THE ESSENTIALS OF ARITHMETIC, ORAL AND WRITTEN, BOOK I

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649577170

The Essentials of Arithmetic, Oral and Written, Book I by Gordon A. Southworth

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

www.triestepublishing.com

GORDON A. SOUTHWORTH

THE ESSENTIALS OF ARITHMETIC, ORAL AND WRITTEN, BOOK I

Trieste

THE

ESSENTIALS OF ARITHMETIC

ORAL AND WRITTEN

BOOK I

FOR LOWER GRADES

GORDON A. SOUTHWORTH

MASTER OF THE PRESCOTT SCHOOL, SOMERVILLE, MASSACHUSETTS

LEACH, SHEWELL, AND SANBORN

BOSTON AND NEW YORK

THE ESSENTIALS OF ARITHMETIC. Book I. For Lower Grades.

THE ESSENTIALS OF ARITHMETIC. Book II. For Higher Grades.

Both books are published with and without answers.

Key to Book II. for use of Teachers only.

Norwood Press:
J. S. Cushing & Co. — Berwick & Smith.
Boston, Mass., U.S.A.

PREFACE.

This book is designed for use within the third-, fourth-, fifth-, and sixth-year grades of public schools. Whether it shall be used three years or four depends upon the length of the course and the time allotted to the subject of arithmetic. It assumes such knowledge of numbers as may generally be acquired in the pupil's first two school years.

The present tendency to subordinate arithmetic to other studies is recognized, and hence some subjects, hitherto made prominent in text-books, have been presented less fully, or altogether omitted.

In the preparation of the book two objects have been constantly in view: first, the training of the pupil in thinking and reasoning about matters involving the use of numbers. This has been mainly done by dealing with small numbers only, and with such subjects as the subsequent needs of the pupil will require him to know and use. The second object has been to secure through abundant and varied exercises and practice the accuracy and facility in the more mechanical uses of numbers required by the demands of business.

The work to be done has been arranged, not topically on the assumption that one subject is to be finished before even the elements of another are begun, but in the order of study which prevails in the best schools. An ample index, however, is available for those who may still prefer the old plan.

Oral and written exercises in the same subject are presented generally on opposite pages, and in nearly equal number. Principles and processes are developed and taught without formal rules by induction, illustrations, and examples, and are to be fixed by continued practice.

It is believed that this book thoroughly completed will not only qualify pupils to continue their grammar-school course to the best advantage, but that it will also secure such a practical knowledge of numbers as will meet the future requirements of the less fortunate whose circumstances may compel them to leave school earlier.

INDEX.

SUGGESTIONS TO TEACHERS.

THE pupil should constantly discriminate between numbers and the characters that represent them.

Objects should be used until clear ideas of numbers, processes, and principles are obtained. The purpose of objective teaching, however, is to enable the pupil to think without objects. This purpose accomplished, their use should be discontinued.

"Telling is not teaching." The pupil should be given ample time and opportunity to think and learn for himself. Knowledge should be subordinated to training.

Oral exercises are presented in both the interrogative and the assertive form. Assertions may first be read silently and then aloud, the blanks being properly filled. Questions may be read orally, and the answer announced or the process analyzed; or, after being silently read, they may be changed to assertions in which the answer is incorporated as an element. If dictated, the assertive form may be easily made interrogative.

Variety in oral and written forms of expression should be used and allowed. An original analysis by the pupil, even if imperfect, is better than a perfect but set form recited from memory.

Oral exercises in a given subject should generally precede written exercises, and constant care and frequent statement of principles and processes should prevent the latter from becoming purely mechanical.

Exercises have been given in sufficient numbers to meet the requirements of all pupils, but no one need feel obliged to use more of them than are requisite to secure the object which they are intended to accomplish.

THE

ESSENTIALS OF ARITHMETIC.

BOOK I.

1. – Writing and Reading Numbers.

1. How many seasons in the year? 2. How many days in a week? 3. How many cents in a dime? 4. How many stripes in our flag?

In answering these questions we have used **numbers,** four, seven, ten, thirteen.

Numbers are used to show *how many.*

5. Name the numbers from *one* to *nine* by counting.

1, 2, 3, 4, 5, 6, 7, 8, 9 are **Figures,** and stand for the first nine numbers. The tenth figure, 0, is called *zero* or *cipher;* it stands for *nothing.*

6. Count from ten to twenty; from ninety to one hundred.

To write numbers between *nine* and *one hundred* we use **two figures** side by side. Thus: —

ten	10	twenty	20	thirty-six	36	seventy-eight	78
fifteen	15	twenty-four	24	fifty-two	52	ninety-nine	99

7. Count from one hundred to one hundred twenty.

To write numbers between ninety-nine and one thousand we use **three figures** side by side. Thus: —

One hundred	100	Four hundred thirty-five	435
One hundred ten	110	Five hundred eight	508
Two hundred sixteen	216	Nine hundred ninety-nine	999

8. Read 197, 918, 67, 607, 742, 848, 809, 955, 1000.

9. Write such numbers as your teacher may dictate.