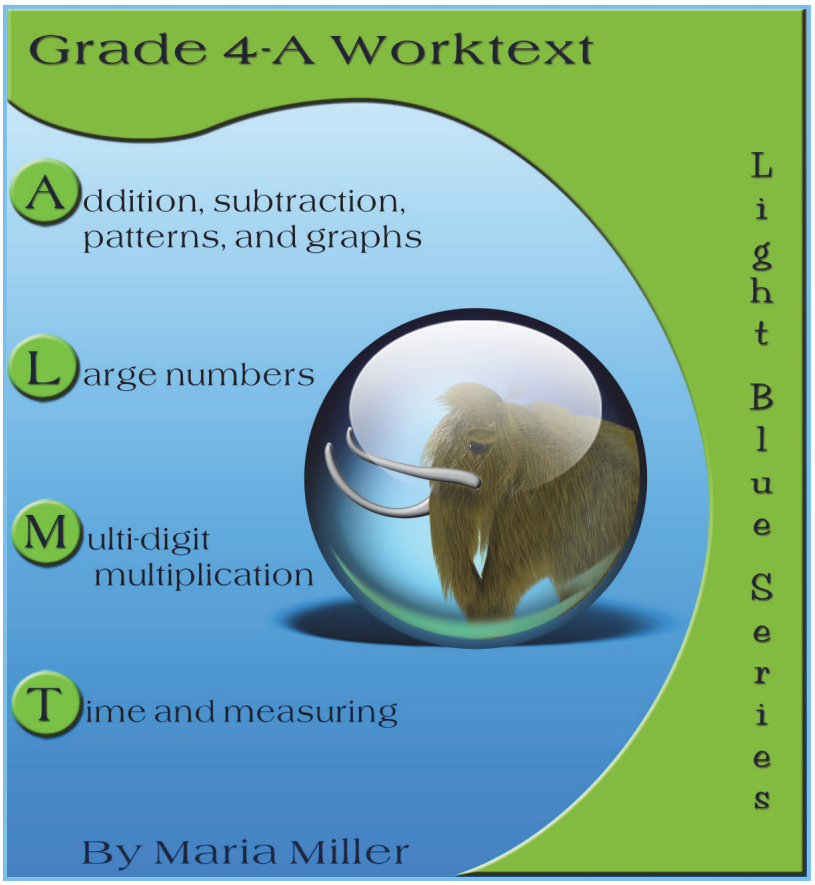
Math Mammoth
Grade 4-A Worktext



By Maria Miller

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ISBN 978-1-942715-62-7

Edition 1/2020

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Foreword

Math Mammoth Grade 4 comprises a complete math curriculum for the fourth grade mathematics studies. The curriculum meets and exceeds the Common Core standards.

The main areas of study in Math Mammoth Grade 4 are:

1. Students develop understanding and fluency with multi-digit multiplication, and use efficient multiplication procedures to solve problems.
2. They develop understanding of division to find quotients involving multi-digit dividends (long division), and they solve word problems involving division, including division with a remainder.
3. Students develop an understanding of fraction equivalence and some operations with fractions. They learn to add and subtract fractions with same denominators, and to multiply a fraction by a whole number.
4. Students learn the concept of angle. They draw and identify lines and angles, and classify shapes by properties of their lines and angles.

Additional topics we study are place value, time, measuring, graphs, and decimals.

This book, 4-A, covers addition and subtraction and graphs (chapter 1), place value (chapter 2), multi-digit multiplication (chapter 3), and time and measuring (chapter 4). The rest of the topics are covered in the 4-B worktext.

Some important points to keep in mind when using the curriculum:

- The two books (parts A and B) are like a "framework", but you still have a lot of liberty in planning the child's studies. Chapters 1, 2, and 3 should be studied in order, and Chapter 3 (multiplication) should be studied before Chapter 5 (division). However, you can be flexible with chapters 4 (time and measuring) and 6 (geometry), and schedule them earlier or later. Also, most lessons from chapters 7 and 8 (fractions and decimals) can be studied earlier; however the topic of finding parts with division should naturally be studied only after mastering division.

  Math Mammoth is mastery-based, which means it concentrates on a few major topics at a time, in order to study them in depth. However, you can still use it in a *spiral* manner, if you prefer. Simply have the child study in 2-3 chapters simultaneously. This type of flexible use of the curriculum enables you to truly individualize the instruction for the child.

- Don't automatically assign all the exercises. Use your judgment, trying to assign just enough for the child's needs. You can use the skipped exercises later for review. For most children, I recommend to start out by assigning about half of the available exercises. Adjust as necessary.

- For review, the curriculum includes a worksheet maker (Internet access required), mixed review lessons, additional cumulative review lessons, and the word problems continually require usage of past concepts. Please see more information about review (and other topics) in the FAQ at **https://www.mathmammoth.com/faq-lightblue.php**

I heartily recommend that you view the full user guide for your grade level, available at **https://www.mathmammoth.com/userguides/**

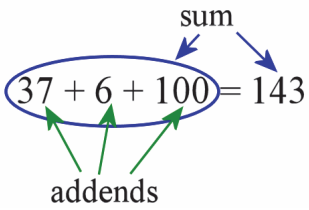
And lastly, you can find free videos matched to the curriculum at **https://www.mathmammoth.com/videos/**

I wish you success in teaching math!

Maria Miller, the author

Addition Review

The numbers to be added are **addends**. The result is a **sum**.



You can write any number as a sum of its different parts: whole thousands, whole hundreds, whole tens, and ones.

$5{,}248 = 5{,}000 + 200 + 40 + 8$

thousands hundreds tens ones

$2{,}019 = 2{,}000 + 0 + 10 + 9$

You can add in parts (hundreds, tens, ones):

$56 + 124$

$= 100 + 50 + 20 + 6 + 4$

$= 100 + 70 + 10 = 180$

You can add in any order:

$7 + 90 + 91 + 3$

$= 7 + 3 + 90 + 91$

$= 10 + 90 + 91 = 191$

Trick: first add a bigger but easier number, then subtract to correct the error:

$76 + 89$

$= 76 + 90 - 1$

$= 166 - 1 = 165$

1. Add mentally. Compare the problems in each box!

a.	**b.**	**c.**	**d.**
$70 + 80 =$ _____	$140 + 50 =$ _____	$50 + 60 =$ _____	$80 + 90 =$ _____
$77 + 80 =$ _____	$141 + 50 =$ _____	$54 + 65 =$ _____	$82 + 93 =$ _____
$77 + 82 =$ _____	$144 + 55 =$ _____	$58 + 62 =$ _____	$88 + 91 =$ _____

2. Write each number as a sum of its parts: thousands, hundreds, tens, and ones.

a. $487 =$	**b.** $2{,}103 =$
c. $8{,}045 =$	**d.** $650 =$

3. Solve.

a. Emma added three numbers. Two of them were 56 and 90. The sum was 190. What was the third number she added?

b. The sum of four numbers is 70 and the sum of five other numbers is 80. What is the sum of all nine numbers?

4. Add and compare the sums. The addition problems are "related"!

a. 7 + 8 = _____	**b.** 4 + 9 = _____	**c.** 6 + 8 = _____
57 + 8 = _____	34 + 9 = _____	16 + 8 = _____
70 + 80 = _____	40 + 90 = _____	600 + 800 = _____
700 + 800 = _____	240 + 90 = _____	560 + 80 = _____

5. Write four different addition problems that are "related" to the problem 5 + 8 = 13.
See examples above!

6. Add in any order, and in parts.

a. 80 + 5 + 2 + 30 + 4 + 44	**b.** 127 + 500 + 4 + 3 + 9 + 90

7. Find an easy way to add 99 to any number. (*Hint: It has to do with adding 100.*)
Explain your idea, and add:

a. 56 + 99 **b.** 487 + 99

8. Add mentally. You can add in parts (tens and ones separately) or use other "tricks."

a. 71 + 82 = _____	**b.** 42 + 47 = _____	**c.** 89 + 92 = _____
37 + 42 = _____	64 + 64 = _____	82 + 19 = _____
57 + 64 = _____	12 + 99 = _____	51 + 98 = _____

9. Find half and the double of the given numbers.

Half the number	*10*							
Number	20	90	110	120	480	900	1,600	4,010
Double the number	*40*							

Time Units

Pay close attention and memorize these relationships between time units, if you don't know them yet.	**1 minute = 60 seconds** **1 hour = 60 minutes** **1 day = 24 hours**	**1 week = 7 days** **1 year = 12 months** **1 year = 365 days**

1. Fill in.

a.

Days	Hours
1	*24*
2	
3	
4	
5	
6	
7	
8	

b.

Minutes	Seconds
1	*60*
2	
3	
4	
5	
6	
7	
8	

c.

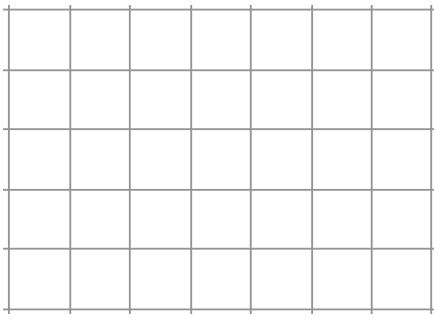
Years	Months
1	
2	
3	
4	
5	
6	
7	
8	

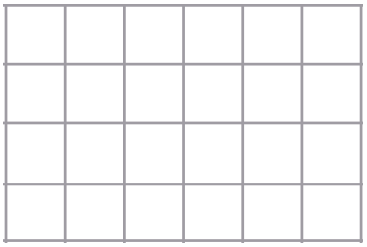
2. Solve. Write a number sentence for each question, not just the answer.

a. Brian puts $120 into his savings each month. After saving for half a year, he bought a keyboard for $399. How much does he have left of his savings?

_____

_____



b. How much money do you spend in one year if you spend $3 for a candy bar every day for a year?

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