Ray's for Today

Level 1
Student Text

Lori Horton Coeman and Joyce Bohn

MOTT MEDIA

Photo Credits

pp. 88, 168, 172, 348	standard clock (orologio alluna in punto), 91552688 © alepvfoto @ Fotolia.com
p. 88, 168, 354 (modified)	modern digital alarm clock, 82227733 © doomu @ Fotolia.com
p. 99	measuring cup set (plastic measuring spoons), 58773242 © design 56 @ Fotolia.com
p. 99	glass neasuring cup, 21795247 © Le Do @ Fotolia.com
p. 181	triangular prism (vector pyramid illustration), 39101352 © Arcady @ Fotolia.com
p. 181	blue cube with shadow, 70455762 © Erik Svoboda @ Fotolia.com
p. 329	footprints of big cat, 91873242 © tcheres @ Fotolia.com
back cover	explorer kids, 67315430 © hamadesign_1019 @ Fotolia.com

Copyright © 2016 by Mott Media L.L.C.

All rights in this book are reserved. No portion of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher. Brief quotations embodied in critical articles or reviews are permitted. For information write Mott Media L.L.C., 1130 Fenway Circle, Fenton, Michigan 48430.

For information about other Mott Media publications visit our website at www.mottmedia.com.

Printed by Color House Graphics, Grand Rapids, Michigan, USA

ISBN-13: 978-0-88062-295-0
ISBN-10: 0-88062-295-4

Today we are going to look at how we count and use numbers. When we **count**, we are saying **how many** of something we have.

Take an item from the pile given to you and move it in front of you. You now have ONE item. Look at the picture below. Find the row that has the same amount of items. Point to the balls in that row and count them. Look at the word name and the mark or numeral in that row that stands for that many.

We use special marks or symbols called **numerals** to show how many we have. The symbols stand for the words that say how many we have. The numerals are short-cuts we use to tell someone else how many we have. The number 1 is a symbol that stands for ONE item, such as one ball. The picture shows the symbols and words we use to count up to ten items.

Move another item over next to the one you have. Find the matching row and count again. Keep moving one item at a time until your row looks like the last row pictured on the next page.

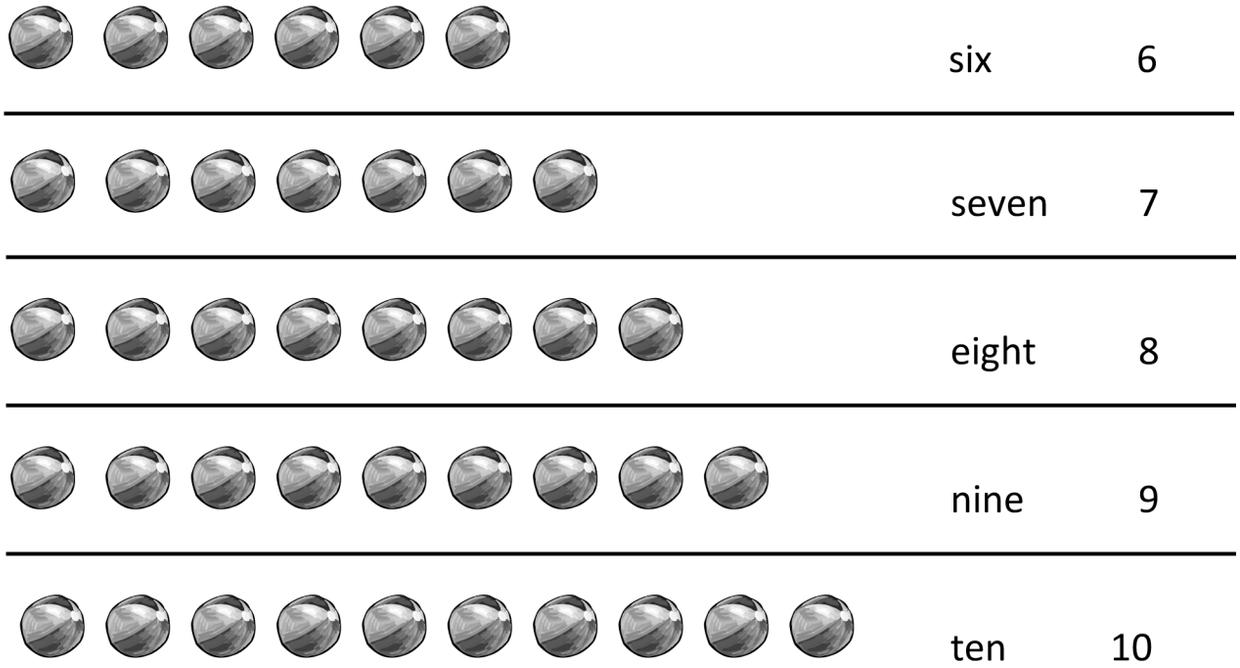
one 1

two 2

three 3

four 4

five 5



You can see what ten items look like. From now on, we will call these items **counters**. You can use all sorts of items to help you count. Here you used counters and you used pictures of balls to count up to ten.

Now you are going to start building a model of the numbers from 1 to 10 using wooden craft sticks. Each stick will count ONE MORE, and it will have the word name for that number as well as the numeral that shows that amount.

Every time you learn more numbers you will add to this model. In the next few lessons you will make a model of the numbers that show up to 100 items. You will learn the word name and the numeral we use to show that many.

Take the stick your teacher gives you and put it in front of you. Count how many sticks you have. Your teacher will print the numeral at the left end of the stick and the word name in the middle. Take the next stick your teacher gives you and lay it on the table just above the other stick. Count how many sticks you have now. Your teacher will write the numeral and word name on each stick. Keep laying sticks above the others and counting them until you have ten sticks.

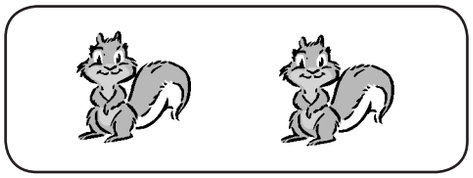
Now count the sticks again, this time putting the next numbered stick on top of the other, stacking them in a pile. When you have counted the ten sticks and stacked them together, put a rubber band around the bundle. Keep the bundle of sticks in a box. You will need to use them again and again.

DEFINITION:
Counting is finding out how many there are. We count a single thing or unit at a time.
Numbers count how many we have. They tell us the amount.

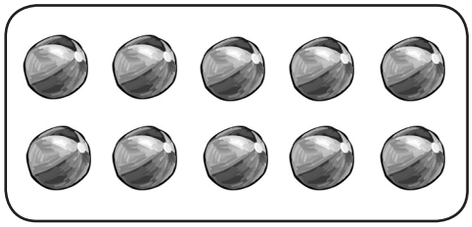
PRINCIPLE: Each number is one more than the number before it. Each number counts one more.

Practice

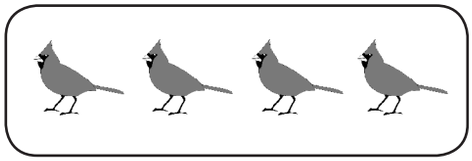
Count how many. Draw a line to the numeral that tells how many.

(1) 

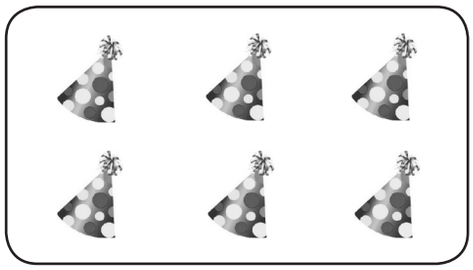
4

(2) 

6

(3) 

10

(4) 

2

Circle the number that tells how many.

(5) How many acorns are there?

1 2 3 4 5

(6) How many squirrels are there?

1 2 3 4 5

(7) How many hats are there?

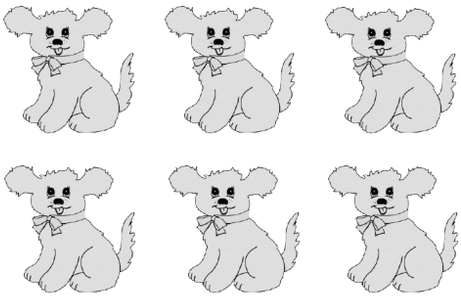
3 4 5 6 7

(8) How many birds are there?

1 2 3 4 5

How many are there?

(9) Print the number.

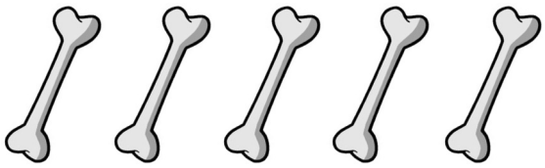


_____

_____

_____

(10) Print the number.



_____

_____

_____

Do you have the picture you drew for the last lesson? Today we will see how addition and subtraction are related. Subtraction is the reverse of addition. Do you know what *reverse* means?

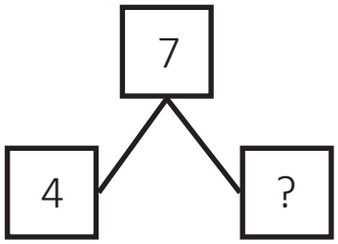
When a person is in a car, the car moves ahead or forward. Driving the car forward is like counting on or counting forward. The person can also drive the car backwards, in reverse. Driving the car in reverse is like counting backwards.

Let's use the counters to make sure you see this connection.

In your picture, there are seven bats. Put seven counters in front of you on the table.

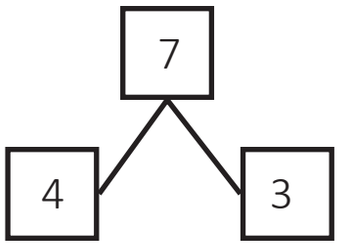
In the story, four bats flew AWAY. To help you see these bats flying away, we used only an outline and an arrow to picture those counters. When you take away four of the counters, how many are left?

Four from seven leaves three. If we wanted to show this subtraction fact using a number bond instead of the picture of the counters, it would look like this.



In this number bond, you have the total at the top and one part of the total (the box with the numeral 4) on the row below it. The box with the question mark is the other part you are trying to find out. It is the number that tells how many are left after subtracting. In this case, it answers the question of 4 taken away from 7.

You found out by using the counters that the answer is 3. If we put the 3 in place of the question mark, the number bond looks like this. Does it look like something you've seen before?



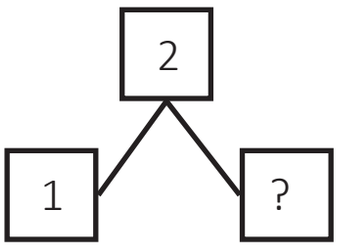
➢ Can you see that this is one of the addition number bonds that you learned? The same picture shows the **addition facts** of 4 and 3 are 7 as well as 3 and 4 are 7. It also shows the **subtraction facts** that 4 from 7 leaves 3.

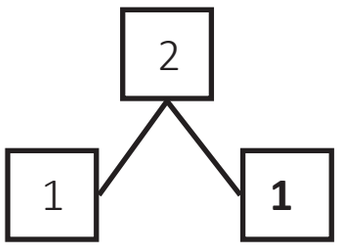
Now here's the good news. Since you have already learned the addition fact families for the numbers 1 through 10, you already know the subtraction fact families. All that has changed is which number you are looking for.

- In ADDITION, we are looking for the total of the two numbers we put together.
- In SUBTRACTION, we already know the total and one of the two numbers. We are looking for the other number.

Now let's use the example of the cookies again from the last lesson. If you remember, you had two cookies and gave one to your friend. That left you with one cookie.

Here's how that **subtraction fact** would look in a number bond. 1 from 2 leaves **1**.





But what if the story went like this instead? You had one cookie. Your friend who came over to play also had a cookie. How many cookies did you have together? Here's how that addition fact would look in a number bond. 1 and 1 are **2**.

It's the same number bond that showed subtraction. Can you see, again, how addition and subtraction are related?

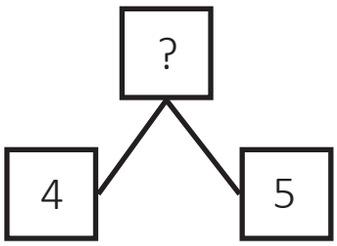
Today you will be putting on your detective hat again to solve number mysteries found in stories. Only this time, the stories are going to be a bit longer and have more numbers. But don't worry, you have been solving problems like these in the last few lessons. Use the counters and model drawings to help you "see" the facts that you can know from the story.

Sometimes there is more than one way to solve the mystery. Here's the story: *Mary had 11 apples. She gave 4 apples to Linda and 5 to Nancy. How many apples did she have left?*

Method #1: The mystery to be solved is how many apples are left after Mary gave some away. So you can ask, "How many apples did Mary give away all together?" The story says she gave away 4 apples and 5 apples. So start with four counters, and then add five more counters. How many counters do you have all together?

4 + 5 = ? Yes, 9. So now you know Mary gave away 9 apples.

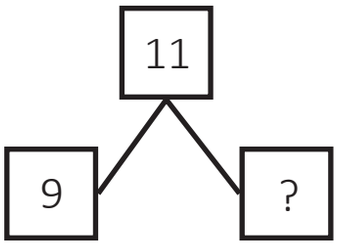
We can show this using the addition number bond.



But we're not done yet. The mystery we are trying to solve is how many apples Mary had <u>after</u> she gave away some apples. To know how many she had left, we have to subtract the total number she gave away from the number she started with.

The story said she had 11 apples. So move 11 counters in front of you. How many apples did Mary give away in all? This is the answer you found above.

So take away 9 counters. How many counters do you have left? We can show this using the subtraction number bond.



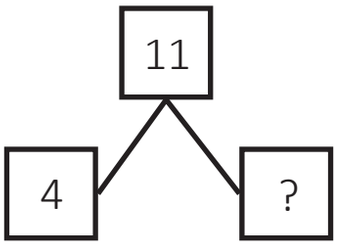
The box with the question mark stands for the number of apples Mary had left after giving some away. What number goes where the question mark is?

11 – 9 = 2. The answer: *Mary had 2 apples left.*

Method #2: Another way to solve the mystery is to find out how many apples Mary had left after giving some apples to Linda. How many apples did Mary have to begin with?

Yes, 11. So move 11 counters in front of you. How many apples did she give to Linda?

Yes, 4. So take away four counters. How many counters do you have left? We can show this using the subtraction number bond.

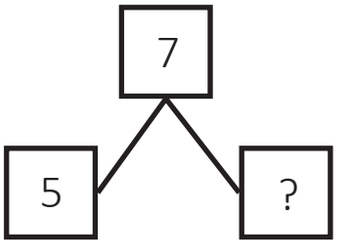


How many apples did Mary have then?

11– 4 = ? Yes, 7. So then Mary had 7 apples left. Keep the seven counters in front of you.

Now we can deal with the other apples Mary gave away. She gave 5 apples to Nancy. So now take away 5 counters from the 7 that were left in front of you. How many counters do you have now?

We can show this by using another subtraction bond. How many apples does Mary have then? 7 – 5 = ?



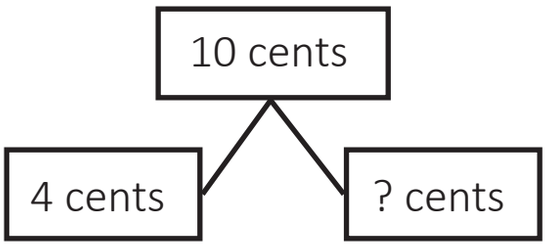
Yes, 2. The answer: *Mary had 2 apples left.*

Can you see that the answers are the same? No matter which method we used we still came up with Mary having 2 apples left.

Here's another case that is a little different. Here's the story: *Francis has 10 cents in two pockets. There are 4 cents in one pocket. How many are in the other?*

Let's use the number bonds to help us see the problem. What information do we know? We know that Francis has a total of 10 cents. We also know that part of that money is in one pocket and another part is in the other pocket. We know that one pocket has 4 cents. When we know a total (10 cents) and one part (4 cents), we know we need to use a subtraction number bond.

Here's what these facts look like in a number bond.



Now, let's use the counters to help us see the problem. How many cents does Francis have? Yes, 10 cents. So move ten counters in front of you. These counters show you how many cents Francis has in both pockets.

The story tells us that of those 10 cents, 4 of them are in one pocket. So take away four counters. How many counters do you have left?

Yes. 6. So how many cents does Francis have in the <u>other</u> pocket? The answer: *Francis has 6 cents in the other pocket*.

If you know your subtraction facts, you can fill in the missing number of cents in the number bond picture. 10 – 4 = ?

Yes, 6. So how many cents does Francis have in the other pocket? The answer: *Francis has 6 cents in the other pocket?* That's the same answer you found when you used the counters.

Practice

Can you solve these mystery cases? Since the stories are about real-life objects, be sure to include the units in your answer.

(1) Albert bought 10 plums. He sold 3 of them and ate 2 of them. How many plums did he have left?

(2) Freddy had 14 toy cars. He let Scotty play with 5 of them and he let Max play with 5 others. How many cars did Freddy have left to play with?

(3) If Sarah bakes 18 pies and gives 2 to her family and sells 10 of them, how many pies will she have then?

(4) Emma had 15 cents. She paid 5 cents for thread, 2 cents for tape, and 3 cents for needles. How many cents did she have left?

(5) I think of two numbers that together make 8. One of the numbers is 5. What is the other number?

(6) Becky made 12 muffins. She put 7 muffins on a plate. How many muffins are still in the baking pan?

(7) Reagan is thinking of two numbers that together make 13. One of the numbers is 7. What is the other number?

(8) Marcelina is having a tea party with her stuffed animals. 14 stuffed animals have come to the party. Just then, her sister Natalie asks to join the party. The girls decide to set up two tables so there is room for everyone to have a chair. Marcelina shares 7 of the animals with Natalie for her table. How many stuffed animals are sitting at the table with Marcelina?

GLOSSARY OF DEFINITIONS, VOCABULARY, & PRINCIPLES

LEVEL 1

Counting is finding out how many there are. We count a single thing or unit at a time.

Numbers count how many we have. They tell us the amount.

PRINCIPLE: Each number is one more than the number before it.
Each number counts one more.

Numeration is being able to read the numbers.

Addition is uniting or putting together two or more numbers.

Subtraction is finding the difference between two numbers.

A **fraction** is one or more equal parts of a single (one) whole.