

Home Connection 8 ★ Activity



NOTE TO FAMILIES

One of the very best ways to learn addition and subtraction facts is to play games. This game is particularly interesting in that winning is not just a matter of luck. Each player places his or her beans on the numbers shown below and takes turns spinning the 2 spinners and adding the 2 numbers that come up. Anytime you have a bean on the sum you spin, you get to take it off the board. The trick is figuring out how best to place your beans before you start. As adults, we know that there are certain sums that are going to come up more often than others. It is far easier to spin a 7 than a 2, for instance, simply because there are more combinations for 7 on the spinners. You can get a 7 by spinning 1 + 6 or 2 + 5 or 3 + 4. The only way to get a 2 is by spinning 1 + 1. Your child will probably want to place a bean on every number “just to be safe,” but will learn through experience that the middle numbers usually come up more often.

These Beans Have Got to Go!

You’ll need 24 beans, buttons, coins, or other small markers in 2 different colors to play this game (e.g., 12 black beans and 12 white beans, or 12 white buttons and 12 brown buttons).

Game Rules

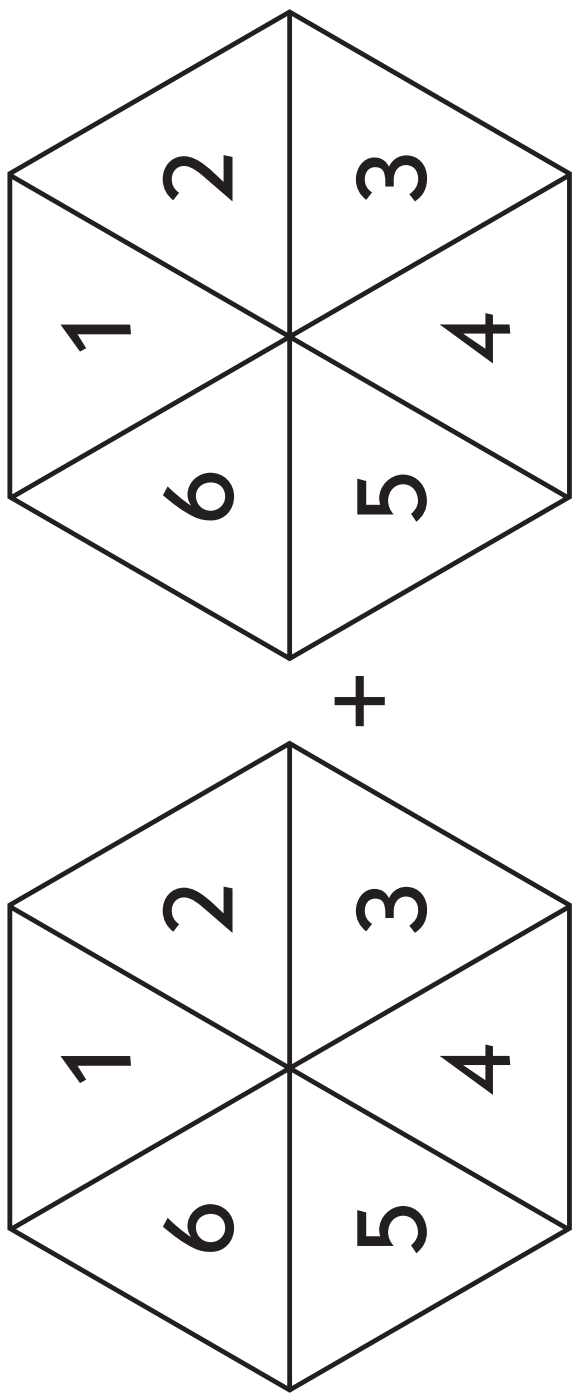
1 Each player needs to place his or her beans on the board. You can place more than 1 bean on a particular number. Here’s a sample set-up:

2	3	4	5	6	7	8	9	10	11	12
○	○	○	○	○	○	○	○	○	○	○
			●	●	●	●	●	●	●	●

3 Take turns spinning and removing beans if you can. The first player to get all his or her beans off the board wins. Play the game several times and see if you can figure out the best way to place your beans.

2 Decide who will start and have that player spin the 2 spinners and add the 2 numbers. If it’s your turn and you have a bean sitting on the sum of the 2 numbers you spun, you can remove it. If, for instance, you spin 4 + 3, and you have a bean sitting on 7, you can take it off. You can only take 1 bean off at a time.

These Beans Have Got to Go! gameboard



2	3	4	5	6	7	8	9	10	11	12
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NAME _____

RETURN BY _____

Home Connection 8 ★ Worksheet



NOTE TO FAMILIES

This worksheet is designed to help your child begin to understand why the middle numbers tend to come up more often in the game you just played. If your child doesn't fully comprehend what's going on, don't worry. It takes a long time to understand probability, and we'll play many more games like this throughout the year.

What Is It About Those Middle Numbers?

Are you wondering why the middle numbers keep winning on the the game you just played? Fill in the sums on the addition table shown below and follow the instructions for coloring them in, and you may begin to see why it's a better idea to put your beans on the 6 and the 7 instead of the 2 and the 12.

+	1	2	3	4	5	6
1	2	3				
2						
3			6			
4						10
5		7				
6						

Are you finished filling in the sums?
Good job!

Now, get out your crayons and color the
 6's - red
 7's - orange
 8's - yellow
 2's - green
 12's - blue

(Continued on back.)

Home Connection 9 ★ Activity



NOTE TO FAMILIES

Make the Sum is a wonderful game that will help your child practice his or her addition combinations up to 15. Spend a few minutes together cutting out the cards—you should wind up with 4 of each number, 1–10. Then decide on a “target sum,” say 7, 8, or 9 for starters. Go through your stack of cards and remove any that are higher than the target sum. If you choose 8, for instance, you’ll put all the 9’s and 10’s aside for now and just play with the cards numbered 1–8. Mix these cards thoroughly, stack them face-down, and you’re ready to play. This is a game we’ve played at school and your child will probably enjoy teaching you what do from here. Just in case there’s any confusion, though, you’ll find the game rules below. You can play this game over and over with a different target sum each time.

Make the Sum

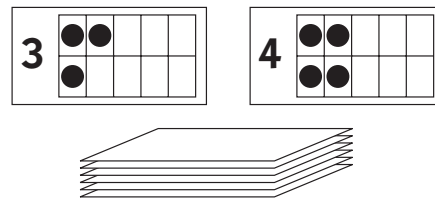
Game Rules

1 Start by talking with your partner about your target sum. You can play for 5’s all the way through 15’s. Once you’ve agreed on a sum, prepare the deck by setting aside all the cards higher than your target. If you play for 10’s or above, you’ll need the full deck—no discards are necessary.

2 Once your deck is set, take turns drawing cards and placing them face up beside the deck. The object of the game is to combine cards to make your target sum. If the sum you’ve chosen is 8, and you draw an 8, you may keep it. If you draw a 3, you’ll have to place it face up beside the deck where it will be available to you or your partner. (Once a card is turned face up, it’s “community property.”) If your partner then draws a 5, she may combine it with your 3 and take both cards.

3 Play continues back and forth until no more cards can be combined to make the target sum. It’s important to note that no one gets extra turns—if you win a set of cards, play still goes back to your partner. It’s also important to know that combinations can be made with more than 2 cards. 8 for instance might be made with a 4 and a 4, but also with a 1, a 2, and a 5 or even a 1, a 2, a 3, and another 2.

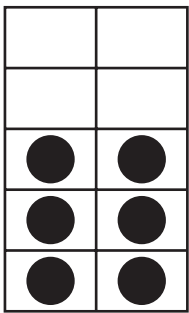
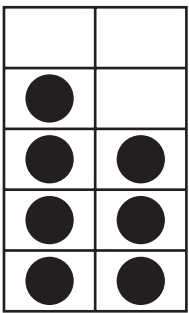
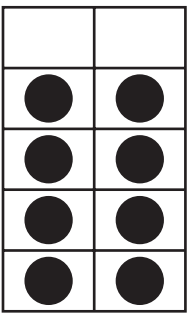
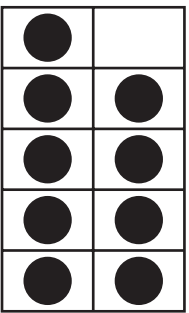
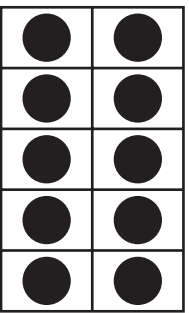
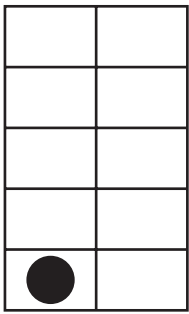
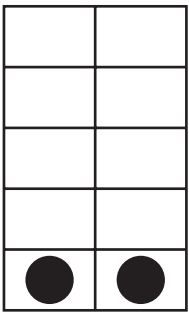
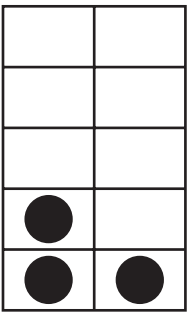
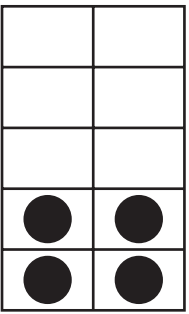
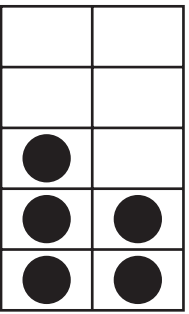
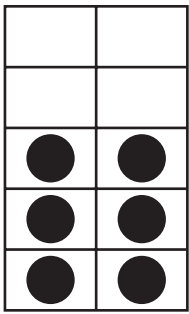
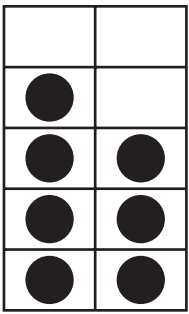
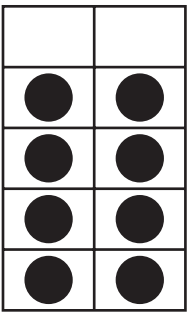
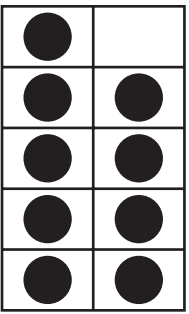
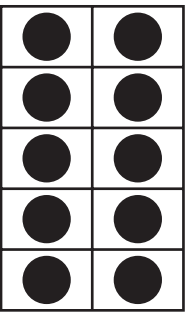
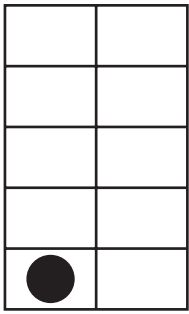
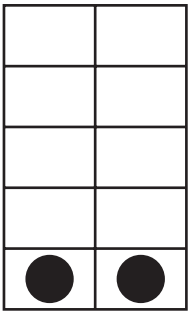
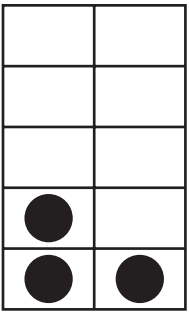
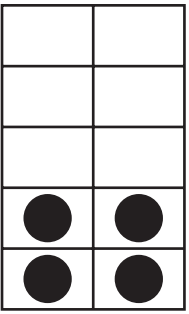
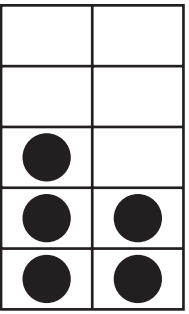
4 When you have used as many cards as you can, count them to determine the winner. It is possible that a few cards will remain unused at the end because they can’t be combined to make the sum.



Child *I got a 3. Then Dad got a 4. I hope I draw a 1 this time!*

Dad *Our target number is 8.*

Make the Sum cards

 6	 7	 8	 9	 10
 1	 2	 3	 4	 5
 6	 7	 8	 9	 10
 1	 2	 3	 4	 5

NAME _____

RETURN BY _____

Home Connection 9 ★ Worksheet

Chart the Combinations

Now that you've played Make the Sum a few times, use your cards to help you list all the different *2-number* combinations for each sum below. The first one is done for you, and the second one is partly done.

6 $0 + 6, 1 + 5, 2 + 4, 3 + 3$

7 $0 + 7, 1 + 6, 2 + 5,$ what's next?

8

9

10

11

12

13

14

15

Practice adding and subtracting 5's!

$$\begin{array}{r} 10 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 35 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 50 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 25 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 30 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 20 \\ - 5 \\ \hline \end{array}$$

Home Connection 10 ★ Activity



NOTE TO FAMILIES

This game is designed to help children learn that subtraction can mean finding the difference as well as taking something away. Although we usually think of subtraction in terms of removing something, we use differencing on a daily basis. It is the way we compare quantities, distances, heights, weights, and so on. If we listen to the ball game and find that the Blazers have 42 points while the Sonics only have 26, we quickly calculate how many points the Blazers are ahead by finding the difference. If David is 6' 3" and John is 5' 10", we compare their two heights to discover that David is 5 inches taller. We examine differences rather than removing quantities when we interpret graphs in the newspaper. The tricky thing about differencing for children is recording the transaction. If the score at the Saturday morning soccer game is 5 to 2, second graders can tell you that one team is ahead by 3, but won't quite understand that the difference is recorded as $5 - 2 = 3$. This game, which the children have already played at school, will help them see differences and learn to record them in the form of subtraction sentences. You'll need the attached spinner, the record sheets, and some crayons or markers to play.

Cats & Mice

Game Rules




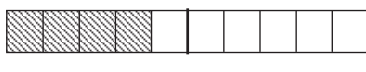
1 Decide with your partner which of you is going to represent the mice, and which of you will play the cats. Take turns spinning the spinner, coloring in the number indicated on your ten-strip, and recording it to the side.

2 When you've each taken 3 turns, total your points, and color in the 2 trains near the bottom of the sheet to compare the quantities. Record the results at the very bottom of the sheet with a subtraction sentence and circle the winner. Then play the game again.

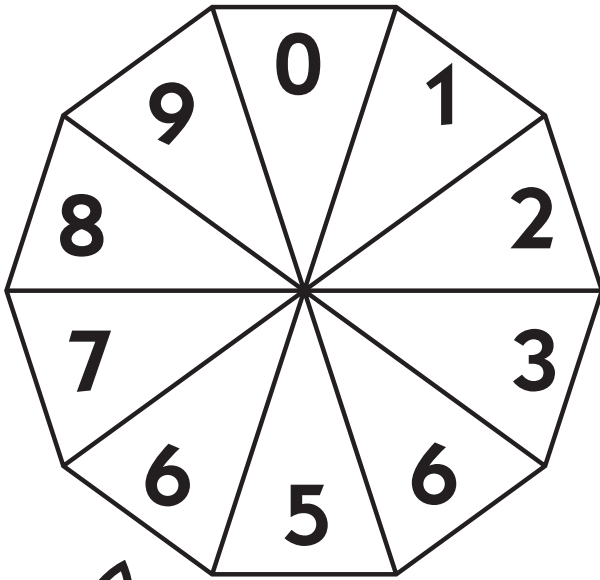
Blackline HC 10.3 Run on both sides of the same sheet so students can play the game twice.

THE CATS Ali THE MICE Sarah

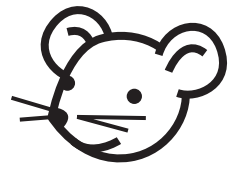
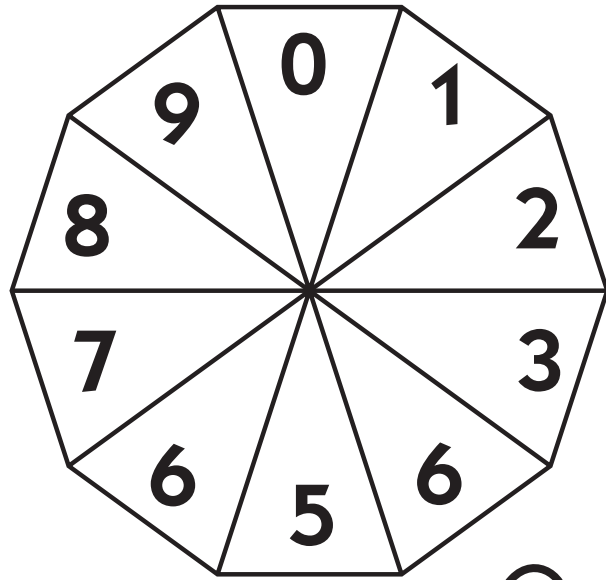
Cats & Mice record sheet

		7
		4

Cats & Mice spinner

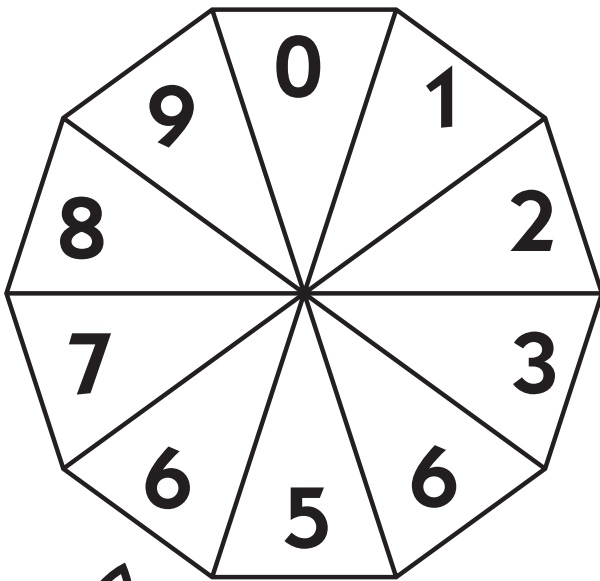


The Cats

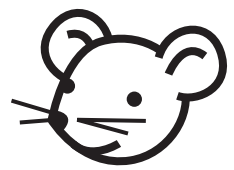
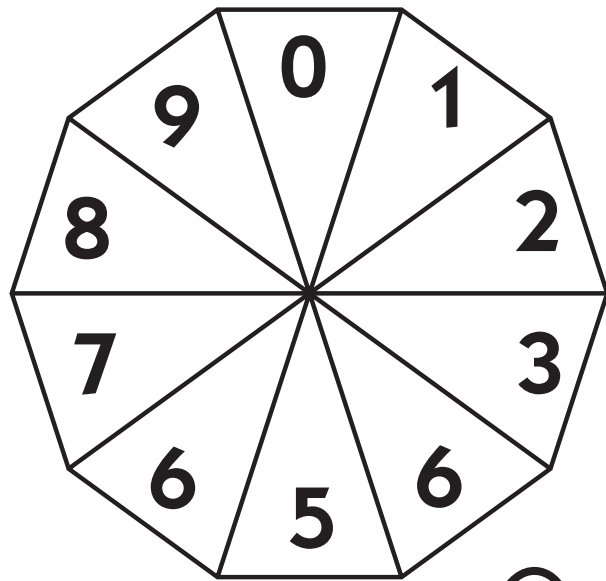


The Mice

Cats & Mice spinner



The Cats













The Mice

THE CATS _____



THE MICE _____

Cats & Mice record sheet

	<div style="border: 1px solid black; display: flex; justify-content: space-between; padding: 2px;"> </div>	
	<div style="border: 1px solid black; display: flex; justify-content: space-between; padding: 2px;"> </div>	
	<div style="border: 1px solid black; display: flex; justify-content: space-between; padding: 2px;"> </div>	
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	<div style="border: 1px solid black; display: flex; justify-content: space-between; padding: 2px;"> </div>

totals - =



 won by points.

NAME _____

RETURN BY _____

Home Connection 10 ★ Worksheet

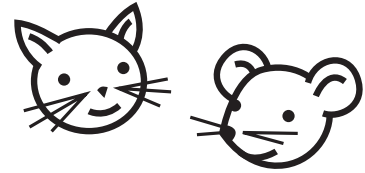


NOTE TO FAMILIES

This worksheet is designed to help your child practice using number sentences to show the transactions taking place in story problems. Most second graders understand that they can use an addition sign to show two sets being joined. If something is taken away, they'll use the subtraction sign. Less familiar is the idea that a subtraction sentence is needed when two quantities are being compared (e.g., how many more? or how many fewer?) You'll also notice some problems below that involve multiplication. These can be shown as repeated addition, but it's not a bad time to introduce your child to the "times" sign.

Number Sentences Tell the Story!

Read the story problems below and write a number sentence for each one. Don't forget to show the answer!



Example *The 3 mice were hungry and went to search for food. They each found 4 seeds. How many seeds in all?*

$$4 + 4 + 4 = 12 \text{ or } 4 \times 3 = 12$$

1 There were 10 cats in the backyard sunning themselves. Suddenly, a big dog rushed in and chased 6 of them away. How many were left?

2 There are 8 mice in the attic and 4 in the basement. How many more in the attic than in the basement?

3 I went to the store to buy cat food for my cats. I bought 3 cans of tuna, 5 cans of chicken, and 8 cans of fish cat food. How many cans did I buy in all?

4 I have 3 cats. They each have 2 toys. How many toys in all?

(Continued on back.)

Home Connection 10 Worksheet (cont.)

5 My cat has 9 lives, but he's lived through so many dangers that he only has 2 left. How many lives has he used up?

6 In my house, there are 3 cats and 8 mice. How many fewer cats are there than mice?

7 We went to the pet store the other day and saw the cutest mice. There were 3 cages with 5 mice in each. How many mice in all?

Now it's your turn to write some story problems. Choose 2 of the number sentences from the selection below and write a story problem to go with each in the 2 empty boxes at the bottom of the page.

$4 + 7$

$10 - 7$

$5 + 5 + 5$ (or 3×5)

$14 - 9$

$4 + 5 + 6$

$13 - 6$

$9 + 6$

$10 + 10$ (or 2×10)

$20 - 5$

Example $20 - 5$; *I had 20 mice but 5 of them ran away. How many were left?*

Home Connection 11 ★ Activity

Crossing the Pond

You'll need 16 beans, buttons, coins, or other small markers in 2 different colors to play this game (e.g., 8 black beans and 8 white beans, or 8 white buttons and 8 brown buttons).

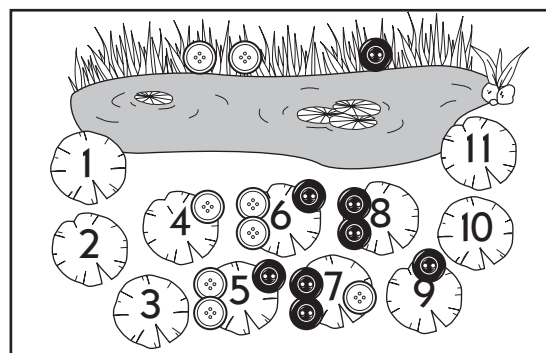
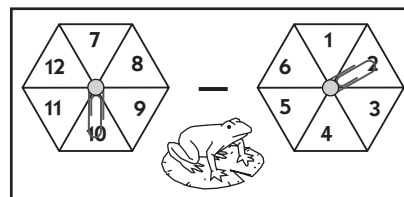
Game Rules

1 After you find something to use for game markers, decide who will play with which set. Then place your “frogs” on the lily pads below the pond. You can place more than 1 frog on a lily pad. The object is to be the first to get all 8 of your frogs across the pond to safety. The way you get them across is to spin both spinners and subtract. If, for instance, you spin a 12 and a 4, you subtract the 4 from the 12 for an answer of 8.

If you have a frog sitting on the number 8 lily pad, you get to move him across the pond. The trick in this game is to know the best places for your frogs at the start of the game.

2 Keep playing back and forth until one player has managed to get 4 of his or her frogs across the pond to safety. At that point, either or both of the players can move their remaining frogs to different lily pads if they want to.

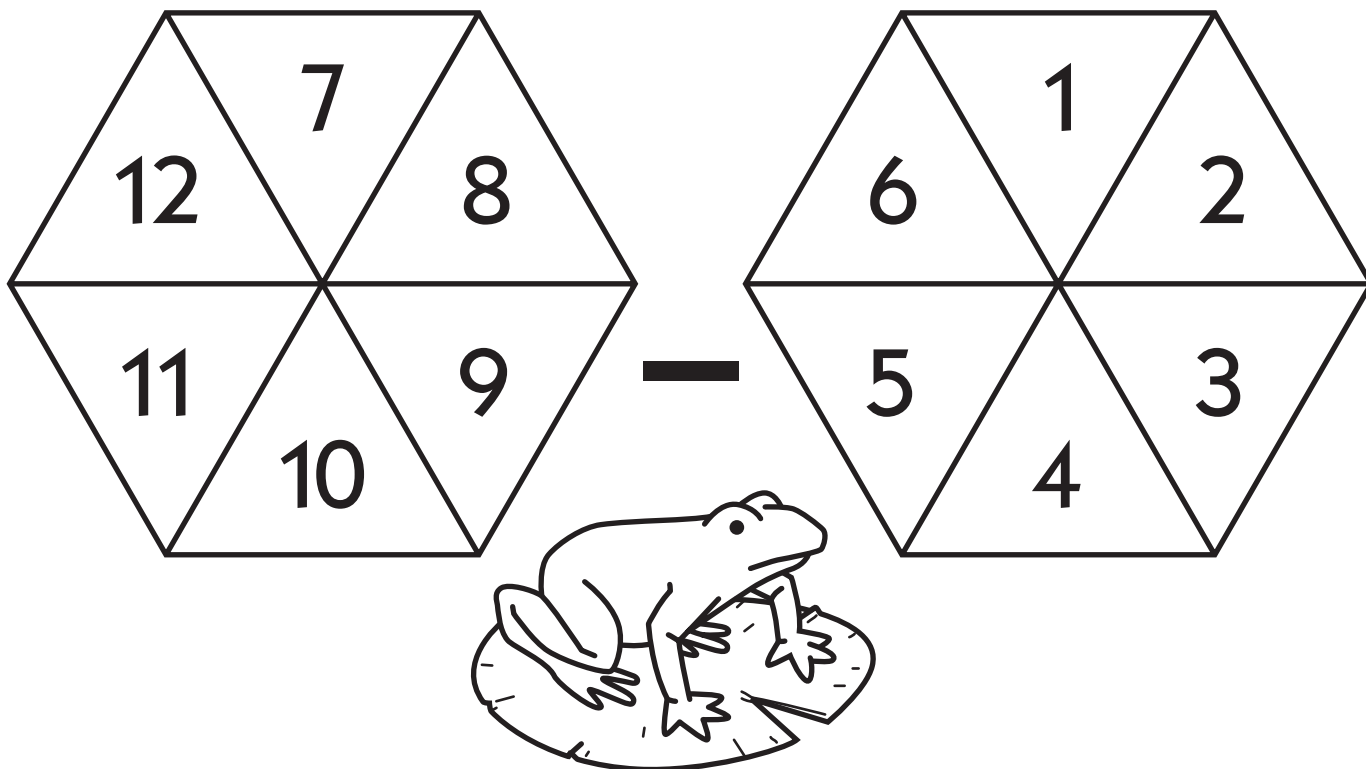
3 Continue taking turns and moving frogs across the pond whenever possible. The first player to get all of his or her frogs across the pond is the winner. Can you use your experiences from this game to place your frogs when you start the next game? Which differences seemed to come up most often on the spinners?



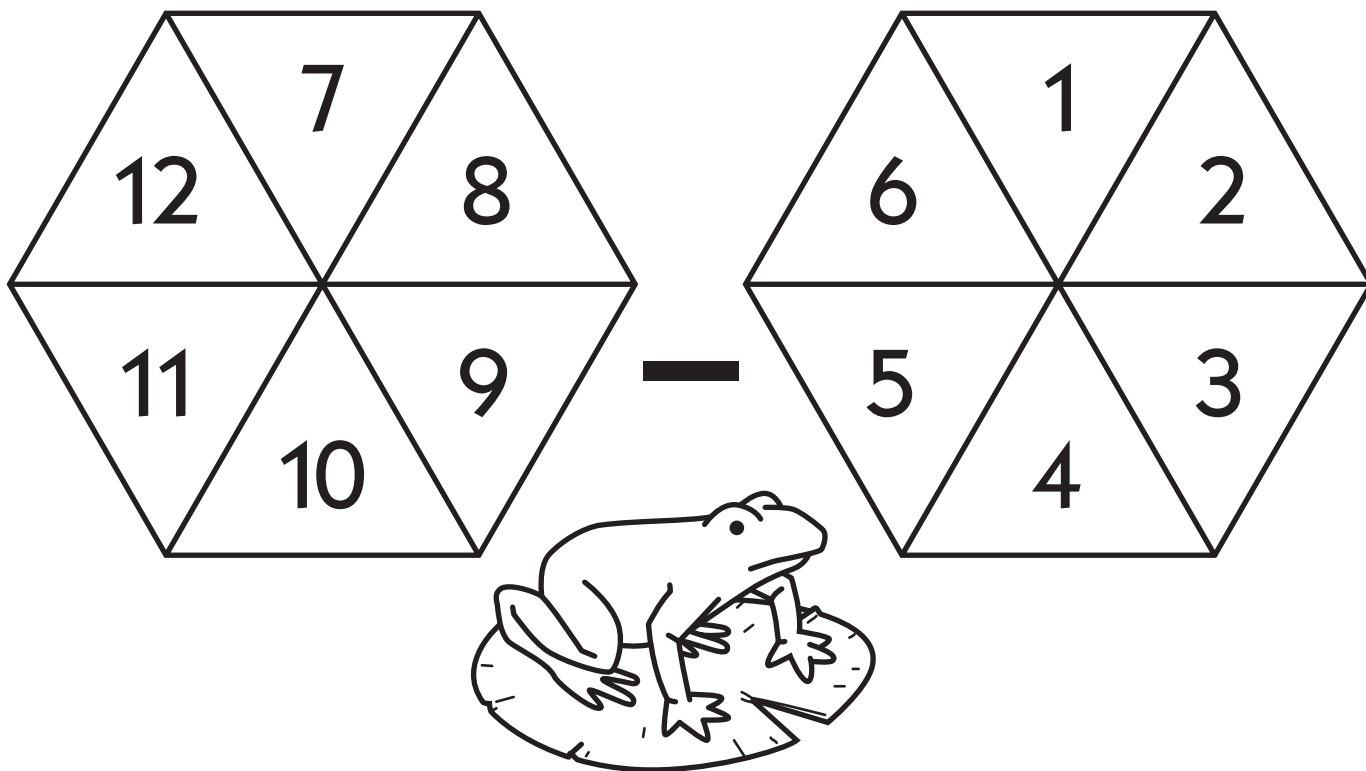
Note You can only move 1 frog at a time. If you have 2 frogs on 8 and spin $10 - 2$, you can only move 1 of your frogs.

Child *It landed on $10 - 2$. That's 8. I have a “frog” on 8 so I can move it!*

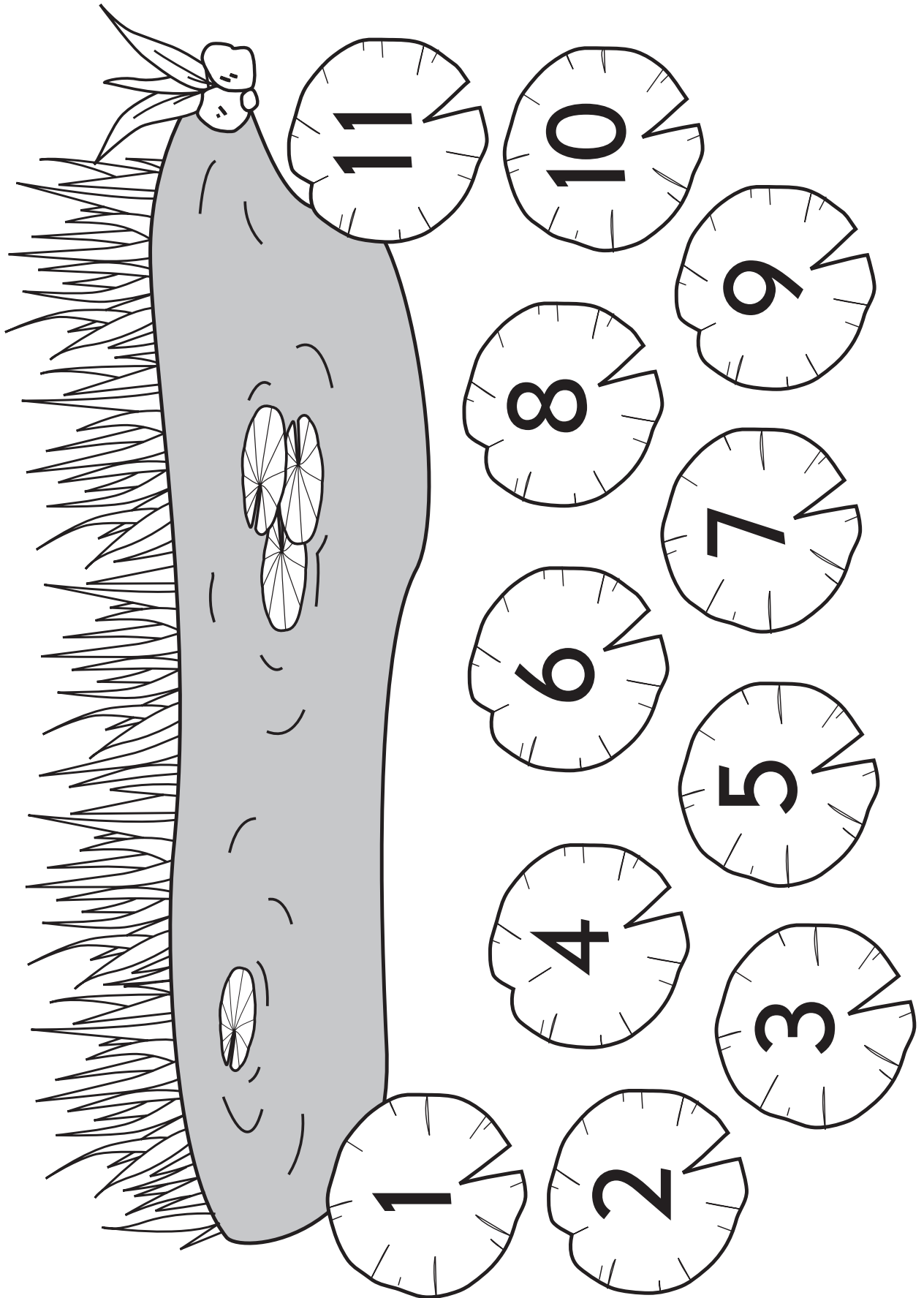
Crossing the Pond spinner



Crossing the Pond spinner



Crossing the Pond gameboard



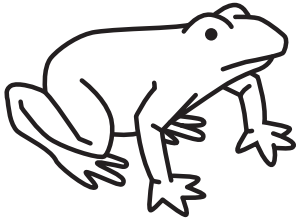
NAME _____

RETURN BY _____

Home Connection 11 ★ Worksheet

Leapfrog Subtraction

See how fast you can leapfrog around this sheet with your crayons and pencil to practice the different subtraction strategies we've learned.



Circle with blue all the Subtract 2's on the sheet. Then take your pencil and go back and do them. (**Example** $16 - 2$)

Circle with red all the Subtract Halve's on the sheet. Then take your pencil and go back and do them. (**Example** $12 - 6$ or $14 - 7$)

Circle with green all the Takeaway 10's on the sheet. Then take your pencil and go back and do them. (**Example** $14 - 10$ or $19 - 10$)

Circle in purple all the Runaway 1's on the sheet. Then take your pencil and go back and do them. (**Example** $13 - 3$ or $17 - 7$)

And now—see if you can use the ones you've circled and solved to help you figure out the rest!

$\begin{array}{r} 10 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ - 7 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ - 6 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ - 8 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ - 3 \\ \hline \end{array}$	$\begin{array}{r} 19 \\ - 9 \\ \hline \end{array}$
----------------------------------------------------	----------------------------------------------------	----------------------------------------------------	----------------------------------------------------	----------------------------------------------------	----------------------------------------------------	----------------------------------------------------

$\begin{array}{r} 11 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ - 5 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ - 8 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ - 8 \\ \hline \end{array}$	$\begin{array}{r} 18 \\ - 8 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ - 10 \\ \hline \end{array}$	$\begin{array}{r} 19 \\ - 2 \\ \hline \end{array}$
----------------------------------------------------	----------------------------------------------------	----------------------------------------------------	----------------------------------------------------	----------------------------------------------------	-----------------------------------------------------	----------------------------------------------------

$\begin{array}{r} 13 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 18 \\ - 9 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ - 5 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ - 5 \\ \hline \end{array}$	$\begin{array}{r} 18 \\ - 10 \\ \hline \end{array}$	$\begin{array}{r} 19 \\ - 10 \\ \hline \end{array}$
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(Continued on back.)

Home Connection 11 Worksheet (cont.)

$$\begin{array}{r} 16 \\ - 8 \\ \hline \end{array}$$

$$\begin{array}{r} 16 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ - 10 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ - 10 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 20 \\ - 10 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \\ - 10 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 16 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ - 5 \\ \hline \end{array}$$

