THE AMERICAN PRIMARY SCHOOL ARITHMETIC: DESIGNED FOR
THE USE OF PUPILS IN PRIMARY AND INTERMEDIATE SCHOOLS

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JAMES ROBINSON

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IN

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BY JAMES ROBINSON,
AUTHOR OF THE AMERICAN ARITHMETIC.

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PREFACE.

THE object of the author, in preparing this little work, has been to furnish lessons in Arithmetic for young children suited to their age and capacity. To accomplish this desirable object, care has been taken that they should be strictly progressive.

Commencing, therefore, with the simplest elements and combinations of numbers, the lessons advance by easy and gradual steps, in the form of tables, interspersed with practical examples and simple exercises to be performed on the slate, until they conduct the pupil through the various operations, with numbers as high as 12, of Addition, Subtraction, Multiplication, and Division.

Having completed the tables, Addition, Subtraction, Multiplication, and Division, and their appropriate arithmetical *terms* and *signs*, are clearly defined, and the *methods* of operation explained, and illustrated by appropriate examples. The *Rules* for their operation are also given, with exercises in larger numbers to be performed on the slate, followed by a few practical questions. It is believed that these slate exercises will furnish young children with *pleasing* employment, and *facilitate*, rather than *retard*, their progress in *mental* and *oral* arithmetic, and be found to be a valuable feature of the work.

Fractions, with appropriate exercises, have also been explained, and introduced as extensively as would comport with the general design of the book. Tables of money, weight, and measure, have been added, which may be learned by pupils in primary and intermediate schools.

With this brief explanation of the object and plan of the work, the author commends it to the favorable notice of teachers, school committees, and the friends of education.

J. R.

MAY, 1851.

TO TEACHERS.

It is presumed that most children have learned to count, to some extent, before they begin to attend school; yet it will be necessary that young pupils should be shown how many things the name of each number denotes. The most convenient apparatus for this purpose is the Numerical Frame. The balls on the wires are easily arranged, and may be seen by every member of the class at the same time; and, with appropriate illustrations by the teacher, pupils will readily perceive that every number is composed of as many single things, or units, as its name indicates. If the school is not furnished with a numerical frame, the teacher can make use of unit-marks upon the blackboard for illustration.

The author would suggest to those teachers who have had but little experience, that the introductory lessons should first be explained to the class; and that each of the succeeding lessons, in the order of their arrangement, should be given to the class, previous to recitation, with such explanations as shall be found necessary; and that the use of the book during recitation should be strictly prohibited. Questions should be asked promiscuously, and not in rotation; and no question should be asked or read more than once by the teacher, if done slowly and distinctly. The pupil should be required to repeat the question, and solve it, without being interrupted by the teacher, unless it be to make some criticism or correction. Care should be taken that the language of the pupil be strictly accurate, and that the best forms for the solution of problems should be carefully observed.

Pupils who have learned the first fourteen lessons will be able to read and write the first one hundred and forty-four numbers. Lesson XVI. may be omitted until CXVI. lessons have been learned; then Lesson XVI. should be learned, before commencing operations upon the slate with larger numbers.

AMERICAN PRIMARY SCHOOL
ARITHMETIC.

INTRODUCTORY LESSON.

Definitions and Illustrations.

ARITHMETIC is the art of computing by numbers. "Numbers are the expressions of one or more things of the same kind."

Any whole thing is called a *unit*, or *one*; as, *one book, one slate, one pencil*.

Every number greater than one is composed of units, and each *succeeding* greater number contains one unit more than the *preceding* number.

Thus: one and one more are *two*; two and one more are *three*; three and one more are *four*; four and one more are *five*; five and one more are *six*; six and one more are *seven*; seven and one more are *eight*; eight and one more are *nine*; nine and one more are *ten*; ten and one more are *eleven*; eleven and one more are *twelve*; and in this manner each succeeding greater number may be formed.

One	＊	1	Seven	＊＊＊＊＊＊＊	7
Two	＊＊	2	Eight	＊＊＊＊＊＊＊＊	8
Three	＊＊＊	3	Nine	＊＊＊＊＊＊＊＊＊	9
Four	＊＊＊＊	4	Ten	＊＊＊＊＊＊＊＊＊＊	10
Five	＊＊＊＊＊	5	Eleven	＊＊＊＊＊＊＊＊＊＊＊	11
Six	＊＊＊＊＊＊	6	Twelve	＊＊＊＊＊＊＊＊＊＊＊＊	12

The above illustrations are designed to show the pupil that all numbers are composed of single units, and that the words one, two, three, &c., always express the same number of units, respectively; which should be indelibly impressed on the mind, and retained in the memory, of young children.

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LESSON I.

NOTATION is writing numbers ; Numeration is reading them.   Numbers are written or expressed by words, by figures, and by capital letters.

The Arabic method of expressing numbers by figures is used in all arithmetical computations.   Ten figures are used, viz., the figure one (1), the figure two (2), the figure three (3), the figure four (4), the figure five (5), the figure six (6), the figure seven (7), the figure eight (8), the figure nine (9), and the cipher (0) ; each of which expresses as many units as its name indicates.   These ten figures are called the arithmetical alphabet.

The Roman method of expressing numbers by letters is used in numbering the chapters of books, sections, &c.   Seven letters are used, viz., I, V, X, L, C, D, and M.   The letter I expresses one ; V, five ; X, ten ; L, fifty ; C, one hundred ; D, five hundred ; and M, one thousand.

All numbers can be expressed by these ten figures, or seven letters, by combining and repeating them, which will be shown to some extent in the following lessons : —

LESSON II.

One	1	*1*	I.
Two	2	*2*	II.
Three	3	*3*	III.
Four	4	*4*	IV.
Five	5	*5*	V.
Six	6	*6*	VI.
Seven	7	*7*	VII.
Eight	8	*8*	VIII.
Nine	9	*9*	IX.
Ten	10	*10*	X.
Eleven	11	*11*	XI.
Twelve	12	*12*	XII.

LESSON III.

Thirteen	13	*13*	XIII.
Fourteen	14	*14*	XIV.
Fifteen	15	*15*	XV.
Sixteen	16	*16*	XVI.
Seventeen	17	*17*	XVII.
Eighteen	18	*18*	XVIII.
Nineteen	19	*19*	XIX.
Twenty	20	*20*	XX.
Twenty-one	21	*21*	XXI.
Twenty-two	22	*22*	XXII.
Twenty-three	23	*23*	XXIII.
Twenty-four	24	*24*	XXIV.

LESSON IV.

Twenty-five	25	*25*	XXV.
Twenty-six	26	*26*	XXVI.
Twenty-seven	27	*27*	XXVII.
Twenty-eight	28	*28*	XXVIII.
Twenty-nine	29	*29*	XXIX.
Thirty	30	*30*	XXX.
Thirty-one	31	*31*	XXXI.
Thirty-two	32	*32*	XXXII.
Thirty-three	33	*33*	XXXIII.
Thirty-four	34	*34*	XXXIV.
Thirty-five	35	*35*	XXXV.
Thirty-six	36	*36*	XXXVI.