After this lesson the children should be separately questioned on it, and exercised in its application to objects of daily use.

The subtraction of TWO should now be taught by objects or strokes, as in the case of the subtraction of one, and, after that, *the subtraction and addition of two in one operation*, thus:

Ten less two are eight. Eight and two are ten.
Nine less two are seven. Seven and two are nine.
Eight less two are six. Six and two are eight,
to
Three less two are one. One and two are three.

The subtraction of THREE, followed by the addition and subtraction of three in one operation:

Ten less three are seven. Seven and three are ten.
Nine less three are six. Six and three are nine,
to
Four less three are one. One and three are four.

Every successive number must be treated in the same manner till the number *nine* is reached, each lesson being frequently repeated, and each being illustrated by questions involving the practical application of the number under consideration.

2. SUBTRACTION AND RECOMBINATION OF SEVERAL NUMBERS IN SUCCESSION.

To subtract in succession the numbers one, two, three, and four, from the number five, recombining each by addition:

Five less one are four. Four and one are five.
Five less two are three. Three and two are five, &c.

To subtract the numbers one to five from six:

Six less one are five. Five and one are six.
Six less two are four. Four and two are six, &c.

The intermediate numbers to be similarly treated, as far as the subtraction of the numbers one to nine from ten:

Ten less one are nine. Nine and one are ten.
Ten less two are eight. Eight and two are ten,
to
Ten less nine are one. One and nine are ten.

This exercise should be followed by a series of miscellaneous questions.

3. TO FIND WHAT NUMBER MUST BE TAKEN FROM A GIVEN NUMBER IN ORDER TO REDUCE IT TO ANOTHER GIVEN NUMBER.

It will be seen that this lesson is the inversion of one of the exercises in addition. The teacher should draw two groups of lines on the slate, or arrange two sets of objects in unequal number, and require the children to decide how many must be taken from the larger number to make it equal the smaller number. The subtraction should also be practically carried out, that the result may be *seen* to be accurate. Begin with numbers having the difference ONE, increasing the difference progressively.

EXAMPLES.

What number must be taken from the number *ten*, to make it nine? eight? seven?—to one, successively.

What number must be taken from the number *nine*, to reduce it to seven? five? &c.

What from *eight*, to reduce it to five? three? two? &c.

The teacher must be careful that a sufficient number of examples are given and well understood before proceeding to a new lesson.

4. THE COMPARING TWO NUMBERS IN ORDER TO FIND THEIR DIFFERENCE.

This idea may be developed by simple questions. A few examples are given:

You have four apples, your brother has five apples; which of you has the more apples?

But if you have five marbles, and your brother four marbles, how many more have you than he?

If you have six peaches, and he four peaches, how many more peaches have you than he?

Objects may then be arranged on the table, or lines drawn on the slate in two groups, one containing five, the other four. The class may repeat, "Five is one more than four; four is one less than five." One by one the number may be diminished, the class in each instance explaining the result; thus:

Comparison of *five* with all numbers below it:

Five is two more than three.
Three is two less than five.
Five is three more than two.
Two is three less than five, &c.

Comparison of *seven* with all numbers below it:

Seven is one more than six.
Six is one less than seven.
Seven is two more than five.
Five is two less than seven.
Seven is three more than four.
Four is three less than seven.

The word "difference" may be used as these exercises become familiar:—"The difference between seven and six is one; the difference between seven and five is two," &c.

5. THE SUBTRACTION OF A GIVEN NUMBER FROM THE UNEXPRESSED SUM OF TWO OTHER GIVEN NUMBERS.

Take six from the sum of five and five.
" nine " three and seven.
" three " six and six.
" five " eight and two.
" eight " six and four.
" six " four and four.
" four " seven and three, &c.

These examples may be varied to a great extent, at the discretion of the teacher. They should be followed by a series of well-adapted miscellaneous practical questions.

6. THE SUBTRACTION OF A GIVEN NUMBER FROM THE UNEXPRESSED SUM OF THREE OTHER GIVEN NUMBERS.

Take six from the sum of three, three, and three.
" five " three, four, and three.
" four " seven, two, and one.
" seven " six, two, and three, &c.

7. THE SUBTRACTION OF THE SUM OF TWO LOW NUMBERS FROM THE SUM OF TWO NUMBERS OF HIGHER VALUE.

From the sum of six and four take that of five and three.
" six and three " four and two.
" five and five " four and four, &c.

8. THE SUBTRACTION OF THE SUM OF THREE LOW NUMBERS FROM THE SUM OF TWO NUMBERS OF HIGHER VALUE.

From four and five take two, two, and two.
" six and three " three, two, and one.
" four and four " two, three, and two.
" three and five " one, four, and two, &c.

9. PROMISCUOUS ADDITIONS AND SUBTRACTIONS.

Add seven to two, and take away five.
" six to three, " four, &c.
From the sum of seven and two take away six.
" five and three " four, &c.

At first, these exercises should, as far as possible, be carried out with the use of objects or lines, and the teacher should be careful not to discontinue the use of these too soon. A variety of miscellaneous questions, bearing upon all the lessons hitherto given under the heads of addition and subtraction, should be introduced before the next Step is commenced upon.

MULTIPLICATION AND DIVISION.—ONE TO TEN.

Multiplication.

Object.—To lead the children to the comprehension of the operation of multiplying numbers into each other, to prove to them that this is but a simplification and abbreviation of the process of addition which they have already acquired, and to make them familiar with the arrangement of numbers called the Multiplication Table.

Plan.—Illustrate the subject by means of objects or lines, as indicated in the following outline:

In the process of addition the children have learnt to find a new number, which is the sum of two, three, or four numbers, which may be of differing value. They are now to be taught to find the result of taking one and the same number a given number of times. Make one stroke on the large slate, and ask, What have I done? You have made one stroke. How many times have I made it? You have made one stroke once. What number do I get when I make one stroke once? You get one. If I put my hand into a basket once, and take out one apple, how many apples do I get? You get one. How much is one taken one time? It is one.

Make one stroke more on the slate beside the other. What have I done? You have put one stroke to one stroke, and now there are two strokes. Yes; one and one are?—Two. How many times have I made one stroke? Two times. Then two times one are?—Two. Pursue this exercise till one has been taken *ten* times; in each case, as one is added, first calling out observation on the process, as being one of addition, and then as being one of multiplication.

Place two cubes of wood on the table. How many cubes are there here? There are two. How many times have I now put two cubes on the table? Once. How many are two taken one time? Once two are two. Add two cubes to these. What have I done? You have added two cubes to the two which were there before. How many cubes are there on the table now? There are four. Yes; two and two are?—Four. How many times have I put two on the table? You have done so twice. How many are two taken twice? Twice two are four. Let two more cubes be added. What have I done? You have put two more cubes on the table. How many were there before I added them? There were two and two—four. How many are there now? There are two and two and two—six. How many times have I put two cubes on the table? Three times. Then two taken three times are?—Six. Repeat: Three times two are?—Six. This