

MODERN PRIMARY ARITHMETIC

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649650958

Modern Primary Arithmetic by Bruce M. Watson & Charles E. White

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BRUCE M. WATSON & CHARLES E. WHITE

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PRIMARY ARITHMETIC**

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D. C. HEATH & CO., PUBLISHERS
BOSTON NEW YORK CHICAGO

INTRODUCTION

THE attention of teachers is directed to the following considerations that have guided the authors in the preparation of this series of arithmetics:

1. Thoroughness in the Fundamentals.

The first aim has been to secure thoroughness and facility in the use of the four fundamental processes, common fractions, and decimals.

2. Choice of Applications.

Applications, a knowledge of which is a daily necessity to the mass of men and women in active life, have received greatest attention.

Applications that are of use only to people in special fields of activity, or in particular communities, have been treated in a separate group, where they may be drawn upon as needed.

Those applications that have become unnecessary by reason of changed social needs, and those that have never served any purpose, other than that of filling the pages of a textbook, have been omitted altogether.

3. Simplification of Processes.

The number of technical terms, definitions, cases, and special processes has been reduced to the minimum. Thoroughness in a few simple, direct, general processes has been made possible by this treatment.

4. Problems from Real Life.

The problem material is drawn from the life in which children and their parents are living to-day. It is within their knowledge or experience, and presents real, rather than imaginary situations.

5. Continuity of Plan.

There is a continuity of purpose running through the entire series. The attention of pupils should be called again and again to the recurrence of a familiar fact or principle in a new application.

It is this characteristic that suggests the term *cumulative* as descriptive of the plan of the series.

6. Recognition of Differences in Ability of Children.

It is possible for all normal children to learn the fundamental facts of arithmetic. Some will learn them much more quickly than others. Some will be able to solve more difficult problems than others. The *Modern Arithmetics* furnish material adapted to these various grades of ability. It is as grievous an error to permit the stronger pupils to pass along by meeting merely the minimum requirement, as to expect the weaker ones to perform tasks beyond their ability.

SUGGESTIONS TO TEACHERS

TEACHERS using the First Book should familiarize themselves with the entire series, so that they may grasp the purpose of the primary approach.

The appeal should be made to the child's *observation and memory* rather than to his reason. A little child *sees and senses* many things that he cannot explain. When once the child has *sensed* a number fact, he should be made to memorize it, and use it until its use becomes as automatic and unconscious as walking, or talking.

In this drilling process, much use may be made of the child's play and social instinct.

Waste of time must be guarded against. A game in which number is merely incidental is expensive of time. It gives too much play with too little number. A game of baseball or bean bags is fine for recreation, but involves so little of numbers that it is impractical for drill purposes.

On the other hand, such games as those described in this text, where the game itself is *numbers*, can be made a most profitable means of drill.

The primary teacher who can utilize the play instinct of children effectively in rapid drill work, who can keep account of the successes and failures of individual children, who can lead the child to take an interest in his own progress, and assume responsibility for it, will not be disappointed in results.

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