

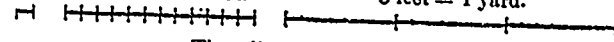
you think so? Join these lines in 3s—|||, |||, |||. How many threes would there be? ans. 3 threes. Would three threes be the same as three times three? Tell me how you know. Write the figures 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and put opposite the different figures the numbers of lines, told or counted by each.

To prepare them for a farther advance they should be well exercised on the *first circle of figures*. And the questions should be much varied. To the *adding* question should be appended the corresponding *subtracting* question; and to the *multiplying* the *dividing* question: thus, immediately after the question, 'how many three and five make?' should be given, 'if five be taken from eight, how many are left?' How many would three, and three, and three make? Would three times three make the same? If three, and three, and three, or thrice three, make nine, tell me how many threes are in nine? Such exercises should be perfectly mastered, though weeks be taken to accomplish it, before the range of numbers be extended to TWENTY.

At this stage I would recommend another very important exercise, viz., measurement, and how it is expressed by figures.

For this exercise provide yourself with a *foot measure*, correctly divided. First: give them correct ideas of measurement by examples, simple explanations, till the understanding is reached, and they are able in turn satisfactorily to explain it to you. [The word *measure* appears to come from root, which signify—lengthening out—running out—stretching out, extending, as from a middle point with the idea of size, with reference to length, breadth, or thickness.] When this *first idea* is well impressed on their minds, show them how to find the extent of spaces with which they are quite familiar by any thing or things, of whose length they have some idea, as a *joint*, a *finger*, a *foot*, a *step*, &c.,—as, how many joints or finger lengths a book, a slate, a stick, a piece of cloth, has? How many lengths of the foot, steps or paces, a room or a space has—not going farther than the range of figures on which they have been exercised; but not as yet with reference to any *standard measure*. Let them first know well what *measuring* is; and how variously a length, breadth, space, or an extent may be ascertained by such means as they *themselves* understand. Mastering this step well, prepares them for measuring with reference to some *special standards*.

The next exercise after this I would recommend, is training the eye on lengths, or short extents of space. This may be done on any surface, as on paper, slate, board, blackboard, &c., but with reference to a *standard measure* of inch, foot, or yard,—not higher than a yard. Draw lines on a blackboard, exhibiting to the eye, inches, feet, and yards; and exercise them on these till the eye can pretty correctly make out lengths at sight. The first part of the exercise should be on EXACT lengths of inches, feet, and yards; then on the same promiscuously arranged, as follows:

inch. 12 inches = 1 foot. 3 feet = 1 yard.  
  
 Then lines to be measured.

How many inches?

How many feet?

How many yards?

Continue such exercises till you have gained your object. This exercise, which, judiciously managed, would be an amusement, is admirably calculated to give just notions of the measured relations of space—a thing sadly neglected as yet in our schools. This exercises also the mind of the child, and strengthens the habit of counting. And it is remarkable how quickly children come to measure by the eye lines and spaces, and with a correctness to *shame an adult*. This exercise might be followed by one on weight; but I reserve what I intend to recommend in giving children a knowledge of weight for a *farther stage of advance*; and proceed to numbers higher than ten.

JOHN BRUCE,  
Inspector of Schools.

(To be continued.)

## DRAWING.

"Every man should be able to sketch a road or a river, to draw the outlines of a simple machine, a piece of household furniture, or a far-

thing utensil, and to delineate the internal arrangement and construction of a house."—Horace Mann.

The importance of drawing, as a study, is by no means acknowledged or appreciated. It is regarded too much as an accomplishment, and left for those who have time for it, as they have for the piano and guitar. Strange that it should be thus left, when, as part of the education, for the discipline and improvement of the mind,—it should take rank among the first means to that end. Besides, its practical benefits in every-day life are innumerable.

Drawing, if rightly taught, gives us skill and power, it improves the judgment and the taste, it cultivates habits of observation and accuracy; and if pursued in its higher departments, it disciplines the mind like mathematics,—indeed, it becomes mathematics.

Who has not tried in vain to describe to the mechanic an article to be constructed by him? The mechanic has never seen the article, and words cannot excite an image of the thing. A few strokes of the crayon, or, it may be, of charcoal, on the rough board, make it clear, and the article can be made.

The lady who has learned the art, will arrange her house more tastefully. She will make her own designs for many purposes; and, in a thousand ways, even in her household matters, the knowledge and the discipline acquired by the practice of drawing, come to her aid.

Persons often say, "I have no taste for drawing, and it is of no use for me to try." Yes, it is of use. If you practice drawing, and persevere in it, you will become less awkward in using your hands than you now are. Your penmanship will be improved; for I can predict with almost absolute certainty, that if you draw poorly, you will write a poor hand, and an improvement in one will improve the other. Indeed, so many powers of bodies, mind, and perhaps heart, are trained in the study and practice of drawing, that if I see pupils nowhere but in the drawing class, I can unerringly describe their character and habits as pupils in ordinary branches.

There have been great errors, both in teaching and learning drawing, which have made it appear of trifling importance as a part of education.

Drawing has been practiced, and is now practiced, for the sake of the pictures, rather than discipline. The real end of drawing has been lost sight of in thinking of the *means*. Pupils wish to obtain a picture of some sort, in some way,—“large enough to frame,”—one that shall pass for their own work, and adorn the walls of “the best room” at home. The pupils are not to blame for this, for they are too often taught by those who can only copy the productions of others, and that indifferently. So a picture is placed before the pupil, and he is to make something as nearly like it as he can, by any means within his reach. He may rule, and measure, and rub, and scrape, and the result is one of those dark deformities so often seen in “the best room,”—painfully annoying to the eye of taste.

What should we think of a teacher of music, who should place before his pupil, just beginning to learn the art, a difficult piece of music, telling him he may perform it? Such a mistake is not made in teaching music. The pupil expects to begin at the beginning,—from simple things to go on, when prepared, to those more difficult. So it should be in drawing; and when pupils are willing to submit to this slow process, then they will have the full benefit of their training in this branch of study.

In attempting to correct the error just mentioned, many teachers have fallen into an error in the opposite direction, allowing no copying, except from things, or from Nature itself.

In many cases, especially for professional instruction, this is undoubtedly the best method; but for the brief time that can be given to the study by ordinary pupils, my own experience is in favor of copying from the best drawing studies, as a means, in part of attaining the real end of drawing, viz.: the ability to make correct representation of objects, either in nature or art.

My reasons for using them as a part of the training in this branch, are,—1. It adds interest and variety to the study. Pupils are not so easily discouraged if allowed to copy occasionally. 2. Many of the mechanical benefits of drawing may be secured as well in this way as in any other,—more readily, even, than without some such definite guide. For instance: the control of the hand,—freedom in the use of the pencil,—and the training of the eye. 3. But perhaps the greatest advantages to be gained from this practice, are in the formation of a style—and in learning correct methods of shading—and the best representations of different kinds of foliage. These things must be acquired; and if the models are good and are judiciously used, I think they can be more easily acquired in this way than in any other.

To present a “Plan for Teaching Drawing,” would be almost presumptuous; yet, “hints from experience” are often acceptable