# WALTON AND HOLMES'S ARITHMETICS, FIRST BOOK

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649730896

Walton and Holmes's Arithmetics, First Book by George A. Walton & Stanley H. Holmes

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

www.triestepublishing.com

GEORGE A. WALTON & STANLEY H. HOLMES

# WALTON AND HOLMES'S ARITHMETICS, FIRST BOOK

Trieste

# WALTON AND HOLMES'S

# ARITHMETICS

## FIRST BOOK

BY

GEORGE A. WALTON, A.M.

AUTHOR OF FRANKLIN ARITHMETICS
FORMERLY AGENT OF MASSACHUSETTS STATE BOARD OF EDUCATION

AND

STANLEY H. HOLMES, A.M.

SUPERINTENDENT OF SCHOOLS, NEW BRITAIN, CONN.



NEW YORK ·:· CINCINNATI ·:· CHICAGO
AMERICAN BOOK COMPANY

Educ T 119.07.545 Bk1

HARVARD COLLEGE LIBRARY
GIFT OF
GINN AND COMPANY
DEC. 26, 1923

COPYRIGHT, 1907, BY
GEORGE A. WALTON AND STANLEY H. HOLMES.

W. & H. ARITH. FIRST BOOK.

W. P. 1

# PREFACE

THIS book is the first of a series designed to give a complete course of study in arithmetic for elementary grades beyond the second year in school. Part I is intended for a review of such ground as the pupil should have covered before beginning the use of a text-book. It takes up counting to one hundred and the combinations of numbers to twenty as a number limit. In this part of the book, oral and mental exercises predominate.

Part II introduces more advanced written and oral work, and makes steady progress in measurements, denominate numbers, and simple fractions.

It is designed to serve the teacher as a guide and the pupil as a text-book for the advance work in numbers to be taken in the third school year.

Recent changes in thought and practice as to numbers and number teaching have been met in what is believed to be a rational manner. Diagrams, illustrations, measurements, etc., have been liberally employed. The idea that notions of number and numerical operations should be acquired from the concrete has been given full recognition. Measuring and comparison of magnitudes and values are constantly employed and are made the basis for abstract number concepts.

The need for accuracy and facility in the fundamental processes with abstract numbers is met by a systematic presentation of the elementary combinations and an increased amount of practice upon the more difficult of these combinations. The amount of practice given upon any particular combination should be proportional to the difficulty which children in general have in mastering it. It is well known to practical teachers that combinations like 8 and 5 which have results in

a higher decade are more difficult than combinations like 3 and 5 which have results in their own decade. This principle of special attention and drill upon the more difficult combinations is applied in each of the fundamental processes. Time should be saved to the pupil by the skill thus acquired, as well as by the uniform avoidance of long and involved ciphering processes.

It has been the endeavor of the authors to arrange the work in accordance with the order of the child's mental development, to keep the work presented within the child's ability to do, so that he may gain a sense of power, mastery, confidence, and satisfaction in his number work. The logic of the subject itself has been subordinated in arrangement of matter to the interests of the child. This is essentially an arithmetic reader, in that oral work predominates in large measure. This fact should be kept in mind, and the oral side of arithmetic work should be made much more prominent than it generally is in primary grade work.

The teacher is helped by numerous illustrations, illustrative examples, suggestive notes, etc., which occur in the book at the times and places when and where they should be read and used. This arrangement seems to promise more for the successful teaching of the subject than the placing of such suggestive material in a special teacher's manual.

Another feature of the book is the great number and variety of exercises. This meets a demand which teachers have long felt.

The authors acknowledge with gratitude their obligation to the large number of teachers who have made helpful suggestions and contributed valuable material. They are especially indebted to Miss A. J. Meadowcroft, Principal of the Burnham School, Haverhill, Massachusetts, for assistance in preparing the manuscript of this book.

G. A. W.
S. H. H.

# CONTENTS

## PART I


| | PAGE |
|---|---|
| Counting, Writing Numbers to 20 | 7 |
| Lines, Surfaces, and Solids Named and Counted | 8–10 |
| Wholes and Halves; Comparison of Lengths | 11–14 |
| Addition and Subtraction of Numbers to 20 | 15–25 |
| The Number 11 | 21 |
| Linear Measure; Inch and Foot | 23 |
| Construction and Measurement | 24 |
| The Number 12 | 25 |
| Comparison of Surfaces; the Square Inch | 26, 27 |
| Multiplication and Division by 2 | 28–31 |
| Thirds of Objects and of Groups | 32–33 |
| United States Money; Cent, Nickel, Dime, and Dollar | 34, 35 |
| Fourths | 36 |
| The Number 13 | 37 |
| Liquid Measure; Pint, Quart | 38, 39 |
| Fifths | 40 |
| Yard, Foot, Inch | 41 |
| Addition and Subtraction of Denominate Numbers | 42 |
| Multiplication by 3 | 43 |
| Halves, Thirds, Fourths, and Fifths of Objects | 44, 45 |
| The Number 14 | 46 |
| Addition and Subtraction | 47 |
| The Number 15 | 47, 50 |
| Weight; Problems in Weight | 48–50 |
| The Numbers 16, 17, 18 | 51 |
| Problems in United States Money | 52 |
| Addition and Subtraction | 53 |
| Measurements | 54, 55 |

## PART II

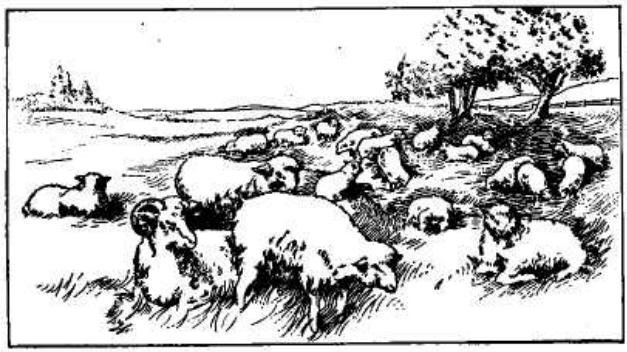

| | PAGE |
|---|---|
| FUNDAMENTAL OPERATIONS; NUMBERS TO 100 | 57–85 |
| MULTIPLICATION AND DIVISION; TABLE OF 10's, WITH APPLICATIONS | 57–61 |
| COUNTING TABLE | 62 |
| ANALYSIS OF WRITTEN NUMBERS | 64, 86 |
| ADDITION AND SUBTRACTION | 63, 65–75, 81 |
| MEASUREMENT AND COMPARISON OF SURFACES | 76, 77 |
| MULTIPLICATION AND DIVISION TABLES OF 2's, WITH APPLICATIONS | 78–80 |
| TO FIND HALVES, THIRDS, FOURTHS, AND FIFTHS | 82, 83 |
| ROMAN LETTERS TO XII; TELLING TIME | 84 |
| PROBLEMS ON THE DOZEN | 85 |
| WRITING NUMBERS TO 1000's | 86, 87 |
| ADDITION AND SUBTRACTION, WITH REDUCTIONS | 88–97 |
| WEIGHT | 91, 92 |
| LIQUID MEASURE; DRY MEASURE | 95, 96 |
| ANGLES; CONSTRUCTION | 98, 99 |
| TELLING TIME; ROMAN NUMERALS | 100, 101 |
| SQUARE MEASURE | 102–104 |
| MULTIPLICATION AND DIVISION: | |
| Tables of 5's, with applications | 106–111 |
| Tables of 4's, with applications | 112–117 |
| Tables of 8's, with applications | 118–123 |
| ADDITION, WITH CARRYING | 124–131 |
| SUBTRACTION, WITH REDUCTIONS | 132–136 |
| SURFACES | 137 |
| MULTIPLICATION AND DIVISION: | |
| Tables of 3's, with applications | 138–141 |
| Tables of 6's, with applications | 142–147 |
| Tables of 9's, with applications | 148–151 |
| Tables of 7's, with applications | 152–155 |
| MULTIPLICATION AND DIVISION OF LARGER NUMBERS | 157–163 |
| UNITED STATES MONEY | 164 |
| TESTS | 165 |
| CALENDAR. CIRCLE OF THE YEAR | 166, 167 |
| ADDITION | 168 |

DRILL TABLES ON PAGES 47, 56, 65, 74, 105, 145, 156.

NUMBERS 13 TO 18, WITH APPLICATIONS, PAGES 66, 73, 80, 93.

# FIRST BOOK

## PART I



COUNTING EXERCISE

1. Here is a picture of —— sheep.
2. In the schoolroom there are —— children.
3. Count all the panes of glass in the schoolroom.
4. Write the figures for the numbers from one to twenty.

NOTE. The teacher should supply objects to be counted and be sure that, in counting, the pupil has the magnitude idea of numbers and not simply the ordinal idea.