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Foreword

Math Mammoth Grade 2 comprises a complete math curriculum for the second grade mathematics studies. The curriculum meets and exceeds the Common Core standards.

The main areas of study for second grade are:

1. Understanding of the base-ten system within 1000. This includes place value with three-digit numbers, skip-counting in fives, tens, and multiples of hundreds, tens, and ones (within 1000) (chapters 6 and 8);
2. Develop fluency with addition and subtraction, including solving word problems, regrouping in addition, and regrouping in subtraction (chapters 1, 3, 4, and 8);
3. Using standard units of measure (chapter 7);
4. Describing and analyzing shapes (chapter 5).

Additional topics we study are time, money, introduction to multiplication, and bar graphs and picture graphs.

This book, 2-A, covers reading the clock (chapter 2), the basic addition and subtraction facts within 18 (chapter 3), regrouping in addition (chapter 4), and geometry (chapter 5). The rest of the topics are covered in the 2-B student worktext.

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

- These two books (parts A and B) are like a “framework”, but you still have a lot of liberty in planning your child’s studies. While addition and subtraction topics are best studied in the order they are presented, feel free to go through the sections on shapes, measurement, clock, and money in any order you like.

This is especially advisable if your child is either “stuck” or is perhaps getting bored with some topic. Sometimes the concept the child was stuck on can become clear after a break from the topic.

- 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 your child study in 2-3 chapters simultaneously. This type of flexible use of the curriculum enables you to truly individualize the instruction for your child.
- Don’t automatically assign all the exercises. Use your judgment, trying to assign just enough for your 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/>

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

Chapter 1: Some Old, Some New

Introduction

This chapter contains both some review and some new topics, with the aim of giving children a good start in second grade math.

In the first few lessons, we review adding and subtracting two-digit numbers, and skip-counting using the 100-chart, from first grade. Next, the lesson *Fact Families* reviews the connection between addition and subtraction, and introduces a new strategy for missing subtrahend problems (such as $___ - 5 = 4$). In these problems, the child can *add* to find the missing total. This actually teaches them algebraic thinking.

Then we go on to the “new”, starting with ordinal numbers, which are probably familiar from everyday language. Even and odd numbers are presented in the context of equal sharing: if you can share that many objects evenly (equally), then the number is even. Use manipulatives here if desired.

Then we study doubling and halving. Don’t skip the word problems included in these lessons; they are important. Children need to learn to apply the concepts they have just learned. Also, if a child cannot solve word problems that involve doubling or halving, there is a chance they did not actually learn those concepts.

The last lessons have to do with adding and subtracting whole tens (multiples of ten) *mentally* (e.g. $51 + 30$ or $72 - 40$). Mental math is very important, because it builds number sense: the ability to manipulate numbers flexibly — to take them apart and put them together in various combinations. And number sense is very important: it actually predicts a student’s success later on in algebra.

In this case, adding or subtracting multiples of ten is actually a concept rooted in place value. As long as the child understands place value (tens and ones), these types of problems are very easy. If your child has trouble, it is a sign they perhaps have not grasped place value with two-digit numbers.

Also, don’t forget the free videos matched to the curriculum at <https://www.mathmammoth.com/videos/>.

Pacing Suggestion for Chapter 1

Please add one day to the pacing for the test if you will use it. Note that the lessons in the chapter can take several days to finish. As a general guideline, second graders should finish 1.5-2 pages daily or 8-10 pages a week. Please also see the user guide at <https://www.mathmammoth.com/userguides/>.

The Lessons in Chapter 1	page	span	suggested pacing	your pacing
Some Review	10	2 pages	2 days	
The 100-Chart and More Review	12	3 pages	2 days	
Fact Families	15	2 pages	1 day	
Ordinal Numbers	17	2 pages	1 day	
Even and Odd Numbers	19	2 pages	1 day	
Doubling	21	3 pages	2 days	
One-Half	24	2 pages	2 days	
Adding with Whole Tens	26	3 pages	2 days	
Subtracting Whole Tens	29	2 pages	1 day	
Review Chapter 1	31	2 pages	2 days	
Chapter 1 Test (optional)				
TOTALS		23 pages	16 days	

Games and Activities

Shuffle the Order

You need: Ten stuffed animals and a deck of number cards with numbers 1-10. Optionally: make a slide for the stuffed animals to slide down on.

Activity: Arrange the animals standing in a line, as if waiting for their turn to go on a slide. On your turn, draw two cards from the deck of number cards. The cards will act as ordinal numbers. The first card tells you which animal in line you will move, and the second card tells you to which position you move it to. For example, if you get 2 and 8, you will move the *second* animal to the *eighth* position in line.

After ten rounds, all the stuffed animals will go down the slide, *in order*.

Cover my Double

You need: One dice, two distinct kind of markers, such as pennies and dimes, or two kinds of beans. For a game board, draw a 4x4 grid with numbers 2, 4, 6, 8, 10, and 12 written multiple times.

Game Play: This is a game for two players. At your turn, throw the dice, and cover the double of what you get from the dice with one of your markers. Then it is the other player's turn. If the squares with your double are already covered, the turn passes to the other player. The winner is the person who first gets three of their markers in a row, or column, or diagonally.

4	2	10	8
8	4	8	12
6	12	10	6
2	6	4	8

Games and Activities at Math Mammoth Practice Zone

Hidden Picture Addition Game

Use a number range of 3 to 19, or some other, to practice addition.

<https://www.mathmammoth.com/practice/mystery-picture>

Hidden Picture Subtraction Game

Choose a number range of 2 to 18, for example, to practice subtraction in this fun game.

<https://www.mathmammoth.com/practice/mystery-picture-subtraction>

Two-Digit Mental Addition - Online Practice

Practice adding one two-digit number and one single-digit number without regrouping in this online quiz.

<https://www.mathmammoth.com/practice/addition-subtraction-two-digit#opts=2p1dnr>

Two-Digit Mental Subtraction - Online Practice

Practice subtracting a single-digit number from a two-digit number without regrouping in this online quiz.

<https://www.mathmammoth.com/practice/addition-subtraction-two-digit#opts=2m1dnr>

“7 Up” Card Game

You will see seven cards dealt face up. Simply choose any two cards that make 10 (or your chosen sum) to discard. When there are no cards that make that sum, click the deck to deal more cards. For this chapter, choose sums of 7, 8, 9, or 10.

<https://www.mathmammoth.com/practice/seven-up>

Skip-count in a 100-chart

Fill in numbers on a 100-chart in a specific skip-counting pattern. You can choose by which number to skip-count, and also the starting and ending numbers for the grid.

<https://www.mathmammoth.com/practice/skip-count-hundred-chart>

Sample worksheet from

<https://www.mathmammoth.com>

Fact Families

Choose which fact family or families to practice, and the program will give you addition and subtraction problems from those, including with missing numbers.

<https://www.mathmammoth.com/practice/fact-families>

Even and Odd

Sort numbers into even and odd by dragging each kind of number to its own “box” in this simple game.

<https://www.mathmammoth.com/practice/even-or-odd>

Fruity Math: Subtraction

Add a two-digit number and a multiple of ten (such as $57 - 20$). Click the fruit with the correct answer and try to get as many points as you can within two minutes.

https://www.mathmammoth.com/practice/fruity-math#op=subtraction&duration=120&mode=manual&config=21,99x1__1,9x10&allow-neg=0

Fruity Math: Addition

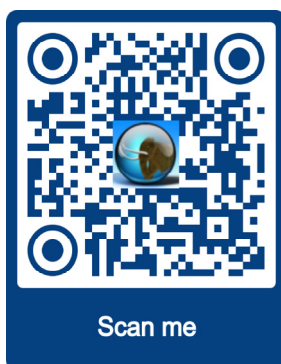
Add a two-digit number and a multiple of ten (such as $26 + 30$). Click the fruit with the correct answer and try to get as many points as you can within two minutes.

https://www.mathmammoth.com/practice/fruity-math#op=addition&duration=120&mode=manual&config=1,90x10__11,80x1&max-sum=100

Further Resources on the Internet

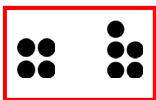
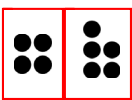
These resources match the topics in this chapter, and offer online practice, online games (occasionally, printable games), and interactive illustrations of math concepts. We heartily recommend you take a look. Many people love using these resources to supplement the bookwork, to illustrate a concept better, and for some fun. Enjoy!

<https://links.mathmammoth.com/gr2ch1>









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Fact Families

<p>When two addition and two subtraction facts use the same numbers, it is called a “<i>fact family</i>.”</p>	 $4 + 5 = 9$ $5 + 4 = 9$ $9 - 5 = 4$ $9 - 4 = 5$ <p>Notice the TOTAL. The subtraction sentences <u>start</u> with the total.</p>	 $4 + 5 = 9$ $5 + 4 = 9$ $9 - 5 = 4$ $9 - 4 = 5$ <p>Notice the PARTS. The two parts make up the total.</p>
<p>Sometimes in a subtraction problem, the <i>total</i> is asked:</p> $\square - 8 = 20$ <p>You know 20 and 8 are the “parts,” and the total is missing. To find the total, just add the “parts”:</p> $20 + 8 = \underline{28}$		

1. Write two addition and two subtraction sentences—a fact family!

<p>a.  </p> <p>_____ + _____ = _____</p> <p>_____ + _____ = _____</p> <p>_____ - _____ = _____</p> <p>_____ - _____ = _____</p>	<p>b.  </p> <p>_____ + _____ = _____</p> <p>_____ + _____ = _____</p> <p>_____ - _____ = _____</p> <p>_____ - _____ = _____</p>	<p>c.  </p> <p>_____ + _____ = _____</p> <p>_____ + _____ = _____</p> <p>_____ - _____ = _____</p> <p>_____ - _____ = _____</p>
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2. Fill in the missing numbers. The four problems form a fact family.

<p>a. $2 + \square = 8$</p> <p>$\square + 2 = 8$</p> <p>$8 - 2 = \square$</p> <p>$8 - \square = 2$</p>	<p>b. _____ + _____ = 10</p> <p>_____ + _____ = 10</p> <p>$10 - 7 = \square$</p> <p>$10 - \square = 7$</p>	<p>c. _____ + _____ = _____</p> <p>_____ + _____ = _____</p> <p>$9 - \square = 6$</p> <p>_____ - _____ = _____</p>
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3. Write a matching addition for the subtraction. There are two possibilities.

a. $\underline{\quad} + \underline{\quad} = \underline{\quad}$ $8 - 2 = 6$	b. $\underline{\quad} + \underline{\quad} = \underline{\quad}$ $20 - 7 = 13$	c. $\underline{\quad} + \underline{\quad} = \underline{\quad}$ $60 - 20 = 40$
---	---	--

When the first number is missing in a subtraction, it is the TOTAL that is missing.

You can find the TOTAL by adding the two numbers (those are the “parts”).

$$\square - 6 = 2$$

The total is missing. 6 and 2 are the “parts.” So we add them.
 $2 + 6 = 8$. The missing number is 8!

It is like “adding backwards”:

$$\begin{array}{c} \text{Add.} \\ \leftarrow + \\ \boxed{8} - 6 = 2 \end{array}$$

$$\begin{array}{c} \text{Add.} \\ \leftarrow + \\ \boxed{23} - 3 = 20 \end{array}$$

4. The total is missing from the subtraction sentence. Solve.

a. $\square - 5 = 4$	b. $\square - 7 = 2$	c. $\square - 7 = 10$
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5. Find the missing numbers.

a. $\square - 2 = 4$ $\square - 50 = 50$ $\square - 8 = 20$	b. $\square - 7 = 80$ $60 + 4 = \square$ $16 + \square = 20$	c. $9 - \square = 5$ $77 + \square = 78$ $\square - 9 = 60$
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Puzzle Corner

Find the missing numbers. This time adding backwards will NOT work!

a. $50 - \square = 10$

b. $100 - \square = 91$

c. $10 - \square - 2 = 1$

$33 - \square = 31$

$76 - \square = 72$

$9 - \square - 5 = 2$

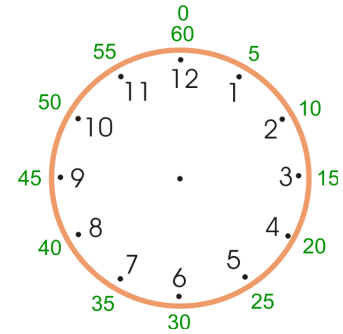
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The Minutes

When the hour hand moves from one number to the next (from 1 to 2, or from 6 to 7, etc.), it takes one hour to do that.

In that same one hour of time, the *minute hand* travels **from 0 to 60 minutes**. So one hour is 60 minutes. A half-hour is 30 minutes.

When you read the minute hand, you use the green numbers (marked outside the clock face of the clock on the right). They go by fives, and are not normally marked on clocks. You need to know them. Just skip-count by fives!



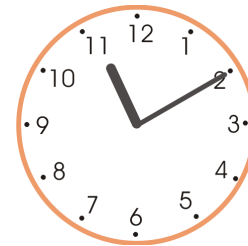
1 hour = 60 minutes.
1/2 hour = 30 minutes.



The hour hand is past 8.
The minute hand is at 15.
The time is 8:15.

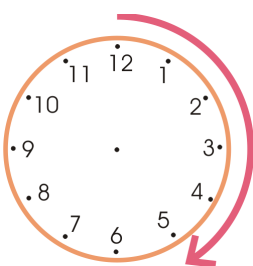


The hour hand is past 2.
The minute hand is at 25.
The time is 2:25.

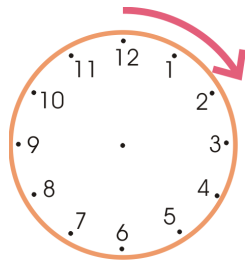


The hour hand is past 11.
The minute hand is at 10.
The time is 11:10.

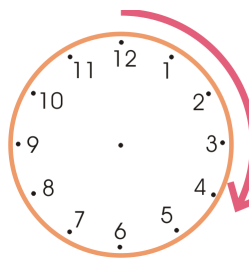
1. The arrow shows how much the minute hand travels. How many minutes pass?



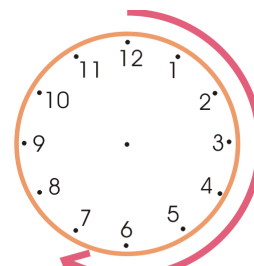
a. _____ minutes



b. _____ minutes



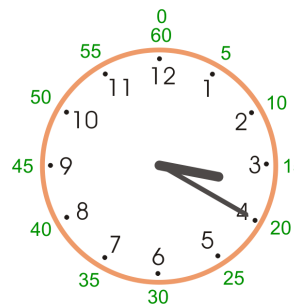
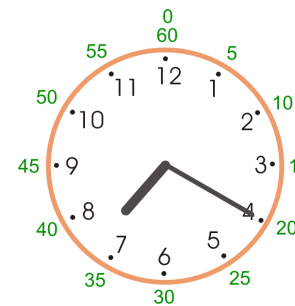
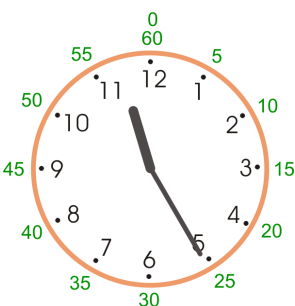
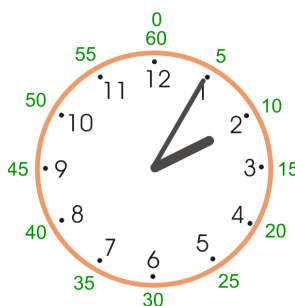
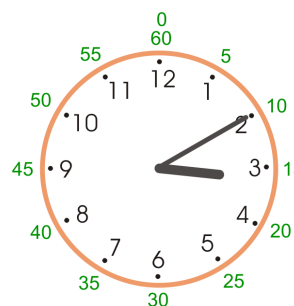
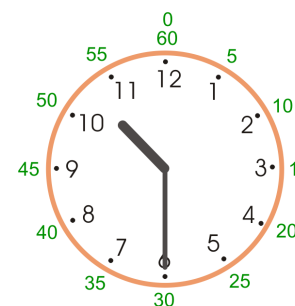


c. _____ minutes

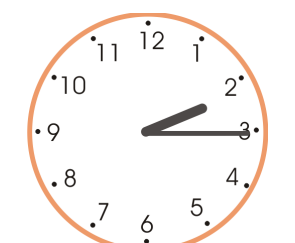
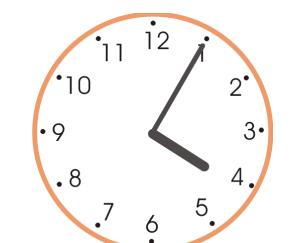



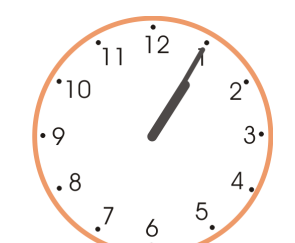




d. _____ minutes

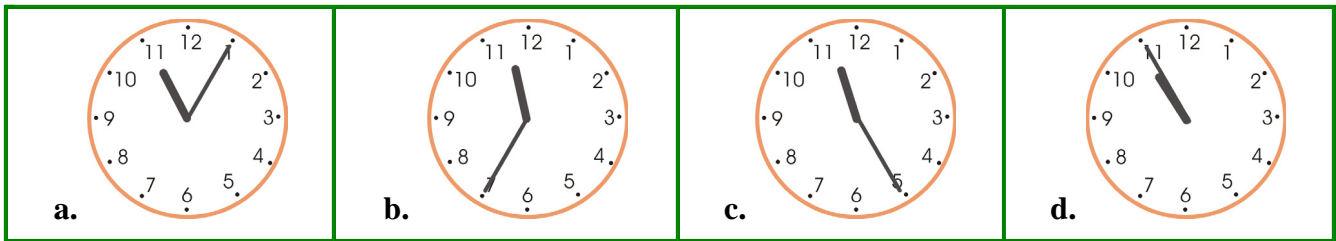
2. Write the time. This special clock shows the numbers for hours *and* for minutes.

 <p>a. ____ : ____</p>	 <p>b. ____ : ____</p>	 <p>c. ____ : ____</p>	 <p>d. ____ : ____</p>
 <p>e. ____ : ____</p>	 <p>f. ____ : ____</p>	 <p>g. ____ : ____</p>	 <p>h. ____ : ____</p>

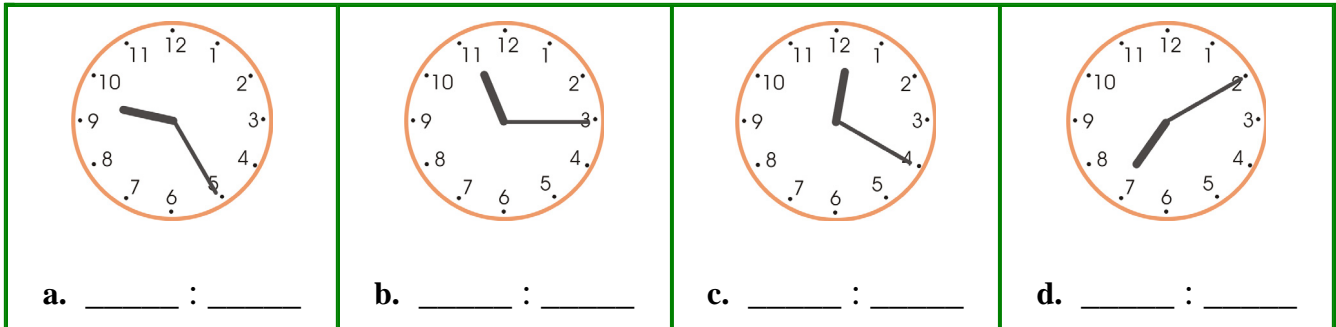
3. Write the time using the normal clock. Remember, the numbers for the minute hand are not shown, and they go by fives!

 <p>a. ____ : ____</p>	 <p>b. ____ : ____</p>	 <p>c. ____ : ____</p>	 <p>d. ____ : ____</p>
 <p>e. ____ : ____</p>	 <p>f. ____ : ____</p>	 <p>g. ____ : ____</p>	 <p>h. ____ : ____</p>



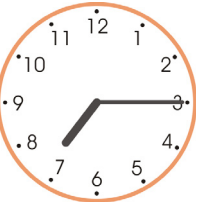



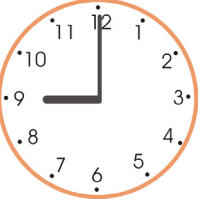

4. Find the clock that shows 11:25 and the clock that shows 11:05.



5. Write the time.



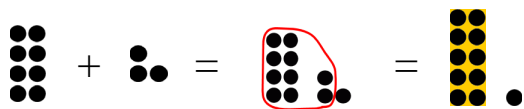
6. Write the time that the clock shows, and the time 5 minutes later. Imagine the minute hand moving one “step” further. You can use your practice clock.

	 <p>a.</p> <p>____ : ____</p>	 <p>b.</p> <p>____ : ____</p>	 <p>c.</p> <p>____ : ____</p>	 <p>d.</p> <p>____ : ____</p>
5 min. later →	____ : ____	____ : ____	____ : ____	____ : ____
	 <p>e.</p> <p>____ : ____</p>	 <p>f.</p> <p>____ : ____</p>	 <p>g.</p> <p>____ : ____</p>	 <p>h.</p> <p>____ : ____</p>
5 min. later →	____ : ____	____ : ____	____ : ____	____ : ____

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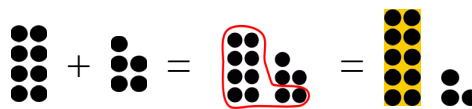
Adding with 8

Imagine that 8 wants to be a 10!
It takes two from the other number
(from 3). So, 8 becomes 10, and
only 1 is left over.



$$8 + 3 = 10 + 1 = 11$$

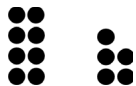
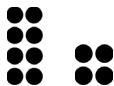
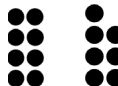
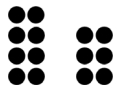
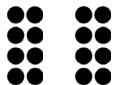
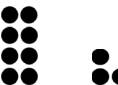
8 wants to be a 10! So, it takes
two from the other number
(from 5). So, 8 becomes 10,
and 3 are left over.



$$8 + 5 = 10 + 3 = 13$$

Use the list on the right to practice. Don't write the answers there.
Just point to different problems and say the answer aloud.

1. Add. First, circle the ten.

 a. $8 + 5$ $10 + 3 = \underline{\quad}$	 b. $8 + 4$ $10 + \underline{\quad} = \underline{\quad}$	 c. $8 + \underline{\quad}$ $10 + \underline{\quad} = \underline{\quad}$
 d. $8 + \underline{\quad} =$ $10 + \underline{\quad} = \underline{\quad}$	 e. $8 + \underline{\quad} =$ $10 + \underline{\quad} = \underline{\quad}$	 f. $8 + \underline{\quad} =$ $10 + \underline{\quad} = \underline{\quad}$

$8 + 1 = \square$

$8 + 2 = \square$

$8 + 3 = \square$

$8 + 4 = \square$

$8 + 5 = \square$

$8 + 6 = \square$

$8 + 7 = \square$

$8 + 8 = \square$

$8 + 9 = \square$

2. It is good to memorize the doubles, also. Fill in.

$2 + 2 = \underline{\quad}$	$5 + 5 = \underline{\quad}$	$8 + 8 = \underline{\quad}$
$3 + 3 = \underline{\quad}$	$6 + 6 = \underline{\quad}$	$9 + 9 = \underline{\quad}$
$4 + 4 = \underline{\quad}$	$7 + 7 = \underline{\quad}$	$10 + 10 = \underline{\quad}$

Addition facts with eight. Do not write the answers down, but just practice the sums.

$8 + 0 = \square$	$8 + 5 = \square$	$8 + 8 = \square$	$8 + 9 = \square$
$8 + 3 = \square$	$8 + 7 = \square$	$8 + 1 = \square$	$8 + 4 = \square$
$8 + 10 = \square$	$8 + 1 = \square$	$8 + 6 = \square$	$8 + 2 = \square$

3. Add and fill in what is missing.

a. $8 + 4 = \underline{\hspace{2cm}}$	b. $7 + 8 = \underline{\hspace{2cm}}$	c. $3 + 8 = \underline{\hspace{2cm}}$
$8 + 6 = \underline{\hspace{2cm}}$	$8 + 5 = \underline{\hspace{2cm}}$	$8 + 9 = \underline{\hspace{2cm}}$
d. $8 + \underline{\hspace{2cm}} = 13$	e. $8 + \underline{\hspace{2cm}} = 12$	f. $\underline{\hspace{2cm}} + 8 = 11$
$8 + \underline{\hspace{2cm}} = 15$	$8 + \underline{\hspace{2cm}} = 16$	$\underline{\hspace{2cm}} + 8 = 14$

4. a. Jenny ate 8 strawberries, and Jack ate 5 more than what Jenny did.

How many strawberries did Jack eat?

b. Ashley is 13 years old, and Maryann is 5.

How many years older is Ashley than Maryann?

5. Find the patterns and continue them.

<p>a. $8 + 2 = \underline{\hspace{2cm}}$</p> <p>$8 + 4 = \underline{\hspace{2cm}}$</p> <p>$8 + 6 = \underline{\hspace{2cm}}$</p> <p>$8 + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$</p> <p>$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$</p> <p>$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$</p> <p>$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$</p>	<p>b. $18 + 2 = \underline{\hspace{2cm}}$</p> <p>$18 + 4 = \underline{\hspace{2cm}}$</p> <p>$18 + 6 = \underline{\hspace{2cm}}$</p> <p>$18 + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$</p> <p>$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$</p> <p>$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$</p> <p>$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$</p>	<p>c.</p> <p>$\frac{1}{2}$ of 0 is $\underline{\hspace{2cm}}$.</p> <p>$\frac{1}{2}$ of 2 is $\underline{\hspace{2cm}}$.</p> <p>$\frac{1}{2}$ of 4 is $\underline{\hspace{2cm}}$.</p> <p>$\frac{1}{2}$ of $\underline{\hspace{2cm}}$ is $\underline{\hspace{2cm}}$.</p> <p>$\frac{1}{2}$ of $\underline{\hspace{2cm}}$ is $\underline{\hspace{2cm}}$.</p> <p>$\frac{1}{2}$ of $\underline{\hspace{2cm}}$ is $\underline{\hspace{2cm}}$.</p> <p>$\frac{1}{2}$ of $\underline{\hspace{2cm}}$ is $\underline{\hspace{2cm}}$.</p>
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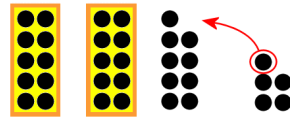
Add with Two-Digit Numbers Ending in 9

Imagine that 29 wants to be 30...

so it “grabs” one from 5.

Then, 29 becomes 30, and 5 becomes 4.

The addition problem is changed to $30 + 4 = 34$.

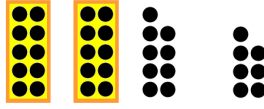


$$29 + 5 = \underline{\quad}$$

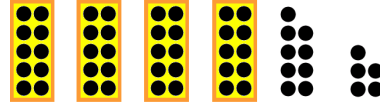
1. Circle the nine dots and one more dot to form a complete ten. Add.



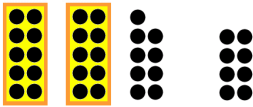
a. $19 + 5 = \underline{\quad}$



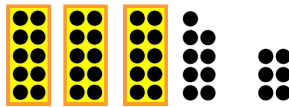
b. $29 + 7 = \underline{\quad}$



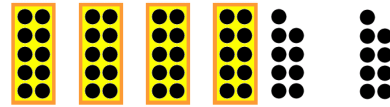
c. $49 + 5 = \underline{\quad}$



d. $29 + 8 = \underline{\quad}$



e. $39 + 6 = \underline{\quad}$



f. $49 + 9 = \underline{\quad}$

2. Add. For each problem, write a helping problem using the “ones” from the first problem.

a. $19 + 7 = \underline{\quad}$

$\underline{9} + \underline{7} = \underline{\quad}$

b. $49 + 3 = \underline{\quad}$

$\underline{\quad} + \underline{\quad} = \underline{\quad}$

c. $39 + 4 = \underline{\quad}$

$\underline{\quad} + \underline{\quad} = \underline{\quad}$

3. Add. Compare the problems.

a. $9 + 3 = \underline{\quad}$

$19 + 3 = \underline{\quad}$

b. $9 + 6 = \underline{\quad}$

$39 + 6 = \underline{\quad}$

c. $9 + 4 = \underline{\quad}$

$49 + 4 = \underline{\quad}$

d. $9 + 7 = \underline{\quad}$

$39 + 7 = \underline{\quad}$

$29 + 7 = \underline{\quad}$

e. $9 + 9 = \underline{\quad}$

$69 + 9 = \underline{\quad}$





$79 + 9 = \underline{\quad}$

f. $9 + 5 = \underline{\quad}$

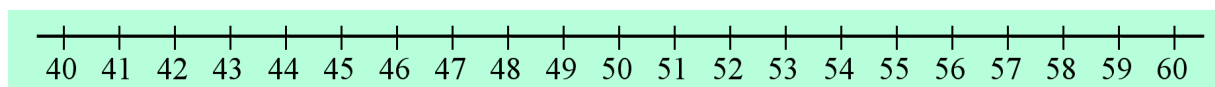
$19 + 5 = \underline{\quad}$

$59 + 5 = \underline{\quad}$

4. These problems review the basic facts with 9 and 8. By this time you should already remember these addition facts. Try to remember what number will fit without counting.

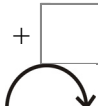
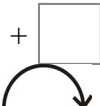
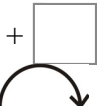
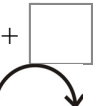
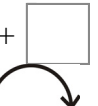
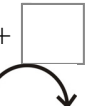
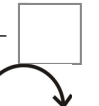
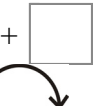

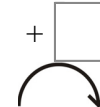
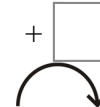
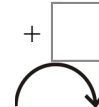




a. 	b. 	c. 	d. 
$14 - 9 = \underline{\quad}$	$4 + 9 = \underline{\quad}$	$15 - \underline{\quad} = 8$	$7 + 8 = \underline{\quad}$
$15 - 9 = \underline{\quad}$	$8 + 9 = \underline{\quad}$	$17 - \underline{\quad} = 8$	$5 + 8 = \underline{\quad}$
$13 - 9 = \underline{\quad}$	$5 + 9 = \underline{\quad}$	$12 - \underline{\quad} = 8$	$6 + 8 = \underline{\quad}$
$18 - 9 = \underline{\quad}$	$6 + 9 = \underline{\quad}$	$14 - \underline{\quad} = 8$	$3 + 8 = \underline{\quad}$
$17 - 9 = \underline{\quad}$	$9 + 9 = \underline{\quad}$	$13 - \underline{\quad} = 8$	$9 + 8 = \underline{\quad}$
$16 - 9 = \underline{\quad}$	$7 + 9 = \underline{\quad}$	$16 - \underline{\quad} = 8$	$4 + 8 = \underline{\quad}$

5. Find the difference of numbers. The number line can help.



a. Difference between 41 and 53 $\underline{\quad}$	b. Difference between 60 and 46 $\underline{\quad}$	c. Difference between 59 and 48 $\underline{\quad}$
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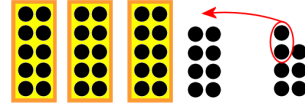
6. Find the patterns and continue them!

a. <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> $+$  </div> <div style="text-align: center;"> $+$  </div> <div style="text-align: center;"> $+$  </div> <div style="text-align: center;"> $+$  </div> <div style="text-align: center;"> $+$  </div> <div style="text-align: center;"> $+$  </div> <div style="text-align: center;"> $+$  </div> <div style="text-align: center;"> $+$  </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> 0 1 3 6 10 $\underline{\quad}$ $\underline{\quad}$ $\underline{\quad}$ $\underline{\quad}$ </div>	b. <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> $+$  </div> <div style="text-align: center;"> $+$  </div> <div style="text-align: center;"> $+$  </div> <div style="text-align: center;"> $+$  </div> <div style="text-align: center;"> $+$  </div> <div style="text-align: center;"> $+$  </div> <div style="text-align: center;"> $+$  </div> <div style="text-align: center;"> $+$  </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> $\underline{\quad}$ $\underline{\quad}$ $\underline{\quad}$ $\underline{\quad}$ $\underline{\quad}$ $\underline{\quad}$ 44 48 52 56 </div>
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Add a Two-Digit Number and a Single-Digit Number Mentally

Imagine that 38 wants to be 40, so it “grabs” two from 7. Then, 38 becomes 40, and 7 becomes 5. The addition problem is changed to $40 + 5 = 45$.

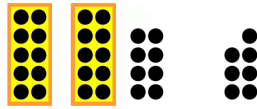


$$38 + 7 = \underline{\quad}$$

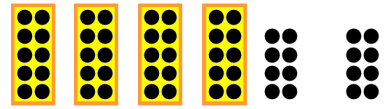
1. Circle the eight dots and two more dots to form a complete ten. Add.



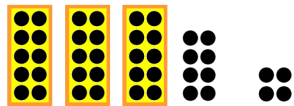
a. $18 + 6 = \underline{\quad}$



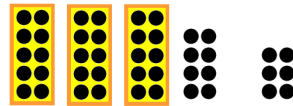
b. $28 + 7 = \underline{\quad}$



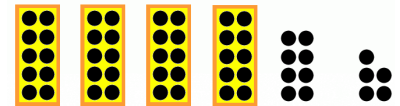
c. $48 + 8 = \underline{\quad}$



d. $38 + 4 = \underline{\quad}$



e. $38 + 6 = \underline{\quad}$



f. $48 + 5 = \underline{\quad}$

2. Add. Think of the trick explained above.

a. $18 + 7 = \underline{\quad}$

b. $38 + 6 = \underline{\quad}$

c. $58 + 5 = \underline{\quad}$

3. Add. Compare the problems. What is similar about the problems in each box?

a. $8 + 3 = \underline{\quad}$

$18 + 3 = \underline{\quad}$

b. $8 + 6 = \underline{\quad}$

$38 + 6 = \underline{\quad}$

c. $8 + 4 = \underline{\quad}$

$78 + 4 = \underline{\quad}$

d. $8 + 2 = \underline{\quad}$

$38 + 2 = \underline{\quad}$

$28 + 2 = \underline{\quad}$

e. $8 + 9 = \underline{\quad}$

$68 + 9 = \underline{\quad}$

$78 + 9 = \underline{\quad}$

f. $8 + 5 = \underline{\quad}$

$18 + 5 = \underline{\quad}$

$58 + 5 = \underline{\quad}$

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Foreword

Math Mammoth Grade 2 comprises a complete math curriculum for the second grade mathematics studies. The curriculum meets and exceeds the Common Core standards.

The main areas of study for second grade are:

1. Understanding of the base-ten system within 1000. This includes place value with three-digit numbers, skip-counting in fives, tens, and multiples of hundreds, tens, and ones (within 1000) (chapters 6 and 8);
2. Develop fluency with addition and subtraction, including solving word problems, regrouping in addition, and regrouping in subtraction (chapters 1, 3, 4, and 8);
3. Using standard units of measure (chapter 7);
4. Describing and analyzing shapes (chapter 5).

Additional topics we study are time, money, introduction to multiplication, and bar graphs and picture graphs.

This book, 2-B, covers three-digit numbers (chapter 6), measuring (chapter 7), regrouping in addition and subtraction (chapter 8), counting coins (chapter 9), and an introduction to multiplication (chapter 10). The rest of the topics are covered in the 2-A student worktext.

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

- These two books (parts A and B) are like a “framework”, but you still have a lot of liberty in planning your child’s studies. While addition and subtraction topics are best studied in the order they are presented, feel free to go through the sections on shapes, measurement, clock, and money in any order you like.

This is especially advisable if your child is either “stuck” or is perhaps getting bored with some particular topic. Sometimes the concept the child was stuck on can become clear after a break from the topic.

- 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 your child study in 2-3 chapters simultaneously. This type of flexible use of the curriculum enables you to truly individualize the instruction for your child.
- Don’t automatically assign all the exercises. Use your judgment, trying to assign just enough for your 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/>

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

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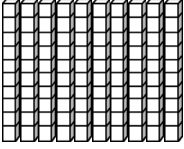
Three-Digit Numbers

Ten ones make a ten:



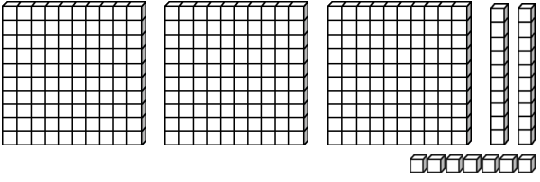
10 ones = 10

Ten ten-pillars make ONE HUNDRED:



10 tens = 100

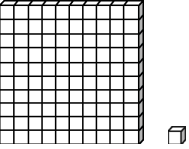
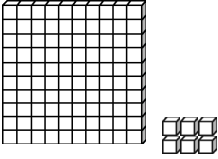
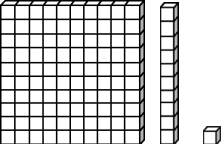
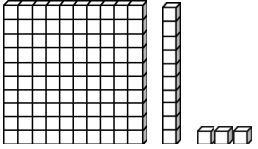
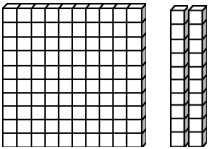
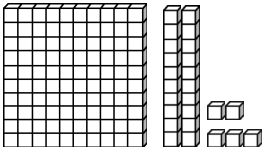
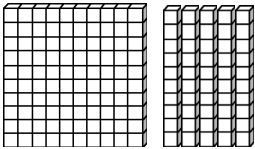
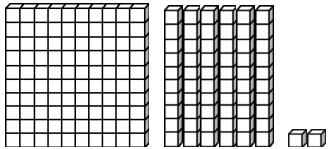
Write hundreds, tens, and ones in their own columns:



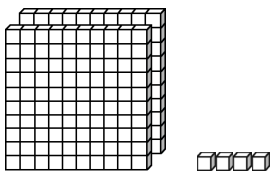
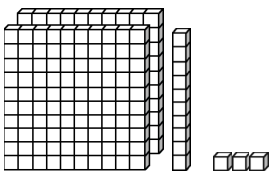
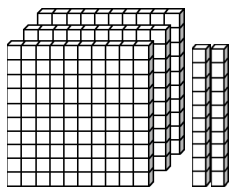
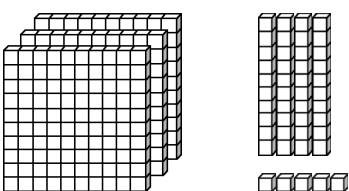
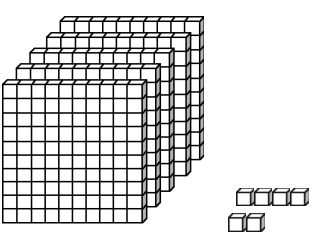
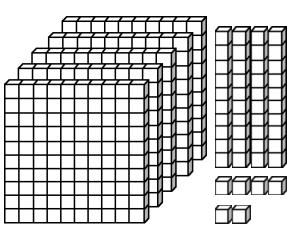
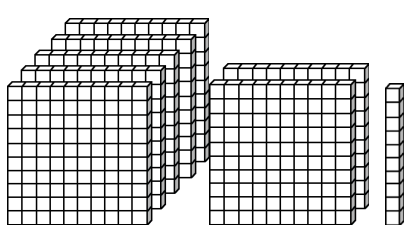
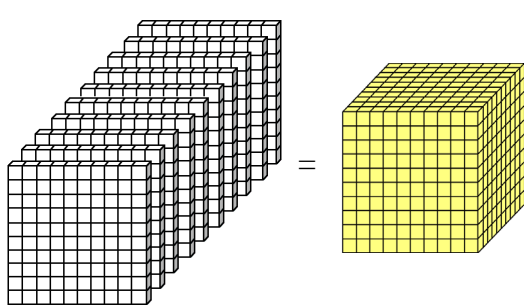
three hundred twenty-seven

hundreds	tens	ones
3	2	7

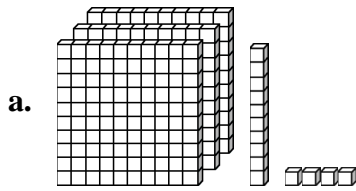
1. Count the ones, tens, and hundreds, and fill in the missing parts.

<p>a. one hundred one</p>  <p>hundreds tens ones</p> <table border="1"><tr><td>1</td><td>0</td><td>1</td></tr></table>	1	0	1	<p>b. one hundred six</p>  <p>hundreds tens ones</p> <table border="1"><tr><td></td><td></td><td></td></tr></table>				<p>c. one hundred eleven</p>  <p>hundreds tens ones</p> <table border="1"><tr><td>1</td><td>1</td><td>1</td></tr></table>	1	1	1	<p>d. one hundred thirteen</p>  <p>hundreds tens ones</p> <table border="1"><tr><td></td><td></td><td></td></tr></table>			
1	0	1													
1	1	1													
<p>e. one hundred twenty</p>  <p>hundreds tens ones</p> <table border="1"><tr><td></td><td></td><td></td></tr></table>				<p>f. one hundred twenty-five</p>  <p>hundreds tens ones</p> <table border="1"><tr><td></td><td></td><td></td></tr></table>				<p>g. one hundred fifty</p>  <p>hundreds tens ones</p> <table border="1"><tr><td></td><td></td><td></td></tr></table>				<p>h. one hundred sixty-two</p>  <p>hundreds tens ones</p> <table border="1"><tr><td></td><td></td><td></td></tr></table>			

2. Count the ones, tens, and hundreds, and fill in the missing parts.

<p>a. <u>two hundred</u></p> <p><u>four</u></p>  <p>hundreds tens ones</p> <table border="1"><tr><td>2</td><td>0</td><td>4</td></tr></table>	2	0	4	<p>b. <u>two hundred</u></p> <p><u>thirteen</u></p>  <p>hundreds tens ones</p> <table border="1"><tr><td></td><td></td><td></td></tr></table>				<p>c. _____</p> <p>_____</p>  <p>hundreds tens ones</p> <table border="1"><tr><td></td><td></td><td></td></tr></table>			
2	0	4									
<p>d. _____</p> <p>_____</p>  <p>H T O</p> <table border="1"><tr><td></td><td></td><td></td></tr></table>				<p>e. _____</p> <p>_____</p>  <p>H T O</p> <table border="1"><tr><td></td><td></td><td></td></tr></table>				<p>f. _____</p> <p>_____</p>  <p>H T O</p> <table border="1"><tr><td></td><td></td><td></td></tr></table>			
<p>g. _____</p>  <p>H T O</p> <table border="1"><tr><td></td><td></td><td></td></tr></table>				<p>h. <u>Ten hundreds = One thousand</u></p>  <p>Th H T O</p> <table border="1"><tr><td>1</td><td>0</td><td>0</td><td>0</td></tr></table>	1	0	0	0			
1	0	0	0								

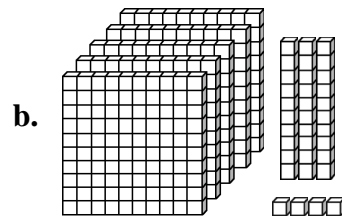
3. Write a sum of the hundreds, tens, and ones shown in the picture.
Also write the number.



_____ + _____ + _____

H T O

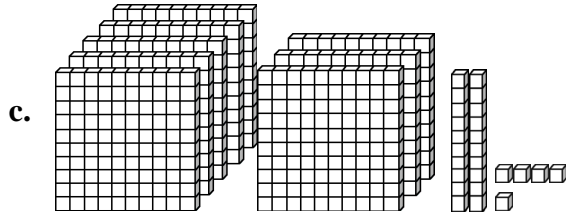
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_____ + _____ + _____

H T O

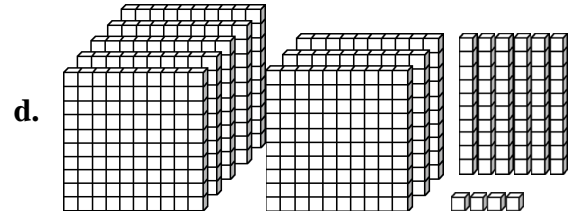
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_____ + _____ + _____

H T O

--	--	--

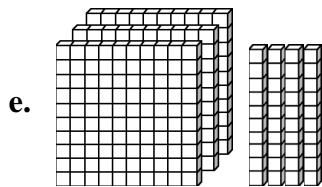


_____ + _____ + _____

H T O

--	--	--

Notice: There are NO ones.
Write a zero for ones in the sum.

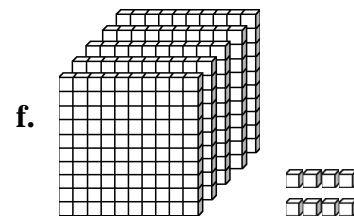


_____ + _____ + 0

H T O

--	--	--

Notice: There are NO tens.
Write a zero for tens in the sum.

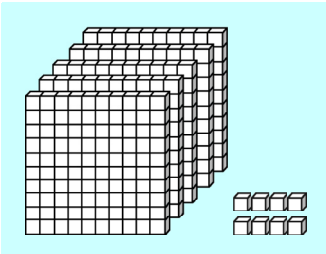
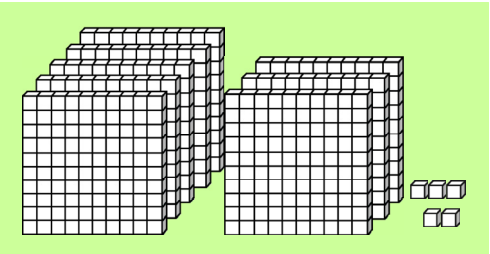
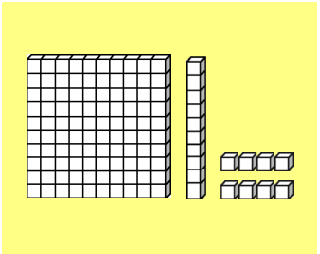
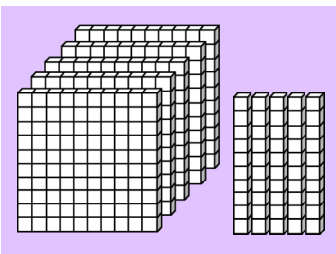
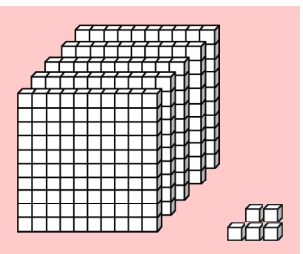
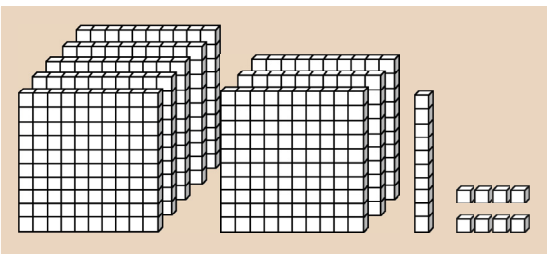


_____ + 0 + _____



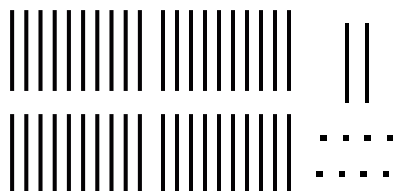
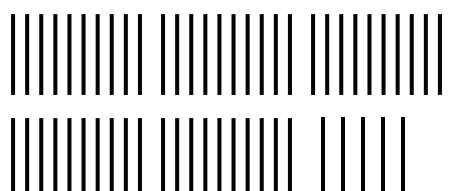
H T O

--	--	--

4. Match the numbers, number names, and the sums to the correct pictures.

118	505	818	550	508	805
					
eight hundred five	five hundred fifty	one hundred eighteen			
					
$500 + 8$	$500 + 5$	$800 + 10 + 8$			

5. The dots are ones, the pillars are tens. Group together 10 ten-pillars to make a hundred.

<p>a. </p> <p><u>235</u></p>	<p>b. </p> <p>_____</p>
<p>c. </p> <p>_____</p>	<p>d. </p> <p>_____</p>

How many tens are in a thousand?

Puzzle Corner

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Patterns and Problems

1. Three children played a card game where you get points for the cards left in your hand. The person who has the least points at the end of the game is the winner. The table shows the point count at a certain time in the game:

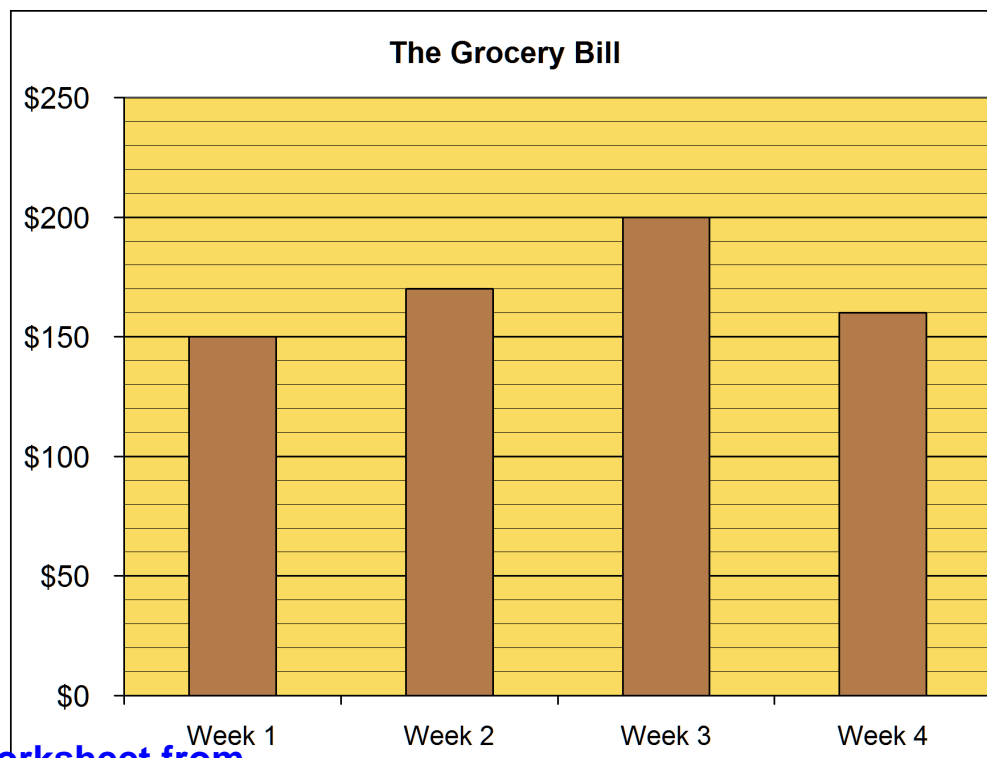
Then, Dan got 100 more points and Bill got 30 more points (Jim got none).

Add those to their point counts and write the new point counts in the grid.

The game ended now. Who won?

Jim	Dan	Bill
540	270	330

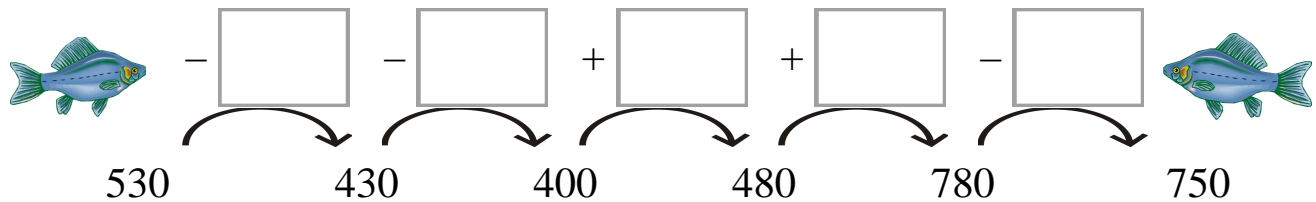
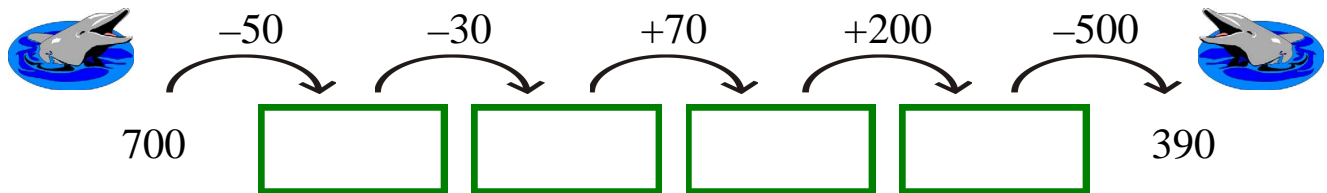
2. The bar graph shows how much money the Riley family spent for groceries in four different weeks.
- Mark above each bar how much they spent for groceries in dollars.
 - How much more did they pay for week 3 than for week 4?
 - How much more did they pay for week 2 than for week 1?



3. Count by 20s, and fill in the grid.

520	540	560		
620				
820				
				1000

4. Fill in.



5. Continue the patterns!

a. $590 - 60 = \underline{\hspace{2cm}}$

$590 - 70 = \underline{\hspace{2cm}}$

$590 - 80 = \underline{\hspace{2cm}}$

$590 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

$590 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

$590 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

b. $770 + 10 = \underline{\hspace{2cm}}$

$770 + 20 = \underline{\hspace{2cm}}$

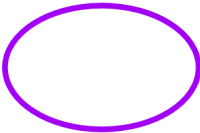

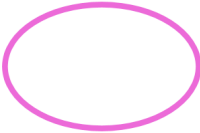
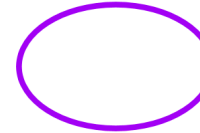
$770 + 30 = \underline{\hspace{2cm}}$


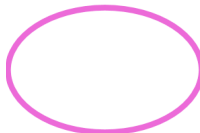
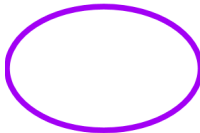

$770 + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

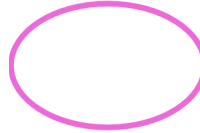
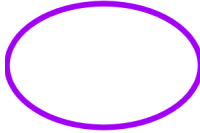

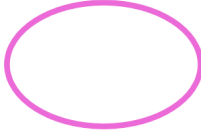
$770 + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

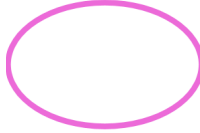
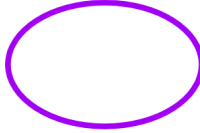

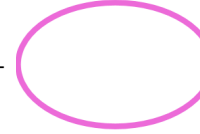
$770 + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

6. Find what number goes in the oval.

Subtractions where the TOTAL is missing:	a.  - 60 = 220	b.  - 80 = 510
	c.  - 500 = 100	d.  - 310 = 60

e. 450 +  = 750	f. 716 +  = 776	"How many more" additions
g. 530 +  = 590	h. 637 +  = 697	

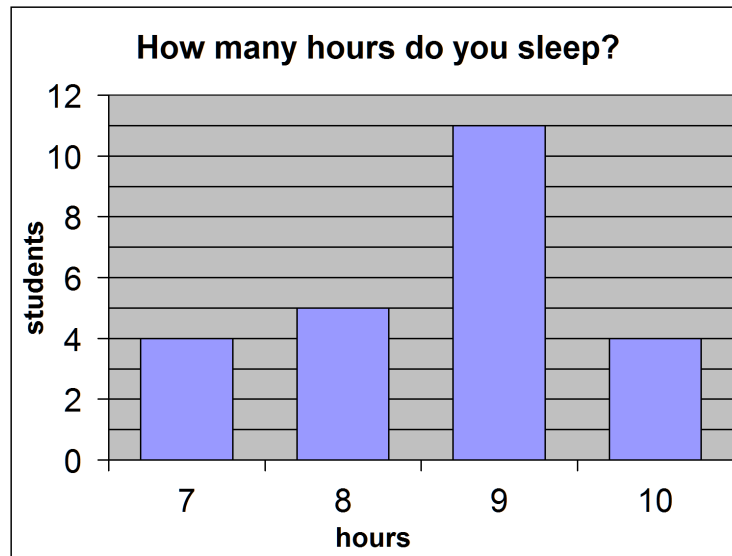
What was subtracted is missing:	i. 1000 -  = 700	j. 740 -  = 40
	k. 667 -  = 607	l. 999 -  = 299

Find what number goes into the oval!		Puzzle Corner
a. 980 - 200 -  = 80	b. 784 -  - 40 = 704	
c. 210 + 50 +  = 310	d. 600 +  + 30 = 720	

Bar Graphs and Pictographs

Bar graphs use “bars” or rectangles in them to show some information.

1. This bar graph shows how many hours some second grade students slept last night.




- a. How many students slept 8 hours last night?
- b. How many students slept 10 hours last night?
- c. *How many more* students slept 9 hours than the ones who slept 10 hours?
- d. A school nurse said that children need to sleep well for at least 8 hours.
How many students slept *less than* 8 hours last night?
- e. How many students slept *at least* 8 hours last night?
- f. Make a pictograph. Draw ONE sleepy face 😊 to mean 2 students.

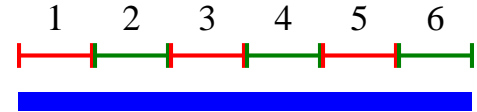
	Students
Students who slept less than 8 hours	
Students who slept at least 8 hours	

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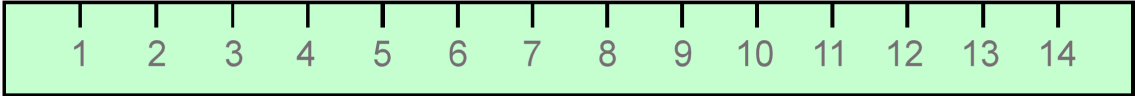

Measuring to the Nearest Centimeter

Remember? We can measure how long things are using *centimeters*.

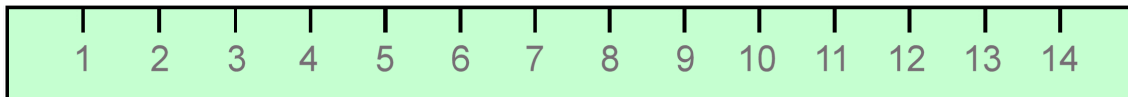
This line is 1 centimeter long: 
 A centimeter is written in short form as “cm.”
 The blue line on the right is 6 cm long. →



1. How many centimeters long are these lines?

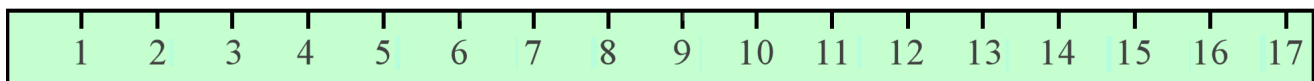
<p>a.  _____ cm</p>	<p>b.  _____ cm</p>
<p>c. _____ cm</p> 	
<p>d.  _____ cm</p>	

2. Measure the pencils with a centimeter ruler. If you don't have one, you can cut out the one from the bottom of this page. Then answer the questions.



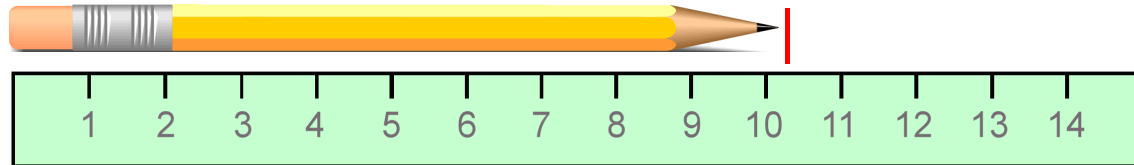
a. How much longer is pencil #1 than pencil #2? _____ cm

b. How much longer is pencil #3 than pencil #2? _____ cm

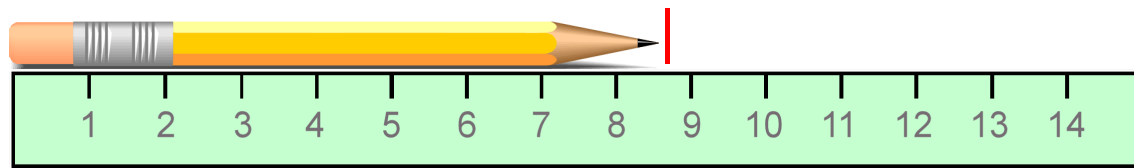


Most things are NOT exactly a certain number of whole centimeters. You can measure them to the nearest centimeter.

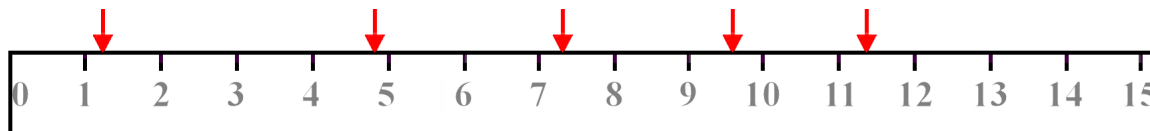
The pencil below is a little over 10 cm long. It is about 10 cm long.



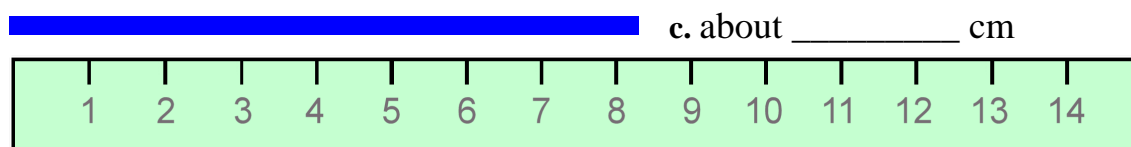
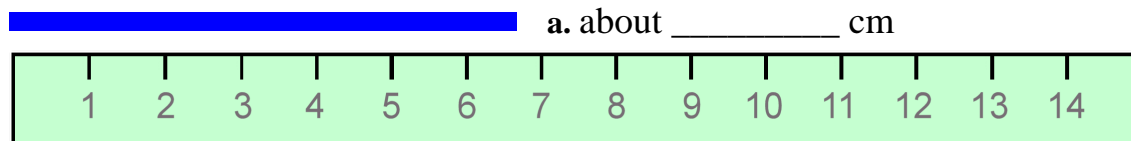
This pencil is about 9 cm long. The end of the pencil is closer to 9 cm than to 8 cm.




3. Circle the number that is nearest to each arrow.



4. Measure the lines to the nearest centimeter.



5. This line is 1 cm long: . Your finger is probably about that wide; put it on top of the 1-cm line and check! Guess how long these lines are. Then measure.

	<u>My guess:</u>	<u>Measurement:</u>
a. _____	about _____ cm	about _____ cm
b. _____	about _____ cm	about _____ cm
c. _____	about _____ cm	about _____ cm

6. a. Find two small objects. Measure to find *about* how many centimeters longer one is than the other.

The _____ is *about* _____ cm longer than the _____.

- b. Find other two small objects. Measure to find *about* how many centimeters longer one is than the other.

The _____ is *about* _____ cm longer than the _____.

7. Draw some lines here or on blank paper. Use a ruler. Hold the ruler down tight with one hand, while drawing the line with the other. It takes some practice!

a. 6 cm long

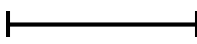
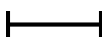

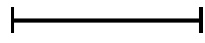

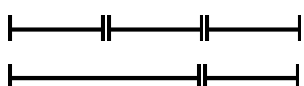
b. 3 cm long

c. 12 cm long

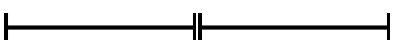


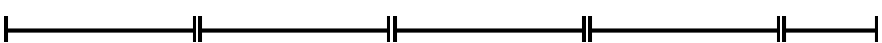
8. Find some small objects. First GUESS how long or tall they are. Then measure. If the item is not exactly so-many centimeters long, then measure it to the nearest centimeter and write “about” before the centimeter-amount, such as *about 8 cm*.

Item	GUESS	MEASUREMENT
	cm	cm
	cm	cm
	cm	cm
	cm	cm
	cm	cm

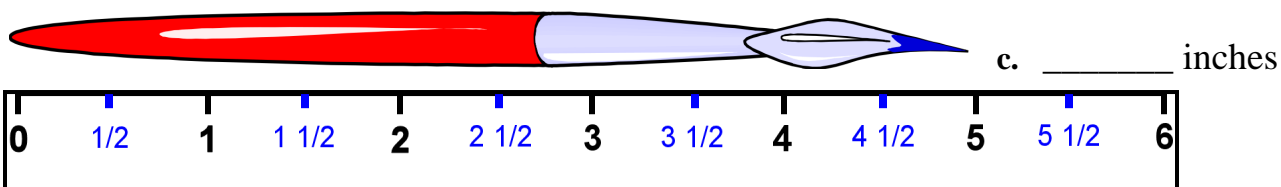
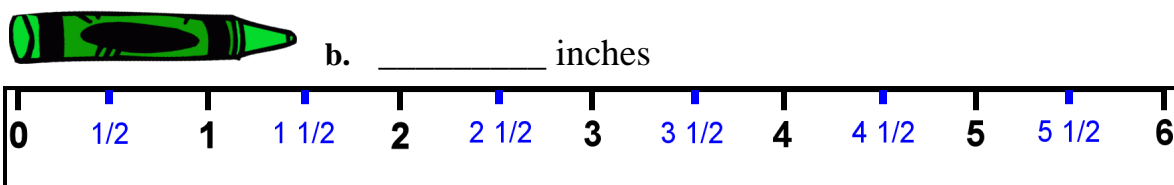
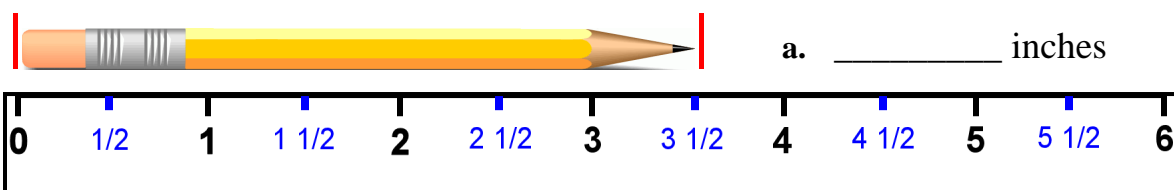
Inches and Half-Inches

 This line is 1 inch long.  This line is $\frac{1}{2}$ inch long.	 Two half-inches make an inch! 
 3 inches and a $\frac{1}{2}$ -inch = $3\frac{1}{2}$ inches (three and a half inches)	 three half-inches = $1\frac{1}{2}$ inches (one and a half inches)

1. How long are the lines of inches and half-inches when placed end-to-end?

- a.  _____ inches
- b.  _____ inches
- c.  _____ inches
- d.  _____ in.

2. How long are these things in inches?

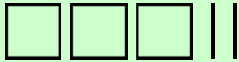


You can cut out one of the rulers in this lesson and tape it on an existing ruler or cardboard after you have finished the exercises on this and the next page!

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Regrouping One Hundred As 10 Tens

We need to subtract 170....
but we cannot take away
seven tens because there
are only two tens.



320

→

“Break down” one HUNDRED as 10
tens. Now we can subtract! Take away
1 hundred and 7 tens.

What is left? _____

→

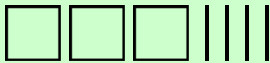


→

2 hundreds + 12 tens

1. Break down one hundred into 10 tens (regroup). Draw squares for hundreds, sticks for tens, and dots for ones. Then take away (subtract) what is asked.

a.



340

→



→

_____ hundreds + _____ tens

Take away 180. What is left? _____

b.



410

→

→

_____ hundreds + _____ tens

Take away 250. What is left? _____

c.



322

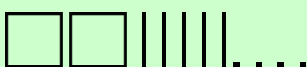
→

→

_____ hundreds + _____ tens + _____ ones

Take away 171. What is left? _____

d.



254

→

→

_____ hundreds + _____ tens + _____ ones

Take away 174. What is left? _____

2. First, regroup 1 hundred as ten tens. Then subtract.

a. 4 hundreds 5 tens 7 ones \Rightarrow

3	15	7
hundreds	tens	ones
– 2	8	2
hundreds	tens	ones
<hr/>		
1	7	5
hundreds	tens	ones

b. 7 hundreds 2 tens 1 one \Rightarrow

hundreds	tens	one
– 3	6	1
hundreds	tens	one
<hr/>		
hundred	tens	ones

c. 3 hundreds 2 tens 0 ones \Rightarrow

hundreds	tens	ones
– 2	5	0
hundreds	tens	ones
<hr/>		
hundred	tens	ones

d. 7 hundreds 0 tens 6 ones \Rightarrow

hundreds	tens	ones
– 6	2	2
hundreds	tens	ones
<hr/>		
hundred	tens	ones

e. 8 hundreds 0 tens 3 ones \Rightarrow

hundreds	tens	ones
– 5	3	1
hundreds	tens	one
<hr/>		
hundred	tens	ones

3. How to regroup when subtracting $947 - 282$ (below)? Fill in Jill's explanation.

It would be easy, except I cannot subtract ____ tens from ____ tens. So, I need to take one of the ____ hundreds and break it down as tens. So, now I will have only ____ hundreds but I will now get ____ tens. Now I can subtract.

9 hundreds 4 tens 7 ones \Rightarrow

hundreds	tens	ones
– 2	8	2
hundreds	tens	ones
<hr/>		
hundred	tens	ones

Compare how we write the regrouping when subtracting in columns.

$$\begin{array}{r}
 5 \text{ hundreds } 4 \text{ tens } 7 \text{ ones} \Rightarrow \begin{array}{r} 4 \text{ hundreds } 14 \text{ tens } 7 \text{ ones} \\ - 1 \text{ hundred } 5 \text{ tens } 2 \text{ ones} \\ \hline 3 \text{ hundreds } 9 \text{ tens } 5 \text{ ones} \end{array}
 \end{array}$$

$$\begin{array}{r}
 4 \ 14 \\
 5 \ 4 \ 7 \\
 - 1 \ 5 \ 2 \\
 \hline
 3 \ 9 \ 5
 \end{array}$$

4. Fill in. Subtract both ways.

a.

$$\begin{array}{r}
 4 \text{ hundreds } 5 \text{ tens } 6 \text{ ones} \Rightarrow \begin{array}{r} \square \text{ hundreds } \square \text{ tens } \square \text{ ones} \\ - 2 \text{ hundreds } 7 \text{ tens } 2 \text{ ones} \\ \hline \square \text{ hundreds } \square \text{ tens } \square \text{ ones} \end{array}
 \end{array}$$

$$\begin{array}{r}
 4 \ 5 \ 6 \\
 - 2 \ 7 \ 2 \\
 \hline
 \end{array}$$

b.

$$\begin{array}{r}
 6 \text{ hundreds } 0 \text{ tens } 5 \text{ ones} \Rightarrow \begin{array}{r} \square \text{ hundreds } \square \text{ tens } \square \text{ ones} \\ - 4 \text{ hundreds } 3 \text{ tens } 3 \text{ ones} \\ \hline \square \text{ hundreds } \square \text{ tens } \square \text{ ones} \end{array}
 \end{array}$$

$$\begin{array}{r}
 6 \ 0 \ 5 \\
 - 4 \ 3 \ 3 \\
 \hline
 \end{array}$$

5. Subtract.

a.

$$\begin{array}{r}
 9 \ 2 \ 6 \\
 - 1 \ 4 \ 6 \\
 \hline
 \end{array}$$

b.

$$\begin{array}{r}
 5 \ 2 \ 9 \\
 - 9 \ 5 \\
 \hline
 \end{array}$$

c.

$$\begin{array}{r}
 4 \ 1 \ 4 \\
 - 3 \ 2 \ 2 \\
 \hline
 \end{array}$$

d.

$$\begin{array}{r}
 7 \ 7 \ 3 \\
 - 5 \ 3 \ 6 \\
 \hline
 \end{array}$$

e.

$$\begin{array}{r}
 6 \ 7 \ 0 \\
 - 2 \ 2 \ 6 \\
 \hline
 \end{array}$$

f.

$$\begin{array}{r}
 7 \ 0 \ 8 \\
 - 1 \ 5 \ 6 \\
 \hline
 \end{array}$$

g.

$$\begin{array}{r}
 5 \ 0 \ 3 \\
 - 3 \ 4 \ 1 \\
 \hline
 \end{array}$$

h.

$$\begin{array}{r}
 7 \ 4 \ 8 \\
 - 3 \ 7 \ 6 \\
 \hline
 \end{array}$$

6. Solve the problems.

- a. Max has two books to read. The first book has 270 pages, and the second book has 60 fewer pages than the first. How many pages does the second book have?

- b. Liz and Hannah played a game. Hannah got 192 points and Liz got 433 points. How many more points did Liz get than Hannah?

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- c. Again, Liz and Hannah played a game. This time Liz got 215 points and Hannah got 93 points more than Liz. So, how many points did Hannah get?

<hr/>		

- d. Denny and Micah dug up some worms for bait before they went fishing. Denny got 14 worms, which was 11 fewer worms than what Micah got. How many worms did Micah get?

What was the total number of worms that both boys got?

Puzzle Corner

Figure out the missing numbers in these subtractions!
You might need to regroup.

$$\begin{array}{r} \square \square 5 \\ - 15 \square \\ \hline 292 \end{array}$$

$$\begin{array}{r} 6 \square 4 \\ - \square 5 \square \\ \hline 326 \end{array}$$

$$\begin{array}{r} 9 \square \square \\ - \square 5 5 \\ \hline 726 \end{array}$$

$$\begin{array}{r} 96 \square \\ - \square 5 5 \\ \hline 5 \square 5 \end{array}$$

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Review Chapter 8

1. Add.

a.

$$\begin{array}{r} 215 \\ + 477 \\ \hline \end{array}$$

b.

$$\begin{array}{r} 192 \\ + 225 \\ \hline \end{array}$$

c.

$$\begin{array}{r} 303 \\ 128 \\ + 287 \\ \hline \end{array}$$

d.

$$\begin{array}{r} 409 \\ 219 \\ + 136 \\ \hline \end{array}$$

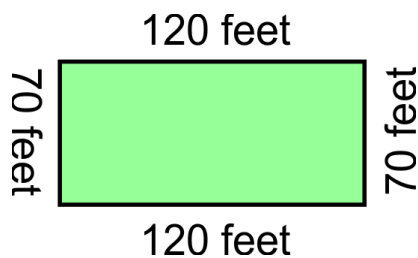
2. Sarah bought three bicycles for her children.
Each bicycle cost \$154.
How much was the total cost?

+		

3. Add mentally. THINK of the new hundred you might get from adding the tens.

a.	b.	c.
$80 + 40 = \underline{\hspace{2cm}}$	$90 + 90 = \underline{\hspace{2cm}}$	$690 + 50 = \underline{\hspace{2cm}}$
$780 + 40 = \underline{\hspace{2cm}}$	$240 + 50 = \underline{\hspace{2cm}}$	$470 + 80 = \underline{\hspace{2cm}}$

4. Find how many feet it is if you walk all of the way around this rectangle.



+		

5. Subtract. Regroup if necessary. Check each subtraction by *adding your answer and the number you subtracted*.

<p>a.</p> $\begin{array}{r} 88 \\ - 54 \\ \hline \end{array}$ $\begin{array}{r} + 54 \\ \hline \end{array}$	<p>b.</p> $\begin{array}{r} 63 \\ - 48 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$
<p>c.</p> $\begin{array}{r} 84 \\ - 49 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	<p>d.</p> $\begin{array}{r} 882 \\ - 159 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$
<p>e.</p> $\begin{array}{r} 556 \\ - 391 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$	<p>f.</p> $\begin{array}{r} 550 \\ - 246 \\ \hline \end{array}$ $\begin{array}{r} + \\ \hline \end{array}$

6. Subtract using mental math methods.

<p>a. $15 - 7 = \underline{\quad}$</p> <p>$55 - 7 = \underline{\quad}$</p>	<p>b. $13 - 5 = \underline{\quad}$</p> <p>$93 - 5 = \underline{\quad}$</p>	<p>c. $82 - 77 = \underline{\quad}$</p> <p>$45 - 41 = \underline{\quad}$</p>
<p>d. $80 - 71 = \underline{\quad}$</p> <p>$100 - 95 = \underline{\quad}$</p>	<p>e. $56 - 40 = \underline{\quad}$</p> <p>$56 - 43 = \underline{\quad}$</p>	<p>f. $78 - 35 = \underline{\quad}$</p> <p>$33 - 4 = \underline{\quad}$</p>

7. Find what numbers are missing.

a.

$$\begin{array}{r} 2 \square 4 \\ + 477 \\ \hline 731 \end{array}$$

b.

$$\begin{array}{r} 5 \square 9 \\ + \square 25 \\ \hline 914 \end{array}$$

c.

$$\begin{array}{r} 20 \square \\ + 6 \square 6 \\ \hline 892 \end{array}$$

d.

$$\begin{array}{r} 68 \square \\ + \square 19 \\ \hline 900 \end{array}$$

8. Solve.

- a. Some people are riding on the bus. At the bus stop, 13 people get on. Now there are 52 people on the bus. How many were there originally?

<hr/>	

- b. Molly has 23 stuffed toys that she likes, and 16 that she does not like.
How many stuffed toys does Molly have?

<hr/>	

- c. Molly gave the 16 toys she does not like to her sister Annie.
Now, Annie has 33 toys.
How many toys did Annie have before?

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- d. Jessica had 465 points in a computer game. She played and got 145 more points. Then she also got a 90-point bonus!
How many points does Jessica have now?

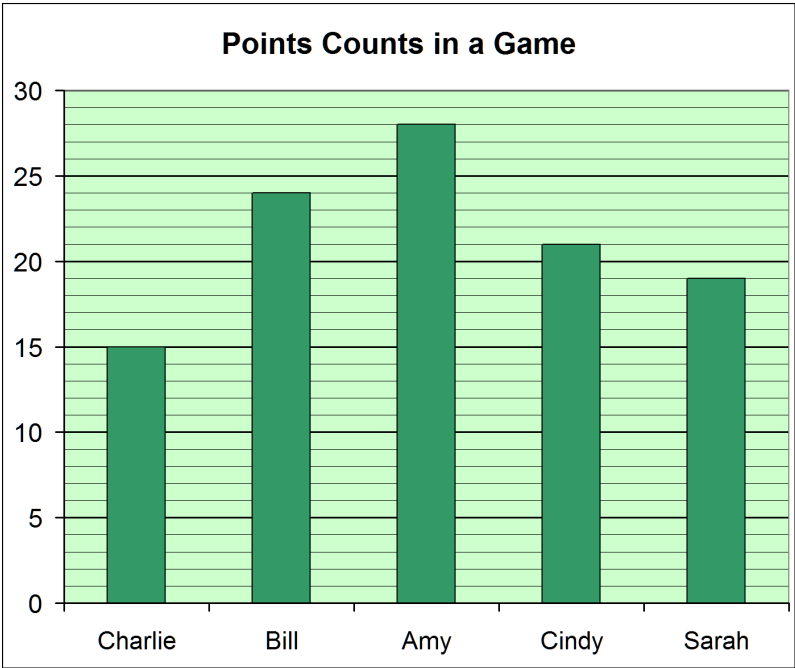
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- e. Olivia did 26 jumping jacks, which was 14 fewer jumping jacks than what her brother Aaron did.
How many jumping jacks did Aaron do?

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9. a. Fill in the table with how many points the children got in the game.



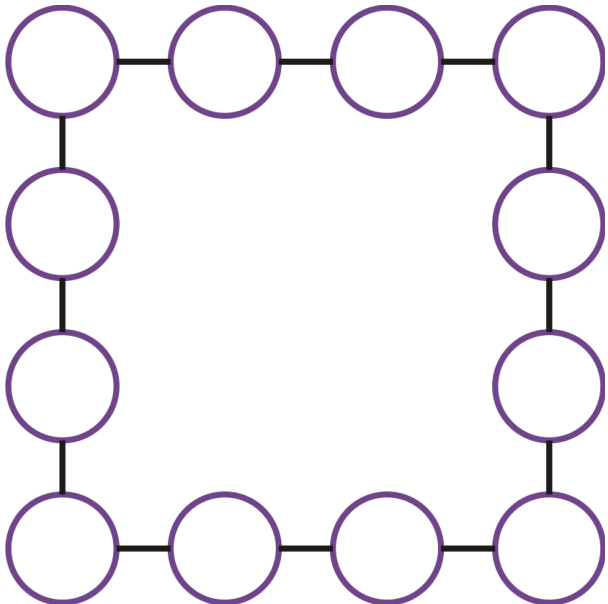
CHILD	POINTS
Charlie	15
Bill	
Amy	
Cindy	
Sarah	

- b. How many fewer points did Bill get than Amy?
- c. How many more points did Cindy get than Charlie?

Can you place numbers from 1 through 12 into the circles so that the sum of each connecting line is 26?

Hint: The numbers that go in the top corners are 7 and 6, and the numbers that go in the bottom corners are 5 and 8.

Puzzle Corner



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Change

When you buy something in a store, you often do not have the exact amount of money to pay for it. Instead, you give the clerk *more* money than what the item costs. The clerk then gives you some money back. This is called your *change*.

A pen costs 40¢. You don't have the coins to make exactly 40¢, so you give the clerk 50¢. That is 10¢ too much! But then the clerk gives you back 10¢ — your change.



You give: Your change:



50¢



10¢







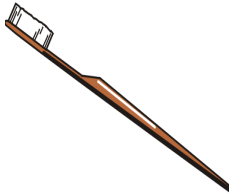

The clerk gives you back the *difference* between the price and what you paid.

In each problem below, find the change you get back. Think of the **DIFFERENCE** between the price and what you pay. Or, think how many cents you paid “too much.” That will be your change.







You can set up a “play store” to do these problems, using real money, one person as a clerk, and one person as a customer.

1. Write how many cents you give, and how many cents is your change.

<p>a.</p> <p>Price: 20¢</p> <p>You give: _____ ¢ _____ ¢</p> <p>Your change:</p>	<p>b.</p> <p>Price: 30¢</p> <p>You give: _____ ¢ _____ ¢</p> <p>Your change:</p>
<p>c.</p> <p>Price: 35¢</p> <p>You give: _____ ¢ _____ ¢</p> <p>Your change:</p>	<p>d.</p> <p>Price: 17¢</p> <p>You give: _____ ¢ _____ ¢</p> <p>Your change:</p>

<p>e. You give: Your change:</p>   <p>Price: 22¢ _____ ¢ _____ ¢</p>	<p>f. You give: Your change:</p>   <p>Price: 11¢ _____ ¢ _____ ¢</p>
<p>g. You give: Your change:</p>   <p>Price: 60¢ _____ ¢ _____ ¢</p>	<p>h. You give: Your change:</p>   <p>Price: 80¢ _____ ¢ _____ ¢</p>


2. Circle the coins you use to pay. Write how many cents your change is.

<p>a. You buy a drink for 55¢.</p>	<p>You have:</p> 	<p>Change: _____ ¢</p>
<p>b. You buy raisins for 33¢.</p>	<p>You have:</p> 	<p>Change: _____ ¢</p>
<p>c. You buy a toy for 46¢.</p>	<p>You have:</p> 	<p>Change: _____ ¢</p>
<p>d. You buy a book for 88¢.</p>	<p>You have:</p> 	<p>Change: _____ ¢</p>
<p>e. You buy a basket for 75¢.</p>	<p>You have:</p> 	<p>Change: _____ ¢</p>
<p>f. You buy crayons for 63¢.</p>	<p>You have:</p> 	<p>Change: _____ ¢</p>

3. Practice some more! Figure out the change.

<p>a. Paper costs 70¢. You give \$1.</p> <p>Change: _____¢</p>	<p>b. A banana costs 41¢. You give 50¢.</p> <p>Change: _____¢</p>	<p>c. A book costs 94¢. You give \$1.</p> <p>Change: _____¢</p>
<p>d. A toy costs 20¢. You give 50¢.</p> <p>Change: _____¢</p>	<p>e. A drink costs 70¢. You give \$1.</p> <p>Change: _____¢</p>	<p>f. A towel costs 62¢. You give 75¢.</p> <p>Change: _____¢</p>

4. Now you buy many items. First add their prices to find the total. Then find the change. Draw the coins that could be your change.

<p>a. A magazine costs 20¢. You buy three of them. You give \$1.</p> <p><u>Total cost: 60¢</u></p> <p><u>Change: 40¢</u></p> <div style="text-align: center;">  </div>
<p>b. A toy costs 15¢ and another toy 20¢. You give 50¢.</p> <p>Total cost: _____ ¢</p> <p>Change: _____ ¢</p>
<p>c. A lollipop costs 8¢. You buy two of them. You give 20¢.</p> <p>Total cost: _____ ¢</p> <p>Change: _____ ¢</p>
<p>d. A pencil costs 5¢. You buy four of them. You give 25¢.</p> <p>Total cost: _____ ¢</p> <p>Change: _____ ¢</p>
<p>e. An eraser costs 35¢ and a pencil 10¢. You give 50¢.</p> <p>Total cost: _____ ¢</p> <p>Change: _____ ¢</p>

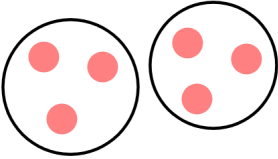
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Many Times the Same Group

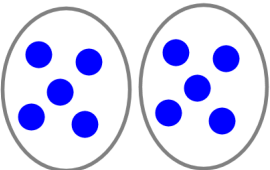
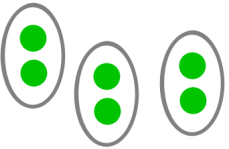
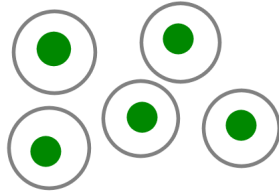
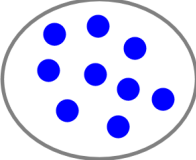
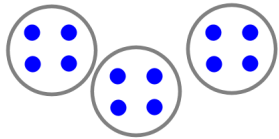

1. Write.

a. 2 times the word “CAT”	b. 3 times the word “ME”	c. 5 times the word “YOU”
d. 0 times the word “FROG”	e. 4 times the word “SCHOOL”	f. 1 time the word “HERE”

2. Draw groups of balls.

		
a. 2 times a group of 3 balls	b. 3 times a group of 5 balls	c. 1 time a group of 7 balls
d. 4 times a group of 1 ball	e. 0 times a group of 2 balls	f. 3 times a group of 3 balls
g. 0 times a group of 8 balls	h. 4 times a group of 0 balls	i. 5 times a group of 2 balls

3. Fill in the missing parts.

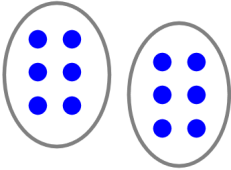
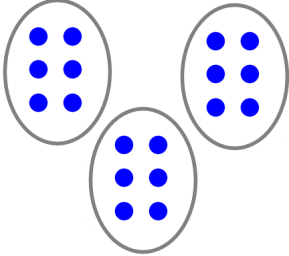
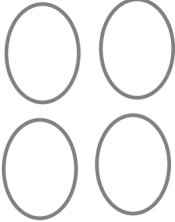


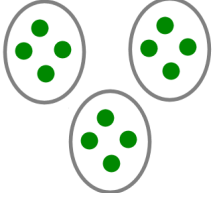
 a. <u>2</u> times <u>5</u>	 b. _____ times _____	 c. _____ times _____
 d. _____ times _____	 e. _____ times _____	 f. _____ times _____

5×3 This means “5 times a group of 3.” It is called multiplication .	2×7 This means “2 times a group of 7.” You <i>multiply</i> 2 times 7.
--	--

4. Now it is your turn to draw! Notice also the symbol \times which is read “times.”

a. 2 times 4 2×4	b. 3 times 6 3×6	c. 1 times 7 1×7
d. 6 times 1 6×1	e. 4 times 0 4×0	f. 2 times 2 2×2

5. Write the multiplication sentence. Write the total after the “=” sign.

<p>a.</p>  <p>$2 \times 6 = 12$</p>	<p>b.</p>  <p>_____ \times _____ = _____</p>	<p>c.</p>  <p>_____ \times _____ = _____</p>
<p>d.</p>  <p>_____ \times _____ = _____</p>	<p>e.</p>  <p>_____ \times _____ = _____</p>	<p>f.</p>  <p>_____ \times _____ = _____</p>

6. Draw the groups. Write the total.

<p>a. $8 \times 1 =$ _____</p>	<p>b. $1 \times 10 =$ _____</p>	<p>c. $2 \times 2 =$ _____</p>
<p>d. $5 \times 2 =$ _____</p>	<p>e. $2 \times 8 =$ _____</p>	<p>f. $3 \times 3 =$ _____</p>