The more thoroughly the numbers from one to ten are known, the surer and more rapid will be all later work in arithmetic. They are the foundation of the whole number system. A right conception of the first ten numbers will be much facilitated by arranging them in **geometrical patterns.** * "With a small number of objects a random grouping is instantaneously recognised; but not with many objects. Careful observation has shown that with most of us the highest number instantly recognised in a promiscuous assemblage of things is five. Higher numbers than five are subdivided by the eye into more easily recognised small groups. If nine pebbles be thrown upon a table before us, most of us will say mentally, here are three and three and three, nine. A few of the more expert will say, here are five and four, nine, on the table. Scarcely one will say at once nine, as we should all say three, if but three were thrown down before us. What is difficult or imposible for us to do, when objects are promiscuously presented, becomes easy in a definite arrangement. This is at once recognised as nine, and that without explicit breaking up into three and three and three, although that subdivision is implicit in the conception. The formation of such conceptions of the first ten numbers should be regarded as an essential preliminary to arithmetical rules, should be begun at home or in the kindergarten and completed in the first year of the primary school."

The pattern which is presented to the class as the *type-form* of a number should be carefully chosen. It ought

* This quotation is from a treatise on the four simple rules of arithmetic, by Dr. Robins, Principal of the McGill Normal School, which was lent to the author in manuscript, and to which he desires to acknowledge his indebtedness for some valuable suggestions.