

The object of instruction in *composition* shall be to train the children in the correct and ready use of their mother-tongue, both in speech and in writing. Although in the definition of the work for the several standards many grammatical terms are introduced, these terms are used for the guidance of teachers, and it is not intended that any grammar shall be introduced into the course of primary instruction except for the practical end above mentioned. Technical grammatical terms should be used very sparingly indeed, and the order of instruction should be, first, from example to rule, and then from rule to example; in other words, by induction first, then by deduction. Every lesson, in short, should be a composition lesson, no lesson merely a grammar lesson. Correct speech and composition depend more on practice and habit than on a knowledge of rules of grammar and composition. The art of speaking and writing correctly is acquired by familiarity with good models, and by practice subject to criticism and correction; and, with respect to the acquisition of the art, the function of grammar is the subordinate function of criticism.

ARITHMETIC.

30. Ability to apply number to everyday problems is requisite for efficiency in any position of life. It is very important, therefore, that the teaching of arithmetic should be planned to strengthen this ability, and should be associated with matters familiar to the children. To a large extent the teaching should be concerned with elementary notions of form, size, and weight rather than with abstract number; in other words, it is concrete and applied arithmetic which has to be taught. If the practical and utilitarian aspects of arithmetic are constantly kept in view, it will be a much more effective instrument for developing and disciplining the intelligence of the pupils than if it is taught merely in an abstract manner. In the teaching every "rule" should in the first instance be presented in a concrete form; practical exercises in counting, measuring, and weighing should be performed by the children themselves, and the heuristic method or the method of discovery should be largely used. Cardboard coins may be freely used when money sums are first introduced. In the highest classes the practical work should be associated with mensuration, with drawing to scale, and, as far as possible, with handwork: at the same time, where appropriate, the use of graphs and graphical methods should be encouraged.

Although the pupils should know before they leave school that 1 rood = $\frac{1}{4}$ acre, and 1 square pole = $\frac{1}{160}$ rood (as these measures are used in describing the area of land), yet the reduction of square yards to poles or *vice versa* need not be taught—the time can be much more usefully employed. The meaning of decimal fractions should be introduced gradually—at first, 0.1, 0.2, 0.3, &c., of a pound sterling, of a meter, of a ton, of a mile, &c., may be known respectively as 1 florin, 2 florins, 3 florins, &c.; as 1 decimeter, 2 decimeters, 3 decimeters, &c.; as 2 cwt., 4 cwt., 6 cwt., &c.; as 8 chains, 16 chains, 24 chains, &c.: then 0.01, 0.02, . . . 0.99 may easily be taught by division of the meter into centimeters, and in like manner suitable concrete examples may be taken for 0.001, &c. The reduction at sight of decimals of a pound to shillings and pence, and *vice versa*, will enable the pupils to appreciate rapidly the meaning of decimals; and one of the chief uses of the metric units will be to afford easy concrete examples of decimal fractions.

The following figures will give sufficiently near approximations for the equivalents in English measures of the metric standards: 1 kilometer = 1,100 yd., 1 meter = 40 in., 1 decimeter = 4 in., 1 centimeter = $\frac{2}{5}$ in. or 0.4 in.; 1 kilogram (kilo) = 2.2 lb., 1 gram = 0.035 oz., or 1 ounce = 28 grams; 1 liter = $1\frac{3}{4}$ pints. In S6 algebraic and graphic methods may be used where the solution is thereby made shorter or easier. (By the suggestion that algebraic methods may be used it is not intended that a course in algebra should be attempted, but that the use of algebraic symbols—*e.g.*, the use of *x* instead of long verbal phrases and the expression of an arithmetical statement in the form of a simple equation—may often make a question easier both to understand and to solve.)

At all stages in the elementary school the "mental" and oral work should, as far as the staffing and the circumstances of the school permit, predominate over the written "sums," the written work being designed mainly to teach the child to express clearly the several steps in his calculations, and thus to lead to clear thinking, and also at the latter stages to enable him to solve questions involving somewhat higher numbers than the ordinary child can manage without the aid of paper. There is, however, no reason why in all the classes of the Junior and Senior Divisions children should not be required to write down the answers to the sums done "mentally," and at all stages to write down as "tables" the facts they have learnt from