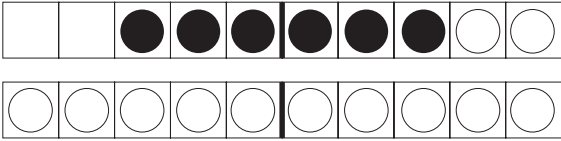





NAME _____



Leftovers

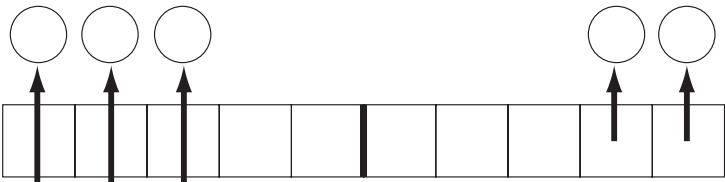
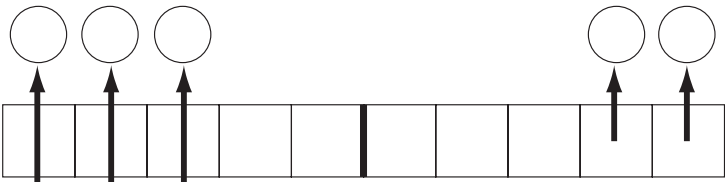
There are many leftover subtraction facts. These leftover facts can be solved using a combination of strategies. For example, to solve $18 - 12$ some people may think, “10 minus 10 is 0, and 8 minus 2 is 6, so $18 - 12$ is 6.” Other people may think, “12 plus what would make 18?” Someone else could count up from 12 to 18. The answer is the same, but the strategies we choose depend on how we like to think about the numbers. How would you solve $18 - 12$? Show how you would solve the other two facts on the ten-strips.

			
$18 - 12 = 6$	$17 - 4 =$ _____	$16 - 11 =$ _____	

The Take-Away Model for Subtraction

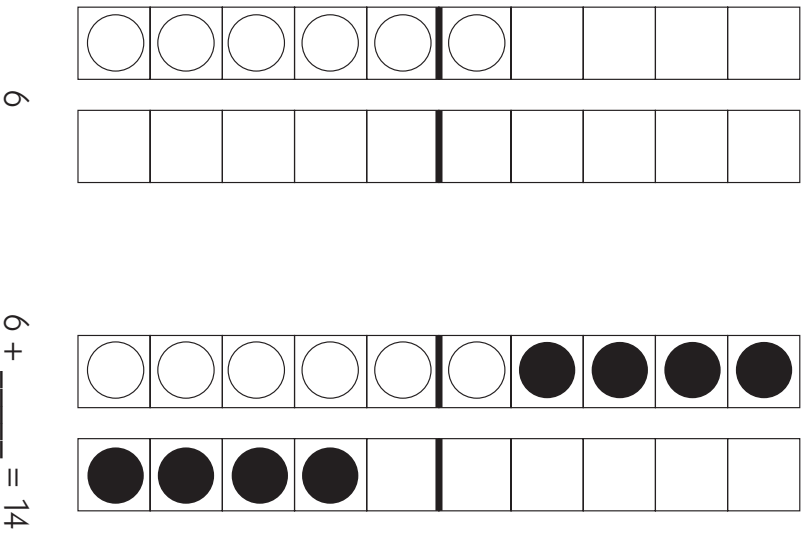
One way to think about subtraction is to think about taking one group away from another. For example, if you have the problem $12 - 5$, you could think about taking 5 away from 12 as shown below. The difference is what's left over. Can you see the difference between 12 and 5?

	
12	$12 - 5 =$ _____

	
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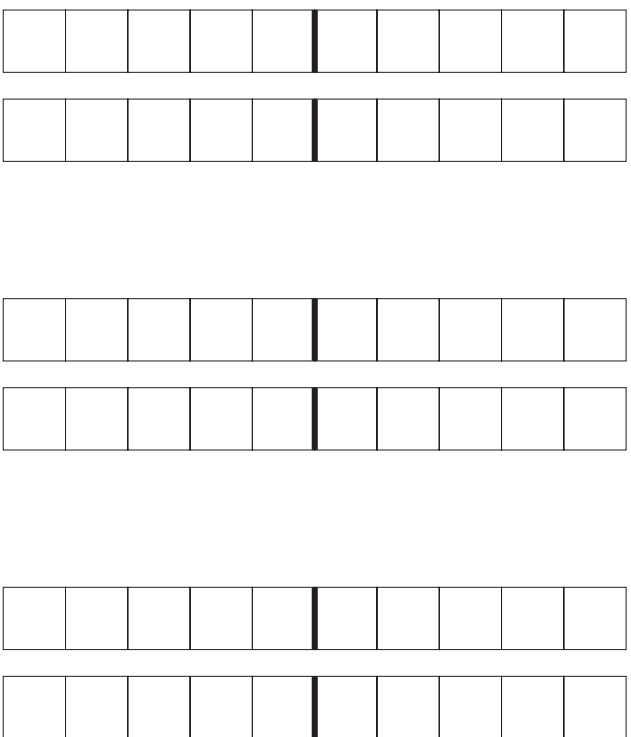
The Adding Up or Difference Model for Subtraction

Another way to think about subtraction is to think about what you need to add to the smaller number to get to the larger number. In the example below, what do you need to add to 6 to get to 14? The amount you added is the difference between 14 and 6.



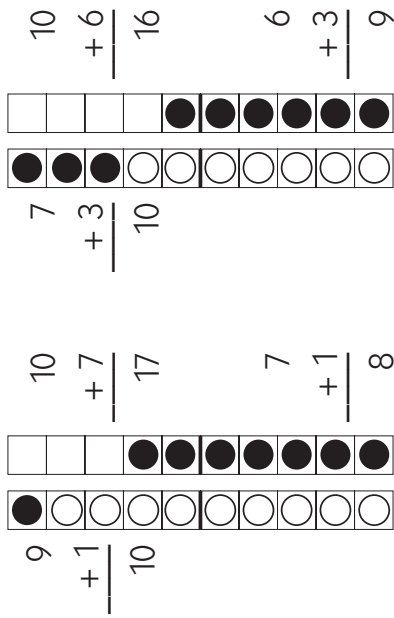
Your Up to Ten Facts

What are some other up to ten facts you know? Can you draw them and/or show them using number sentences? Can you make a story problem about an up to ten fact?



Up to Ten

When you know how to make ten, up to ten can be a snap. If the fact is $17 - 9$, you can think about making a ten ($9 + 1 = 10$) and then adding 7 more to get to 17 ($10 + 7 = 17$). The difference is the total amount you added ($1 + 7 = 8$ so $17 - 9 = 8$). When you go up to ten, you are using addition to find the difference between the two numbers.



$$17 - 9 = 8$$

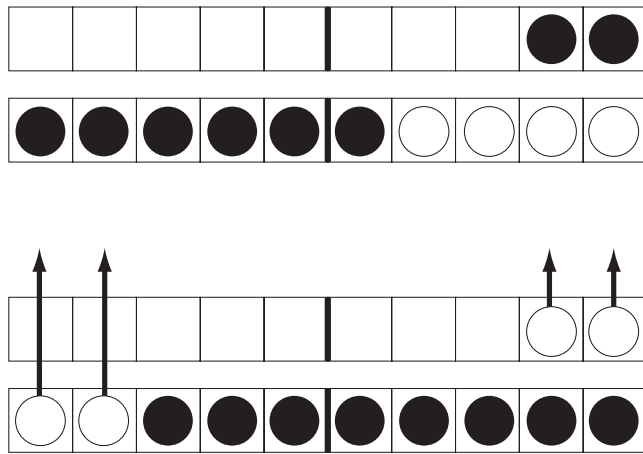
$$16 - 7 = 9$$

Up to Ten Story Problems

- 1 Sam had 8 cards in his collection. He got some more for his birthday and now he has 15. How many cards did Sam get for his birthday?
- 2 We need 16 points to win the game. We only have 7 points right now. How many more points do we need to win?

The Pictures in This Book

The pictures in this book will show both the take-away and difference models for subtraction. One group is shown in white, and the rest is shown in black. You could imagine taking away all the white dots, or you could add on the black dots to see the difference.



$$12 - 4 = 8$$

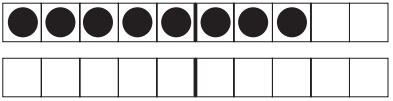
$$12 - 4 = 8$$

Begin with 12 dots. Take away the 4 white dots. You have 8 black dots left.

If you begin with the 4 white dots, you must add 8 black dots to get up to 12.

Zero Facts

When you subtract 0 from any number, the difference or answer is always the number you started with.



$$8 - 0 = 8$$

This works with larger numbers too!

$$35 - 0 = 35$$

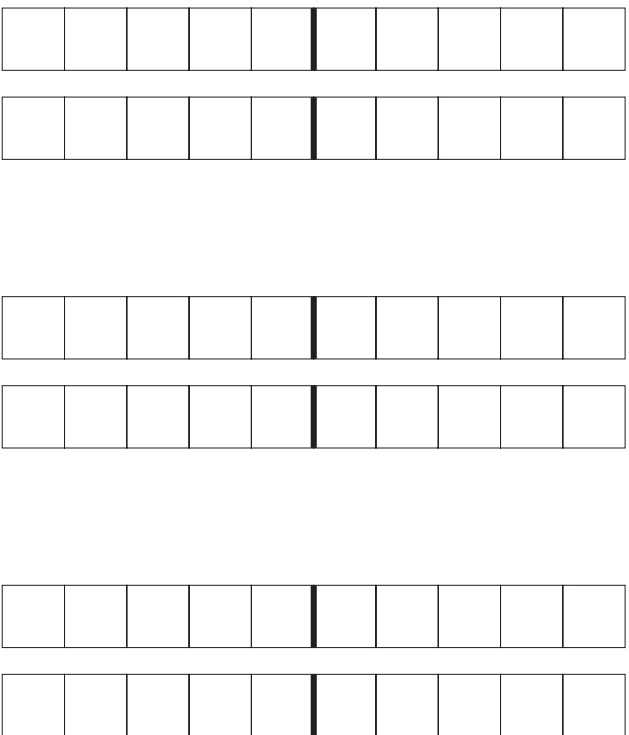
$$467 - 0 = 467$$

Zero Facts Story Problems

- 1 If you had 8 cookies and you didn't eat any of them, how many cookies would you have left?
- 2 If your team had 0 points, and the other team had 8 points, how many points would your team need to score to tie the game?

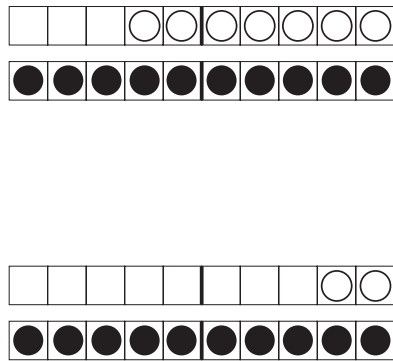
Your Run Away Ones Facts

What are some other run away ones you know? Can you draw them and/or show them using number sentences? Can you make a story problem about a run away one fact?



Run Away Ones

When you take all the ones away from a teen number, all you have left is 10.



$$12 - 2 = 10$$

$$17 - 7 = 10$$

When we work with larger numbers, we can use run away ones too.

$$509 - 9 = 500$$

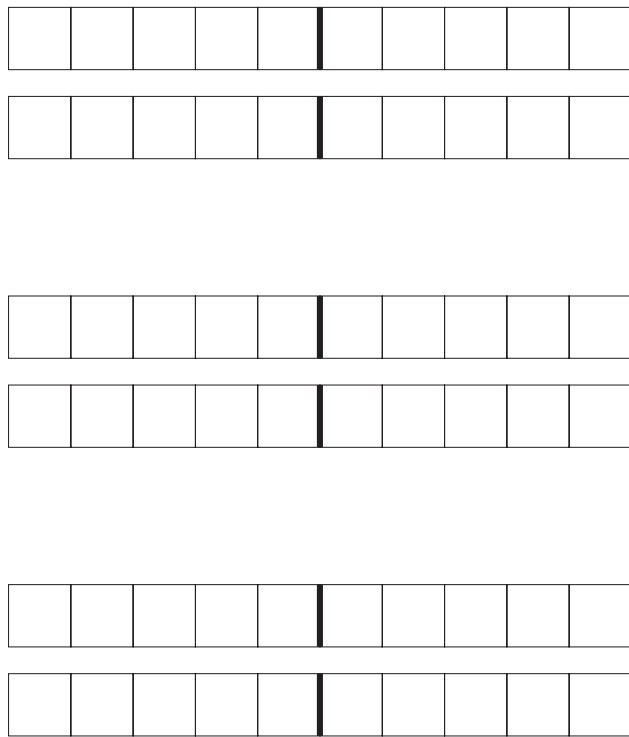
$$868 - 8 = 860$$

Run Away Ones Story Problems

- 1** I bought 12 eggs but 2 of them broke on the way home. How many are not broken?
- 2** I need 17 points to win the soccer ball. I have 7 already. How many more points do I need to win the ball?

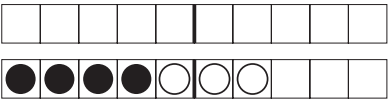
Your Zero Facts

What are some other zero facts you know? Can you draw them and/or show them using number sentences? Can you make a story problem about a zero fact?

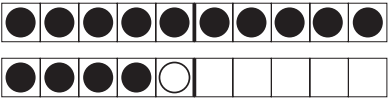


Counting Back

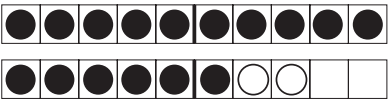
You can count back when you subtract 1, 2, or 3 from another number. Start with the larger number and count back.



$$7 - 3 = 4$$



$$15 - 1 = 14$$



$$18 - 2 = 16$$

No matter how big the number, if you subtract 1, 2, or 3, it's fast to count back!

$$27 - 2 = 25$$

$$98 - 3 = 95$$

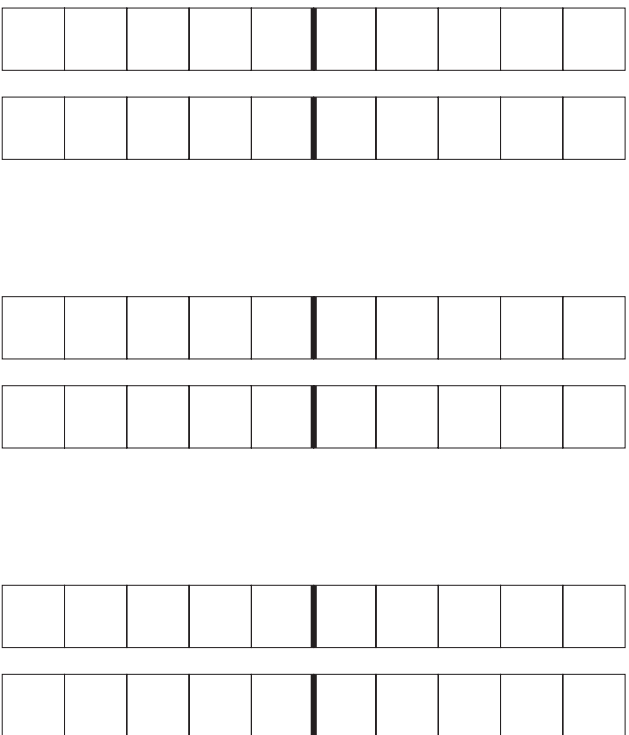
$$391 - 1 = 390$$

Counting Back Story Problems

- 1 If you had 7 cookies and someone ate 3 of them, how many would you have left?
- 2 If you had 2 cookies and your sister had 18, how many more cookies would you need to have the same number of cookies as your sister?

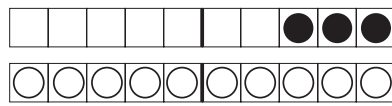
Your Take Away Tens

What are some other take away tens you know? Can you draw them and/or show them using number sentences? Can you make a story problem about a take away ten fact?

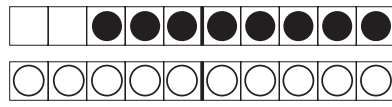


Take Away Tens

Remember how easy the fast tens were for you in addition? Well, take away tens are fast too. Just think about taking away the whole ten, and all you have left is the group in the ones column. What do you notice when you look at the ten-strips below?



$$13 - 10 = 3$$



$$18 - 10 = 8$$

When we work with larger numbers, take away tens can help.

$$736 - 10 = 726$$

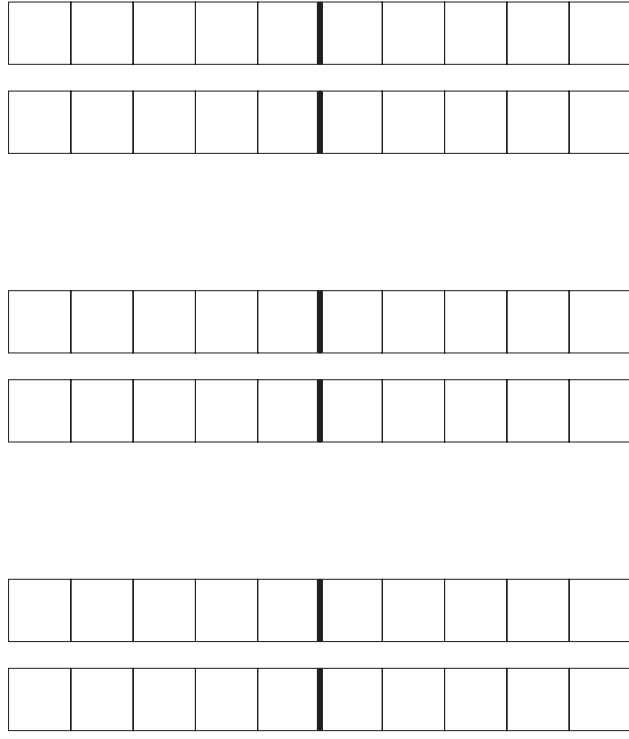
$$419 - 10 = 409$$

Take Away Tens Story Problems

- 1 I have 13 pencils. I put 10 of them in my supply box. How many do I have left?
- 2 I need 18 pencils. I have 10 right now. How many more do I need?

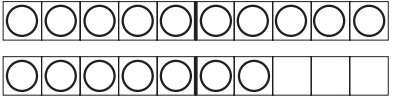
Your Counting Back Facts

What are some other counting back facts you know? Can you draw them and/or show them using number sentences? Can you make a story problem about a counting back fact?

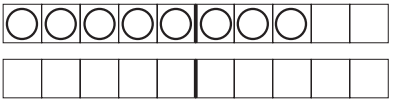


Doubles

When you see a number minus itself, the answer is always 0! If you took away all of the white dots, how many would be left?



$$17 - 17 = 0$$



$$8 - 8 = 0$$

Doubles work with larger numbers like these.
Can you think of some more doubles with larger numbers?

$$58 - 58 = 0$$

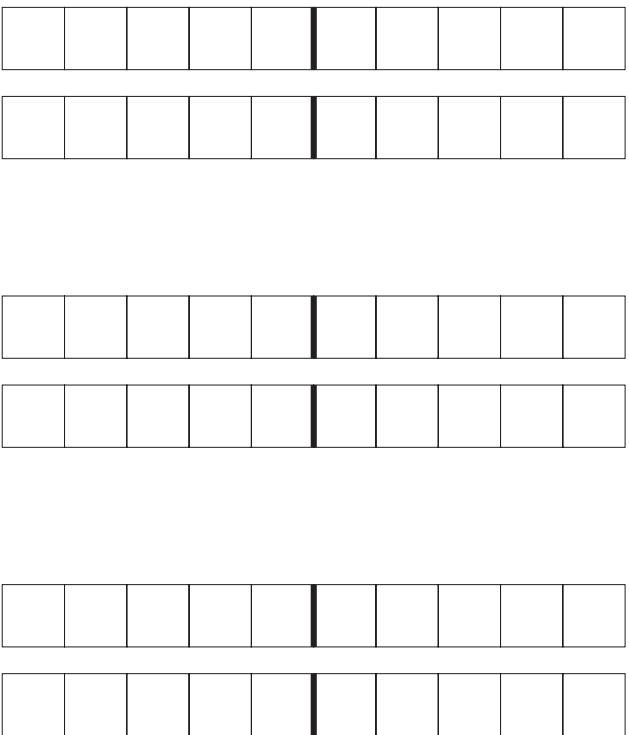
$$208 - 208 = 0$$

Doubles Story Problems

- 1 If you had 17 eggs and someone bought all of them, how many eggs would you have left?
- 2 If there were 8 boys in the club and 8 girls, what's the difference between the number of boys and girls?

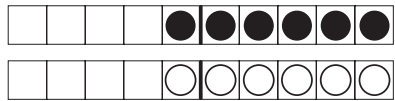
Your Half Facts

What are some other half facts you know? Can you draw them and/or show them using number sentences? Can you make a story problem about a half fact?

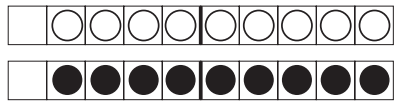


Half Facts

When the smaller number is half of the larger number, it's a half fact! For example, $12 - 6$ is a half fact, because 6 is half of 12. Can you see what the difference is?



$$12 - 6 = 6$$



$$18 - 9 = 9$$

Half facts work with larger numbers too. Can you think of some more?

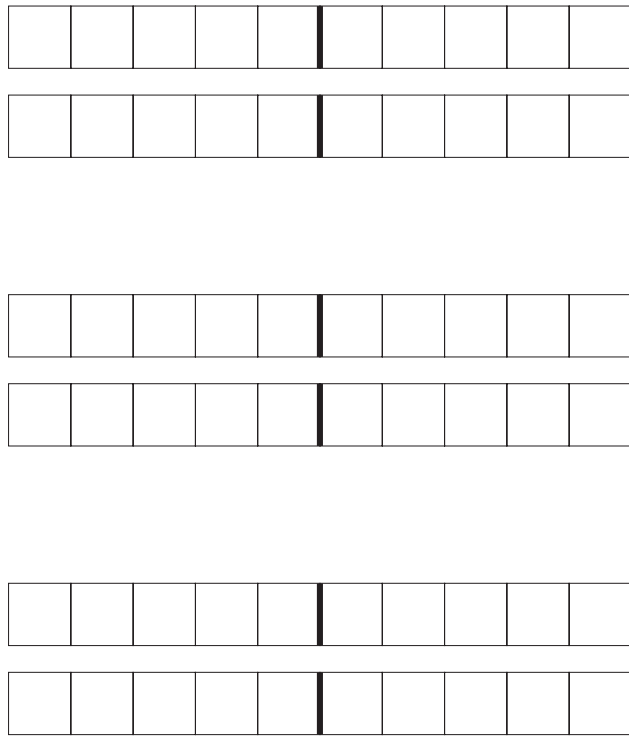
$$100 - 50 = 50 \quad 200 - 100 = 100 \quad 250 - 125 = 125$$

Half Facts Story Problems

- 1 If you had 14 apples and you gave 7 to your neighbor, how many apples would you have left?
- 2 If your team had 8 points and you needed 16 points total to win the game, how many more points would your team need to score?

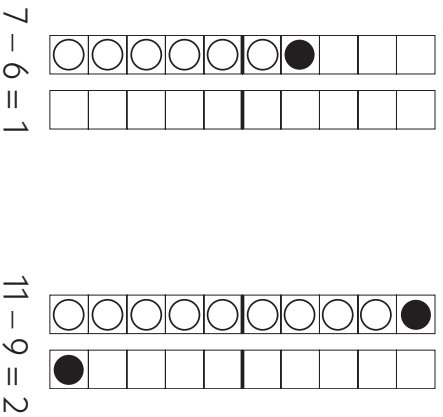
Your Doubles

What are some other doubles you know? Can you draw them and/or show them using number sentences? Can you make a story problem about a doubles fact?



Neighbors

Your neighbors live close to you. In subtraction, neighbors are just 1 or 2 away from each other. One example is $7 - 6$. If you are counting, 6 comes right before 7. Another example is $11 - 9$. You might say 9 is really close to 11, because you count 9, 10, 11. For neighbors, the difference is always 1 or 2.



Neighbors work with larger numbers too.

$$371 - 370 = 1 \qquad 854 - 852 = 2$$

Neighbors Story Problem

- 1 If you had 7 toys and gave away 6, how many would you have left?
- 2 If you had 11 fish and your friend had 9 fish, how many more fish would you have than your friend?

Your Neighbors

What are some other neighbor facts you know? Can you draw them and/or show them using number sentences? Can you make a story problem about a neighbor fact?

