten 2; how
many nuts are left?

Lesson 32.

1. If a boy takes 8 raisins from a box 8 times, how
many will he get?
8 times 8 are how many?
2. A man carried to market 9 casks with 8 cheeses in
each ; how many cheeses had he?
9 times 8 make what number? 8 times 9?
3. 8 times 10 are what number? 10 times 8?
4. James' father gave him an orchard that had 9 rows
of trees in it, with 9 trees in a row ; how many trees
were there?
9 times 9 make how many?
5. How much money must I pay 9 men so that they
shall have 10 dollars apiece?
9 times 10 are how many? 10 times 9?
6. A carpenter earned 10 dollars a week for 10 weeks ;
how much did he get in that time?
How many are 10 times 10?

Lessons 33 and 34.

MULTIPLICATION TABLE.

2 times 1 are 2	5 times 1 are 5	8 times 1 are 8
2 times 2 are 4	5 times 2 are 10	8 times 2 are 16
2 times 3 are 6	5 times 3 are 15	8 times 3 are 24
2 times 4 are 8	5 times 4 are 20	8 times 4 are 32
2 times 5 are 10	5 times 5 are 25	8 times 5 are 40
2 times 6 are 12	5 times 6 are 30	8 times 6 are 48
2 times 7 are 14	5 times 7 are 35	8 times 7 are 56
2 times 8 are 16	5 times 8 are 40	8 times 8 are 64
2 times 9 are 18	5 times 9 are 45	8 times 9 are 72
2 times 10 are 20	5 times 10 are 50	8 times 10 are 80
3 times 1 are 3	6 times 1 are 6	9 times 1 are 9
3 times 2 are 6	6 times 2 are 12	9 times 2 are 18
3 times 3 are 9	6 times 3 are 18	9 times 3 are 27
3 times 4 are 12	6 times 4 are 24	9 times 4 are 36
3 times 5 are 15	6 times 5 are 30	9 times 5 are 45
3 times 6 are 18	6 times 6 are 36	9 times 6 are 54
3 times 7 are 21	6 times 7 are 42	9 times 7 are 63
3 times 8 are 24	6 times 8 are 48	9 times 8 are 72
3 times 9 are 27	6 times 9 are 54	9 times 9 are 81
3 times 10 are 30	6 times 10 are 60	9 times 10 are 90
4 times 1 are 4	7 times 1 are 7	10 times 1 are 10
4 times 2 are 8	7 times 2 are 14	10 times 2 are 20
4 times 3 are 12	7 times 3 are 21	10 times 3 are 30
4 times 4 are 16	7 times 4 are 28	10 times 4 are 40
4 times 5 are 20	7 times 5 are 35	10 times 5 are 50
4 times 6 are 24	7 times 6 are 42	10 times 6 are 60
4 times 7 are 28	7 times 7 are 49	10 times 7 are 70
4 times 8 are 32	7 times 8 are 56	10 times 8 are 80
4 times 9 are 36	7 times 9 are 63	10 times 9 are 90
4 times 10 are 40	7 times 10 are 70	10 times 10 are 100

Lesson 35.

PROMISCUOUS QUESTIONS IN MULTIPLICATION.

1. Edwin has 5 plums, and Walter has 8 times as many; how many has Walter?
2. If you ride 7 miles an hour for 4 hours, how far will you go?
3. How many are 9 times 8?
4. James got 4 lessons a day for 8 days; how many lessons did he get in that time?
5. A man bought 9 sheep at 6 dollars apiece; how much did they cost?
6. Joseph had 12 marbles, he lost 2, and then his brother had 3 times as many as he; how many had his brother?
7. If I fish 2 times and catch 3 fish each time, how many do I get?
8. Lucy recited 3 lessons a day for 6 days; how many lessons did she recite in the whole time?
9. If you give 9 cents apiece for 5 lead pencils, how much will they all cost?
10. 3 men received 4 dollars apiece; how much did they all receive?
11. How many are 7 times 7?
12. How many are 8 times 3?
13. A cat caught 2 mice every day for a week; how many did she catch in that time?
14. How many do you get by multiplying 5 by 8?

DIVISION.

Lesson 36.

1. If there is a pile of chestnuts on a table, and you take away all but 1, how many times 1 chestnut is there left?
1 is in 1 how many times then?

2. If you take away all but 2 chestnuts, how many times 1 chestnut will there be in what is left?
How many times 1 are there in 2? Why? *Answer.* *Because 2 times 1 are 2.*
3. How many times 1 chestnut are there in a pile that contains 3 chestnuts?
4. How many times 1 chestnut are there in a pile that contains 4 chestnuts? In a pile that contains 5 chestnuts? 6 chestnuts? 7? 8? 9? 10?
5. If you have 2 chestnuts in your hand, how many times 2 chestnuts have you?
2 is in 2 how many times then?
6. How many times 3 chestnuts are there in a heap that contains 3 chestnuts?
7. How many heaps of 4 chestnuts are in 4 chestnuts?
8. How many times 5 chestnuts are there in 5 chestnuts? 6 chestnuts in 6 chestnuts? 7 chestnuts in 7? 8 in 8? 9 in 9? 10 in 10? 25 in 25? 80 in 80?

Lesson 37.

1. If I have to pay 2 cents every time I pass over a toll bridge, how many times can I go over for 4 cents?
2 is in 4 how many times? Why? *Answer.* *Because 2 times 2 are 4?*
2. Joel's father gave him 6 large apples, and allowed him to eat 2 a day; how long did they last him?
3. If he eats as many one day as another, and they last him 3 days, how many does he eat a day?
2 is in 6 how many times? Why? 3 is in 6 how many times? Why?

NOTE. To get the answer to question 2, let the learner count, and recount 2 of his counters till he reaches 6, keeping the number of times he reckons over the 2 marks on his fingers. Let him proceed in a like manner in other cases.

4. If you put 8 cherries in 2 equal heaps, how many will there be in each heap?
2 is in 8 how often? Why? 4 in 8? Why?

5. A schoolmaster directed a class of 10 boys to walk 2 abreast in coming to recite ; how many 2s were there ?
2 is in 10 how many times ? Why ? 5 in 10 ?
Why ?
6. There were 12 young ladies and gentlemen at a party ; how many 2s or couples were there ?
2 is in 12 how many times ?
7. If you divide 14 apples into 7 equal heaps ; how many will there be in each heap ?
14 divided by 7 gives what number ? Why ? 14 by 2 ? Why ?
8. 16 peaches are to be shared by 2 boys ; how many will each have ?
2 is in 16 how many times ? 8 in 16 ?
9. Benjamin had 18 cents, and he spent 9 a day ; how long did they last him ?
9 is in 18 how many times ?
10. A schoolmistress had 20 picture-books, and she gave 2 to a scholar ; how many scholars received books ?
2 is in 20 how many times ? Why ? 10 in 20 ?
Why ?

Lesson 38.

1. Laura had 3 little brothers, and she wished to divide 9 pears equally between them ; how many must she give to each one ?
3 is in 9 how many times ? Why ?
2. A lady gave 4 poor women 12 dollars in equal shares ; how much did she give to each ?
4 is in 12 how many times ? 3 in 12 ?
3. Robert put 15 cherries on a table in 3 equal piles ; how many were there in a pile ?
15 divided by 3 gives what number ? 15 by 5 ?
4. How long can a man live on 18 dollars, if his board costs him 3 dollars a week ?
3 is in 18 how many times ? Why ? 6 in 18 ? Why ?

5. 21 hunters separated into 7 equal parties ; how many men were there in each party ?
21 divided by 7 gives how many ?
6. Charles rode 24 miles in 3 hours ; how many miles did he ride in 1 hour ?
24 divided by 3 gives what number ? 24 divided by 8 ?
7. Thomas had 27 walnuts, and said he had 10 times as many as Edmund, who had 3 ; did he reckon right ?
How many times 3 walnuts did he have ?
3 is in 27 how many times ? Why ?
8. 10 boys had 30 cents divided equally between them ; how many did each get ?
10 is in 30 how many times ? Why ? 3 in 30 ?
Why ?

Lesson 39.

1. Emma had 16 pinks, which she gave to 4 of her playmates in equal portions ; how many did each one receive ?
16 divided by 4 gives what number ? Why ?
2. How many times 4 weeks are there in 20 weeks ?
4 is in 20 how many times ? 5 in 20 ?
3. A boy paid 24 cents for 6 pencils ; how much did he pay apiece for them ?
24 divided by 6 gives what number ? 24 by 4 ?
4. Divide 28 by 4, and tell me the answer.
5. A man is 32 years of age, and is 4 times as old as his son ; what is his son's age ?
32 divided by 4 gives what number ? Why ? 32 by 8 ? Why ?
6. 4 houses have the same number of windows in front, and there are 36 front windows in all of them ; how many does each house have ?
36 divided by 4 gives how much ?
7. 10 pounds of rice cost 40 cents ; how much was it a pound ?
10 is in 40 how many times ? Why ? 4 in 40 ? Why ?

Lesson 40.

1. If you pay 25 cents for riding 5 miles, how much do you pay a mile?
25 divided by 5 gives how much?
2. 6 is in 30 how many times?
3. A little girl had 35 sugar-plums, but they allowed her to eat only 7 a day; how many days did they last?
7 is in 35 how many times? 5 in 35?
4. A man had 40 dollars, and bought some wood with it, at 5 dollars a cord; how many cords did he get for his money?
5 is in 40 how many times? Why?
5. Joseph had 9 cents for every good lesson which he recited in one week; the whole he received was 45 cents; how many good lessons did he recite?
9 is in 45 how many times? Why? 5 in 45? Why?
6. 5 men shot 50 wild ducks; how many did each man have, if they were equally divided?
50 divided by 5 gives what number? 50 by 10?

Lesson 41.

1. How many melons at 6 cents apiece can I buy for 36 cents?
6 is in 36 how many times?
2. A stage was driven 42 miles in 7 hours; how many miles an hour was that speed?
42 divided by 7 gives what number? Why? 42 by 6? Why?
3. How many times is 6 contained in 48?
4. 6 men found 54 dollars, of which they took equal shares; how much was one share?
6 is in 54 how many times?
5. If a trader buys 6 dozens of eggs for 60 cents, how much does he give a dozen?
6 is in 60 how many times? 10 in 60?

Lesson 42.

1. How many weeks are there in 49 days?
7 is in 49 how many times? Why?
2. 8 boys have 56 cherries; what is the share of each?
56 divided by 8 gives how many? 56 by 7?
3. Find how many times 7 is contained in 63, and tell me the answer.
4. A captain divided 70 men into 7 parties, with the same number of men in each; how large was each party?
70 divided by 7 gives how many? Why? 70 by 10? Why?
5. 2 boys divided 63 apples equally among themselves and 7 others; what was each one's share?

Lesson 43.

1. A man receives 64 dollars for 8 weeks' labor; how much does he earn in one week?
64 divided by 8 gives how much?
2. A surveyor divided a farm of 72 acres into 9 equal portions; how many acres were there in each portion?
How many times is 9 contained in 72?
3. How many times can you take 8 lemons out of a basket that contains 80?
8 is in 80 how many times? Why? 10 in 80? Why?
4. 9 is contained in 81 how many times?
5. In 9 rail-road cars there are 90 passengers; how many are there in one car, if each contains the same number?
9 is contained in 90 how many times? 10 in 90?
6. If 100 men are divided into 10 parties of equal size, how many will there be in each party?
10 is in 100 how many times? Why?

Lessons 44 and 45.

DIVISION TABLE.

NOTE. Questions in this table should not be asked in rotation, because when they are so asked the learner can answer by merely counting, without the least exertion of memory.

2 in 2, 1 time	5 in 5, 1 time	8 in 8, 1 time
2 in 4, 2 times	5 in 10, 2 times	8 in 16, 2 times
2 in 6, 3 times	5 in 15, 3 times	8 in 24, 3 times
2 in 8, 4 times	5 in 20, 4 times	8 in 32, 4 times
2 in 10, 5 times	5 in 25, 5 times	8 in 40, 5 times
2 in 12, 6 times	5 in 30, 6 times	8 in 48, 6 times
2 in 14, 7 times	5 in 35, 7 times	8 in 56, 7 times
2 in 16, 8 times	5 in 40, 8 times	8 in 64, 8 times
2 in 18, 9 times	5 in 45, 9 times	8 in 72, 9 times
2 in 20, 10 times	5 in 50, 10 times	8 in 80, 10 times
3 in 3, 1 time	6 in 6, 1 time	9 in 9, 1 time
3 in 6, 2 times	6 in 12, 2 times	9 in 18, 2 times
3 in 9, 3 times	6 in 18, 3 times	9 in 27, 3 times
3 in 12, 4 times	6 in 24, 4 times	9 in 36, 4 times
3 in 15, 5 times	6 in 30, 5 times	9 in 45, 5 times
3 in 18, 6 times	6 in 36, 6 times	9 in 54, 6 times
3 in 21, 7 times	6 in 42, 7 times	9 in 63, 7 times
3 in 24, 8 times	6 in 48, 8 times	9 in 72, 8 times
3 in 27, 9 times	6 in 54, 9 times	9 in 81, 9 times
3 in 30, 10 times	6 in 60, 10 times	9 in 90, 10 times
4 in 4, 1 time	7 in 7, 1 time	10 in 10, 1 time
4 in 8, 2 times	7 in 14, 2 times	10 in 20, 2 times
4 in 12, 3 times	7 in 21, 3 times	10 in 30, 3 times
4 in 16, 4 times	7 in 28, 4 times	10 in 40, 4 times
4 in 20, 5 times	7 in 35, 5 times	10 in 50, 5 times
4 in 24, 6 times	7 in 42, 6 times	10 in 60, 6 times
4 in 28, 7 times	7 in 49, 7 times	10 in 70, 7 times
4 in 32, 8 times	7 in 56, 8 times	10 in 80, 8 times
4 in 36, 9 times	7 in 63, 9 times	10 in 90, 9 times
4 in 40, 10 times	7 in 70, 10 times	10 in 100, 10 times

Lesson 46.

PROMISCUOUS QUESTIONS IN DIVISION.

1. If you divide 27 apples equally among 9 boys, how many will each one have ?
2. A man bought some sheep for 56 dollars, at 7 dollars apiece ; how many sheep did he get ?
3. What number do you obtain by dividing 36 by 9 ?
4. William had 24 oranges, which he put away in 4 equal parcels ; what number was there in each parcel ?
5. How many quills at 3 cents apiece can I buy for 18 cents ?
6. How many times is 8 contained in 64 ?
7. Samuel paid 48 cents for riding 8 miles ; what did he pay for one mile ?
8. If strawberries are 9 cents a quart, how many quarts can you get for 81 cents ?
9. 5 men paid 25 dollars for their fare at a hotel ; what was each one's share ?
10. 5 is in 30 how many times ?
11. If you get one pound of raisins for 10 cents, how many pounds can you get for 90 cents ?
12. A boy paid 42 cents for a penknife ; how many little books at 6 cents apiece, could he have got for the same money ?
13. If a man gives you 10 cent pieces in exchange for a 50 cent piece, how many must you receive ?
14. If you divide 100 cents equally among 10 children, how many will each get ?

PROMISCUOUS QUESTIONS IN ADDITION, SUBTRACTION,
MULTIPLICATION AND DIVISION.**Lesson 47.**

NOTE. No counters of any description, are any longer to be used.

1. If you give 7 cents for one kite, and 9 cents for another, how much do they both cost ?
2. Into how many parcels must 72 pins be divided, so that each parcel may contain 8 ?

3. Henry had 3 books, he bought 3, and his father gave him 5 more ; how many had he then ?
4. If I put 4 apples with 9, how many shall I have ?
5. There are 13 pumpkins in a heap ; if you take out 4 and afterwards take out 7, how many will be left ?
6. Philo caught 8 pickerel, and another boy caught 4 times as many ; what number was that ?
7. A man bought some broadcloth at 5 dollars a yard ; how many yards can he buy for 45 dollars ?
8. A farmer who had 16 dollars paid one man 3 dollars, and another 4, how much was left ?
9. How much will a bushel of oats cost, if you give 10 half dollars for 10 bushels ?
10. George told Stephen he had 7 figs ; Stephen had 4 times as many ; what was his number ?

Lesson 48.

1. If you buy a hogshead of molasses for 17 dollars, and pay 9 dollars down, how much will you owe ?
2. A captain had 40 men but only one man in 5 had a gun ; how many had guns ?
3. How many are 7 times 5 ?
4. If a spider has 8 eyes, how many can he lose before they are reduced to 2 ?
5. If a stone weighs 45 pounds and is 5 times as heavy as another, what is the weight of the little one ?
6. How many are 7 and 4 ?
7. Sarah had 17 gold beads, but she lost 8 of them ; how many were left ?
8. Multiply 9 by 7, and tell me the number made.
9. Amos is 14 years of age and Arthur 8 ; which is the oldest ? How much ?
10. 6 little boys parched 54 kernels of corn ; what was each one's share ?

Lesson 49.

1. A man sold 9 bushels of wheat for 18 dollars ; what price did he get a bushel ?
2. How long will it take a man to ride 48 miles, if he goes 8 miles an hour ?
3. 10 from 19 leaves how many ?

4. A ship has 3 masts, and a schooner 2; how many masts have 3 ships and 3 schooners?
5. Charles has 4 mint drops, and Silvester 5, but James has 7 times as many as both; what number has he?
6. How many times is 7 contained in 14?
7. Walter went fishing 3 times, and caught 3 fishes each time; Albert went 2 times, and caught 4 fishes each time; how many did they both catch?
8. Divide 81 into 9 equal parts, and tell me what number is in each part?
9. Julia picked 13 roses and gave away 9; how many had she left?
10. If I put 6 penknives into a paper that already contains 8, what number will be in it then?

Lesson 50.

1. A man pays 6 cents a mile for his stage fare; how many miles can he go for 60 cents?
2. If a boy who has 9 cents in his pocket, and 4 in a box, spends 7, how many will he have left?
3. Edward bought 9 lemons at 3 cents apiece; how much did they cost him?
4. A hen had 13 chickens, but the rats destroyed 5; how many had she left?
5. How many are 7 and 4?
6. What number does 5 times 10 make?
7. A boy can carry 3 pumpkins on a wheel-barrow; how many loads must he make to carry away 27?
8. 9 from 18 leaves how many?
9. If I get 6 pounds of honey for 54 cents, how much do I give a pound?
10. How many times is 2 contained in 20?

Lesson 51.

1. A little girl is 7 years of age, and her brother is 4 times as old; what is his age?
2. How many are 6 times 3?
3. There are 6 boys and 8 girls in a class; what is the whole number in it?
4. A sportsman shot 7 pigeons out of a flock that contained 13; what number escaped?

5. How many feet are there in 10 yards, if 3 feet make one yard?
6. 8 is contained in 48 how many times?
7. If you walk 40 rods in 5 minutes, how many rods will you walk in one minute?
8. 6 is in 42 how many times? 7 in 42?
9. If you find 9 apples under one tree and 6 under another, how many will you have?
10. 13 little girls were going to school together, but 4 of them stopped by the way; how many proceeded?

QUESTIONS IN ADDITION.

Lesson 52.

1. 11 marbles and 3 marbles more make how many?
EXPLANATION. 11 is 10 and 1. Now 3 and 1 are 4, and 10 are 14; answer.
2. James has 14 cents, and his sister 4 more; how many have both?
3. How many are 25 and 2?
4. If you put 30 pens with 8 how many will there be?
5. What is the sum of 43 and 6? Of 51 and 9?
6. A boy has 18 nuts in his pocket, and 10 in his hand; how many has he?
EXPLANATION. 18 is 10 and 8. Now 10 and 10 are 20, and 8 are 28; answer.
7. How many are 21 and 10? 25 and 10?
8. A man who had 16 acres of land bought 10 more; how many had he then?
9. A man was 34 years old 10 years ago; how old is he now?
10. A teacher had 41 scholars, when he had an increase of 10 more; what number attended his school then?

Lesson 53.

1. How many are 52 and 10? 56 and 10? 60 and 10? 75 and 10? 83 and 10? 90 and 10?
2. If you have 17 peaches, and your mother gives you 4 more, how many will you then have?
EXPLANATION. 17 is 10 and 7. Now 4 and 7 are 11, and 10 are 21; answer
3. How many are 19 cents and 3 cents?
4. If a man gives 28 dollars for a cow, and 5 dollars for a calf, what sum must he pay for both?

5. What number do 32 and 9 make ?
6. A farmer has 8 bushels of potatoes in his cart, and 64 in his cellar ; what quantity has he in both places ?
7. How many are 12 and 9 ?
8. If you have 10 cents and your brother 30 ; how many have both ?
9. 30 men and 20 men are how many ?
10. How many are 30 and 30 ?

QUESTIONS IN SUBTRACTION.

Lesson 54.

1. John took 2 plums from a heap that contained 13 ; how many did he leave ?
 2. Take 3 cents from 25, and how many will be left ?
 3. 6 from 39 leaves how many ?
 4. Mary has 18 pins ; if she gives Caroline 4 how many will she keep ?
 5. What is the difference between 45 and 1 ? 56 and 5 ?
 6. A man took 10 dollars from his pocket where he had 21 ; how many did he leave ?
- EXPLANATION. 21 is 2 tens and 1. Now 10 from 2 tens and 1, leaves 1 ten and 1, or 11 ; answer.
7. How many does 10 taken from 22 leave ? 10 from 25 ?
 8. A woman took 10 eggs from a basket that contained 36 ; how many did she leave ?
 9. 10 passengers left a train of rail-road cars, where there were 43 ; how many remained ?
 10. A grocer sold 10 pounds of butter from a keg that contained 51 ; how many pounds remained ?

Lesson 55.

1. What is the difference between 60 and 10 ? 62 and 10 ? 75 and 10 ? 82 and 10 ? 87 and 10 ? 90 and 10 ?
2. There are 20 pigeons on a tree ; after 2 have flown away, how many will be left ?
3. If you take 5 from 23, how many will be left ?
4. If you take 3 dollars from 31, what remains ?
5. What is the difference between 46 and 7 ?
6. If a boy owes you 50 cents and pays you 2, how many will he owe you still ?

7. What number remains after taking 7 from 64 ?
8. A farmer had 30 apple trees, but 10 died and were cut down ; how many did he have then ?
9. How many trees would have remained if 20 had died out of the 30 ?
10. How many is 50 more than 30 ?

QUESTIONS IN MULTIPLICATION.

Lesson 56.

1. A man has 2 pastures, and 12 cows in each ; how many cows has he in both pastures ?

EXPLANATION. 12 is 10 and 2. Now 2 times 2 are 4, and 2 times 10 are 20 ; 4 and 20 are 24 ; answer.

2. If you buy 11 lemons at 3 cents apiece, how much must you pay for them ?
 3. How many are 2 times 14 ?
 4. Horace made 3 heaps of snow-balls with 13 balls in a heap, how many did he make ?
 5. 4 times 10 are what number ?
 6. There are 2 rows of elm trees with 20 trees in a row ; what number of trees are there in both rows ?
- EXPLANATION. 20 is 2 tens. Now 2 times 2 tens are 4 tens, or 40 ; answer.
7. How many are 3 times 20 ?
 8. What number of men are there in 2 rail-road cars with 30 men in each ?
 9. A man is 40 years old, and his father is 2 times as old ; how old is his father ?
 10. How many are 3 times 30 ?

Lesson 57.

1. A merchant has 2 trunks with 21 dollars in each ; how many dollars has he in both trunks ?

EXPLANATION. 21 is 20 and 1. Now 2 times 1 are 2, and 2 times 20 are 40 ; 2 and 40 are 42 ; answer.

2. If the merchant had had 22 dollars in each trunk, how much would he have had ?
3. If he had had 24 dollars in each trunk, how much would he have had ?
4. How many are 3 times 33 ?
5. How many are 2 times 44 ?

6. A boy has 2 pockets with 16 cents in each; how many cents has he?

EXPLANATION. 16 is 10 and 6. Now 2 times 6 are 12, or 10 and 2, and 2 times 10 are 20; 20 and 10 are 30 and 2 are 32; answer.

7. How many are 2 times 15?

8. A man gathered 24 bushels of corn every day for 3 days; how many bushels did he collect?

9. 2 ships have 18 sailors apiece, how many have both?

10. How many are 3 times 35?

QUESTIONS IN DIVISION.

Lesson 58.

1. How many heaps of 3 cents in a heap can you make with 6 cents?

2. How many heaps of 3 cents in a heap can you make with 7 cents, and how many will there be over?

3. How many heaps of 3 cents in a heap can you make with 8 cents, and how many will there be over?

4. Albert has 10 cents, and wishes to buy as many melons at 4 cents apiece as he can; how many can he buy, and how many cents will be left?

5. How many times is 5 contained in 19, and what number is left?

6. If you divide 25 cherries among 7 boys, how many can you give to each, and how many will be left?

7. 2 is contained in 20 how many times?

8. 2 boys found 24 apples; what is the share of each?

EXPLANATION. 24 is 2 tens and 4. Now 2 is contained in 2 tens, or 20, 10 times, and in 4, 2 times; 10 and 2 are 12; answer.

9. How many times is 3 contained in 33?

10. There is a cask that has 39 quarts of water in it, and I have a pail that holds 3 quarts; how many pails full of water can I take out of the cask?

Lesson 59.

1. How many times is 4 contained in 48?

2. Maria divided 30 pins into 2 equal parcels; how many were there in each parcel?

EXPLANATION. 30 is 3 tens. Now 3 tens divided into 2 equal parts give 1 ten for each part and 1 ten, or 10, over, 10 divided into 2 equal parts gives 5; 1 ten and 5 are 15; answer.

3. How many times is 2 contained in 40?

4. There are 2 equal classes in a school containing 32 scholars; how many are there in each class?
5. How many times is 2 contained in 33, and how much is left?
6. 3 grape vines contain 42 bunches of grapes; how many bunches does each vine contain, if they bear equally?
7. 2 is in 60 how many times?
8. 3 is in 60 how many times?
9. 4 is in 60 how many times?
10. How many pigs at 5 dollars apiece can a man buy for 57 dollars, and how many dollars will be left?

FRACTIONS, OR BROKEN NUMBERS.

Lesson 60.

If you cut an apple into 2 equal parts, each part is 1 *half* of the apple.

1. How many halves are there in 1 apple then? How many halves are there in 1 thing?
2. If you cut a melon into 2 equal parts, how much of the melon will each part be?
3. If your mother cuts a cranberry tart into 2 equal parts, and gives you one part, how much of it do you get?
4. What part of it do you get, if she gives you 2 halves?
5. If John has 2 cents, and gives you half of them, how many do you get?
6. How many do you get if he gives you half of 4 cents? If he gives you half of 6 cents? Of 8 cents? Of 10 cents? Of 12 cents?

If you divide an orange into 3 equal parts, each part is 1 *third* of the orange.

7. How many thirds are there in 1 orange then? How many thirds are there in 1 thing?
8. Sarah cut a slice of gingerbread into 3 equal pieces; how much of the slice was in each piece?
9. How many thirds do you get if she gives you 2 of the pieces?
10. If she gives you 3 thirds of the slice, how much of it do you get?

11. If John has 3 cents, and gives you 1 third of them, how many do you receive?
12. If he gives you 2 thirds of them, how many do you receive?
13. How many do you get if he gives 1 third of 6 cents? 2 thirds of 6 cents? 3 thirds of 6 cents?
14. How many do you get if he gives you 1 third of 9 cents? 2 thirds of 9 cents? 3 thirds of 9 cents?

Lesson 61.

If you cut an apple into 4 equal parts, each part is 1 *fourth* of an apple; if you cut it into 5 equal parts, each part is 1 *fifth* of an apple; if you cut it into 6 equal parts, each part is 1 *sixth*; if you cut it into 7 equal parts, each part is 1 *seventh*, and so on.

1. How many fourths are there in 1 apple? How many fifths? Sixths? Sevenths? Eighths? Ninths? Tenths?
2. How many fourths are there in 1? How many fifths are there in 1? Sixths? Sevenths? Eighths? Ninths? Tenth? Elevenths?
3. If your sister cuts a pie into 4 equal pieces, and gives you 1 piece; what part of the pie will you get?
4. If she gives you 2 pieces, how many fourths of it will you get? How many fourths will you get, if she gives you 3 pieces?
5. How much of it will you get if she gives you 4 pieces, that is, 4 fourths of it?
6. How many is 1 fourth of 4 marbles? 3 fourths of 4 marbles? 4 fourths of 4 marbles?
7. A boy having 12 cents, lost 1 fourth of them; how many was that?
8. If he had lost 3 fourths of the 12 cents, how many would that number have been?
9. 5 boys having bought a pine-apple divided it into 5 equal pieces, and each boy received 1 piece; what part of the pine-apple was that?
10. What part of the pine-apple were 2 pieces? 3 pieces? 4 pieces?
11. How much is 1 fifth of 5 dollars? 4 fifths of 5 dollars?

12. How much is 1 fifth of 10 dollars? 2 fifths of 10 dollars? 3 fifths of 10 dollars? 5 fifths of 10 dollars?

Lesson 62.

1. Into how many equal parts must a sheet of gingerbread be divided, so that each part may be 1 sixth?
2. What portion of the whole are 2 of these parts? 3 of these parts? 4 parts? 5 parts? 6 parts?
3. What number is 1 sixth of 36? What number are 2 sixths of 36? 5 sixths of 36? 6 sixths of 36?
4. A little girl cut a piece of calico into 7 equal squares; what part of the whole was 1 square? Were 3 squares? 4 squares? 6 squares?
5. What is 1 seventh of 7? What are 2 sevenths of 7?
6. What is 1 seventh of 21? What are 3 sevenths of 21?
7. A mince pie was cut into 8 pieces; what part of the whole was 1 piece? Were 2 pieces? 3 pieces? 5 pieces?
8. What part of the pie were 8 pieces, that is, what part of the pie were 8 eighths of it?
9. 8 men found 16 dollars and divided it equally; how many dollars was each one's share?
10. What, then, is 1 eighth of 16? What are 3 eighths of 16? What are 7 eighths of 16?

Lesson 63.

1. How many equal parts must a garden be divided into, so that each part may be 1 ninth of the whole?
2. If 2 of these parts are made into a bed for strawberries, what part of the whole garden will it contain?
3. What portion of the whole garden are 3 of these parts? 5 of these parts? 7 of these parts? 9 of these parts?
4. What number is 1 ninth of 18? What number are 3 ninths of 18? 7 ninths of 18?
5. 9 boys caught 27 fishes, and divided them equally; how many did 2 boys get, that is, how many were 2 ninths of the 27 fishes?
6. A gardener divided a large water-melon equally among 10 little children; what part of it did 1 child get? 2 children? 6 children? 9 children? 10 children?
7. What is 1 tenth of 10? Of 20? Of 40? Of 90?

8. Susan was paid 1 tenth of 30 cents for getting a good lesson ; how many cents did she receive ?
9. How many cents would she have got, if she had been paid 2 tenths of 30 cents ? 5 tenths of 30 cents ?
10. If you break a large piece of candy into 12 equal parts, what portion of the whole will each piece be ?
11. What portion of the whole will each piece be, if you break it into 13 equal pieces ? Into 15 equal pieces ? Into 20 equal pieces ?

Lesson 64.

Fractions are usually written in figures.

We write		We write	
1 half	$\frac{1}{2}$	2 halves	$\frac{2}{2}$
1 third	$\frac{1}{3}$	2 thirds	$\frac{2}{3}$
1 fourth	$\frac{1}{4}$	3 fourths	$\frac{3}{4}$
1 fifth	$\frac{1}{5}$	4 fifths	$\frac{4}{5}$
1 sixth	$\frac{1}{6}$	2 sixths	$\frac{2}{6}$
1 seventh	$\frac{1}{7}$	5 sevenths	$\frac{5}{7}$
1 eighth	$\frac{1}{8}$	3 eighths	$\frac{3}{8}$
1 ninth	$\frac{1}{9}$	8 ninths	$\frac{8}{9}$
1 tenth	$\frac{1}{10}$	2 tenths	$\frac{2}{10}$
1 eleventh	$\frac{1}{11}$	7 twelfths	$\frac{7}{12}$
1 twelfth	$\frac{1}{12}$	19 twentieths	$\frac{19}{20}$
and so on.		and so on.	

So, to write a fraction in figures, we place below the line, the number of parts we divide a thing into, and we place above the line, the number we take of these parts. The number below the line is called the *denominator*. The number above the line is called the *numerator*.

1. To write a fraction in figures, what do we place below the line ? What do we place above the line ?
2. What is called the *denominator* ? The *numerator* ?
3. Write the preceding fractions in figures on a slate or blackboard, and then tell what each one means.
4. Write in figures, 1 tenth, 1 eleventh, 1 twelfth, 1 thirteenth, 1 fourteenth, and 1 fifteenth.
5. Write in figures, 3 thirds, 2 fourths, 3 fifths, 4 sixths, 2 sevenths, and 5 eighths.

6. Write in figures, 2 ninths, 3 tenths, 4 elevenths, 5 twelfths, 2 thirteenths, and 2 nineteenthths.

Lesson 65.

ADDITION OF FRACTIONS.

1. William had $\frac{1}{2}$ of a dollar, and his parents gave him $\frac{1}{2}$ of a dollar more ; what part of a dollar had he then ?
2. A little girl has $\frac{1}{3}$ of a yard of calico ; if you give her $\frac{1}{3}$ of a yard more, how much will she have then ?
3. If she has $\frac{1}{3}$ of a yard, and you give her $\frac{2}{3}$ of a yard more, how much will she then have ?
4. If you have $\frac{2}{4}$ of a pear, and get $\frac{1}{4}$ more, what part of a pear will you then have ?
5. How much are $\frac{1}{2}$ and $\frac{2}{4}$? $\frac{2}{4}$ and $\frac{2}{4}$?
6. How much are $\frac{2}{8}$ and $\frac{3}{8}$? $\frac{1}{4}$ and $\frac{1}{4}$?
7. What part of a dollar will a boy have, if he finds $\frac{3}{8}$ of a dollar, and his father gives him $\frac{3}{8}$ more ?
8. How much are $\frac{4}{10}$ and $\frac{3}{10}$? $\frac{5}{10}$ and $\frac{5}{10}$?
9. How much are $\frac{3}{12}$ and $\frac{1}{12}$? $\frac{1}{3}$ and $\frac{2}{3}$?
10. John has $\frac{2}{5}$ of a dollar, and James $\frac{3}{5}$; how much have they both ?

Lesson 66.

SUBTRACTION OF FRACTIONS.

1. If you have $\frac{3}{4}$ of an apple, and give away $\frac{1}{4}$ of an apple, what part of an apple will you have left ?
2. If you cut a custard pie into fourths, and take away $\frac{2}{4}$, how many fourths will be left ?
3. What will be left, if you take $\frac{1}{2}$ from $\frac{3}{4}$? $\frac{2}{4}$ from $\frac{3}{4}$? $\frac{2}{4}$ from $\frac{4}{4}$?
4. Take $\frac{2}{6}$ from $\frac{4}{6}$, and tell me what remains.
5. If I cut off $\frac{1}{7}$ of a loaf of bread, from a whole loaf, or $\frac{7}{7}$, what part of a loaf do I leave ?
6. A man bought $\frac{5}{8}$ of a sheet of ginger-bread ; after he had eaten $\frac{3}{8}$, how much was left ?
7. Sophia has $\frac{3}{8}$ of a dollar ; how many more eighths must she get to have 1 dollar, that is, $\frac{8}{8}$ of a dollar ?
8. What is the difference between $\frac{1}{2}$ and $\frac{2}{4}$? $\frac{1}{2}$ and $\frac{3}{4}$? $\frac{2}{10}$ and $\frac{8}{10}$? $\frac{1}{10}$ and $\frac{8}{10}$?
9. Take $\frac{1}{11}$ from $\frac{3}{11}$, and tell me the remainder.
10. $\frac{1}{8}$ taken from $\frac{1}{8}$ leaves what number ?

Lesson 67.

MULTIPLICATION OF FRACTIONS.

1. If you take $\frac{1}{2}$ of a biscuit 2 times, what part of a biscuit do you get?
 2. How much is $\frac{1}{3}$ of 3 dollars? $\frac{1}{3}$ of 9 dollars? $\frac{2}{3}$ of 9 dollars?
 3. I gave Charles $\frac{1}{2}$ of 12 cents; how much was that?
 4. If Charles had received a present of $\frac{2}{3}$ of 12 cents, how many cents would he have got?
 5. How many are 2 times $\frac{2}{3}$? 3 times $\frac{2}{3}$?
 6. How many are $\frac{1}{2}$ of 2?
- EXPLANATION. $\frac{1}{2}$ of 1 is $\frac{1}{2}$, so $\frac{1}{2}$ of 2 is 2 times $\frac{1}{2}$ or 1.
7. If you have $\frac{1}{2}$ of 2 bushels of apples, what part of a bushel have you?
 8. How many are 4 times $\frac{2}{3}$? 3 times $\frac{2}{3}$?
 9. I have $\frac{1}{10}$ of 3 dollars; how much is that?
- EXPLANATION. $\frac{1}{10}$ of 1 dollar is $\frac{1}{10}$, so $\frac{1}{10}$ of 3 dollars is 3 times $\frac{1}{10}$; what is that?
10. How much are 3 times $\frac{1}{12}$? 4 times $\frac{1}{12}$? 5 times $\frac{1}{12}$?

Lesson 68.

DIVISION OF FRACTIONS.

1. A farmer cut each of 2 pumpkins into halves; how many times $\frac{1}{2}$ of a pumpkin did he make?
2. If he had cut each of 2 pumpkins into thirds, how many times $\frac{1}{3}$ of a pumpkin would he have had?
3. A teacher gave some good scholars $\frac{1}{4}$ of an apple apiece; how many scholars did 3 apples reward?
4. If 3 pecks of rye are worth $\frac{2}{3}$ of a dollar, what is one peck worth?
5. How many sixths are there in 1? In 2? In 3? In 5?
6. How many times is $\frac{1}{4}$ of a pound of raisins contained in 1 pound?
7. How many times is $\frac{1}{4}$ contained in 1? In 2? In 4?
8. How many times must a man carry away $\frac{1}{5}$ of a barrel of flour to get 1 barrel? To get 5 barrels?
9. How many times must he carry away $\frac{2}{3}$ of a barrel to get 5 barrels?
10. How many times is $\frac{1}{4}$ contained in 1? In 2? In 5?
11. How many times can you take $\frac{1}{16}$ of a quart of cherries out of 3 quarts?

12. How many times can you take $\frac{3}{10}$ of a quart of cherries out of 3 quarts?

VARIOUS QUESTIONS IN FRACTIONS.

Lesson 69.

1. How many halves are there in 1? In 2? In 4? In $4\frac{1}{2}$?
2. How many thirds are there in 1? In 2? In $2\frac{1}{3}$? In $5\frac{1}{3}$? In $7\frac{2}{3}$?
3. If a man has $1\frac{1}{2}$ dollar, how many eighths has he?
4. How many tenths are there in 1? In 5? In $6\frac{7}{10}$?
5. How many whole ones are there in $\frac{3}{2}$? In $\frac{4}{3}$?
6. How many melons are there in $\frac{3}{2}$ of a melon?
7. How many quarts of milk are there in $\frac{3}{2}$ of a quart? In $\frac{4}{3}$ of a quart? In $\frac{5}{3}$ of a quart?
8. How many whole yards of cloth do $\frac{4}{3}$ of a yard make?
9. How many yards, and how many fourths over, are there in $\frac{5}{4}$ of a yard? In $\frac{6}{4}$ of a yard? In $\frac{7}{4}$ of a yard?
10. How many days are $\frac{6}{8}$ of one day? $\frac{1}{2}$ of one day? $\frac{1}{4}$ of one day?
11. If a boy gathers $\frac{1}{2}$ of a peck of black-berries, how many pecks does he get?
12. What number of dollars are there in $\frac{3}{10}$ of one dollar? In $\frac{2}{10}$ of one dollar?

Lesson 70.

1. How many are $1\frac{1}{2}$ and $\frac{1}{2}$?
2. How many are $1\frac{1}{2}$ and $1\frac{1}{2}$?
3. How many are $1\frac{1}{2}$ and $\frac{2}{3}$?
4. A man bought one pair of shoes for $\frac{3}{4}$ of a dollar, and another for $1\frac{1}{4}$ dollar; what sum did he pay for both?
5. Charles had $2\frac{1}{2}$ dollars, but he lost $\frac{1}{2}$ of a dollar when he was fishing; what sum had he left?
6. If you take $1\frac{1}{2}$ bushel of corn from 4 bushels, what amount remains?
7. If a man who has 10 acres of land, sells $\frac{1}{2}$ of an acre, how much does he keep?
8. How much does he keep, if he sells $\frac{3}{4}$ of an acre?
9. Take 5 from $12\frac{1}{2}$, and tell me the remainder.
10. How many will be left, if you take $1\frac{7}{10}$ from 2?

Lesson 71.

1. If you cut each of the 2 halves of an apple pie into

- halves, how many equal pieces will the pie be cut into?
 What part of the pie will each piece be?
 What is $\frac{1}{2}$ of $\frac{1}{2}$ then?
2. If you divide the 4 quarters or fourths of a pie into 2 equal parts, how many equal pieces will the pie be divided into? What part of the pie will each piece be?
 What is $\frac{1}{2}$ of $\frac{1}{4}$ then?
3. If you cut an apple into thirds, and each of the thirds into halves, how many equal pieces will there be?
 What part of the apple will each piece be?
 What is $\frac{1}{2}$ of $\frac{1}{3}$ then?
4. What is $\frac{1}{2}$ of 2? $\frac{1}{3}$ of 3? $\frac{1}{4}$ of 4? $\frac{1}{5}$ of 5?
5. What is $\frac{1}{3}$ of 3? $\frac{1}{4}$ of 4?
6. What number is $\frac{1}{4}$ of 4? $\frac{1}{5}$ of 5? $\frac{1}{6}$ of 6?
7. Add $\frac{2}{3}$ of 6 to $\frac{1}{4}$ of 16, and tell me the amount.
8. Robert has 35 quills; after he has used up $\frac{1}{7}$ of them, how many will be left?
9. After $\frac{2}{7}$ of them are gone, how many will be left?
10. Eliza had $\frac{2}{3}$ of 18 pins given to her, but she soon lost $\frac{1}{4}$ of them; how many was that?
11. How many times is $\frac{1}{4}$ contained in 6?
12. How many times is $\frac{2}{3}$ contained in 6?

Lesson 72.

1. If you cut a mince pie into halves, and each of the halves into 3 equal parts, how many equal pieces will the pie be divided into? What part of the whole pie is each of these pieces?
2. How many sixths of a pie does $\frac{1}{2}$ of a pie contain?
3. Is $\frac{2}{3}$ the same as $\frac{1}{2}$ then?
4. If you cut a mince pie into thirds, and each of the thirds into 2 equal parts, how many equal pieces will the pie be divided into? What part of the whole pie is each of these pieces?
5. How many sixths of a pie does $\frac{1}{3}$ of a pie contain?
6. Is $\frac{2}{3}$ the same as $\frac{1}{3}$ then?
7. $\frac{1}{2}$ being the same as $\frac{2}{3}$, and $\frac{1}{3}$ as $\frac{2}{6}$, what part of an apple does $\frac{1}{2}$ of it, added to $\frac{1}{3}$ of it make?
8. How many fourths of an apple are there in one apple?
 How many fourths are there in 1? In $\frac{1}{2}$?

9. John picked $\frac{1}{2}$ of a quart of berries and Caleb $\frac{1}{4}$ of a quart; how much did they both pick?
10. If John had picked $\frac{1}{2}$ of a quart, and Caleb $\frac{3}{4}$ of a quart, what quantity would both have had?
11. What is the sum of $1\frac{3}{4}$ and $1\frac{1}{2}$?
12. How much more is $1\frac{1}{4}$ than $\frac{1}{2}$?

Lesson 73.

1. How many eighths of an apple are there in one apple? How many eighths are there in 1? In $\frac{1}{4}$?
2. If you put $\frac{1}{8}$ of a pound of honey with $\frac{1}{4}$ of a pound, how much will there be?
3. How many eighths of a gallon of molasses are $\frac{3}{8}$ of a gallon, and $\frac{1}{4}$ of a gallon?
4. What is the difference between $\frac{1}{4}$ and $\frac{3}{8}$?
5. How many tenths of an apple are there in one apple? How many tenths are there in 1? In $\frac{1}{2}$?
6. What is the sum of $\frac{1}{2}$ and $\frac{1}{10}$? Of $\frac{1}{2}$ and $\frac{3}{10}$? Of $\frac{1}{2}$ and $\frac{5}{10}$?
7. If $\frac{1}{3}$ of a dollar will buy 2 yards of bleached cotton, how many yards will $\frac{1}{2}$ of a dollar buy?
8. $\frac{1}{2}$ of a drum of figs weighs 20 pounds, what does $\frac{1}{4}$ of it weigh? What does $\frac{3}{4}$ of it weigh?
9. If $\frac{1}{3}$ of a dollar will buy you a dinner, how many dinners will $\frac{1}{4}$ of a dollar buy? $\frac{1}{2}$ of a dollar buy? $\frac{2}{3}$ of a dollar buy?
10. If you buy 3 oranges for $\frac{1}{10}$ of a dollar, how many can you buy for $\frac{1}{2}$ of a dollar?

FEDERAL MONEY, OR THE MONEY OF THE UNITED STATES.

Lesson 74.

Of this money,

- 10 mills make 1 cent,
 10 cents make 1 dime,
 10 dimes or 100 cents make 1 dollar, marked \$,
 10 dollars make 1 eagle.

There is no piece of money made so small as the mill. Various other pieces of money are used in the United States, besides those just mentioned.

The gold pieces most used are the *eagle*, or 10 dollar

piece; the *half eagle*, or 5 dollar piece; and the *quarter of an eagle*, or $2\frac{1}{2}$ dollar piece.

The silver pieces most used are the *dollar*; the *half dollar*, or 50 cent piece; the *quarter of a dollar*, or 25 cent piece; the *eighth of a dollar*, or $12\frac{1}{2}$ cent piece; the *sixteenth of a dollar*, or $6\frac{1}{2}$ cent piece; the *dime*, or 10 cent piece; and the *half dime*, or 5 cent piece.

The only copper piece used is the *cent*.

The eighth of a dollar, or $12\frac{1}{2}$ cent piece, is called a *ninepence* in New England, a *shilling* in New York and some other States, and a *levy* or an *elevenpenny bit*, or a *bit*, in Pennsylvania and some other States.

The sixteenth of a dollar, or $6\frac{1}{2}$ cent piece, is called a *fourpence halfpenny* in New England, a *sixpence* in New York and some other States, a *fip* or a *fivepenny bit* in Pennsylvania and some other States, and a *pecune* or a *picayune* in some of the southwestern States.

1. How many mills make 1 cent? How many cents make 1 dime? How many dimes, and how many cents make 1 dollar? How many dollars make 1 eagle?
2. What can you tell me of the mill?
3. Are there any other pieces of money used in the United States, beside those just mentioned?
4. Mention the gold pieces most used.
5. Mention the silver pieces most used.
6. What is the only copper piece used?
7. By what names is the eighth of a dollar, or $12\frac{1}{2}$ cent piece, called in different places?
8. By what names is the sixteenth of a dollar, or $6\frac{1}{2}$ cent piece called in different places?

Lesson 75.

1. A man gave his little daughter 2 half dimes; how many cents were they worth?
2. A boy in Boston paid a half dime and a fourpence halfpenny for a pine-apple; how many cents did it cost?
3. How many cents would it have cost, if he had paid a dime and a fourpence halfpenny?
4. How many cents are 2 fourpence halfpennies worth?
5. How many cents are 3 fourpence halfpennies worth?

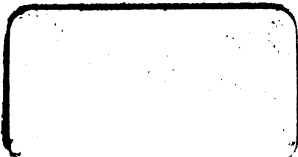
6. A girl in New York bought a book for 20 cents, and paid the bookseller a quarter of a dollar; how many cents must she receive back?
7. If she had paid the bookseller a shilling and a dime, how many cents should she have received back?
8. If she had paid the bookseller 4 sixpences, how many cents should she have received back?
9. A man in New Orleans hired a boatman to row him across the Mississippi for half a dollar; he paid the boatman 1 quarter of a dollar, 2 dimes, and 1 picayune; how much did he pay more than he agreed to?
10. A boy in Philadelphia bought 3 apples at 2 cents apiece, and 1 pear for 3 cents, and handed the seller a levy; how much must he receive back, if the seller keeps the half cent?

Lesson 76.

1. A boy in Philadelphia has 5 fips in his purse; how many cents are they worth?
2. How many cents are 5 levies worth?
3. How many cents are 9 dimes and 2 half dimes worth? How many dollars are they worth?
4. What is the value in dollars of 5 half dollars? Of 5 half dollars and 1 dime?
5. A man in Portland has in his purse, 6 half dollars, 1 quarter of a dollar, and 1 fourpence halfpenny; how many dollars and cents has he?
6. A pedler has 40 cents in half dimes; how many half dimes has he?
7. A school-mistress in Albany spent 50 cents in buying some little books at sixpence apiece, to give her scholars; how many books did she buy?
8. How many books at sixpence apiece can you buy for 60 cents, and how many cents will you have left?
9. What are eight half eagles worth in dollars? What are 9 half eagles worth in dollars?
10. What are 8 quarter eagles worth in dollars? 9 quarter eagles? 10 quarter eagles?



6



LEONARD'S PRIMARY ARITHMETIC.

STEREOTYPED.

This book is intended for the use of children as soon as they are able to read. No one need fear, that a very young person will find arithmetic difficult or abstruse, if presented in a simple and engaging manner. When treated philosophically it is easy and entertaining.

The study of this Arithmetic will render the scholar familiar with Simple Numbers and Fractions, and enable him to perform all ordinary mental calculations. After completing it he will be qualified to commence working on the slate. Price, 12½ cents.

LEONARD'S ARITHMETIC.

NINTH EDITION, STEREOTYPED.

Eight editions of this Arithmetic have been issued within little more than a year. The great sale and extensive use of the work, are pretty sure tests of its superior qualities. It has been introduced into fifty or sixty towns and cities in the vicinity of Boston, among which are Cambridge, Lowell, Salem, Danvers, Newburyport, &c. It is much used in New York city, and in many other places, in various parts of the country.

This book is unrivalled for plainness and simplicity. The scholar is led gradually from easy and obvious principles to those which are more and more difficult. The truth of every rule and principle is clearly demonstrated; and the whole forms a complete Arithmetic in one volume. The articles which relate to business, such as Draft and Tare, Interest, Discount, Equation of Payments, Assessment of Taxes, Insurance, &c., are adapted to business as it is now done; the examples under these rules are not compiled from old books, but are such as actually occur in practice, at the present time. Hardly a page will be found without some material improvement on other treatises in use. Price, 50 cents.

KEY TO LEONARD'S ARITHMETIC.

FOR TEACHERS ONLY.

In this Key every example is solved, and the whole of the work is written down. The Key can be obtained only by a teacher who applies personally to the Publishers, or who sends them a *written* order by some bookseller or other person with whom they are acquainted. Price, \$1.25.

OTIS, BROADERS, AND COMPANY,
PUBLISHERS.