

## PREFACE.

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The distinctive character of this little work will appear from the following:

Instead of a short introduction to all the rules of arithmetic, leading principles only are introduced, and those are thoroughly elucidated both in theory and practice, while all voluminous explanations are avoided.

Mental exercises are combined with the written exercises throughout, and thus applied to the illustration of the *same principles*.

The important department of the simple rules is arranged in lessons according to the pages, a table forming the head of each lesson, and more copiously illustrated by examples than in any other arithmetic known to the author.

Analysis takes the place of proportion, it being *really* what the latter long *pretended* to, a key to most of the processes of arithmetic.

How much soever of reliance is to be placed on the teacher in giving life and interest to the recitation, books prepared on the model he pursues will best assist him in these respects, and will tend to produce uniformity in methods of teaching. No written system of numbers can by any means supersede the use of numerous oral exercises, both mental and written, and illustrations on the blackboard.

For the use of the inexperienced teacher notes are interspersed throughout the book, and the author would respectfully offer the following

### SUGGESTIONS TO TEACHERS.

The mental exercises form the heads of lessons to be prepared by the pupils, but which should be extended and diversified by the teachers till the principle they embody is fully comprehended. No one principle can be passed superficially without loss to the future arithmetician.

In order to form habits of correctness and self-reliance the pupils should be instructed to *prove their work*; and for this purpose the answers to many of the exercises are not given. And if the teacher keep by him a book with the answers filled out in it, and accustom the pupils to number on their slates the exercises they work out, he can see at a glance, or by occasionally calling for their answers, whether they are working correctly.

Recitations in written arithmetic should generally be conducted by the use of the blackboard. A usual method is for the class to go up together, and work out the exercises appointed by the teacher in the order of their numbers, and afterwards in succession to give the demonstration, the most expert taking the precedence. By giving these demonstrations and the solutions of mental exercises in a clear and distinct tone, keeping before the mind the subject, and not words or rules, the pupils will acquire not only clear ideas of the principles of numbers, but also the power of expressing their ideas, and a natural and graceful elocution,