

find the scholars as ignorant as in the beginning? *Do n't fret.* Tell them twenty-five times more. May be the fiftieth blow will drive the nail home. If not, try the hundredth.

Do you have so many things to do, and meet with so many interruptions, you do n't know whether you are standing on your head or your feet? *Do n't fret.* Stop, and be sure you are on your feet; then walk as steadily as you can.

Are you in a community where there is but little interest in schools? Are your scholars irregular in their attendance, rough in their exterior, careless in their habits? *Do n't fret.* You were sent there as a missionary, and you could not have a finer field to work in.

Is your salary inconveniently small? Does your friend in the next town get more pay for less work? *Do n't fret.* Do your work well, and by and by they will want you in the next town.

Finally, all things may be divided into two classes. First, *things that you can help*; secondly, *things that you can't help.* To fret about the first would be unmanly; about the second would be utter folly: therefore, fret not at all. Bide your time.—*Illinois Teacher.*

ARITHMETIC.

(Continued from our last.)

I have already explained how the figures 1, and 0, are used to represent *ten units* or *ten ones*: the 0 representing a circle or round of ten, namely the ten fingers; and the 1 placed on its left, *ONE SUCH CIRCLE OR ROUND OF NUMBERS*: 2 on the left, express two such round; 3, three, 4, four, &c., such circles. Let this idea be well worked into their minds, with exercises, as follows:

| | | | |
|---------------------------------------|--|---|--|
| 10 One round of ten ones. | 20 Two rounds of ten ones, or ten twice counted | 30 Three counted three times over | 40 Four rounds of tens, or ten counted over four times |
| 50 Four circles of ten ones. | 60 Six rounds of ones gone over and over, &c. | 70 The ten ones, said seven times. | 80 Eight circles, &c., of ones. |

Extend this exercise to ten tens; then arrange them promiscuously, thus, for questioning:

| | | | | | | |
|------------------------|------------------------|-----------------------------|-----------------------|--------------------|------------------------|-------------------------|
| 5 tens 50 fifty | 2 tens 20 twenty | 3 tens 30 thirty | 6 tens 60 sixty | 1 ten 10 ten | 8 tens 80 eighty | 7 tens 70 seventy |
| 9 tens 90 Ninety | 4 tens 40 forty | 10 tens 100 a hundred | | | | |

Explain—thus:

One with 0 after it, counts *ten ones* = |||||. Two, with 0 after it, counts *ten ones*, and *ten ones* = |||||, |||||, or two tens. Five, and 0 on the right, tells *ten five times* counted = |||||, |||||, |||||, |||||, ||||| = the same as 10, and 10, and 10, and 10, and 10, a ten for every finger you have on each hand. Go on from 10 up to 100, explaining in the simplest methods you can conceive; and then question and illustrate till their understanding gets hold on your illustrations.

Questions.—How often would you say, one, two, three, four, five, six, seven, eight, nine, ten; one, two, three, four, five, six, seven, eight, nine, ten, to be shown by 60, or 6 and 0 after it? Put 7 before 0, how many times would I count *over and over*, TEN, to make the number of tens 70, tell? How many times, 9 and 0, or 90; how many 3 and 0, or 30? *Ten ones, ten ones, ten ones, and ten ones*—what figures in my row, would tell the whole? &c.

N. B.—As 10, 20, 30, &c., are fixed denary points in numbering, the series of tens they represent should be thoroughly understood, before the intervening places of units be brought before

them for exercises. Then, *but not till then*, let the intervals of units be filled up. The following will show how this may be done.

Table 8.

| Ones increased to ten. | Tens. | Ones up to ten. | Two tens. | Ones to ten. | Three tens. | Line of ones. | Four tens. | Lines of ones. |
|---------------------------|---------|-----------------|-----------|--------------|-------------|---------------|------------|----------------|
| 10 = 10 | 10 = 20 | 20 | 10 = 30 | 30 | 10 = 40 | 40 | 10 = 50 | |
| 9 = 10 | 9 = 19 | 20 | 9 = 29 | 30 | 9 = 39 | 40 | 9 = 49 | |
| 8 = 10 | 8 = 18 | 20 | 8 = 28 | 30 | 8 = 38 | 40 | 8 = 48 | |
| 7 = 10 | 7 = 17 | 20 | 7 = 27 | 30 | 7 = 37 | 40 | 7 = 47 | |
| 6 = 10 | 6 = 16 | 20 | 6 = 26 | 30 | 6 = 36 | 40 | 6 = 46 | |
| 5 = 10 | 5 = 15 | 20 | 5 = 25 | 30 | 5 = 35 | 40 | 5 = 45 | |
| 4 = 10 | 4 = 14 | 20 | 4 = 24 | 30 | 4 = 34 | 40 | 4 = 44 | |
| 3 = 10 | 3 = 13 | 20 | 3 = 23 | 30 | 3 = 33 | 40 | 3 = 43 | |
| 2 = 10 | 2 = 12 | 20 | 2 = 22 | 30 | 2 = 32 | 40 | 2 = 42 | |
| 1 = 10 | 1 = 11 | 20 | 1 = 21 | 30 | 1 = 31 | 40 | 1 = 41 | |

The other series of TENS up to one hundred, with their digits, may be similarly arranged for illustrations and exercises.

Exercise them on this table till the mind gets hold on the different series of figures—ARITHMETICALLY ARRANGED,—making the children repeat—repeat—repeat, each series, and each step of each series of figures, until the memory gets hold on the arithmetical succession of numbers. The memory and the understanding must be *worked together*. Let the memory get and keep; and let the understanding be exercised on memory's store, as there laid up.

Exercise them, thus,—tens on the LEFT, ones on the RIGHT; tens on the LEFT, ones on the RIGHT. Ten, ten, ten, or ten, tens, in order, after each other; and one, two, three, four, up to ten—always increasing by one. Be sure to dwell on these two series—the series increasing by tens, and the other increasing by a succession of ones, till well understood, and how the former is *successively increased* by the latter, how the first line of figures on the right increased to ten, makes the repeated ten, ten, ten, &c., in the next line; and how this increase of unity goes on in *continuity forever*. On the series of ones, we suppose they have been well exercised. But not likely so fully on that of tens; therefore, arrange the tens, for exercise thus:

| | | | | | | | |
|------|------|---------|---------|-------------------------|--------|--------|----------|
| 1 | 10 | 20 | 30 | 40 | 50 | 60 | 70 |
| One, | ten, | twenty, | thirty, | forty, | fifty, | sixty, | seventy, |
| | | 80 | 90 | 100 | | | |
| | | eighty. | ninety, | ten tens, or a hundred. | | | |

On these steps of increase by tens, train them till indelibly grounded in the mind, in their SERIAL SUCCESSION. The two most important things at this stage of the children's arithmetical training are—a *clear accurate knowledge* of how numbers in regular succession increase by ones and by tens, (the ones as it were feeding the tens,) and, therefore, how exactly there must be a REVERSE decrease in both, that is in the ones and in the tens. One remark I here beg to make: In training, be certain that the rear or backward part of your class is *well brought up*. There is little fear of the leaders in a class not keeping a head. Keep your mind, as it were, concentrated on the least apt, or on those of the less capacity, in the class. Our success depends far more on their advancement, than many teachers believe. In questioning, the GREATER number, for answers, should be given to THEM. The most progress and general knowledge is always found in schools where this is specially attended to. Are you in earnest in teaching, and wish to be eminently successful? Then, take my advice: Never allow the least apt in your classes to lag unintelligently behind.

This stage of advance should pretty well prepare them for totalizing both the series of ones, and the series of tens. This you can do many ways. To keep to one way I would never recommend. The more variety you give to exercises, provided you sufficiently simplify them so as to make them be clearly understood, and before left, well impressed on the mind, the better and quicker will you succeed. I propose as a beginning the following: figures arranged as in the preceding table—the children being familiar with this arrangement and with no other farther than ten.