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THE

FIRST STEPS IN NUMBER.

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TEACHER'S EDITION.

PART II.—SECOND YEAR: NUMBERS TEN TO TWENTY INCLUSIVE.

BOSTON:

PREFACE.

THE object of this book is to provide teachers with a record of the work done in number in the primary schools of to-day.

There has been no attempt at novelty in the subject-matter, in the arrangement of work, or in the manner of presentation. The whole is on a constructive basis. Numbers are chief; processes subordinate. What has been found to be more easily understood precedes the more difficult, without respect to its scientific relation. Fractions present no greater difficulty than wholes, so they accompany the teaching of integral numbers from the beginning. The law of dependence has been carefully observed, although at first glance the arrangement may not seem to warrant this assertion.

The object of every teacher is so to present numbers that the mind of the child may grasp firmly the facts concerning them, and hold these facts tenaciously by the law of association. Success lies in requiring the child to *show* what he is talking about, and in following the "step by step" rule. The book illustrates these two principles. It abounds in examples which have not before appeared in print, and which are calculated to interest the child from their close connection with his varied experiences. It gives suggestions for versatility of drill, and illustrates in detail the teaching of a hundred topics.

It is expected that the work to the number ten will be taken in one year, the work to twenty in another year, and the remainder of the course outlined in the book will be covered in two years more.

A child's book accompanies this edition, which the child may use with great advantage after he becomes acquainted with figures.

It is hoped that this book will find a welcome among all persons interested in leading children by easy and sure paths to a knowledge of numbers.

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PRIMARY ARITHMETIC.

Teacher's Edition.

PART II.

CHAPTER X.

THE NUMBER TEN. THE SIGNS: $=$, $+$, $-$.

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§ 32. THE NUMBER TEN.

Place nine blocks on the table in front of you. Put one more block with them. Who knows how many blocks nine blocks and one block are?

Nine blocks and one block are ten blocks.

Nine splints and one splint are how many splints?

Nine horses and one horse are how many horses?

Nine balls and one balloon are how many toys?

Tell me a story for nine and one.

On one side of a building there is an opening left for the door, and nine openings left for windows. How many openings are on that side of the building?

One star shone out in the sky almost as soon as the sun was set, and soon I counted nine more stars. How many stars were to be seen then?

I saw an ant trying to carry off a big bug, but it was too heavy for him; and so another ant came to help him, and then another, and another, until at last nine other ants had come to help the first ant. How many ants were then carrying away the bug?

How many fingers and thumbs have you on both hands? If you had but one thumb, how many fingers and thumbs would you have on both hands together?

In a brood of ten chickens, one chicken was white and the rest were black. How many were black?

Make ten straight marks on the board. Cover nine of them with the eraser. How many marks are not covered?

Here is a ten-cent piece which you may take to buy three bananas at three cents each. How much money should you return to me?

If you buy a yard and a half of cambric at six cents a yard, and give a ten-cent piece in payment, how much money ought you to receive back?

I bought a bunch of envelopes for five cents, and two pencils at two cents each. I gave in payment a ten-cent piece. How much change ought I to receive?

I can ride ten miles on my ticket. If I ride six miles out and half way back, how many more miles can I ride on my ticket?

How many one-cent stamps can I buy for ten cents?

How many postal cards can I buy for ten cents?

How many sticks of candy can I buy for ten cents?

How many rolls of lozenges, at a cent a roll, can I buy for ten cents?

How many buns, at a cent a bun, can I buy for ten cents?

What will ten glass balls cost, at a cent a ball?

What will ten pens cost, at a cent a pen?

What will ten one-cent books cost?

If there is a mirror in each one of ten rooms in a house, how many mirrors are in the house?

An old clock-maker was very fond of buying old and curious clocks. He had one in each one of the ten rooms in his cottage. How many clocks had he?

How many ten-cent loaves of bread can be bought for ten cents?

How many sets of paper dolls, at ten cents a set, can be bought for ten cents?

How many picture-books, at ten cents each, can be bought for ten cents?

Notice how I express *ten* in figures.

What figure have I made?   (The figure 1.)

What figure have I now placed against the 1?   (The figure 0.)

These two figures show that ten is meant.

All raise right hands.   Who will tell me on which side of 1 the 0 stands?

All write *ten* in figures, and think that the zero is on the right-hand side of the figure 1.

Write in figures what I show you with the blocks:

> Nine and one are ten.
> Ten minus one are nine.
> Ten minus nine is one.
> One and nine are ten.
> Ten ones are ten.
> Ten divided by one are ten.

The Sign =.

Who will supply the word that is needed to complete these sentences?

5 and 3	8.	7 minus 4	3.
9 and 1	10.	10 minus 1	9.
4 and 3	7.	9 minus 6	3.
3 threes	9.	9 minus 7	2.
4 twos	8.	10 divided by 1	10.
2 fours	8.	9 divided by 3	3.
10 ones	10.	8 divided by 4	2.

I will show you a new way to make the board say "are" in these sentences.   This sign = stands for *are*.

Put this mark where it belongs in the first sentence, and read the sentence.   In the second sentence, and read.   In the next sentence, and read.   Fill each blank, and read.