

**DAVIES AND PECK'S
UNITED COURSE.
ELEMENTARY ARITHMETIC,
ORAL AND WRITTEN**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649570171

Davies and Peck's United Course. Elementary Arithmetic, Oral and Written by William G. Peck

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

WILLIAM G. PECK

**DAVIES AND PECK'S
UNITED COURSE.
ELEMENTARY ARITHMETIC,
ORAL AND WRITTEN**

DAVIES AND PECK'S UNITED COURSE.

6

ELEMENTARY
ARITHMETIC.

ORAL AND WRITTEN.

BY

WILLIAM G. PECK, PH.D., LL.D.,

PROFESSOR OF MATHEMATICS AND ASTRONOMY IN COLUMBIA COLLEGE, AND OF
MECHANICS IN THE SCHOOL OF MINES.

A. S. BARNES & COMPANY,
NEW YORK, CHICAGO, AND NEW ORLEANS.
PUBLISHERS.

✓ Educat 118,78.685-

YARVARD COLLEGE LIBRARY
GIFT OF THE
GRADUATE SCHOOL OF EDUCATION
DEC 5 1931

DAVIES AND PECK'S
SHORT COURSE IN MATHEMATICS

IN FOUR BOOKS.

ELEMENTARY ARITHMETIC.

COMPLETE ARITHMETIC.

MANUAL OF ALGEBRA.

MANUAL OF GEOMETRY.

Copyrighted, 1878, by WILLIAM G. PECK.

PREFACE.

THIS work is designed as the Introductory Volume of the Two Book Course of DAVIES and PECK. It is especially adapted to beginners. It is believed that the subjects are treated in such a manner as to interest and awaken the attention of the young.

In preparing the work, three objects have been constantly kept in view.

1. To make it educational.
2. To make it practical.
3. To adapt it to the capacity of any child whose mind is sufficiently mature to commence the study of arithmetic.

To attain these objects, every new subject has been introduced by an inductive process, and the idea thus developed has been expressed in the form of a definition. The methods and rules have been deduced from practical operations and enforced by familiar illustrations. To direct the attention to important principles, leading test questions have been freely introduced.

In determining the subjects to be included, and the space to be assigned to each, the author has been guided by a consideration of the natural development of the

mental faculties. The book may be said to consist of five parts. The first part contains simple, familiar Lessons in Numbers. The second part contains the Fundamental Operations followed by General Principles and Properties of Numbers. The third contains Fractions, in which great pains have been taken to render the work intelligible to young students. Currency and the Metric System follow, because of their intimate relation to Decimal Fractions. The fourth contains Compound Numbers and Reduction. The fifth, Percentage and its applications.

The logical development of principles, the systematic arrangement of the subjects, the copiousness and variety of exercises will, it is believed, greatly aid the teacher in exciting the interest of the pupil.

Teachers who desire to give a more extended drill in the simplest operations, are referred to "PECK'S FIRST LESSONS IN NUMBERS."

To facilitate references, a complete Index to the Subjects and Definitions is inserted at the end of the volume.

The author takes great pleasure in acknowledging his obligations to many teachers who have favored him with suggestions and criticisms. But more than a passing acknowledgment is due to Prof. JOHN DUNLAP, whose long experience and superior ability as a Teacher have enabled him to render much valuable assistance in the preparation of this work.

CONTENTS.

	PAGE
Formation of Numbers.	
Numbers from 1 to 10.....	8
" " 10 to 20.....	9
" " 20 to 30.....	10
" " 30 to 100.....	11
Increasing and Diminishing by 1.....	12
" " by 2.....	13
" " by 3.....	14
" " by 4.....	15
" " by 5.....	16
Exercises in Numbers.....	17
Higher Numbers by Figures.....	20
Numbers by Letters.....	21
Notation and Numeration.	
THREE METHODS OF WRITING NUMBERS.	
Orders of Units.....	23
Simple and Local Values.....	26
Periods of Figures.....	29
Classification of Numbers.....	31
Fundamental Operations.	
ADDITION	33
Explanation of Signs.....	35
Operations.....	36
SUBTRACTION	45
Explanation of Signs.....	47
Figure in Subtrahend less than } Figure in Minuend.....	57
Figure in Subtrahend greater than } Figure in Minuend.....	52
MULTIPLICATION	60
Explanation of Sign.....	60
Elements of Multiplication.....	63
Multiplier but One Figure.....	65
Multiplier any Number of Figures.....	67
Composite Numbers.....	70
DIVISION	75
Explanation of Signs.....	77
The Dividend less than Divisor.....	79
Methods of Performing Operations.....	81
Short Division.....	82
Fraction in the Quotient.....	82
Long Division.....	84
General Principles.	
Notation.....	92
Addition.....	92
Subtraction.....	92
Multiplication.....	93
Division.....	93
Properties of Numbers.	
Definition of Properties.....	95
Exact Divisor.....	95
Prime Number.....	96
Even Number.....	96
Odd Number.....	96
Cancellation.....	98
Greatest Common Divisor.....	100
Least Common Multiple.....	102
Formation of Fractions.	
Denominator.....	105
Numerator.....	105
Value of a Fraction.....	105
Terms of a Fraction.....	106
Kinds of Fractions.....	107
Principles of Fractions.....	108
Reduction of Fractions.....	109
Addition of Fractions.....	116
Subtraction of Fractions.....	119
Multiplication of Fractions.....	122
Division of Fractions.....	127

Formation of Decimals.		Bills and Accounts.	
	PAGE		PAGE
Notation of Decimals.....	136	Definitions and Abbreviations.....	169
Numeration of Decimals.....	137	Operations.....	170
Principles of Decimals.....	138	Compound Numbers.	
Addition of Decimals.....	139	Tables of Weights.....	171
Subtraction of Decimals.....	141	Tables of Time.....	172
Multiplication of Decimals.....	143	Measures of Length.....	173
Division of Decimals.....	146	Measure of Surface.....	175
Currency.		Measure of Volume.....	176
Definitions.....	151	Angular Measure and Longitude..	178
U. S. Currency.....	152	Reduction.....	180
Canada Currency.....	153	Addition of Compound Numbers..	185
French Currency.....	155	Subtraction of Compound Numbers	187
English Money.....	155	Multiplication of Compound Num- bers.....	189
Metric System.		Division of Compound Numbers..	191
Measure of Length.....	157	Percentage and Applications.	
To write numbers in the Metric } System.....	158	Explanations and Definitions.....	195
To read numbers in the Metric } System.....	158	Principles of Percentage.....	196
Measure of Surface.....	159	Operations.....	198
Measure of Volume.....	159	Commission.....	201
Measure of Capacity.....	160	Profit and Loss.....	204
Measure of Weights.....	160	Simple Interest.....	205
Business Operations.		Allquot Parts of a Year.....	207
Terms used in Business Transac- } tions.....	162	Allquot Parts of a Month.....	208
Methods.....	162	Notes.....	211
Allquot Parts.....	166	Partial Payments.....	213
		Discount.....	214
		Banks and Bank Discount.....	216
		MISCELLANEOUS EXAMPLES.....	218
		ANSWERS.....	219
		INDEX.....	226

FORMATION OF NUMBERS.

LESSON I.

COUNTING.

Look at the picture and count the objects named below.



How many houses?
How many horses?
How many sail-boats?
How many high trees?
How many boats?

How many boys at play?
How many windows in front?
How many small trees?
How many birds?
How many children at play?