

# Destination Math™

## Mastering Skills and Concepts: Course I

### Print Activities



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# Introduction

The print activities that follow are intended for classroom use, away from the computer. These activities reinforce the math skills and concepts taught in *Destination Math: Mastering Skills and Concepts Course I (MSC I)*.

Each activity consists of a reproducible blackline master and accompanying instructions for the teacher. Choose from individual and group activities including games, hands-on tasks, and work with manipulatives. As students complete the activities, they have fun and enhance their understanding of math concepts.

We recommend that you do each print activity after students complete the corresponding software session. Some print activities can be used beforehand, at the teacher's discretion.

# Print Activities



# Furry Pet

**Children practice counting from 1 to 5 as they color their way to a picture surprise!**

## Warm-up

Have a student volunteer draw a circle on the chalkboard. Count *one* circle. Have another student draw a second circle, next to the first. Count the circles by pointing to each one, emphasizing the number *two*. Have a third student come to the chalkboard and follow the same procedure, emphasizing the number *three*. Have students continue adding circles until there are five in all, and you have shown what the numbers *four* and *five* mean.

## Introducing the Activity

1. Distribute copies of the “Furry Pet” blackline master. Ask students to place a finger on a shape that contains one star. (Point out that there is more than one shape that fits this description.) Circulate through the room and see if students need help choosing the correct shape.
2. Next, tell students to place a finger on a shape that contains two stars. Many students will use counting to identify the correct number of stars. Remind them that when we count, one object is matched to each number in order. The last number in the count tells us how many objects we have. After all of the students have found a shape with two stars, have them look for shapes that contain three, four, and five stars.
3. Read aloud the directions on the blackline master. Ask students to place a finger on a shape that contains two stars. Then, invite them to color that shape brown. Now, ask students to place a finger on a shape that contains four stars. Have them color that shape yellow. Tell them to finish coloring all the shapes that have either two or four stars to see a picture. Point out that they should *not* color shapes with one, three, or five stars.

## Assessment Tip

Individually assess each student. Find out if each student can:

- Determine the number of objects, up to 5, in a given set, regardless of the type or arrangement of the objects.
- Recognize representations of the numbers 1, 2, 3, 4, and 5 and their symbols.

## Try this, too!

Read the book, *Every Body Counts* by Stuart Murphy. In this story a sad girl tries to improve her mood by counting all of her friends. Each double-page spread includes not only visual representations of her friends, many of whom are animals, but also the numeral and word name of each number. After reading the book, encourage your students to use pictures of animals that they like and design a number page similar to those in the book.

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### Students will need

- blackline master: “Furry Pet”—1 copy per student
- yellow and brown crayons

### Approximate Time

- 30 minutes

### Grouping

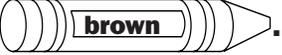
- individual

### NCTM Standards

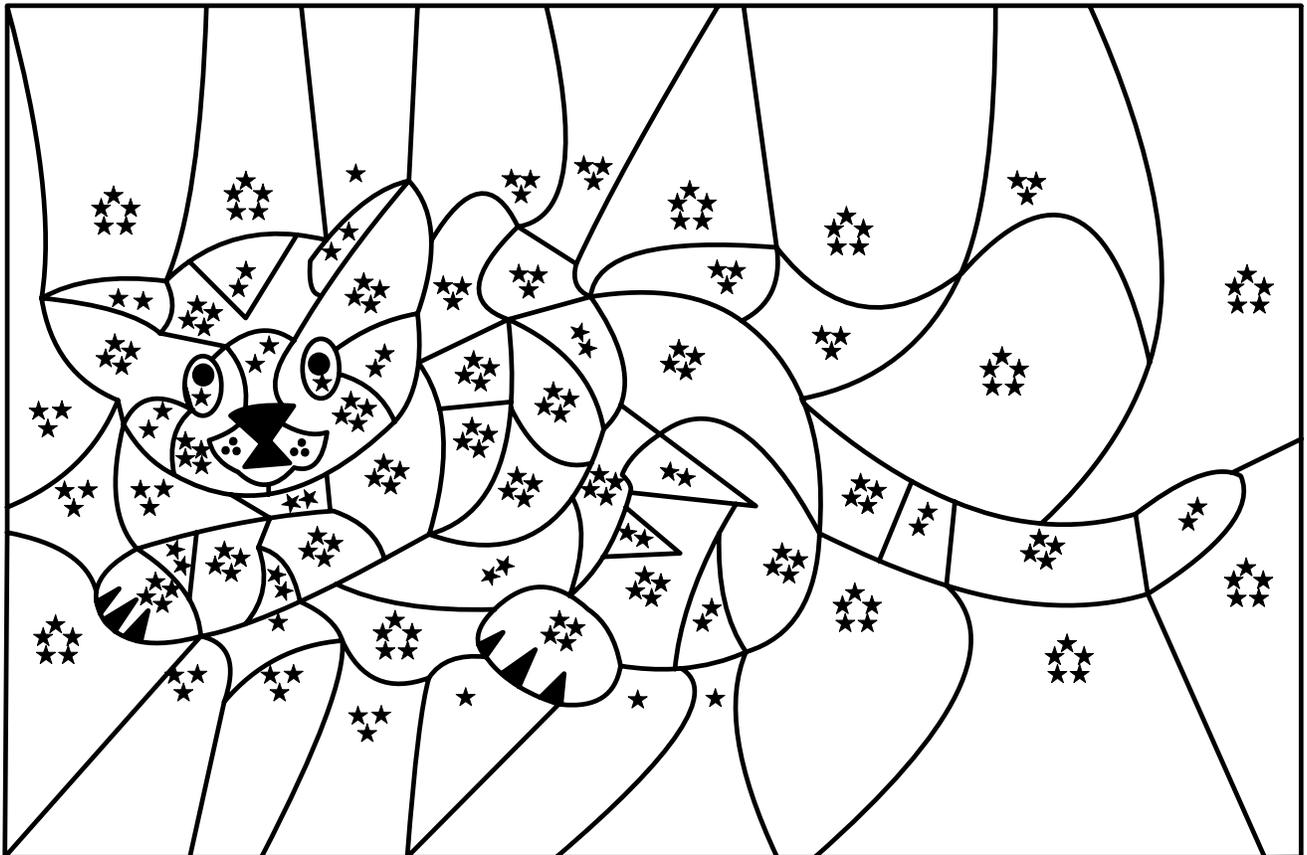
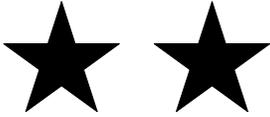
- Number & Operations
  - Representation
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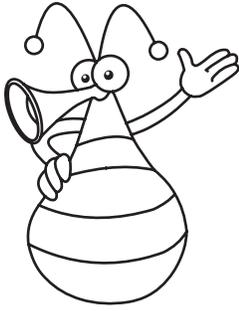
Name \_\_\_\_\_

# Furry Pet

Color each shape with 2 stars .

Color each shape with 4 stars .





# Fish Bowls

*Students read one of the numbers from 1 to 5 on fish bowls and paste the corresponding number of fish onto each fish bowl.*

## Warm-up

Work with the whole class and call out one of the numbers from 1 to 5. Have students hold up the correct number of fingers. Do this several times, using a different number each time. Then, write the numeral for a number from 1 to 5 on the chalkboard, and have students hold up the correct number of fingers.

## Introducing the Activity

1. Distribute copies of the “Fish Bowls” blackline master. Have students place a finger on the fish bowl in the upper left-hand side of the page. Ask the children to identify the numeral written on the fish bowl [2] and have them hold up the corresponding number of fingers. Have the students look at each fish bowl in turn, identify the numeral written on the fish bowl, and hold up the corresponding number of fingers.
2. Have students cut out the 15 fish at the bottom of the blackline master.
3. Read aloud the directions on the blackline master. Direct students to look at the fish bowl with the number 2 on it. Explain that the number 2 shows how many fish they should place in the bowl. Have them choose two cutout fish and place them in the fish bowl. Circulate around the room and make sure that each child placed two fish in the bowl. Then, have the children paste the two fish into place. Tell students to finish the worksheet in a similar manner, pasting the appropriate number of fish into each fish bowl.

## Assessment Tip

Observe students as they paste the desired number of fish into each fish bowl. Find out if students can:

- Read and represent sets for the numbers from 1 to 5.

## Try this, too!

Have children make number posters. Encourage them to choose any number from 1 to 5 and write it on top of a piece of posterboard. Then, ask them to cut out a corresponding number of magazine pictures and paste them on the poster. If you wish, choose one poster for each number and put them together in sequence to create a giant number book. You may want to add more poster pages to the book when you introduce the numbers 6 through 10 in a subsequent lesson.

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### Students will need

- blackline master: “Fish Bowls”—1 copy per student
- paste
- scissors

### Approximate Time

- 30 minutes

### Grouping

- individual

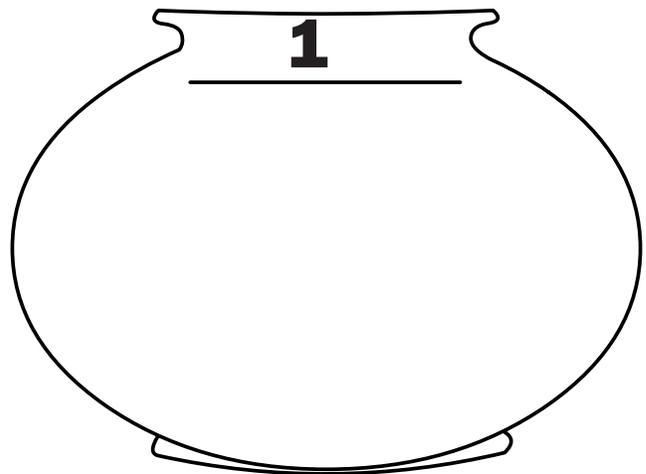
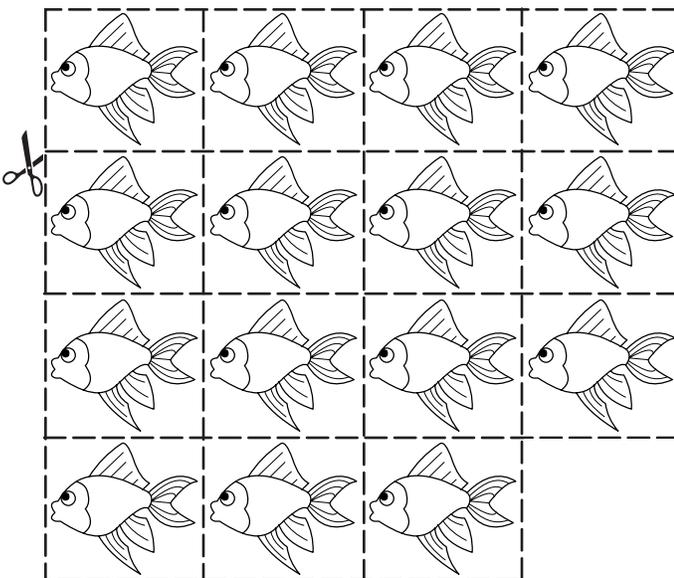
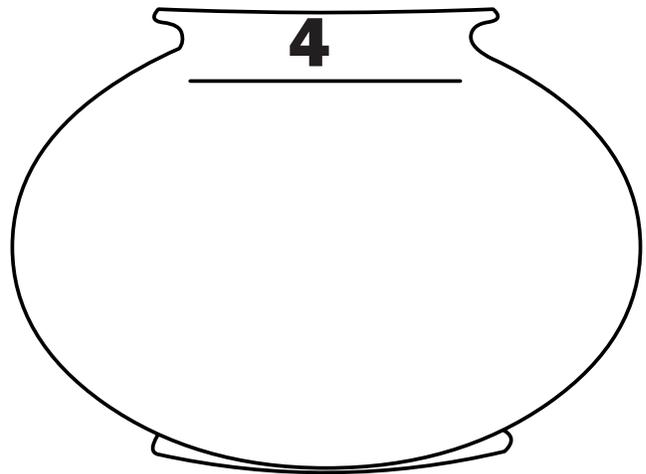
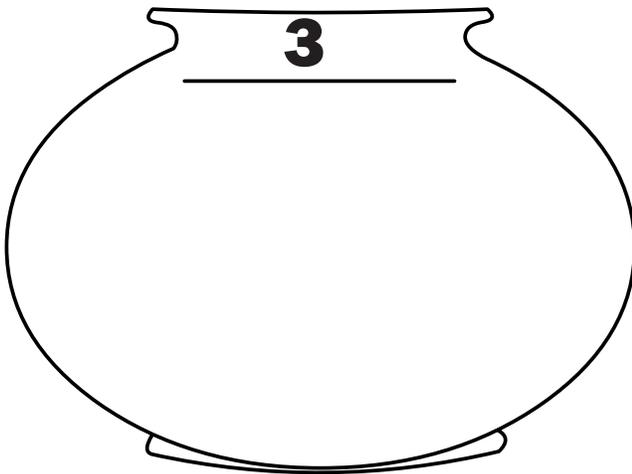
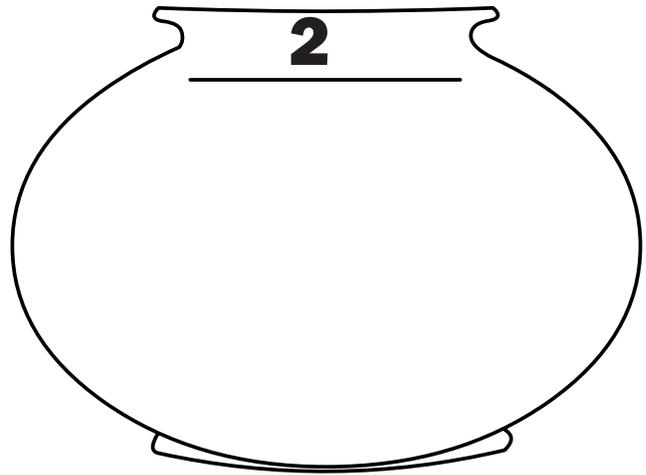
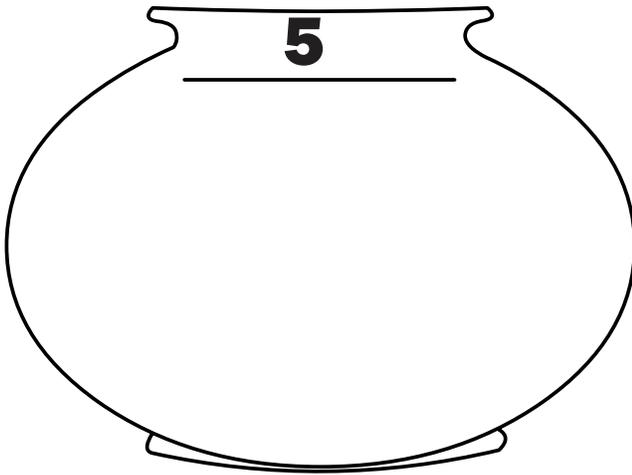
### NCTM Standards

- Number & Operations
  - Representation
-

Name \_\_\_\_\_

# Fish Bowls

Cut out the fish. Paste the correct number of fish in each fish bowl.





# Toy Factory Match-up

*In this challenging matching game, students match numbers, pictures, and chip representations.*

## Getting Ready

1. Distribute copies of the “Toy Factory Match-up” blackline master to each student. Then, organize students into pairs.
2. Have students cut out the fifteen game pieces, turn them over, and color the back side. (This will insure that the pictures and text will not show through the front of the game pieces.) Be sure that students use the same color for all their pieces.

## How to Play

1. The students will play this game in pairs. They will need the game pieces from only one blackline master. (Tell students to put the other set of game pieces aside. When students become proficient playing the game, some may want to add another set of game pieces to make the game more challenging.)
2. Direct students to place the game pieces face-side-down in front of them and mix them up. Then, have students place the game pieces in five rows of three.
3. Invite students to take turns turning over three game pieces at a time. The goal is to find three matching game pieces (a number, a pictorial representation of the number, and a chip representation of the number).
4. If a player finds three matching game pieces, the player will remove the three pieces from the game board and place them in his or her own pile. If the three game pieces do not match, the player turns them over again, and the other player takes a turn.
5. Play continues until there are no more game pieces. The player having the greater number of game pieces wins.

## Assessment Tip

Observe students as they play the game. Find out if they can:

- Match the numeral, chip representation, and pictorial representation for the numbers from 1 to 5.

## Try this, too!

- For an added challenge, invite students to play the game using the game pieces from two blackline masters.
- Another variation is to arrange the game pieces in a circle or randomly on a playing surface.

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### Students will need

- blackline master: “Toy Factory Match-up”—1 copy per student
- scissors
- crayons or colored pencils

### Approximate Time

- 30 minutes

### Grouping

- 2 students

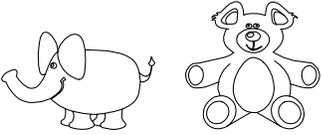
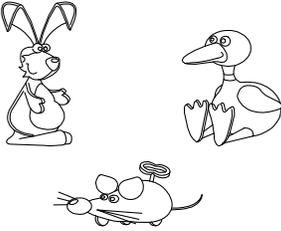
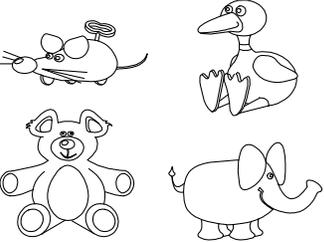
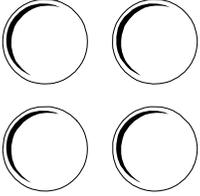
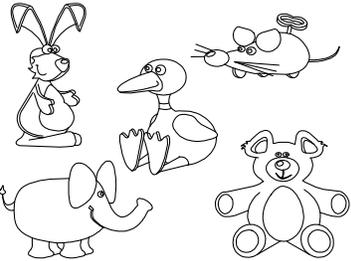
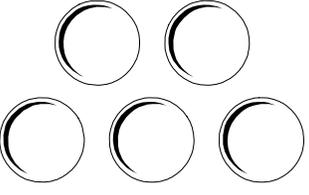
### NCTM Standards

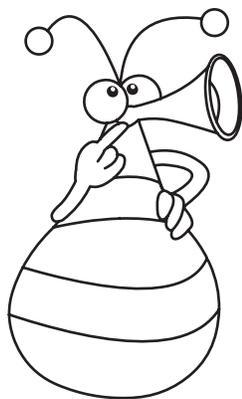
- Number & Operations
  - Representation
-

Name \_\_\_\_\_

# Toy Factory Match-up

Cut out all the shapes. Turn over each shape. Color the back.

		<b>1</b>
		<b>2</b>
		<b>3</b>
		<b>4</b>
		<b>5</b>



# Circus Show

*Students practice counting from 5 to 10 as they search for and count items in a circus scene.*

## Warm-up

- Hold up six fingers in any combination. Have a student volunteer count how many fingers you have held up, one at a time, and state the total number. (After the student counts a finger, fold it down.)
- Pair the students. Have one student hold up any number of fingers from 5 to 10. Tell the other student to count how many fingers there are, one at a time, and state the total number of fingers held up. Have the students switch roles and repeat this counting activity.

## Introducing the Activity

1. Distribute a copy of the “Circus Show” blackline master to each student.
2. Read aloud the directions on the blackline master. Invite the students to look at the example problem below the circus picture. Have them search the circus scene for hats that are identical to the one in the example. Have the students count the hats. (There are 9.)
3. After students have found all 9 hats in the circus picture, have them trace over the number 9 in the example problem.
4. Now, tell students to complete the worksheet in a similar manner and form the numerals for each number. Circulate around the room and help any student who is having difficulty completing the task.

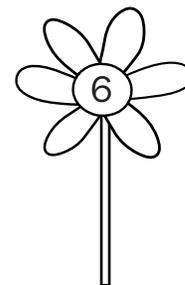
## Assessment Tip

Individually assess the students. Find out if they can:

- Determine the number of objects, up to 10, in a set, regardless of the type or arrangement of the objects.
- Read and write the numerals for the numbers 5, 6, 7, 8, 9, and 10.

## Try this, too!

Make number-daisy pictures. The number written in the flower's center should match the number of petals on the daisy. Ahead of time, draw a daisy and then cut out one flower center, one stem, and five to ten flower petals per student. Write one of the numbers from five to ten on each flower center, and place a corresponding number of flower petals into a baggie. Distribute the flower centers, stems, paste, and paper. Have the students paste the stems and flower centers on paper. Then, have them choose a baggie with the number of flower petals that corresponds to the number in their flower center. Invite them to paste the petals around the flower center. Finally, have them write the number of flower petals on their flower at the top of the daisy picture page.




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### Students will need

- blackline master: “Circus Show”—1 copy per student

### Approximate Time

- 30 minutes

### Grouping

- individual

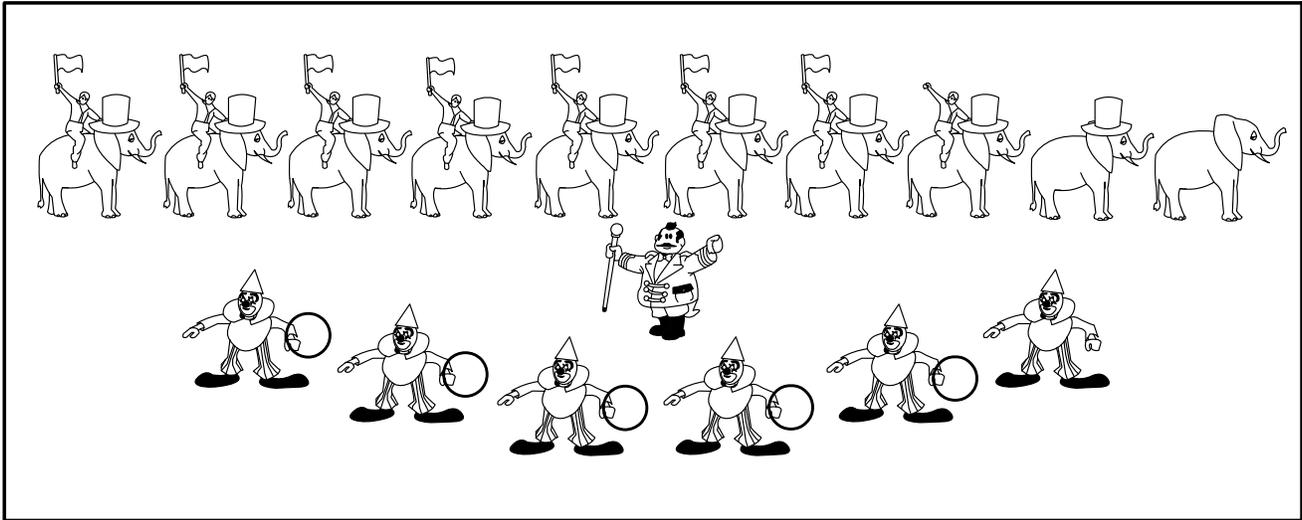
### NCTM Standards

- Number & Operations
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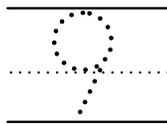
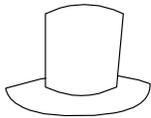
Name \_\_\_\_\_

# Circus Show

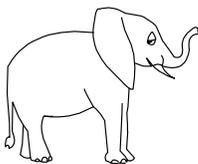
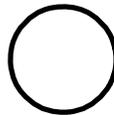
Look at the picture. Write how many.



How many?



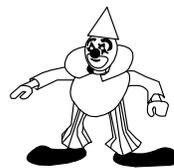
How many?



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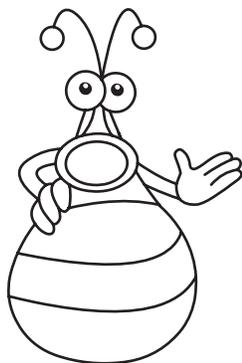
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# Fresh Fruit Salad

*Students identify the numbers from 5 to 10 and color pieces of fruit to create a fresh fruit salad on paper.*

## Warm-up

1. As a warm-up activity, call out one of the numbers from 5 to 10 and have students hold up the correct number of fingers. Repeat several times using different numbers. Then, write one of the numerals from 5 to 10 on the chalkboard, and without calling out the number, have students hold up the correct number of fingers.
2. Pair the students. Have one student in each pair call out a number between 5 and 10 and have the other student hold up the corresponding number of fingers. Have the students switch roles.

## Introducing the Activity

1. Distribute copies of the “Fresh Fruit Salad” blackline master.
2. Read aloud the directions on the blackline master. Tell students that they will be coloring pictures of fruit. Ask one student to read the directions next to the first example: “Color 8 

## Assessment Tip

Observe students as they count and color the pictures of each fruit. Find out if they can:

- Read and represent sets for the numbers from 5 to 10.

## Try this, too!

In the activity entitled, “Fish Bowls,” students were asked to choose one of the numbers from 1 to 5 and make number posters. You may want to extend that activity to the numbers from 6 to 10. Have students choose a number from 6 to 10 and write it on the top of a piece of posterboard. Then, have them cut out the corresponding number of magazine pictures and paste them on the poster. If you wish, you can choose one poster for each number and put them together to create a giant number-book.

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### Students will need

- blackline master: “Fresh Fruit Salad”—1 copy per student
- crayons

### Approximate Time

- 15 minutes

### Grouping

- individual

### NCTM Standards

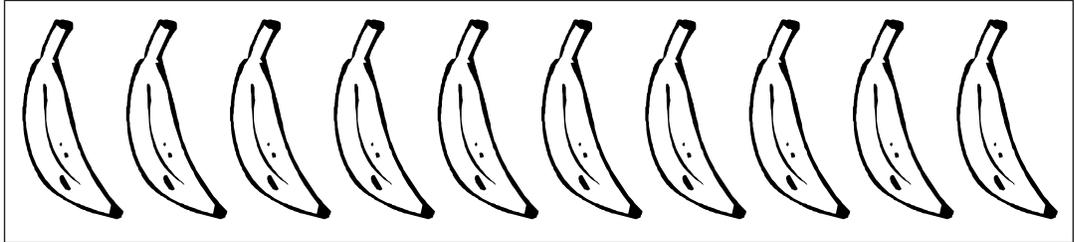
- Number & Operations
-

Name \_\_\_\_\_

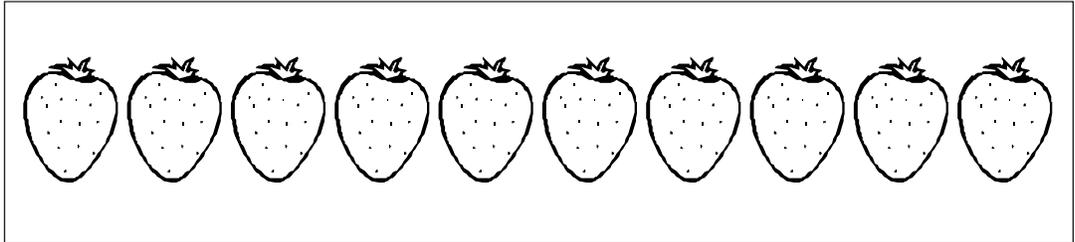
# Fresh Fruit Salad

Look at a number. Color that many fruit.

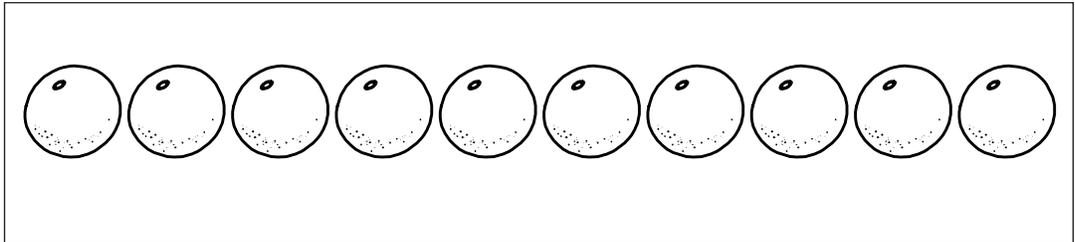
Color **8** .



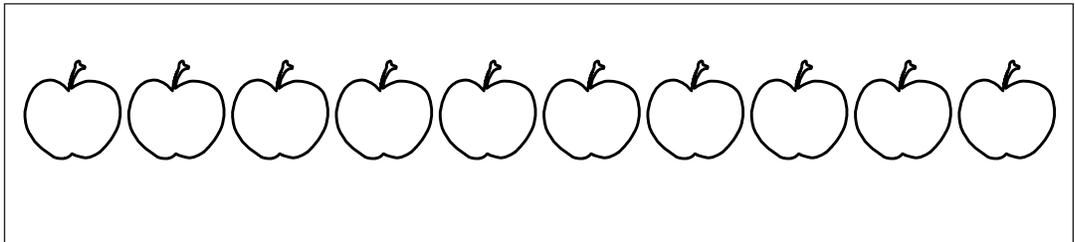
Color **5** .



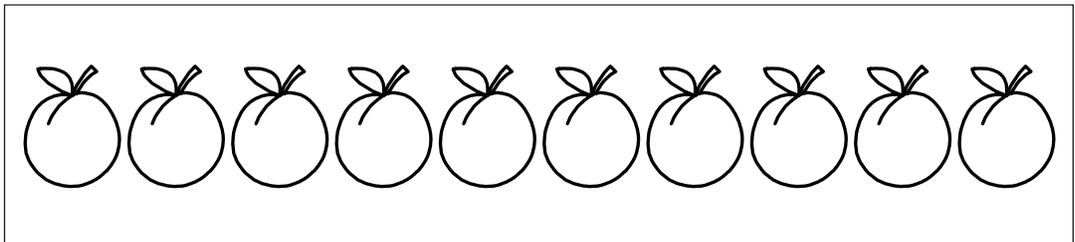
Color **9** .



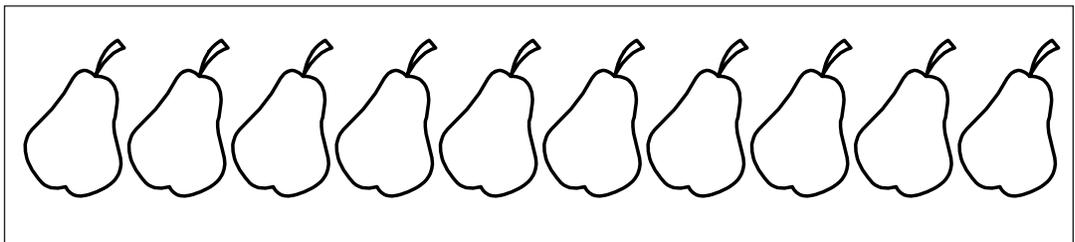
Color **6** .



Color **7** .



Color **10** .





# Barnyard Match-up

*In this barnyard game, students match numerals, pictures, and sets of chips.*

## Getting Ready

1. Distribute copies of the “Barnyard Match-up” blackline master.
2. Have students cut out the fifteen game pieces on the blackline master, turn them over, and color the back side to insure that the pictures and text will not show through the front of the game pieces. Alternatively, have students paste each piece onto a heavy piece of construction paper or cardboard.

## How to Play

1. Students play this game in pairs, so they will need game pieces from only one blackline master. (Tell students to put the other set of game pieces to one side. Once they become proficient at playing the game with 15 pieces, they may want to add the other set of pieces to make the game more challenging.)
2. Direct students to place the game pieces face-side-down and mix them up. Then have them arrange the game pieces in 5 rows of 3.
3. Invite students to take turns turning over three game pieces at a time. The goal is to find three matching game pieces (a number, a pictorial representation of the number, and that number of chips). When players find three matching game pieces, they can remove them from the game board and place them in their own piles.
4. Play continues until there are no more game pieces. The player with the greater number of game pieces is the winner.

## Assessment Tip

Observe students as they play the game. Find out if they can:

- Match the numeral, a pictorial representation, and the corresponding set of chips, for the numbers from 6 to 10.

## Try this, too!

- For an added challenge, invite students to play the game using game pieces from two blackline masters.
- You can also combine the game pieces from this activity with those from a similar activity, “Toy Factory Match-up.” Then students will have practice matching numbers, pictorial representations, and sets of chips for the numbers from 1 to 10.

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### Students will need

- blackline master: “Barnyard Match-up”—1 copy per student
- scissors
- crayons or colored pencils

### Approximate Time

- 30 minutes

### Grouping

- Pairs of students

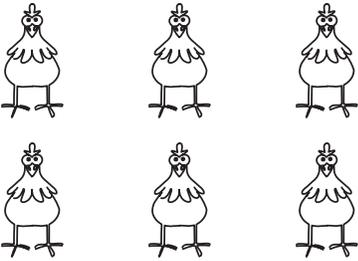
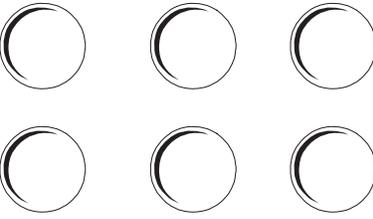
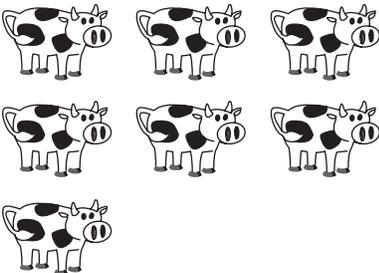
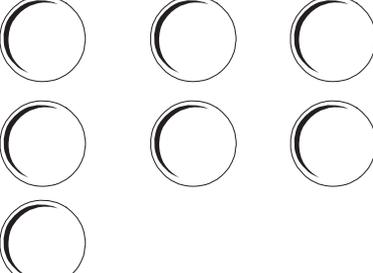
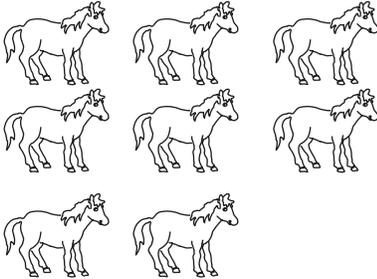
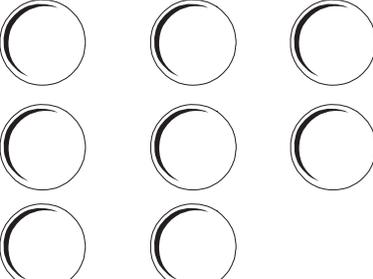
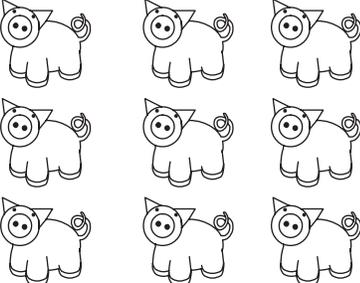
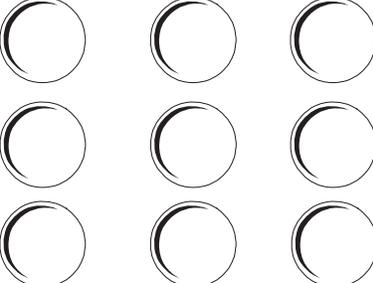
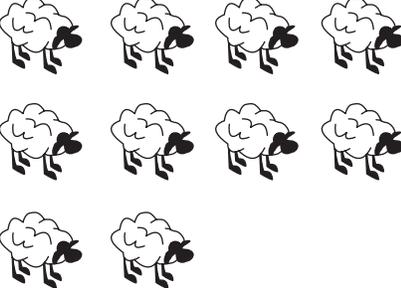
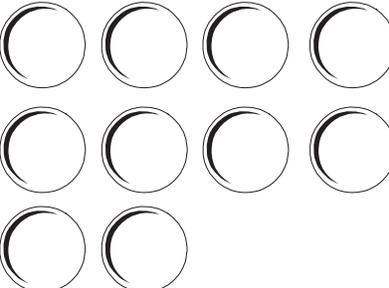
### NCTM Standards

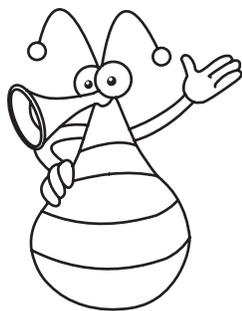
- Number & Operations
  - Representation
-

Name \_\_\_\_\_

# Barnyard Match-up

Cut out all the game pieces. Turn over each one and color the back.

		<b>6</b>
		<b>7</b>
		<b>8</b>
		<b>9</b>
		<b>10</b>



# Hound Dogs

**Students add one more hound dog to a number of hound dogs and write the number that shows one more hound dog.**

## Warm-up

Invite a student to stand in front of the class. Write the numeral “1” on the chalkboard. Then have one more child come to the front of the classroom. Count the two children, erase the numeral “1” and write “2” on the chalkboard. Continue this procedure until there are ten children standing at the front of the classroom, and the numeral 10 is written on the chalkboard.

## Introducing the Activity

1. Distribute a copy of the “Hound Dogs” blackline master to each student. Have students cut out the 10 hound dogs at the bottom of the page.
2. Read aloud the directions on the blackline master. Then direct the students’ attention to the first square, which has no hound dogs in it. Invite students to paste one of the hound dog cutouts inside the dotted box. Then ask a student to count the number of hound dogs there are altogether [1]. Have students trace over the number “1.”
3. Now look at the next square. Have a student count the number of hound dogs in the square [1]. Then paste 1 hound dog cutout in the box to create 1 more. Ask the students to identify the number that is one more than 1 [2]. Have students trace over that number in the box.
4. Invite students to complete the worksheet in a similar way, pasting 1 more cut-out in each square and writing the number that shows one more than was there originally.

## Assessment Tip

Observe students as they complete the worksheet. Find out if they can:

- Name and write the number that shows one more than a given number of objects.

## Try this, too!

1. Using chalk, draw a large circle on the playground. Tell students that they’re about to play “Ducks in a Pond.” Choose one student to stand inside the circle and become the first duck. Have the other students gather around the outside of the circle.
2. With its eyes shut, the duck extends an arm and pointer finger and twirls around in the circle as students chant, “One little duck, swimming round and round, looking for a friend, who has he (she) found?” When the students finish the rhyme, the duck stops spinning and opens its eyes. The student that the duck is pointing to enters the circle and becomes the second duck.
3. The first duck sits down inside the circle, and the second duck becomes “it,” as the students chant, “Two little ducks, swimming round and round, looking for a friend, who have they found?” Then this duck stops, opens its eyes, and points to the student who becomes the third duck and joins the two ducks in the circle.
4. The game continues, adding one more student at a time. Students outside the circle change the chant to reflect the number of ducks inside the circle. When the tenth duck is chosen, the game ends. The student chosen is the tenth duck, and becomes the new leader for the next game of “Ducks in a Pond.”

---

### Students will need

- blackline master: “Hound Dogs”  
1 copy per student
- scissors
- paste

### Approximate Time

- 30 minutes

### Grouping

- individual

### NCTM Standards

- Number & Operations
-

Name \_\_\_\_\_

# Hound Dogs

Cut out the dogs. Paste  to show 1 more. Write how many in all.

0 dogs, 0 more to paste, 0 in all.

1 dog, 1 more to paste, 2 in all.

2 dogs, 1 more to paste, 3 in all.

3 dogs, 1 more to paste, 4 in all.

4 dogs, 1 more to paste, 5 in all.

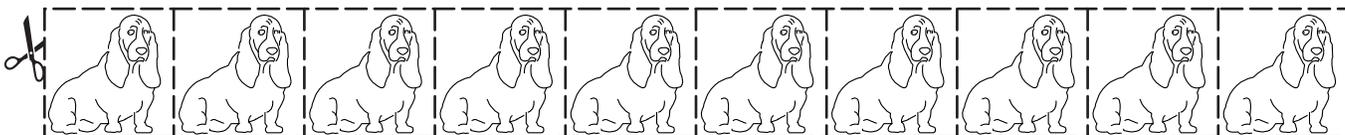
5 dogs, 1 more to paste, 6 in all.

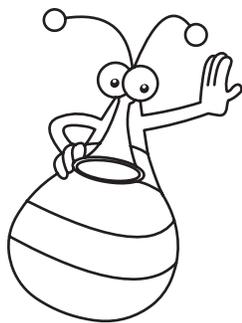
5 dogs, 1 more to paste, 6 in all.

5 dogs, 2 more to paste, 7 in all.

5 dogs, 3 more to paste, 8 in all.

5 dogs, 4 more to paste, 9 in all.





# Daisy Petals

**Students count backwards to see how many petals are left on a daisy after one has fallen off.**

## Warm-up

1. Invite 10 students to stand in front of the class. Count the children and write the number “10” on the chalkboard. Remove one child from the group, leaving 9, and erase the “10” on the chalkboard. Then invite a student to count the remaining children and write the number “9” on the chalkboard. Remind students that 9 students is one student fewer than 10 students.
2. Continue this process until there are no children left standing. Ask students what number they can write to show that there are no students left standing. Then write the number “0” on the chalkboard and remind students that zero is one child fewer than one.

## Introducing the Activity

1. Distribute to each student a copy of the “Daisy Petals” blackline master. Read aloud the directions at the top of the page.
2. Have students count all the petals on the first daisy on the left [10]. Have students trace over the number 10 in the box.
3. Next, explain that the picture of the second daisy shows that one of the 10 petals has fallen off. Invite the children to count the petals that are left on the daisy now [9]. Have them trace over the number 9 in the box to show a daisy that has one petal fewer than 10 petals.
4. After completing one or more of these problems as a class, have students finish the worksheets by themselves.

## Assessment Tip

Observe students as they complete their worksheets. Find out if they can:

- Name and write the number that shows one item fewer than a number from 1 to 10.
- Identify 0 as the number that shows one item fewer than 1.

## Try this, too!

Make a class storybook. Give each student a sheet of white paper. Write one of the numbers from 1 to 10 on the paper. Have each student draw a picture of that number of animals, objects, or people. Then have the child cross out one of the items. Ask each child to come up with a story describing how or why there is now one fewer item in the picture. On lined writing paper, record each story dictated by the child. When everyone has finished, mount each picture and story on a sheet of construction paper. Compile all of the student papers, use a hole punch to punch holes into the papers, and tie them together with yarn to make a class storybook about “one fewer than.”

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### Students will need

- blackline master: “Daisy Petals”—1 copy per student
- pencils or felt-tip markers

### Approximate Time

- 15 minutes

### Grouping

- individual

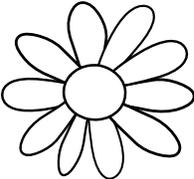
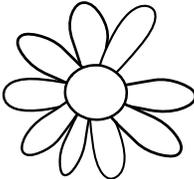
### NCTM Standards

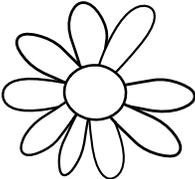
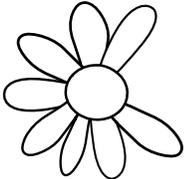
- Number & Operations
-

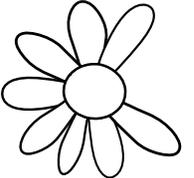
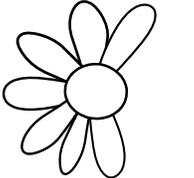
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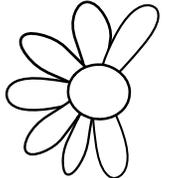
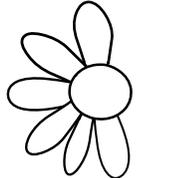
# Daisy Petals

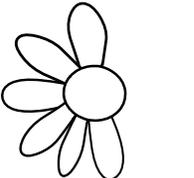
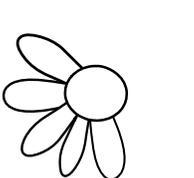
How many petals on each daisy? Write the number that shows one fewer.

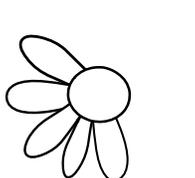
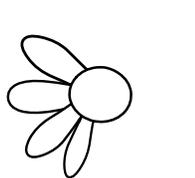
	
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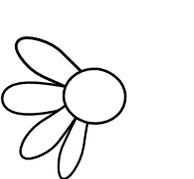
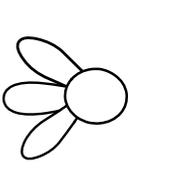
	
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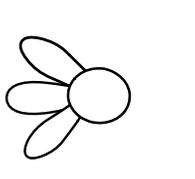
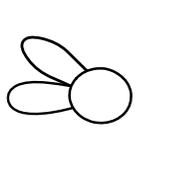
	
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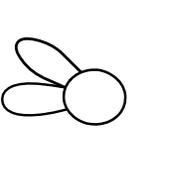
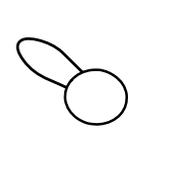
	
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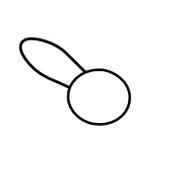
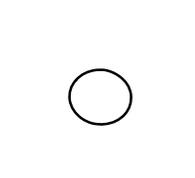
	
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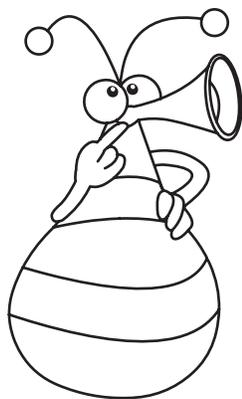
	
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# Log Trucks

*Students write numbers between 10 and 20 to show how many logs are on a truck and draw logs to show numbers between 10 and 20.*

## Warm-up

1. You will need toothpicks (19 per student) and rubber bands (1 per student) for this activity. Begin by asking the children to count out 10 of the 19 toothpicks and to place a rubber band around the 10. Set the bundle of 10 toothpicks and the 9 individual toothpicks aside.
2. Direct the students' attention to the front of the classroom and show students one bundle of 10 toothpicks and 4 individual toothpicks. Invite a student to identify the total number of toothpicks, using language such as "10 and 4 more" and "fourteen." Provide additional examples, using groups of toothpicks to model other numbers between 10 and 20.
3. Have students take out their toothpicks again. Say the number "seventeen" and write "17" on the chalkboard. Ask the children to make a model of the number 17 using their toothpicks [1 group of 10, plus 7 individual toothpicks]. Repeat this step for other numbers as necessary.

## Introducing the Activity

1. Distribute a copy of the "Log Trucks" blackline master to each student. Read aloud the directions at the top of the blackline master.
2. Have students count the logs in the first picture, saying, "10 and 4 more is 14." Have students trace over the numeral "14." Ask them to complete the next three problems in a similar way.
3. Now, direct the students' attention to the middle of the blackline master and read those directions aloud. Have a student identify the number written on the log truck in the first example [13]. Point out that each stack has 10 logs. Then ask students to identify how many more logs are needed to show a total of 13 [3]. Have students trace over the 3 logs. Encourage them to solve the remaining problems in a similar way.

## Assessment Tip

Observe students as they complete the worksheet. Find out if they can:

- Write and represent the numbers from 10 to 20.

## Try this, too!

Play a game called "Lumberjack." You will need the bundles of toothpicks used in the warm-up activity, note cards (1 per student), small plastic bags (1 per student), and a marker. Ahead of time, write a number from 10 to 20 on a note card. Repeat, using all the numbers, until you have one card for each student. Place one bundle of 10 toothpicks and a number of individual toothpicks inside each bag and place the bags on various desks in the room. Tell students that they are lumberjacks, and that you are going to give them a card with a number on it that shows how many logs are needed to fill a truck. Tell students that the plastic bags around the room hold logs (toothpicks) that correspond to the numbers on the cards. The goal of the game is for students to find a bag with a number of "logs" that matches their card and take it back to their seats. Have them display the note card and the group of "logs" so that you can verify the match.

---

### Students will need

- blackline master: "Log Trucks" 1 copy per student
- pencils or crayons

### Approximate Time

- 20 minutes

### Grouping

- individual

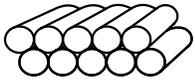
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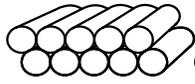
- Number & Operations
  - Problem Solving
-

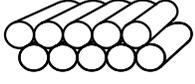
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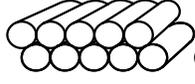
# Log Trucks

How many logs altogether?

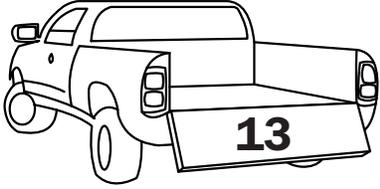
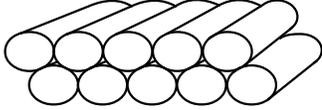
   \_\_\_\_\_  
**10**                      **4**

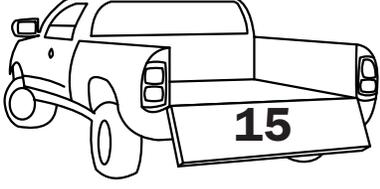
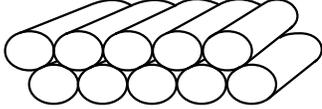
  \_\_\_\_\_  
**10**                      **8**

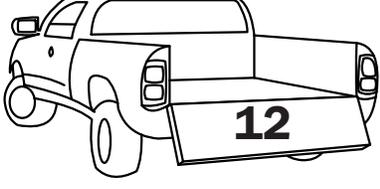
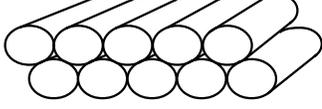
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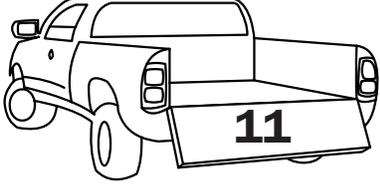
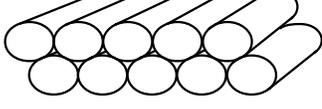
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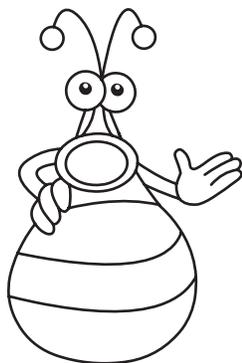
Draw more logs to show each number.



# Number Pals Game

**Students make number cards for numbers from 20 to 50 and show their base-10 representations.**

## Getting Ready

1. Make one or more number cards from the “Number Pals” blackline master. Show them to the students and then distribute a copy of the “Number Pals” blackline master to each student.
2. Tell students that the two large boxes on the worksheet will be the front and back of a number card. Read aloud the instructions above the box on the left. Then have students choose a number between 20 and 50 and write it in the box. (Check to see that all students have done this correctly before going on.)
3. Read the instructions above the box on the right. Tell students that they are to draw blocks to show the number. Check to see if students have done this correctly before going on.
4. Finally, have students cut out the two large boxes and paste them together, text-side-out, to make the playing cards for the Number Pals game.

## How to Play

1. Collect the cards. Then, divide the class into two teams. Have one member from each team go to the chalkboard. Show the class the pictorial side of a card, showing the tens and ones. Have the two students at the chalkboard write the corresponding numeral on the board. Each student gets one point for his or her team if the number is correct.
2. Continue playing until all of the students have had a turn. The team with the higher score wins the game.

## Assessment Tip

Observe students as they create the number cards. See if they can:

- Identify, represent, and write the numerals for numbers from 20 to 50.

## Try this, too!

- Read Tana Toban’s book, *Let’s Count*, a collection of photographs that represent numbers up to 100. After reading the story, have students draw similar number pictures based upon what they might see; for example, 20 birds on a telephone wire or 25 bottles on a shelf. As in the book, encourage students to include the numeral and the correct number of dots for each number. Challenge some students to write the name of the number as well, as in the book.
- Distribute base-10 blocks (or use the base-10 blocks manipulative in the on-line tool box of *Destination Math*). Give each child a number card from the “Number Pals” game with the number side up. Have them use base-10 blocks to represent the number. To check their answers, have them turn the card over and look at the pictorial representations of tens and ones.

---

### Students will need

- blackline master: “Number Pals”—1 copy per student
- scissors
- paste

### Approximate Time

- 30 minutes

### Grouping

- whole class

### NCTM Standards

- Number & Operations
  - Representation
-

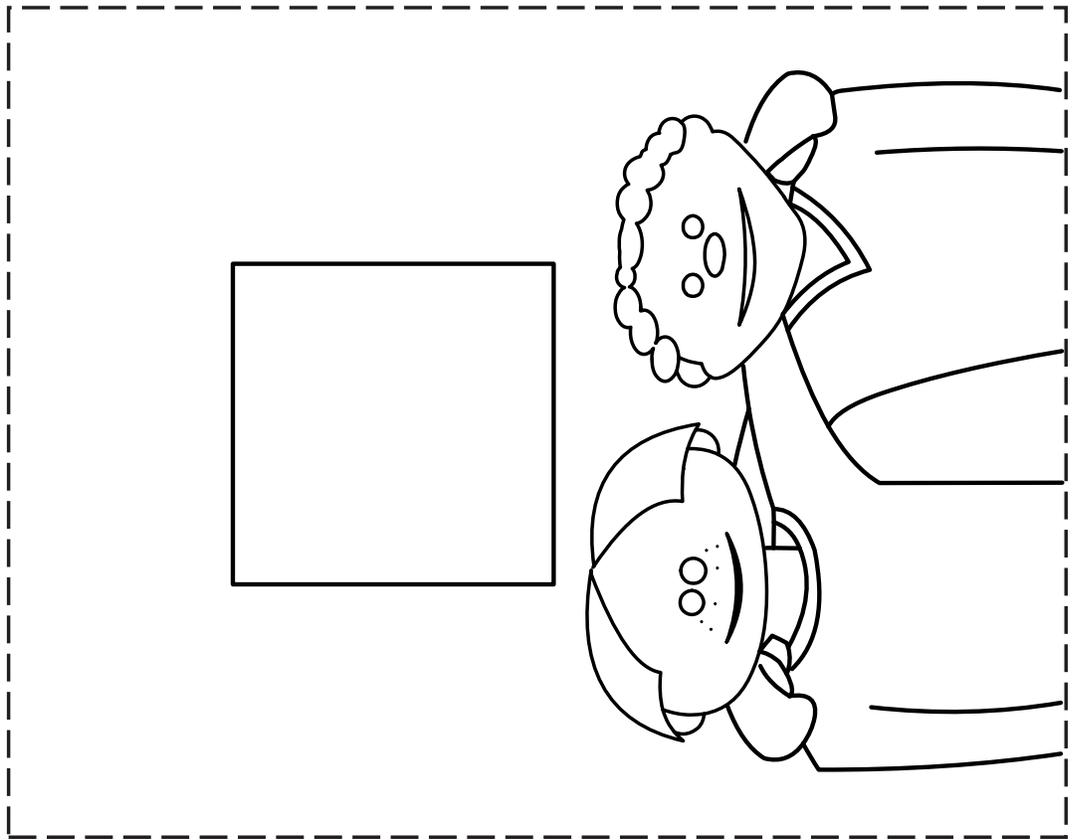
Name \_\_\_\_\_

# Number Pals

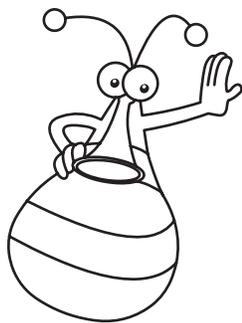
Draw blocks in this box.



Write a number in the small box.



The box contains a small square on the left and two cartoon characters on the right. The characters are stylized figures with large heads and small bodies. The top character has a scalloped head and a smiling face. The bottom character has a round head with a smiling face. A pair of scissors icon is located at the bottom center of the dashed box.



# Hidden Numbers

*In this number game, students take turns covering and then identifying numbers on a hundreds chart*

## Getting Ready

1. Give each student a copy of the “Hidden Numbers” blackline master. Invite all students to cut out the hundreds chart and the set of 5 squares below it.
2. To play the game, pairs of students will need just one hundreds chart and one set of 5 squares.

## How to Play

1. Organize students into pairs. Have players in each pair choose a different color pencil or crayon.
2. Tell one student in each pair to close his or her eyes, and have the second student use the 5 squares to cover any 5 numbers on the hundreds chart.
3. After the 5 squares are in place, the first student must identify the numbers that have been covered by calling out their names. For each number identified correctly, the student removes the blank square and then colors the square containing the number with his or her chosen color. If the student doesn’t name the number correctly, the square covering it is removed, but the square containing the number is not colored.
4. In the next round of play, the players change roles. The second student in the pair closes his or her eyes, and the first student covers 5 other numbers in the hundreds chart. (If a square is colored, it can’t be chosen again.)
5. Direct students to play until all squares in the hundreds chart have been colored. Count the total number of squares of each color. The player with the greater number of colored squares is the winner.

## Assessment Tip

Observe students as they play the game. Find out if they can:

- Identify and name the numbers from 1 to 100.

## Try this, too!

Read aloud *I Can Count to 100... Can You?* by Katherine Howard. In this story a mouse invites children to count toys, planes, animals, and other familiar objects. After reading the book, you may want students to create similar number pages. Have them choose a number between 50 and 100 and write the numeral (and word name) on a sheet of paper. Then, invite them to place that number of pictures on the page. Students especially enjoy this activity when they are given the opportunity to use a rubber stamp and stamp pad to make repeated pictures. (You might want to suggest to students that they arrange stamps in groups of 10 and ones left over to make it easier to count them.)

---

### Students will need

- blackline master: “Hidden Numbers”—1 copy per student
- scissors
- crayons or colored pencils

### Approximate Time

- 30 minutes

### Grouping

- Pairs of students

### NCTM Standards

- Number & Operations
  - Problem Solving
-

Name \_\_\_\_\_

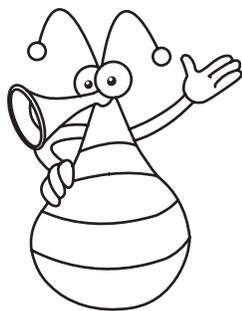
# Hidden Numbers

Cut on the dashed lines -----.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>	<b>40</b>
<b>41</b>	<b>42</b>	<b>43</b>	<b>44</b>	<b>45</b>	<b>46</b>	<b>47</b>	<b>48</b>	<b>49</b>	<b>50</b>
<b>51</b>	<b>52</b>	<b>53</b>	<b>54</b>	<b>55</b>	<b>56</b>	<b>57</b>	<b>58</b>	<b>59</b>	<b>60</b>
<b>61</b>	<b>62</b>	<b>63</b>	<b>64</b>	<b>65</b>	<b>66</b>	<b>67</b>	<b>68</b>	<b>69</b>	<b>70</b>
<b>71</b>	<b>72</b>	<b>73</b>	<b>74</b>	<b>75</b>	<b>76</b>	<b>77</b>	<b>78</b>	<b>79</b>	<b>80</b>
<b>81</b>	<b>82</b>	<b>83</b>	<b>84</b>	<b>85</b>	<b>86</b>	<b>87</b>	<b>88</b>	<b>89</b>	<b>90</b>
<b>91</b>	<b>92</b>	<b>93</b>	<b>94</b>	<b>95</b>	<b>96</b>	<b>97</b>	<b>98</b>	<b>99</b>	<b>100</b>

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## Four Card Draw

*Students play a number-card game where the goal is to get 4 cards that are consecutive multiples of 5 or 10.*

### Getting Ready

- Distribute copies of the “Four Card Draw” blackline master. It contains 20 rectangular game pieces or number cards: 10 are multiples of 5, and 10 are multiples of 10.
- Have students cut out the game pieces, turn them over, and color the back sides to insure that the numbers will not show through the front. Alternatively, have students paste each number card onto a piece of heavy construction paper or cardboard.

### How to Play

1. Organize students into pairs, and have students in each pair place all of their number cards number-side down in a pile and mix them up. This pile of cards is the draw pile.
2. To begin, invite players to draw 4 number cards from the pile. Each player holds them in his or her hands or places them on a flat surface away from the other player’s view. Then, players take turns drawing one game piece from the pile at a time and discarding one game piece in a separate pile. The first player to hold 4 number cards that are consecutive multiples of 5 or 10 is the winner.

### Assessment Tip

Observe students as they play the game. Find out if they can:

- Skip-count by fives up to 50 or by tens up to 100

### Try this, too!

Skip-counting and jumping rope are a winning combination! Get a large jump rope and choose a student volunteer to help you turn the rope. Have students form a line. Invite students, one at a time, to take a turn jumping rope. On each jump, students in the class skip count by either fives or tens. When the student misses a jump, his or her turn is over, and the student goes to the end of the line. The next person in line takes his or her turn.

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#### Students will need

- blackline master: “Four Card Draw”—1 copy per student
- scissors
- crayons or colored pencils
- construction paper or cardboard (optional)

#### Approximate Time

- 30 minutes

#### Grouping

- Pairs of students

#### NCTM Standards

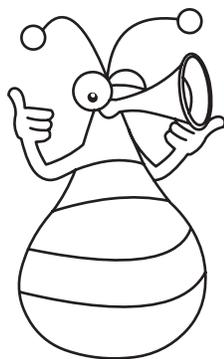
- Number & Operations
-

Name \_\_\_\_\_

## Four Card Draw

Cut on the dashed lines -----.

<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>
<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>
<b>45</b>	<b>50</b>	<b>55</b>	<b>60</b>
<b>65</b>	<b>70</b>	<b>75</b>	<b>80</b>
<b>85</b>	<b>90</b>	<b>95</b>	<b>100</b>



# Odds and Evens

*Students cover even numbers on their game boards before opponents cover odd numbers on their boards.*

## Getting Ready

1. Make a copy of the blackline master, “Odds and Evens” for each student in your class. Before handing out the copies, though, cut off the bottom sections that contain the four number strips.
2. Use the number strips to make a game board for each student. Separate the four number strips and paste them onto a piece of construction paper so that the 10 numbers are in two rows like this:

1	2	3	4	5	6	7	8	9	10
10	12	13	14	15	16	17	18	19	20

3. Now, give each student one game board and the top portion of the worksheet. Have each student cut out the 20 game pieces.

## How to Play

1. Have each pair of players place their game boards in front of them. Then, have the pairs combine their game pieces, mix them up, and place them face-down on the table.
2. For each pair of players, one student must cover the even numbers on his or her game board, and the other student must cover the odd numbers on his or her game board. Let players in each pair decide who will cover the even numbers and who will cover the odd numbers.
3. Direct each player to take turns drawing one game piece from the pile. If the number is even (odd), and the player is covering even (odd) numbers, he or she places the game piece on top of the corresponding number on the game board. If the number drawn is not even (not odd) or the number on the game board is already covered, the player returns the game piece to the pile and loses his or her turn.
4. The first player to cover all of the even numbers or all of the odd numbers on his or her game board is the winner.

## Assessment Tip

Observe pairs of students as they play the game. Find out if they can:

- Identify odd and even numbers.

## Try this, too!

Arrange students in a large circle to play a game called, “Flash!” You will need a soft playground ball. Students must quickly throw the ball to any other player in the circle. The first person with the ball says “two.” The person that gets the ball next must skip-count by 2 and say “four.” The next recipient says “six”, and so on. Students who do not catch the ball or who do not quickly say the next number in the sequence are “out” and must leave the circle. Play continues until there is only one person left. If the numbers become too large for students to continue skip-counting easily, restart the count at 2 and begin again. (A variation of “Flash” is to skip-count by twos, starting at 1.)

### Students will need

- blackline master: “Odds and Evens”—1 copy per student
- scissors
- paste
- construction paper

### Approximate Time

- 30 minutes

### Grouping

- Pairs of students

### NCTM Standards

- Number & Operations

Name \_\_\_\_\_

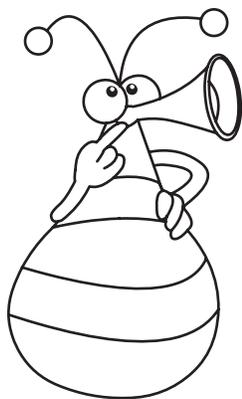
# Odds and Evens

Cut on the dashed lines -----.

<b>1</b> •	<b>2</b> :	<b>3</b> ∴	<b>4</b> ∴∴	<b>5</b> ∴∴∴
<b>6</b> ∴∴∴	<b>7</b> ∴∴∴∴	<b>8</b> ∴∴∴∴∴	<b>9</b> ∴∴∴∴∴∴	<b>10</b> ∴∴∴∴∴∴∴
<b>11</b> ∴∴∴∴∴∴∴	<b>12</b> ∴∴∴∴∴∴∴∴	<b>13</b> ∴∴∴∴∴∴∴∴∴	<b>14</b> ∴∴∴∴∴∴∴∴∴∴	<b>15</b> ∴∴∴∴∴∴∴∴∴∴∴
<b>16</b> ∴∴∴∴∴∴∴∴∴∴	<b>17</b> ∴∴∴∴∴∴∴∴∴∴∴∴	<b>18</b> ∴∴∴∴∴∴∴∴∴∴∴∴∴	<b>19</b> ∴∴∴∴∴∴∴∴∴∴∴∴∴∴	<b>20</b> ∴∴∴∴∴∴∴∴∴∴∴∴∴∴∴

**Teachers:** Cut off this section before you give the worksheet to students. Use these squares to make student game boards. For directions, see the teacher notes.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>
<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>



# Day at the Beach

**Students learn about “more than” and “fewer than” as they find out if there is enough beach attire for some vacationing chinchillas.**

## Warm-up

- Hold up 4 books and have 3 children come to the front of the room. Ask the class to decide if there are more books or more children. Give each child a book. Point out that there is 1 book left over, so there are *more* books than children. Repeat this activity with 6 children and 4 books.
- Invite 9 children to come to the front of the classroom. Have 4 students form one group and hop like frogs. Have 5 children form another group and slither like snakes. Ask the class to decide if there are fewer frogs or fewer snakes. Pair frogs and snakes and point out that there is 1 snake left over, so there are *fewer* frogs than snakes.

## Introducing the Activity

1. Read aloud the directions on the blackline master “Day at the Beach.” Invite students to look at the first problem and ask if there are more chinchillas or more bathing suits. [There are more bathing suits.] Tell students to draw a circle around the bathing suits. Then get the students to do the next problem, in the box to the right of the first problem.
2. Read the directions to the next two problems. Point out that these directions ask students to draw a ring around the group that has *fewer* items.
3. Lastly, direct the students’ attention to the two problems at the bottom of the worksheet. Read the directions aloud. Point out that in the first problem, students are to draw a set of items showing more than the number of beach towels. In the second problem, they are to draw a set of items showing fewer than the number of buckets. (Students can draw the same item or different items, as long as each set of drawn objects has more items or fewer items than those pictured.)

## Assessment Tip

Observe students as they complete the activity. Find out if they can:

- Identify if one set of objects has more than or fewer than another set.

## Try this, too!

Read aloud Stuart Murphy’s book, *Just Enough Carrots*. Students enjoy this silly story about a young rabbit and its mother, who take an unforgettable trip to the grocery store. The young rabbit complains about almost everything its mother puts into their grocery cart, comparing their bunches of carrots, bags of peanuts, and cans of worms to amounts in the carts of other shoppers. After reading the story, invite students to draw pictures of their favorite grocery store items and place them in a paper bag. Then, as a class, have students compare items in their bags to see who has more and who has fewer of the same kinds of items.

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### Students will need

- blackline master: “Day at the Beach”—1 copy per student

### Approximate Time

- 20 minutes

### Grouping

- individual

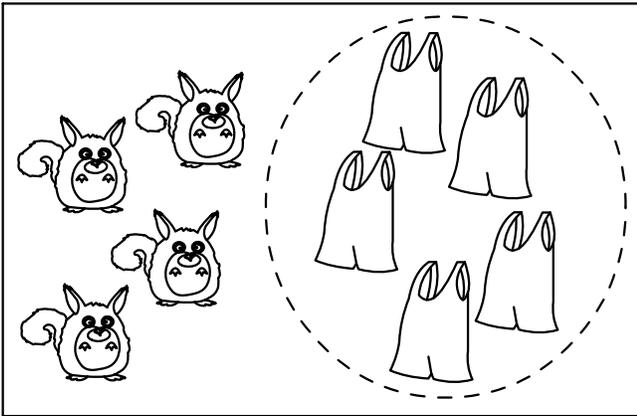
### NCTM Standards

- Number & Operations
-

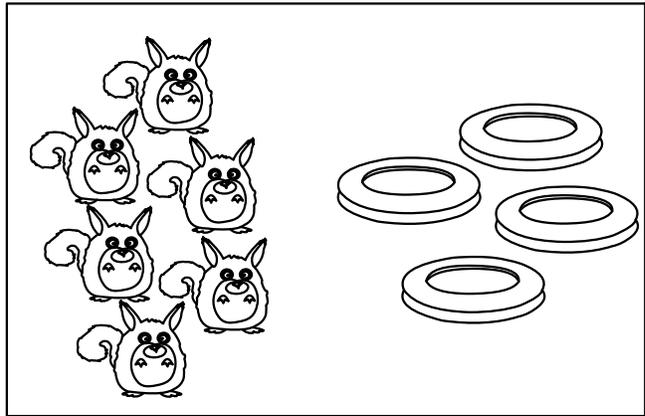
Name \_\_\_\_\_

# Day at the Beach

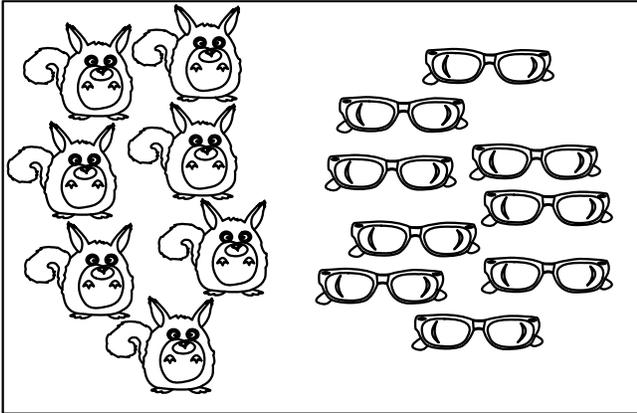
Draw a ring around more.



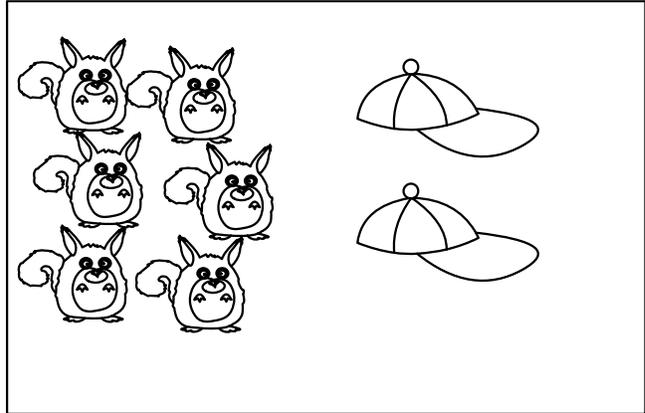
Draw a ring around more.



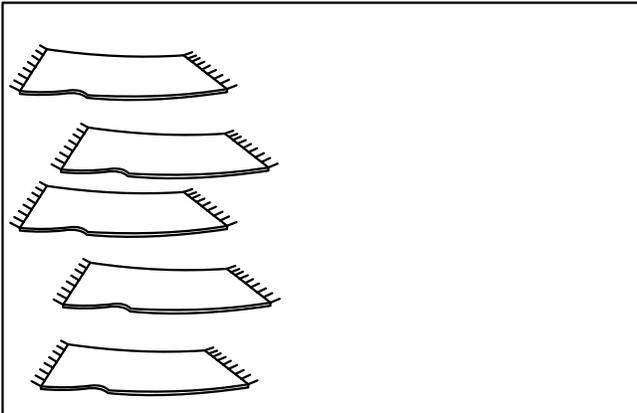
Draw a ring around fewer.



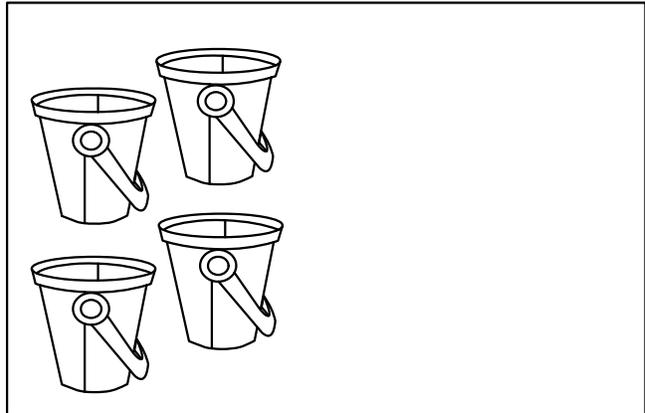
Draw a ring around fewer.

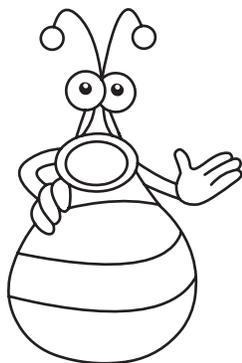


Draw a new picture. Show more.



Draw a new picture. Show fewer.





# Yummy Gummies

*Students compare numbered game pieces and decide if one number is greater than, less than, or equal to another.*

## Getting Ready

Distribute a copy of the blackline master, “Yummy Gummies,” to each student, and have them cut out the 20 game pieces. They can color the gummy bears if they wish.

## How to Play

1. Have each pair of students place all of the game pieces, face-side down, in a pile and mix them up.
2. Invite the students in each pair to draw one game piece each from the pile, and turn it over. Then, ask each pair to compare the numbers drawn. The student who has the greater number gets to keep both game pieces. If the same number is on both game pieces, have students return the pieces to the pile and draw again.
3. Play continues until there are no more game pieces in the draw pile. Each student in a pair counts the number of game pieces that she or he has, and the winner is the player with the greater number of game pieces.
4. Invite students to play a variation of the “Yummy Gummies” game. When students compare numbers, the player with the lesser number gets to keep both pieces.
5. Provide each pair of students with three index cards; one with the “is greater than” symbol ( $>$ ), one with the “is less than” symbol ( $<$ ), and one with the “is equal to” symbol ( $=$ ). Have students form a number sentence after each draw to compare the two numbers drawn. At the outset, decide which criterion (greater than, less than, or equal to) players will use to keep the game pieces and decide a winner.

## Assessment Tip

Observe students as they play the game. Find out if they can:

- Identify the greater or lesser of two numbers.
- Represent the relationship between two numbers using the symbol  $<$ ,  $>$ , or  $=$ .

## Try this, too!

Divide the class into two teams to play a game called “Trash Can Basketball.” Place a trash can at the front of the classroom. Draw or paste a throw-line about 2 meters back from the trash can. Have the players on each team stand behind the throw line and take turns throwing a small ball into the trash can. Each student who gets a basket scores 1 point. Keep track of the points using tally marks. At the end of the game, count up the tally marks for both teams, and write the scores in number form. Then, use the symbol  $<$ ,  $>$ , or  $=$  to compare the scores. The team with the greater score is the winner. If the scores are equal, let students engage in a playoff throw.

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### Students will need

- blackline master: “Yummy Gummies”—1 copy per student
- scissors
- crayons or colored pencils
- index cards

### Approximate Time

- 30 minutes

### Grouping

- Pairs of students

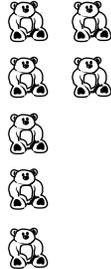
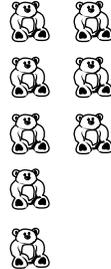
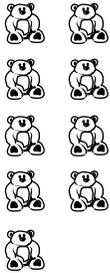
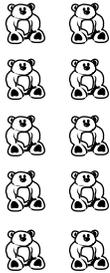
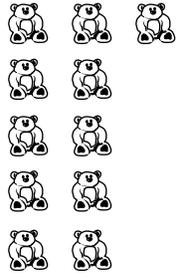
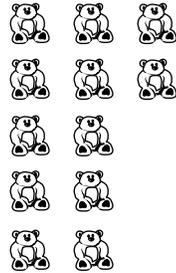
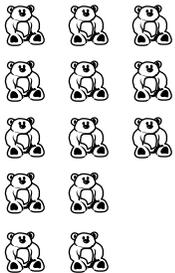
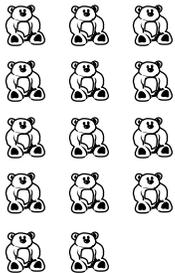
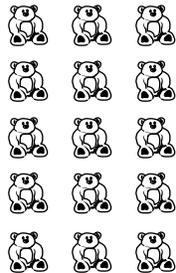
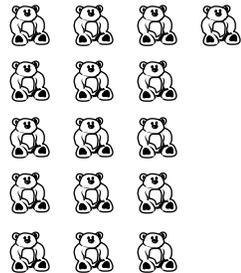
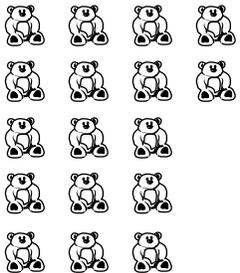
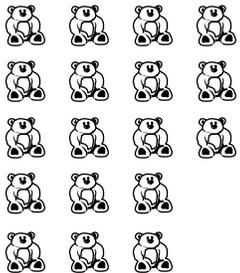
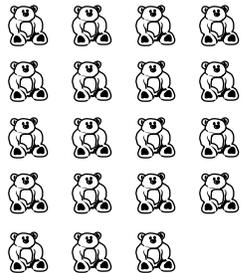
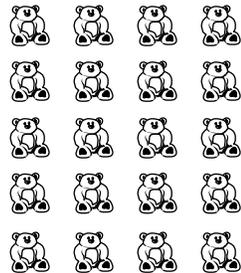
### NCTM Standards

- Number & Operations
-

Name \_\_\_\_\_

# Yummy Gummies

Cut out the game pieces.

 <b>1</b>	 <b>2</b>	 <b>3</b>	 <b>4</b>
 <b>5</b>	 <b>6</b>	 <b>7</b>	 <b>8</b>
 <b>9</b>	 <b>10</b>	 <b>11</b>	 <b>12</b>
 <b>13</b>	 <b>14</b>	 <b>15</b>	 <b>16</b>
 <b>17</b>	 <b>18</b>	 <b>19</b>	 <b>20</b>



# Fish Stories

*Students find sums within 10 as they count fish.*

## Warm-up

1. Create an addition story such as the following:  
*One day I went to the seashore and found 2 beautiful, shiny shells. (Hold up 2 shells.) The next day I went to the seashore and found 3 more beautiful, shiny shells. (Hold up 3 more shells.) How many shells do I have altogether?*
2. Have students start with the number 2 and count up 3 more to 5. On the chalkboard write “2 and 3 is 5.”
3. Then, directly underneath “2 and 3 is 5”, write the addition sentence, explaining the two symbols, + and =.  
$$2 + 3 = 5$$
4. Write a new addition sentence on the chalkboard and invite students to create a number story about the addends and the sum. Discuss the stories that students come up with and decide if the logic of each story corresponds to the addition sentence; in particular, that the addends are in the correct order.

## Introducing the Activity

1. Distribute copies of the blackline master “Fish Stories” to the students. Have them work either individually or in pairs. Tell students that they are going to write mathematical fish stories.
2. Read aloud the directions. Then, direct students’ attention to the first problem. Have them count the number of fish in each bowl. Then ask a student to decide how many fish there are altogether. Have them trace over the numeral 7 in the box.
3. Have students complete the problems as you walk around the room, providing help as necessary.

## Assessment Tip

Observe students as they complete the examples. Find out if they can:

- Interpret a pictorial representation and find the sum of two numbers less than 10.

## Try this, too!

Give each child an addition sentence, such as  $3 + 5 = \square$ . Have them write in the sum. Then, have them cut pictures out of magazines or draw pictures to create stories that match the numbers in the number sentence. (Be sure that the addends are in the correct order.) Then, have them share their number stories, including the meaning of the sum, with other students in the class.

### Students will need

- blackline master: “Fish Stories”—1 copy per student
- pencils

### Approximate Time

- 20 minutes

### Grouping

- individuals or pairs of students

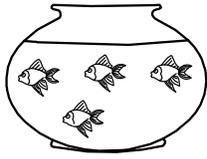
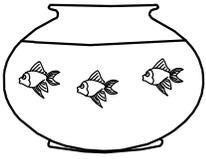
### NCTM Standards

- Number & Operations
- Algebra
- Problem Solving
- Representation

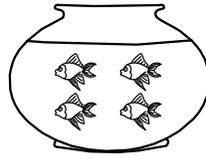
Name \_\_\_\_\_

# Fish Stories

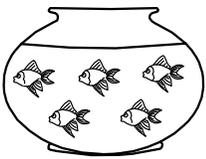
How many fish altogether?



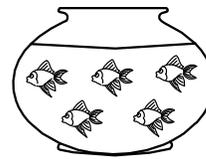
$$3 + 4 = \underline{7}$$



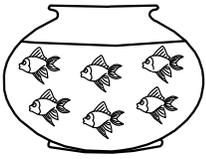
$$4 + 2 = \underline{\quad}$$



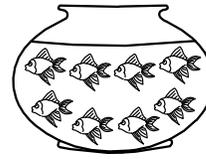
$$5 + 0 = \underline{\quad}$$



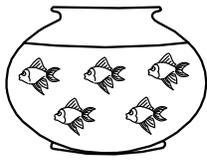
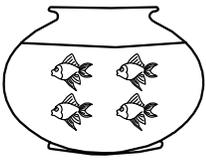
$$5 + 5 = \underline{\quad}$$



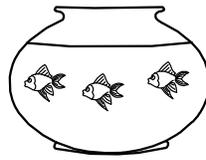
$$6 + 2 = \underline{\quad}$$



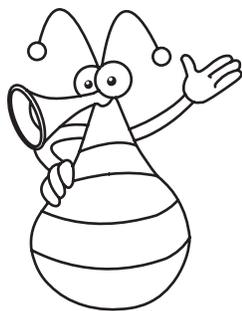
$$1 + 8 = \underline{\quad}$$



$$4 + 5 = \underline{\quad}$$



$$3 + 2 = \underline{\quad}$$



# What's Missing?

*Students complete number sentences involving missing addends or sums within 10.*

## Warm-up

1. To prepare students for this activity, you will need 20 marbles and 3 egg cartons. Ahead of time, place the number of marbles that represents each addend of a simple addition sentence, into each of two egg cartons—one marble per section. Place the number of marbles that represents the sum in the third egg carton, placed to the right of the other two cartons. The arrangement should correspond to the addition sentence.
2. Working with the class, open two egg cartons—one that shows an addend and one that shows the sum. Write the incomplete number sentence on the chalkboard so that the missing number represents the other addend. Have students suggest how many marbles they think are in the closed egg carton. Record different suggestions on the chalkboard (tallying similar responses) and then open the carton to see how many there are. Insert the missing addend into the number sentence.
3. Model other addition problems this way, asking for an addend or a sum, and writing the corresponding number sentences.

## Introducing the Activity

1. Give a copy of the blackline master “What’s Missing?” to each student. Read aloud the directions for the first task.
2. Tell students that in the first problem, one carton of eggs is empty, but the total number of eggs in the two cartons on the left should equal the number of eggs in the carton on the right. They need to figure out how many eggs should be placed in the empty egg carton and draw that many eggs in the empty carton. Have students trace over the outline of the egg in the second carton and the number that shows how many eggs are in the carton. Have students complete the next three problems.
3. Now, read aloud the directions for the second task. Tell students that in these problems, numbers show how many eggs are in two of the three egg cartons. They are to find the number that completes each number sentence.

## Assessment Tip

Observe students as they complete the activity. Find out if they can:

- Complete addition sentences when one addend is missing.

## Try this, too!

Group students into pairs to play their own games of “What’s Missing?” Each student needs 3 envelopes and 20 counters. Have one player in a pair think of an addition sentence. Then, place counters that represent each addend in two envelopes and counters that represent the sum in the third envelope. The other player opens the envelopes representing one addend and the sum and must determine how many counters are in the closed envelope. The players then open the envelope and check the answer. Have players switch roles. In this game, there is no scoring, and everyone is a winner!

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### Students will need

- blackline master: “What’s Missing?”—1 copy per student
- crayons or pencils

### Approximate Time

- 15 minutes

### Grouping

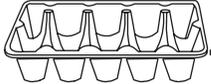
- individual

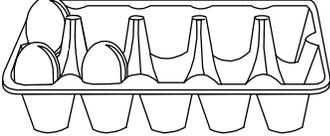
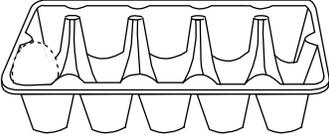
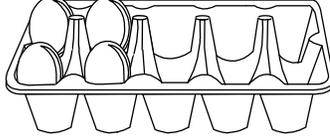
### NCTM Standards

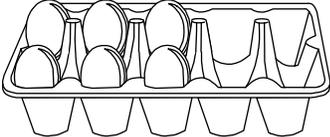
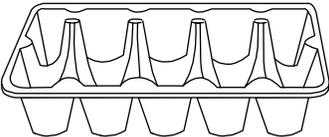
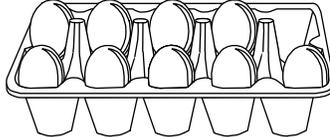
- Number & Operations
  - Algebra
  - Problem Solving
  - Representation
-

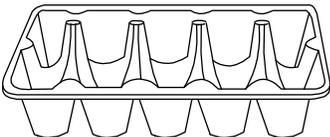
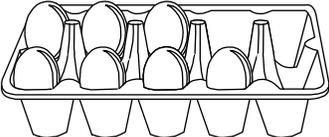
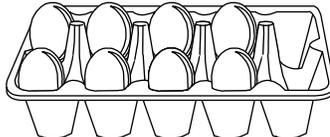
Name \_\_\_\_\_

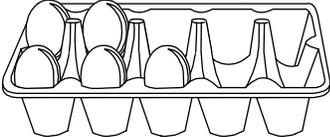
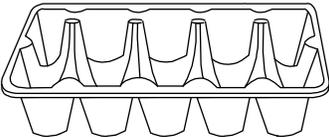
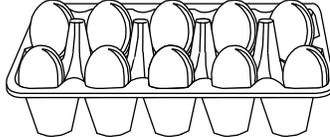
# What's Missing?

Draw eggs in the . Write the missing number.

	+		=	
<b>3</b>	+	<input type="text" value="1"/>	=	<b>4</b>

	+		=	
_____	+	_____	=	_____

	+		=	
_____	+	_____	=	_____

	+		=	
_____	+	_____	=	_____

Write the missing number.

$$3 + \square = 5$$

$$8 + \square = 10$$

$$\square + 3 = 7$$



# Addition Sentences

*Students complete number sentences when one addend is 10 and sums are within 20.*

## Warm-up

1. Represent an addition problem using 3 envelopes and at least 30 counters. One addend is 10, and the other addend is equal to or less than 10. (Include 0.) Place the number of counters that represents each addend in separate envelopes and place counters that represent the sum in the third envelope. Mirror a number sentence by placing the envelopes representing the addends next to each other and the envelope representing the sum to their right. Open the envelope with ten counters and one of the other envelopes. Write a number sentence showing the two known numbers and the missing number; for example,  $10 + ? = 18$ , or  $10 + 8 = ?$
2. Have students determine the number of counters in the closed envelope and the missing number in the addition sentence. Then, open the envelope and see if their answers are correct.
3. Model similar problems using other missing number sentences and sets of counters.

## Introducing the Activity

1. Distribute copies of the blackline master, “Addition Sentences,” and read aloud the directions on the blackline master. Have students cut out the 16 squares containing hearts at the bottom of the page.
2. Have students look at the first problem. Tell them that the total number of hearts in the two boxes on the left is equal to the number of hearts in the box on the right. Invite them to identify the number of hearts in the given addend and sum. Next, ask them how many hearts should be in the empty box. Then, direct them to draw that many hearts into the second box. Use a different color to color the two groups of hearts representing the addends, and color the same number of hearts in the sum to show the total.
3. Finally, invite students to complete the number sentence by tracing the numeral “4” inside the triangle.
4. Direct students to work independently, drawing the corresponding number of hearts into each box, coloring them, and writing the missing numeral inside each triangle.

## Assessment Tip

Observe students as they complete the activity. Find out if they can:

- Identify the other addend when given an addend of 10 and the sum.

## Try this, too!

Create a poster like the one on the right to help students recognize the pattern in the sum of two numbers, with 10 as one addend. The boxes around each addend and sum represent flaps. Lift one of the two flaps in a number sentence so students can see either both addends or 10 and the sum. Then, invite students to name the number hidden under the flap. Lift the flap and see if they are correct.

10 +	0	=	10
10 +	1	=	11
10 +	2	=	12
10 +	3	=	13
10 +	4	=	14
10 +	5	=	15
10 +	6	=	16
10 +	7	=	17
10 +	8	=	18
10 +	9	=	19
10 +	10	=	20

### Students will need

- blackline master: “Addition Sentences”—1 copy per student
- crayons (2 different colors)
- colored pencils

### Approximate Time

- 20 minutes

### Grouping

- individual

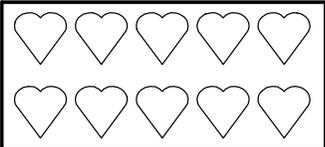
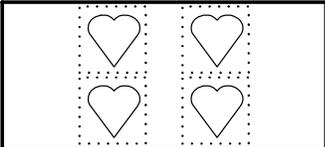
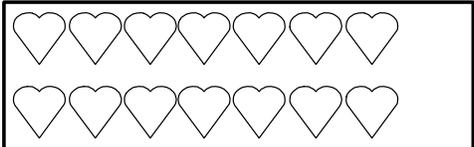
### NCTM Standards

- Number & Operations
- Algebra
- Problem Solving
- Representation

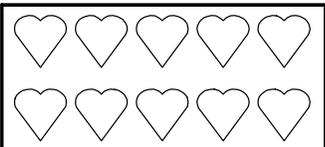
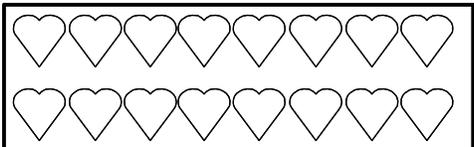
Name \_\_\_\_\_

# Addition Sentences

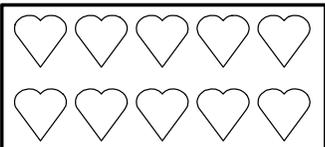
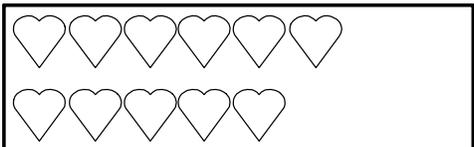
Draw s in each box. Color the hearts. Write the missing number in each .

 and  is 

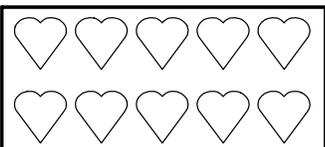
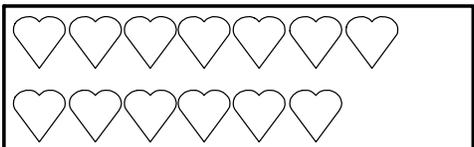
$$10 + \triangle = 14$$

 and  is 

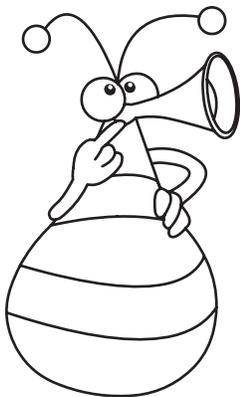
$$10 + \triangle = 16$$

 and  is 

$$10 + \triangle = 11$$

 and  is 

$$10 + \triangle = 13$$



# Same But Different

*Students choose pairs of addends and sets of blocks that show equal sums within 20.*

## Warm-up

1. Place a pile of number cubes on a desk. Place 12 cubes in one stack, and place 5 cubes in the other stack. Then, write a number sentence that reflects the model:  $12 + 5 = ?$ . Count the total number of cubes and complete the sentence.
2. Now, have a student regroup the number cubes so that there are 10 cubes in one stack and 7 cubes in the other. Write the number sentence for this arrangement:  $10 + 7 = ?$  and have students affirm that the sum is still 17.
3. Model other additions in the same way, showing the two corresponding number sentences as in the first example.

## Introducing the Activity

1. Distribute copies of the blackline master, “Same But Different” to each student and read aloud the directions.
2. Have students look at the first problem and identify the number 12 in the circle. Then, look at the first set of addends,  $8 + 4$ , and count the blocks next to them. Since the total number of blocks in one group of 8 and one group of 4 shows the number 12, students should trace the dotted line around the addends and the blocks.
3. Invite students to find another pair of addends and blocks in this problem that also shows 12. Have students trace the dotted line around  $10 + 2$  and the blocks that show one group of 10 and 2 more.
4. Have students complete the remaining problems in a similar manner, drawing rings around pairs of equivalent addends and blocks.

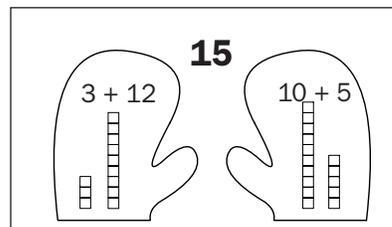
## Assessment Tip

Observe the students as they work. See if they can:

- Identify pairs of addends that equal a sum less than 20.

## Try this, too!

1. Give each student two mitten shapes cut from construction paper and 40 (small) paper squares. Have students choose a number from 10 to 20 and write it above the mittens. Then, on one mitten, have them write two addends whose sum is that number. Next, have them model the addends by pasting the corresponding numbers of squares under each addend.
2. On the second mitten, have students write two other addends that have the same sum and include one addend that equals 10. Again, paste the corresponding number of squares below each of these addends. When everyone has finished making their mitten pairs, hang a clothesline in the classroom and use clothespins to attach the mitten pairs next to one another.



### Students will need

- blackline master: “Same But Different”—1 copy per student

### Approximate Time

- 25 minutes

### Grouping

- individual

### NCTM Standards

- Number & Operations
- Problem Solving
- Representation

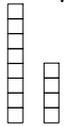
Name \_\_\_\_\_

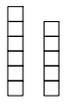
# Same But Different

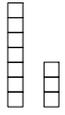
Look at the number in each circle.

Draw a ring around the additions and groups of blocks that equal that number.

**12**

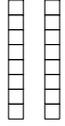
$8 + 4$  

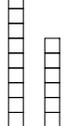
$6 + 5$  

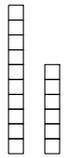
$7 + 3$  

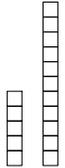
$10 + 2$  

**16**

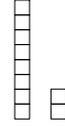
$8 + 8$  

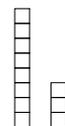
$9 + 6$  

$10 + 6$  

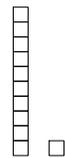
$5 + 11$  

**11**

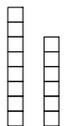
$8 + 2$  

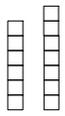
$8 + 3$  

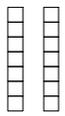
$9 + 2$  

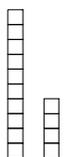
$10 + 1$  

**14**

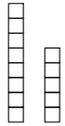
$8 + 6$  

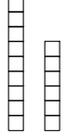
$6 + 7$  

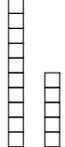
$7 + 7$  

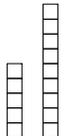
$10 + 4$  

**15**

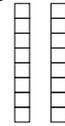
$8 + 5$  

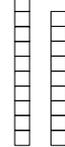
$9 + 6$  

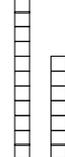
$10 + 5$  

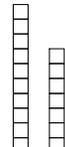
$5 + 9$  

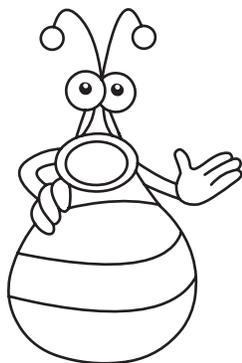
**19**

$8 + 8$  

$10 + 9$  

$11 + 7$  

$10 + 7$  



# Take Away!

*Students interpret picture stories and subtract numbers within 10.*

## Warm-up

1. Create a subtraction story such as the following:  
 “I have 10 books.” (Show students 10 books.) “I put away 4 books.” (Put 4 books back onto a shelf.) “How many books do I have left?” (Have students count how many books remain.)
2. On the chalkboard, write this sentence to represent a “take away” (subtraction) story:  
*10 take away 4 equals 6.*
3. Then, beneath the sentence, write,  

$$10 - 4 = 6$$
 and say, “Ten minus four equals six.” Explain that this subtraction sentence shows that 4 books were taken away from 10 books, leaving 6 books.
4. Write another subtraction sentence on the chalkboard. Invite students to make up a corresponding story that involves “taking away.”

## Introducing the Activity

1. Distribute copies of the blackline master “Take Away” to students. Have them cut out the squares containing the numbers at the bottom of the page.
2. Direct the students’ attention to the two pictures in the first example. Have a student count the balloons in the first picture [3]. Have another student count the balloons in the second picture [2]. Ask students to describe the story that these pictures represent.
3. Then, direct students’ attention to the subtraction sentence below the two pictures. Point out that a subtraction sentence is a way of telling what happened in a picture story. Invite the students to paste the square that contains the number “2” into the box and complete the number sentence.
4. Invite students to examine the other picture stories and paste numbers into each box to complete each number sentence.

## Assessment Tip

Observe students as they complete the activity. Find out if they can:

- Interpret a picture story as a subtraction problem.
- Find the difference between two numbers less than 10.

## Try this, too!

Invite students to create their own subtraction stories. Prepare sheets of plain paper (1 per student) and on each sheet, write an open subtraction sentence, such as  $8 - 2 = \underline{\quad}$ . Have students first write in the difference of the two numbers. Then, have students cut pictures out of magazines or draw pictures that match the numbers in the number sentence. Have them share their pictures and subtraction stories with others in the class.

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### Students will need

- blackline master: “Take Away”—1 copy per student
- scissors
- paste

### Approximate Time

- 30 minutes

### Grouping

- individual

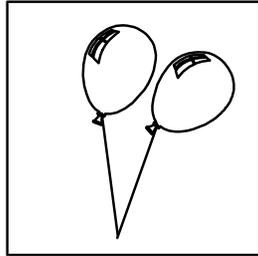
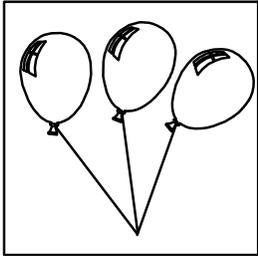
### NCTM Standards

- Number & Operations
  - Algebra
  - Representation
-

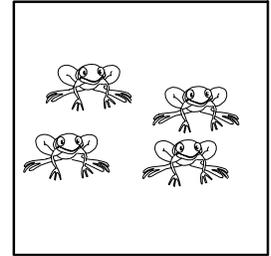
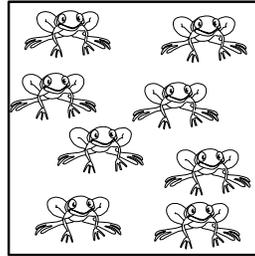
Name \_\_\_\_\_

# Take Away!

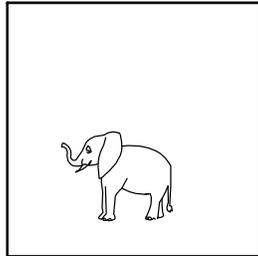
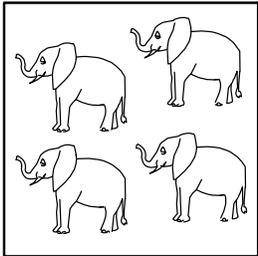
How many are left?



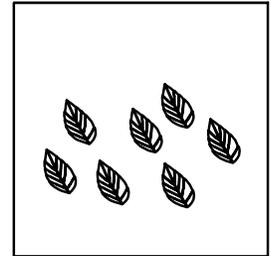
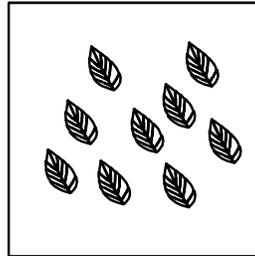
$$3 - 1 = \square$$



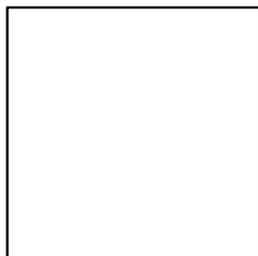
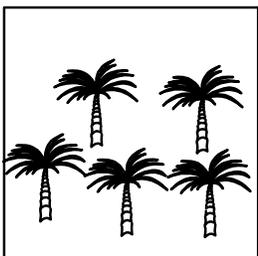
$$8 - 4 = \square$$



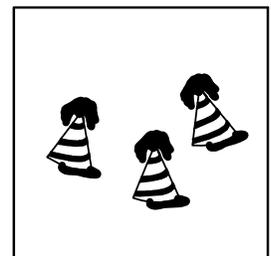
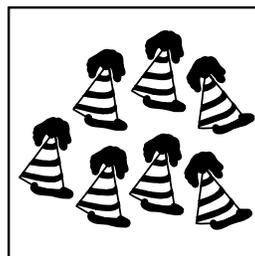
$$4 - 3 = \square$$



$$9 - 2 = \square$$

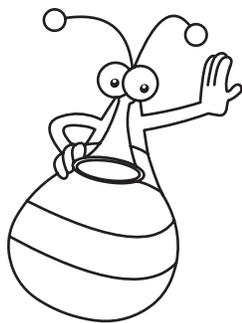


$$5 - 5 = \square$$



$$7 - 4 = \square$$





# How Many More or Fewer?

**Students compare two unequal sets and use subtraction to find the difference between them.**

## Warm-up

1. Create a subtraction story such as the following:  
 “I have 14 cubes.” (Show the students 14 cubes.) “One of my students has 3 cubes.” (Give a student 3 cubes.) “How many more cubes do I have than my student?”
2. To solve the problem, match 3 cubes from your set of 14, with the 3 cubes the student has. Then, count up how many cubes are left over [11].
3. To show how many more cubes are in the greater set, we can subtract.  
 Write this sentence on the chalkboard:  
 $14 - 3 = ?$
4. Explain how the number sentence shows how to compare the two sets and find how many more are in the greater set and how many fewer are in the smaller set. Then complete the number sentence.

## Introducing the Activity

1. Distribute a copy of the blackline master “How Many More or Fewer?” to each student.
2. Direct students’ attention to the first example. Read the problem aloud or have a student read it. Then ask students to write in the number that shows the difference: that is, how many more blocks are in the greater set?
3. Have each student complete the remaining problems in a similar manner, as you circulate among the students to provide help as necessary.

## Assessment Tip

Observe students as they complete the activity. Find out if they can:

- Use subtraction to compare two sets.
- Find the difference between two numbers within 20.

## Try this, too!

Prepare index cards like the one shown on the right. Then, group students into pairs and give each pair one card and two of the three numbers that make up a comparison relationship: a “big amount,” such as 18, and a “small amount,” such as 7. Have students write in the numbers for the big and small amounts. Give students a set of connecting cubes or counters and invite them to use the manipulatives to model the relationship between the two numbers and find the difference between them. Write the difference on the card and a corresponding subtraction or addition sentence that relates the three numbers; for example,  $18 - 7 = 11$ , or  $7 + 11 = 18$ .<sup>1</sup>

Big amount:	_____
Small amount:	_____
Difference:	_____
Number sentence:	_____

### Math Focus

- Subtract within 20 to solve comparison problems

### Students will need

- blackline master: “How Many More or Fewer?”—1 copy per student

### Approximate Time

- 20 minutes

### Grouping

- individual

### NCTM Standards

- Number & Operations
- Representation

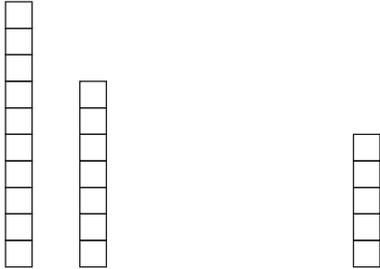
1. This idea is adapted from an activity described in *Elementary and Middle School Mathematics, 3rd Edition* by John A. Van de Walle, published by Addison Wesley Longman, Inc., 1998, page 125.

Name \_\_\_\_\_

# How Many More or Fewer?

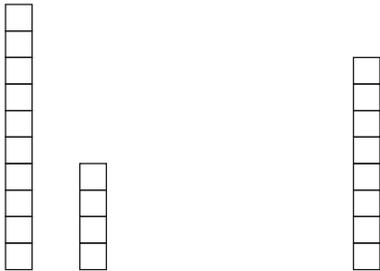
Compare the groups of blocks. Then, complete the number sentence.

1. One boy has 17 blocks. His sister has 5 blocks. How many more blocks does the boy have?



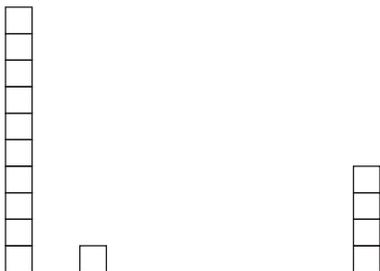
$$17 - 5 = \underline{\quad}$$

2. A teacher has 14 blocks. A student has 8 blocks. How many fewer blocks does the student have?



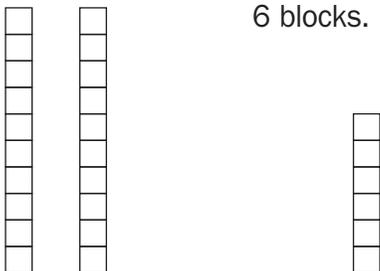
$$14 - \underline{\quad} = \underline{\quad}$$

3. A girl has 11 blocks. Her friend has 4 blocks. How many fewer blocks does her friend have?

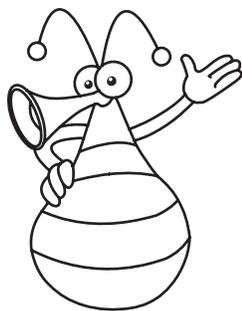


$$11 - \underline{\quad} = \underline{\quad}$$

4. A girl has 20 blocks. Her brother has 6 blocks. How many fewer blocks does her brother have?



$$\underline{\quad} - 6 = \underline{\quad}$$



# Inchworm Fun!

*In this fun, fast-paced game, students learn how to use standard units to measure and compare lengths.*

## Getting Ready

1. Distribute copies of the “Inchworm Fun!” blackline master. It contains five rectangular game pieces and a 6-inch ruler.
2. Have students cut out the five game pieces. They can color the inchworms if they wish.
3. Direct students to place each game piece face down and apply paste along its edges. Tell them to fold each piece along the crease and gently press the pasted sides together to form a strip. The name of the game will be on one side and an inchworm will be on the other side.
4. Have students cut out the ruler.

## How to Play

1. Organize students into groups of two or more children. Have students in each group place all of the game pieces, inchworm-side down, in a pile and mix them up. Have students take out their rulers.
2. Invite each player to take a turn and draw one game piece from the pile. Have them turn it over and use the ruler to measure the length of the inchworm to the nearest inch, starting at the left side of its head. (Some students will need help aligning the object with the ruler. You may also have to explain “nearest inch.”) Each student should write the inchworm’s length on the inchworm.
3. Now, have students compare the lengths of the inchworms. The student in each group who has the game piece with the longer (or longest) inchworm gets to keep all of the game pieces in that round and should set them aside in a pile. If two or more lengths in one turn are the same, students should return those game pieces to the pile, mix up the pieces again, and take another turn.
4. Play continues until there are no more game pieces in the draw pile. The player with the greater (or greatest) number of game pieces wins.

## Assessment Tip

Observe students as they measure using a ruler. Find out if they can:

- Match the endpoints of the objects being measured with the proper unit marks on the ruler.
- Determine the length of the objects by counting the number of unit spaces on the ruler.

## Try this, too!

Invite students who are just learning about linear measurement to place the inchworm strips side-by-side and visually compare their lengths. Also, have students repeat the game using non-standard units, such as paper clips, or another standard unit, the centimeter, to measure and compare the lengths of the inchworms.

---

### Students will need

- blackline master: “Inchworm Fun!”—1 copy per student
- paste
- scissors
- crayons (optional)

### Approximate Time

- 30 minutes

### Grouping

- two or more students

### NCTM Standards

- Geometry
  - Measurement
  - Problem Solving
-

Name \_\_\_\_\_

# Inchworm Fun!

Cut out the 5 inchworm game pieces along the dashed ——— lines. Put paste along the edges. Fold on the dotted ..... lines. Press the sides together. Cut out the ruler below.

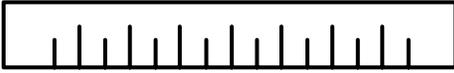
✂

Inchworm  Fun!



Inchworm  Fun!

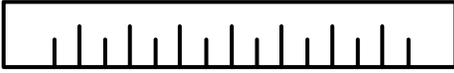


Inchworm  Fun!

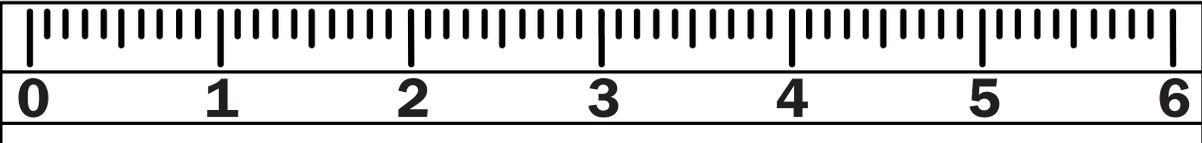


Inchworm  Fun!



Inchworm  Fun!







# County Fair

**Students look at objects being weighed on pan balances and determine which objects are heavier or lighter.**

## Warm-up

1. Invite a student to come to the front of the classroom. Give the student a can (full or empty) to hold in one hand and an eraser to hold in the other. Have the student say which item is heavier. If you have a pan balance, have the student put one item on one pan and the other item on the other pan. Examine the balance and identify which item is heavier and which is lighter.
2. Put chips or cubes of the same size and weight on one pan of the balance and use them to weigh an object on the other pan. Compare the number of chips or cubes used to balance each item and have students decide which is heavier.
3. Choose different items in the classroom (pens, pencils, chalk, sheets of paper, etc.), and ask students to use a pan balance to compare them directly and/or use non-standard units to weigh them.

## Introducing the Activity

1. Distribute copies of the blackline master, “County Fair.” Read aloud the instructions that appear above the first example on the blackline master.
2. Invite students to look at the two pan balances and decide which of the two objects is heavier. Have them trace the dotted lines to draw a ring around the balance that has the heavier object on it.
3. Direct students’ attention to the problem to the right of the example and read aloud the instructions. Point out that in this problem, the students need to draw a ring around the balance that shows the *lighter* object.
4. Have students work independently and complete the other problems in a similar manner.

## Assessment Tip

Observe students as they complete the activity. See if they can:

- Use non-standard units to decide which items on a pan balance are heavier or lighter than another.

## Try this, too!

Use a coat hanger and 2 cans of similar size and shape to make a simple balance scale. Hang it in a location where the cans can hang freely. Invite students to use the balance to weigh common (small) items. Place an item to be weighed in one can and add pennies or cubes to the other can until the cans are approximately balanced. Record the name of the item weighed and the number of pennies or cubes used to balance it. Compare the weights of various items by seeing how many pennies or cubes it takes to balance the scale.

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### Students will need

- blackline master: “County Fair”—1 copy per student
- pencils

### Approximate Time

- 15 minutes

### Grouping

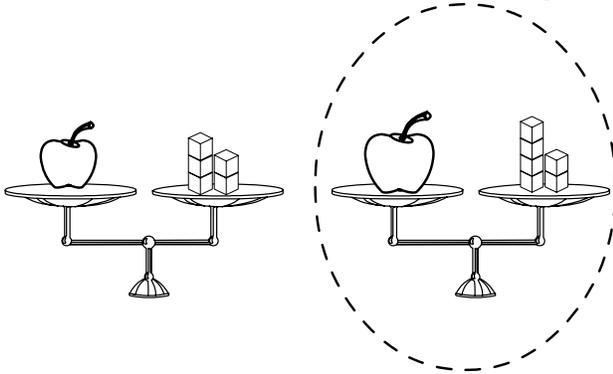
- individual

### NCTM Standards

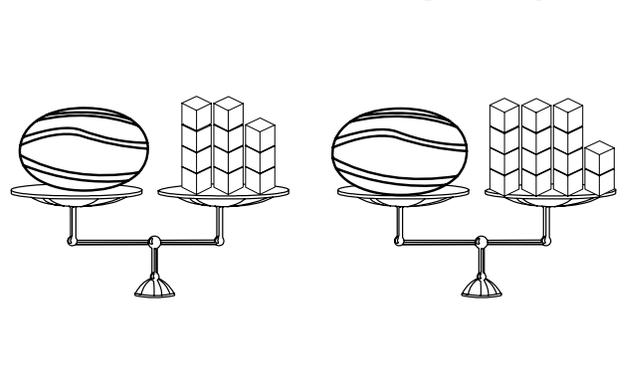
- Measurement
  - Problem Solving
-

# County Fair

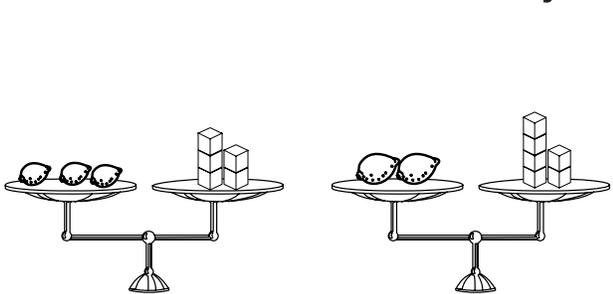
**Circle the balance with the heavier object.**



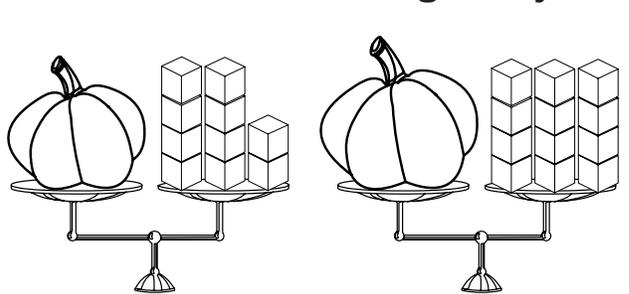
**Circle the balance with the lighter object.**



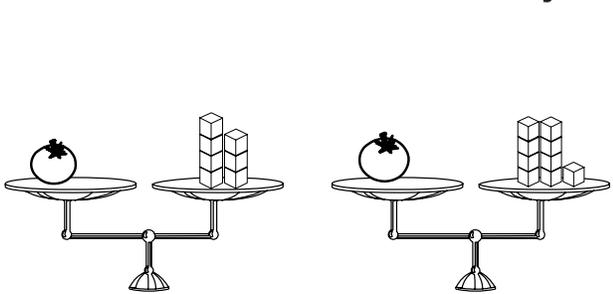
**Circle the balance with the heavier object.**



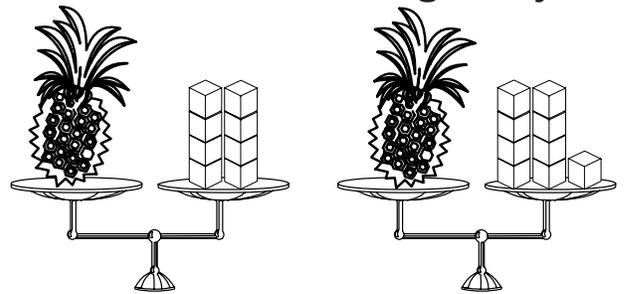
**Circle the balance with the lighter object.**

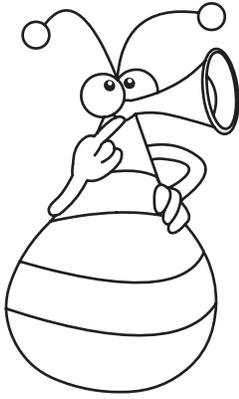


**Circle the balance with the heavier object.**



**Circle the balance with the lighter object.**





# Time for Fun!

*In this game, students match digital and analog representations of the time.*

## Getting Ready

1. Organize students into pairs and distribute copies of the “Time for Fun!” blackline master.
2. Have students cut out the 14 game pieces, turn them over, and color the back sides black to ensure that the pictures and text do not show through the front of the game pieces. Alternatively, paste the game pieces onto heavy construction paper or cardboard.

## How to Play

1. Pairs of students are to use the 28 game pieces from two copies of the blackline master. Direct the pairs of players to put the game pieces face-side down between them and to mix them up. Then, place the pieces in 7 rows of 4.
2. Invite students to take turns, turning over 2 game pieces at a time. The goal is to find 2 matching game pieces—a digital representation of the time and the corresponding analog representation of the same time. When a player finds 2 matching pieces, they are removed from the game board and placed in a pile next to the player who made the match.
3. Play continues until there are no more game pieces. The player with the greater number of game pieces is the winner.

## Assessment Tip

Observe the students as they play the game. See if they can:

- Read analog and digital times and match equivalent times.

## Try this, too!

1. Make a human clock. Have 12 students sit in a circle to represent the 12 numbers on the face of a clock. Give them each a poster board with a number from 1 to 12 written on it. Have another student stand in the center of the circle and hold the ends of two ropes. One rope, when extended, will represent the hour hand, and the other rope, when extended, will represent the minute hand. (The lengths of the ropes must be less than the radius of the circle, and the “minute hand rope” must be longer than the “hour hand rope.”) Invite two more students inside the circle to hold the other ends of the ropes.
2. Call out a time and have the three students inside the circle arrange the ropes to represent that time. (Be sure that when the time is 30 minutes past an hour, the “hour hand rope” is pointing to the space halfway between the students who represent the consecutive hours.) Continue calling out various times and having students represent them.
3. As an added challenge, rather than call out a new time, have students change the current time to make it one hour later or one hour earlier, or 30 minutes later or 30 minutes earlier.

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### Students will need

- blackline master: “Time for Fun!”—1 copy per student
- colored pencils or crayons
- heavy construction paper or cardboard (optional)

### Approximate Time

- 30 minutes

### Grouping

- Pairs of students

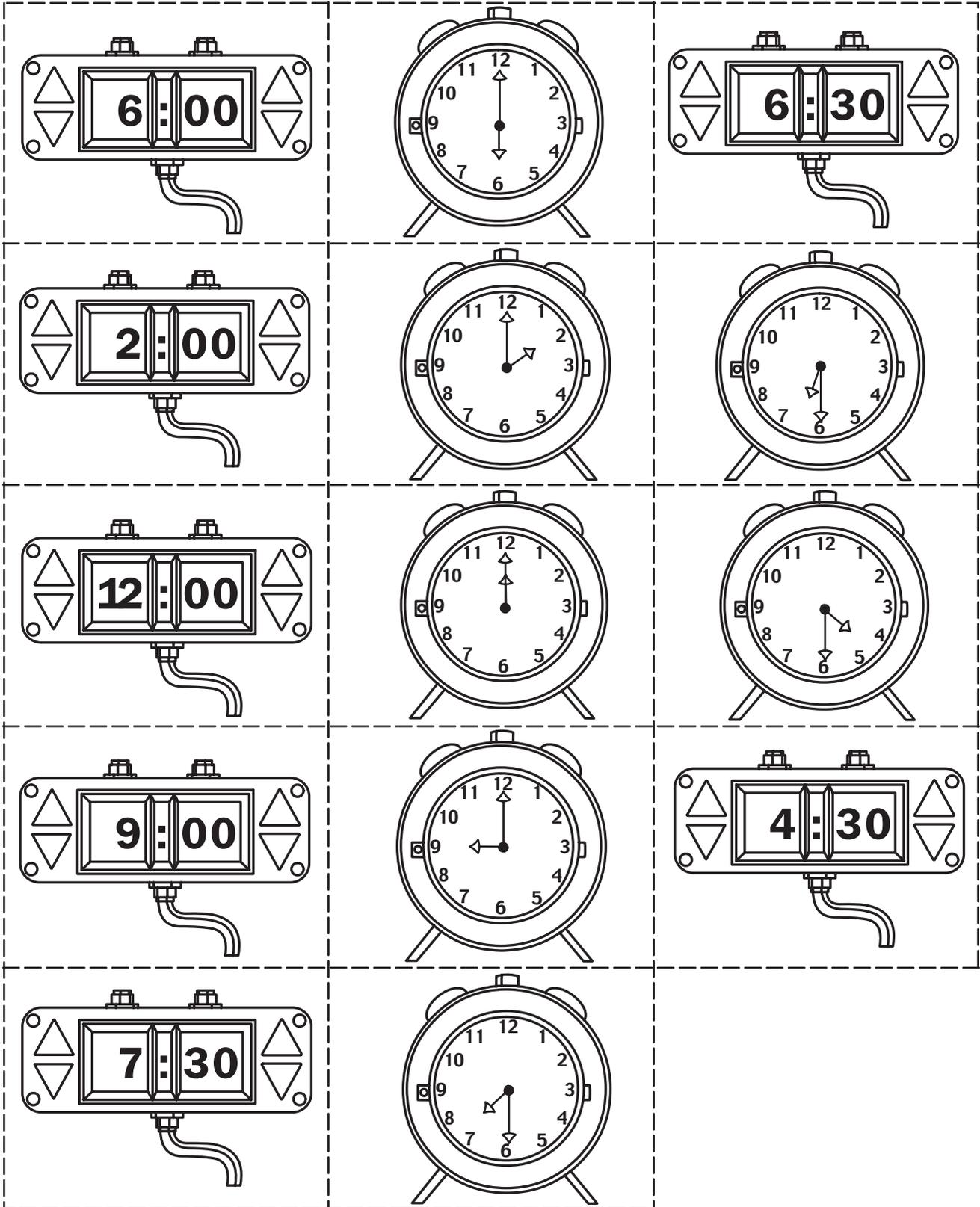
### NCTM Standards

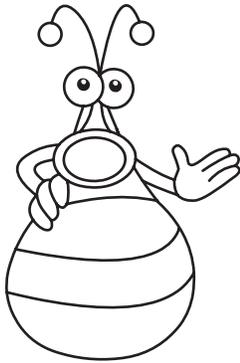
- Measurement
  - Representation
-

Name \_\_\_\_\_

# Time for Fun!

Cut out the 14 rectangles. Turn each one over and color the back.





# Change Purses

*Students fill a change purse with a specific number of coins to equal a given amount of money.*

## Warm-up

1. Invite a student to come to the front of the classroom and place 2 or 3 coins (any combination of pennies, nickels, dimes, or quarters) into a purse, without students in the class seeing the coins. On the chalkboard, write the number of coins placed in the purse and their total value. Ask another student to identify which coins are in the purse. Empty the purse and see if his or her answer is correct. Repeat this activity using different coins.
2. Have a student repeat the activity but this time, write only the amount of money that the student placed in the purse on the chalkboard. Have students suggest one or more combinations of coins that equal that amount. List the combinations on the board and then reveal the actual set of coins in the purse.

## Introducing the Activity

1. Distribute copies of the blackline master, “Change Purses.” Read aloud the directions on the blackline master.
2. Invite students to look at the first problem and decide which coins belong in the coin purse [3 nickels]. Have them cut out the coins at the bottom of the page and paste the correct coins into the change purse. Have the students work independently and complete the other problems in a similar manner.

## Assessment Tip

Observe students as they complete the activity. See if they can:

- Identify different coins and their values.
- Create a set of coins that has a given value.

## Try this, too!

1. In small groups, have students play “Toy Store.” In preparation for the game, have each student cut out a picture of a toy (from a catalog or sale circular) and paste it on an index card. Collect the index cards and write amounts less than \$1.00 on each card, for example, 19¢.
2. Identify one person in the group to act as the store clerk. The other students are shoppers. Give each shopper an index card and a pile of change. Have students take turns showing the clerk the index card that displays the item they want to purchase and paying for the item using the correct change. Play “Toy Store” several times, giving each child an opportunity to be the store clerk.

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### Students will need

- blackline master: “Change Purses”—1 copy per student
- scissors
- paste

### Approximate Time

- 15 minutes

### Grouping

- individual

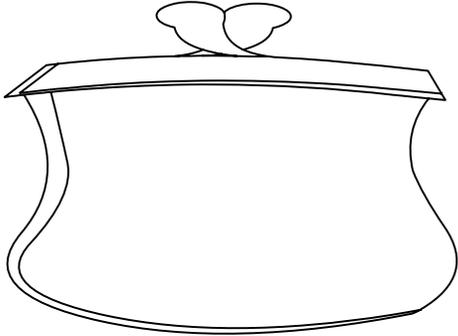
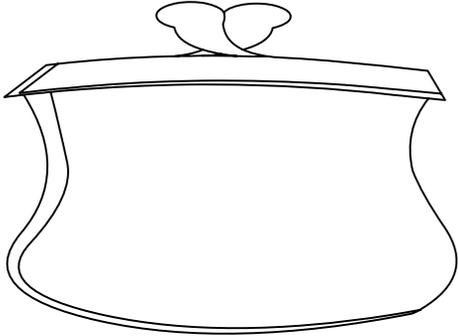
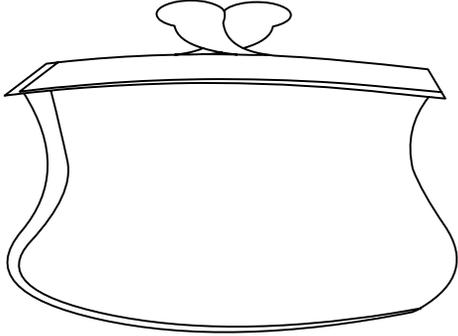
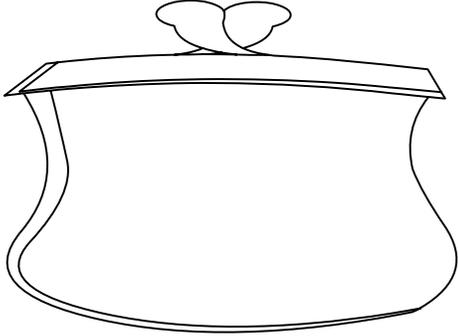
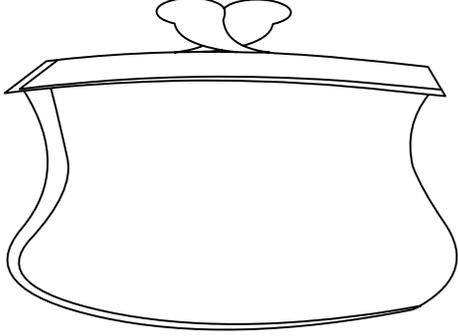
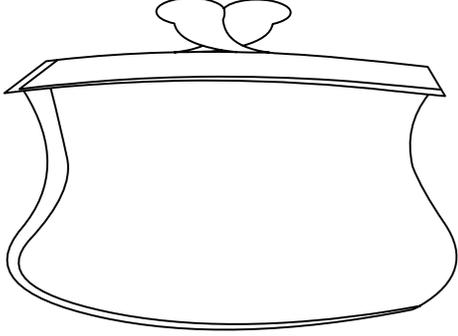
### NCTM Standards

- Measurement
  - Problem Solving
-

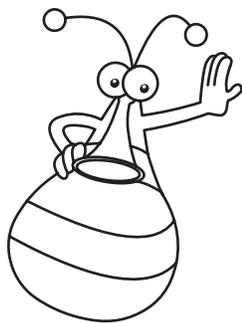
Name \_\_\_\_\_

# Change Purses

Cut out the coins. Paste coins in the purses.

<p>I have 3 coins. I have 15¢.</p> 	<p>I have 2 coins. I have 10¢.</p> 
<p>I have 2 coins. I have 26¢.</p> 	<p>I have 4 coins. I have 40¢.</p> 
<p>I have 3 coins. I have 12¢.</p> 	<p>I have 6 coins. I have 19¢.</p> 





# Circus Time

*Students search for rectangles and triangles hidden in a circus picture.*

## Warm-up

1. You will need geoboards or dot paper for this warm-up. Invite students to create a closed figure on their geoboard or on dot paper. Display the figures in front of the class. Explain that a rectangle is a figure that has 4 straight sides and 4 square corners, and that a triangle is a figure that has 3 straight sides and 3 corners. Then, have students sort their figures into three categories: rectangles, triangles, and “other.”
2. Draw a square on the chalkboard. Use a ruler to measure its sides and write the measures next to each side. Then, ask students if this figure is a rectangle. Point out that because the figure has 4 straight sides and 4 square corners, it is rectangle. Then, point out that because the rectangle has 4 equal sides, it is also a square.
3. Invite students to use their geoboards or dot paper to show examples of rectangles that are squares and rectangles that are not squares.

## Introducing the Activity

1. Distribute a copy of the blackline master, “Circus Time,” to each student and read aloud the directions. Direct students to find 1 triangle hidden in the picture, and when found, to color the inside of the triangle red. Invite them to find 1 rectangle hidden in the picture, and when found, to color the inside of the rectangle blue.
2. Tell the students that there are more triangles and rectangles hidden in the picture. Challenge them to find them all, and as each figure is found, to color its interior using red and blue as in the example.
3. When all the triangles and rectangles have been found and filled in with color, have students finish coloring the picture.

## Assessment Tip

Observe students as they complete the activity. Find out if they can:

- Identify shapes that are rectangles and triangles regardless of orientation.

## Try this, too!

- Make dazzling shape mobiles. You will need large dot paper, one piece per student, crayons, coat hangers, scissors, a hole-punch, and string. Glue, glitter, and sequins are optional. Have each student use a ruler to draw one or more rectangles or triangles on dot paper. Encourage students to be creative and make a figure different in size and shape from anyone else’s. Then, have them cut out the figures and color both sides. If you wish, have them glue glitter or sequins onto the figures. Finally, punch holes into each figure and use them to make mobiles—in some mobiles, use only rectangles, and in others use only triangles; also make a mobile that uses a combination of both figures.
- Show students pictures of mobiles (moving sculptures) created by the American artist Alexander Calder.

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### Students will need

- blackline master: “Circus Time”—1 copy per student
- crayons

### Approximate Time

- 20 minutes

### Grouping

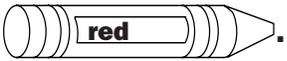
- individual

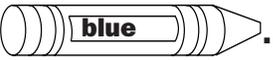
### NCTM Standards

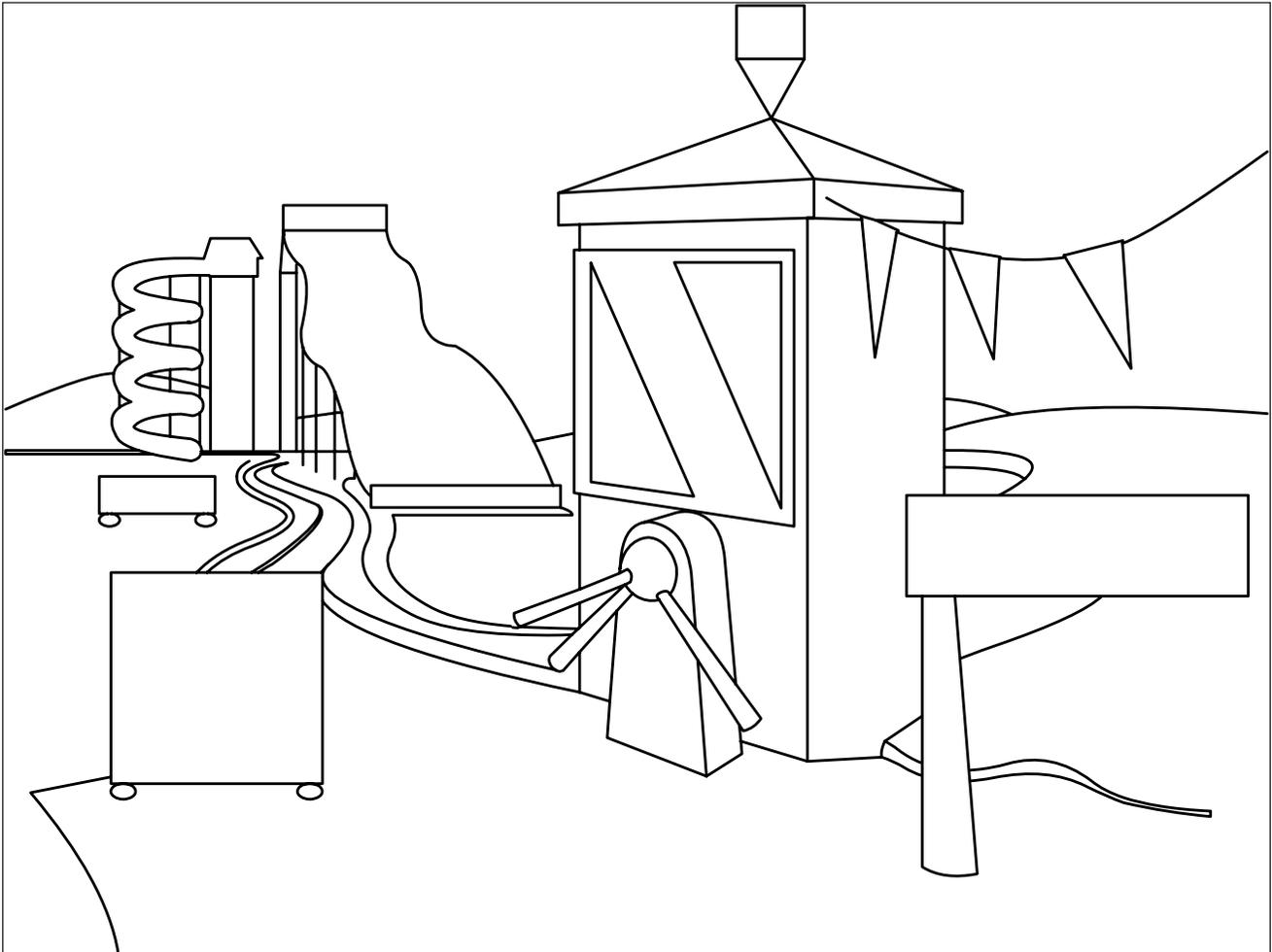
- Geometry
  - Reasoning & Proof
-

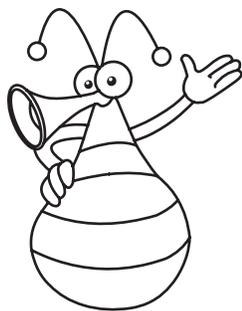
Name \_\_\_\_\_

# Circus Time

Color triangles .

Color rectangles .



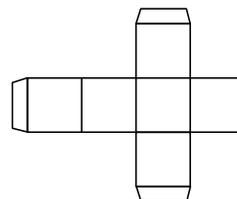


# Match-a-Shape

**Students match 3-dimensional shapes to their 2-dimensional nets and identify the faces of the shapes.**

## Warm-up

- Ahead of time, use large squares to create a figure such as the one to the right. It is the net of a cube, with tabs along three sides. Cut out the figure, fold up the sides and tape the tabs so that the shape is a cube.
- Show the students the cube and have them identify the number of faces [6]. Ask the students to identify the shape of each face. [Rectangles that are squares.] (You might want to use a ruler to verify that the rectangles are squares.)
- Have students bring in various (small) cardboard boxes and containers. Use scissors to cut the shapes along their edges and have students examine the nets of each shape.



## Introducing the Activity

- Distribute copies of the blackline master, “Match-a-Shape.” Read aloud the directions.
- Direct the students’ attention to the picture of the rectangular prism. Invite them to write the number of faces the prism has underneath the picture. Have them use a ruler to trace the dotted line between the prism and its net. Then, examine the net and trace the numbers that show how many triangles and rectangles make up the net [0 triangles, 6 rectangles].
- Instruct students to work independently to count the faces of each figure, match the figures to their nets, and identify the shapes in each net.

## Assessment Tip

Observe each student individually. Find out if they can:

- Identify the nets and faces of common solids.

## Try this, too!

- Read *Round Is a Moon Cake: A Book of Shapes* by Roseanne Thong. Using simple rhyme, Thong invites readers to follow an Asian-American girl as she explores her home and neighborhood and discovers familiar shapes in a mooncake, Chinese lanterns, rice bowls, and a checkerboard.
- As in Thong’s book, it’s time for a Shape Hunt! Form groups of 4 or 5 students and invite them to look for 2-dimensional shapes: rectangles, circles, and triangles. If you wish, challenge them to find 3-dimensional shapes, too: prisms, spheres, and cylinders. Have students draw a picture of each shape they find and if possible, name it and record where they found it.

### Students will need

- blackline master: “Match-a-Shape”— 1 copy per student
- pencils
- rulers

### Approximate Time

- 20 minutes

### Grouping

- individual

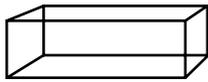
### NCTM Standards

- Geometry
- Measurement
- Representation

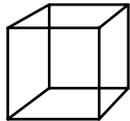
Name \_\_\_\_\_

# Match-a-Shape

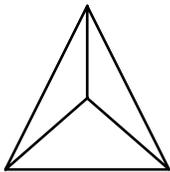
How many faces in each shape? Match each shape to its net.  
How many triangles and rectangles in each net?



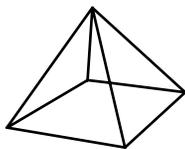
Faces



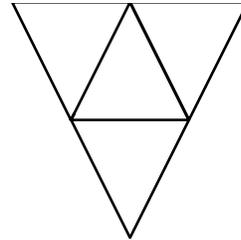
Faces



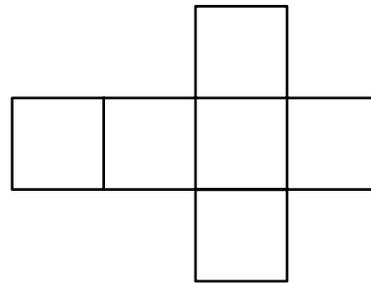
Faces



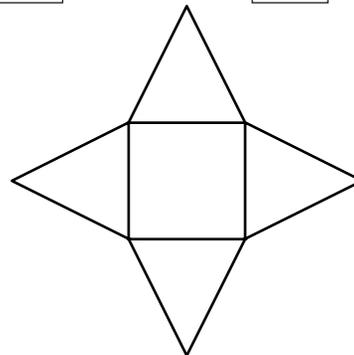
Faces



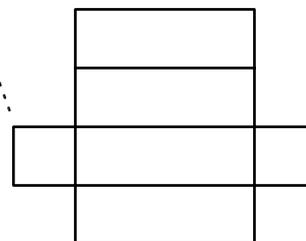
Triangles  Rectangles



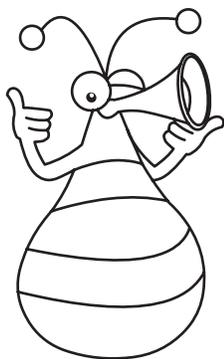
Triangles  Rectangles



Triangles  Rectangles



Triangles  Rectangles



# What's My Pattern?

*One player creates a secret pattern, and another player asks “yes” or “no” questions to discover the pattern.*

## Getting Ready

1. Distribute copies of the blackline master, “What’s My Pattern?”
2. Have students cut out the 9 game pieces and color in the back of each piece so that the figure and letter on the front don’t show through. Alternatively, have students paste each card onto a piece of heavy paper or cardboard.

## Play the Game

1. Group students into pairs and invite one student in each pair to secretly create a repeating pattern using some or all of his or her 9 game pieces: e.g. ACACAC or BACBACBAC.
2. The other player must guess the pattern by asking “yes” or “no” questions, such as, “Is the cat first?” or “Does the letter C come first?” Questions like, “Which animal (or letter) is first?” are not allowed. When a card is guessed correctly, it is turned over.
3. Count the number of questions each player asks before he or she guesses the pattern. Then, switch roles. The player who guesses a pattern after asking fewer questions, in one or more rounds of play, is the winner.

## Assessment Tip

Observe students as they play the game. Find out if they can:

- Recognize a pattern in a given sequence.

## Try this, too!

- Children love playing “Follow Me.” Here’s how. A leader starts clapping and tapping rhythmically like this: 1 clap, 2 foot taps. Then, the children join in. After everyone has discovered the pattern and joined in, the leader changes the pattern.
- Have children create linear patterns using rubber stamps, stamp pads, and paper. Give students two strips of tape or paper of different lengths. One strip should accommodate no more than 4 stamps. Students create their pattern on this shorter strip. The second strip can be about 2 or 3 feet long. On this longer strip, students repeat the pattern as many times as possible. When done, post the repeating patterns around the room for all to see and enjoy.

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### Students will need

- blackline master: “What’s My Pattern?”—1 copy per student
- scissors
- crayons

### Approximate Time

- 30 minutes

### Grouping

- Pairs of students

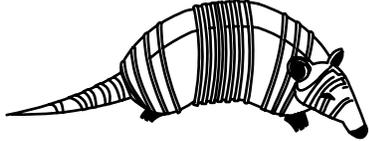
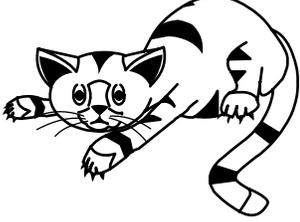
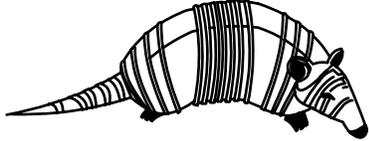
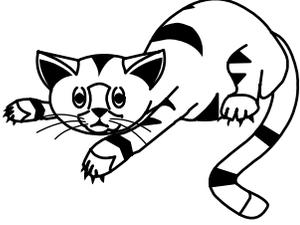
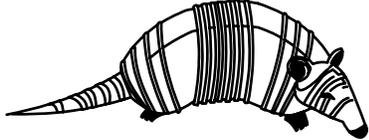
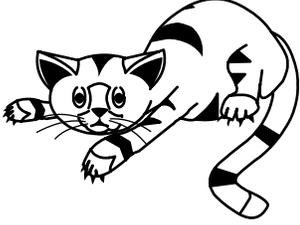
### NCTM Standards

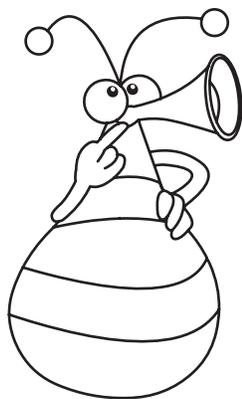
- Problem Solving
  - Reasoning & Proof
-

Name \_\_\_\_\_

# What's My Pattern?

Cut out the 9 cards.

 <b>A</b>	 <b>B</b>	 <b>C</b>
 <b>A</b>	 <b>B</b>	 <b>C</b>
 <b>A</b>	 <b>B</b>	 <b>C</b>



# Missing Numbers

*Students identify the number pattern in a given sequence and find the missing number.*

## Warm-up

1. Have 10 students come to the front of the classroom and sit in a row of 11 chairs. Leave the sixth chair empty. Hand out number cards for the numbers 0 to 10 in order, omitting the number 6. Have students describe the pattern of numbers (“Count by ones” or “Add 1”) and identify the missing number.
2. Invite 5 boys and 5 girls to come to the front of the classroom and have them sit in an alternating pattern, starting with a boy or a girl. Leave the fourth chair empty. Ask students to describe the pattern in this seating arrangement and tell if a boy or girl should sit in the empty chair.
3. Seat 5 students at the front of the classroom. Hand out number cards that are even numbers, starting with 2, but skip the number 8. Ask students to describe the pattern in the number sequence (“Add 2 to get the next number” or “even numbers”) and identify the missing number.

## Introducing the Activity

1. Distribute copies of the blackline master, “Missing Numbers” and read aloud the directions. Then tell students to cut out the 7 squares containing numbers at the bottom of the page.
2. Direct students’ attention to the first sequence of numbers. Ask them to look at the three numbers and guess the pattern [“Add 2” or “odd numbers”]. Then, use the pattern and identify the missing number. Have them paste the cutout with the number 7 on it into the empty box in the sequence.
3. Have students examine the other sequences. In each case, have them identify an underlying pattern (there might be more than one) and then paste in the number that completes the sequence.

## Assessment Tip

Observe the students as they complete each sequence. Find out if they can:

- Recognize patterns and use them to identify missing numbers in a sequence.

## Try this, too!

1. The whole class can enjoy playing “Missing Numbers.” In this game, a student calls out three numbers in sequence, and then omits the fourth number, replacing it with a clap. Then, the caller continues, giving at least two more numbers in the sequence. For example, the sequence might be, “2, 4, 6, clap, 10, 12.” The pattern is “even numbers” or “Add 2,” and the missing number is 8. The student who identifies the missing number becomes the next caller.
2. Challenge students to create sequences involving larger numbers, such as, “28, 26, 24, clap, 20, 18.” In this pattern, students can either subtract 2 from each number, starting with 28, to find the next number, or count backwards by 2 from 28. The missing number is 22.

### Students will need

- blackline master: “Missing Numbers”—1 copy per student
- scissors
- paste

### Approximate Time

- 25 minutes

### Grouping

- individual

### NCTM Standards

- Number & Operations
- Problem Solving

Name \_\_\_\_\_

# Missing Numbers

Find the pattern. Paste in the missing number.

<b>3</b>	<b>5</b>		<b>9</b>
----------	----------	--	----------

<b>2</b>		<b>8</b>	<b>11</b>
----------	--	----------	-----------

<b>5</b>	<b>10</b>		<b>20</b>
----------	-----------	--	-----------

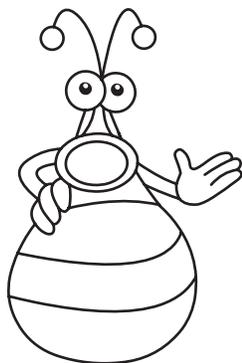
	<b>6</b>	<b>9</b>	<b>12</b>
--	----------	----------	-----------

<b>10</b>	<b>9</b>		<b>7</b>
-----------	----------	--	----------

<b>16</b>		<b>6</b>	<b>1</b>
-----------	--	----------	----------



<b>15</b>	<b>8</b>	<b>3</b>	<b>5</b>	<b>7</b>	<b>11</b>
-----------	----------	----------	----------	----------	-----------



# Day at the Zoo

Students use animal cutouts to make a bar graph and analyze the data.

## Warm-up

Make a bar graph about students' birthdays. On a large poster board, create a grid like the one below. Invite students to write their names in a block next to the month in which their birthdays fall. After all the data are recorded, ask which month has the greatest number of birthdays and which month has the least number of birthdays. Ask if there are two or more months that have the same number of birthdays. (There may not be.)

Our Class Birthdays						
January						
February						
March						
April						
May						
June						
July						
August						
September						
October						
November						
December						

## Introducing the Activity

1. Distribute copies of the blackline master, "Day at the Zoo." Tell students they are going to make a bar graph about animals at the zoo. Then they will use their graphs to answer questions about the numbers of animals.
2. Direct students' attention to the 15 animal squares at the bottom of the worksheet. Have them cut out each square and, starting at the left, paste them into the row that corresponds to each animal.
3. When all the pictures have been pasted, invite students to answer the questions under the bar graph.

## Assessment Tip

Observe students as they complete the worksheet. Find out if they can:

- Create a bar graph.
- Analyze the data in a bar graph.

## Try this, too!

- Have students work in groups and survey classmates about their favorite colors, pets, etc. Have each group tally the results and create a bar graph to display the responses. Use the graph to answer questions about the data. For example, "What is the most popular animal in my class?" and "What is the least popular?"
- Read *The Best Vacation Ever* by Stuart J. Murphy. This story is about a girl who collects information and creates charts and graphs to help determine where her family should go on vacation. After reading the story, invite students to learn more about their own families' preferences by conducting surveys at home. Have them graph the information and share the results with their classmates.

### Students will need

- blackline master: "Day at the Zoo"—1 copy per student
- scissors
- paste

### Approximate Time

- 20 minutes

### Grouping

- individual

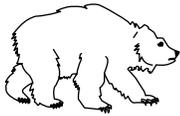
### NCTM Standards

- Data Analysis & Probability
- Representation

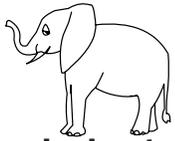
Name \_\_\_\_\_

# Day at the Zoo

Cut out the animals. Make a bar graph.



bear



elephant



kangaroo



zebra


How many more or fewer?

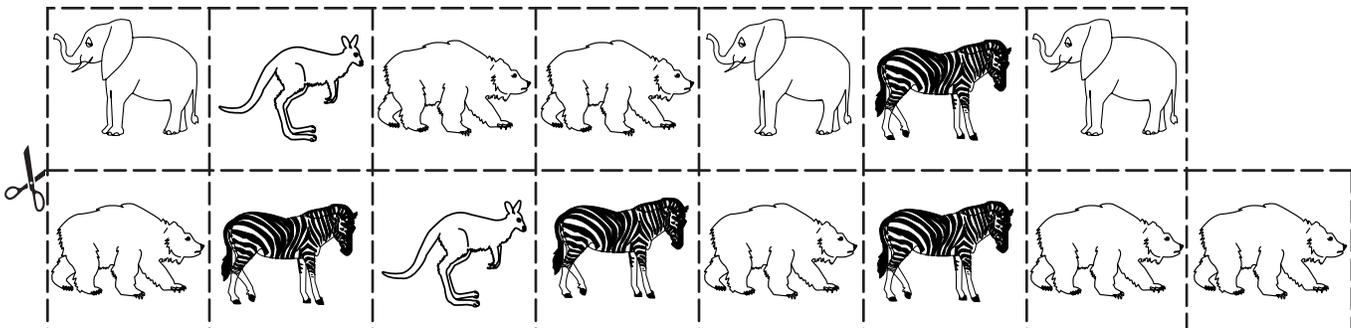
1. How many more  than ? \_\_\_\_\_

2. How many fewer  than ? \_\_\_\_\_

3. How many more  than ? \_\_\_\_\_

4. How many more  than ? \_\_\_\_\_

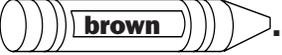
5. How many fewer  than ? \_\_\_\_\_



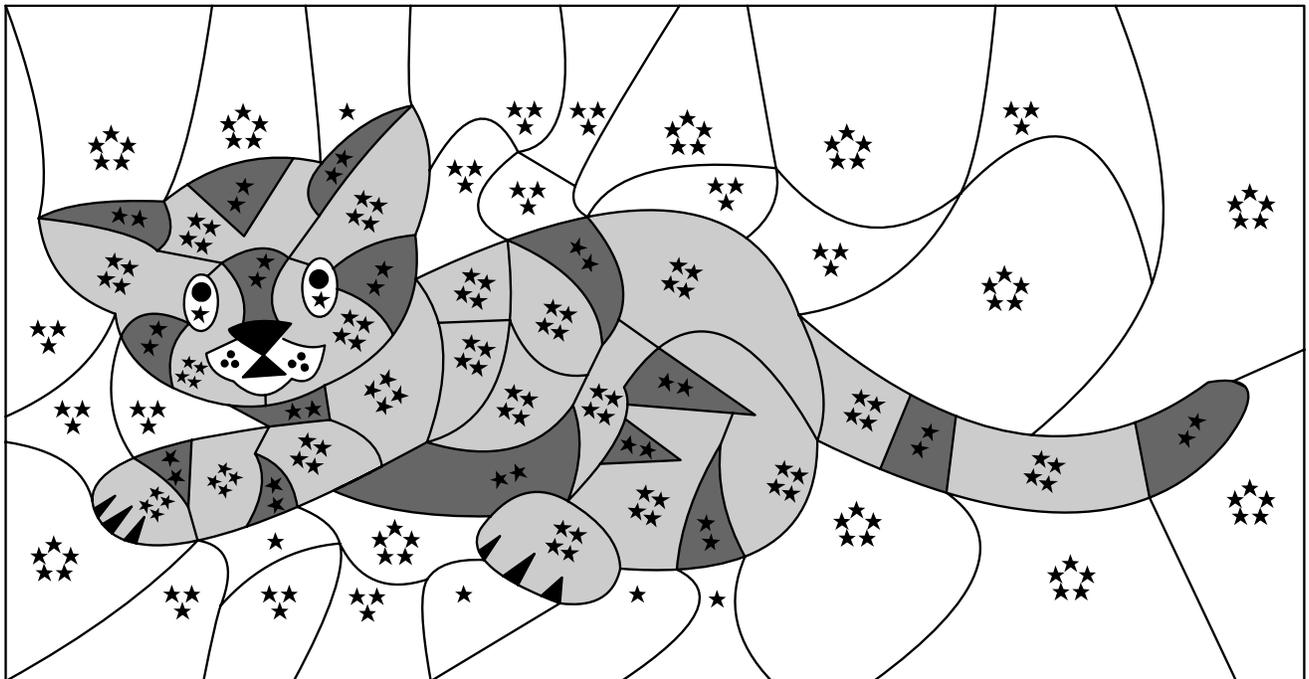
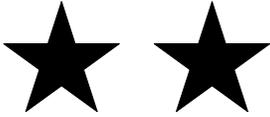


# Answer Keys

# Furry Pet: Answer Key

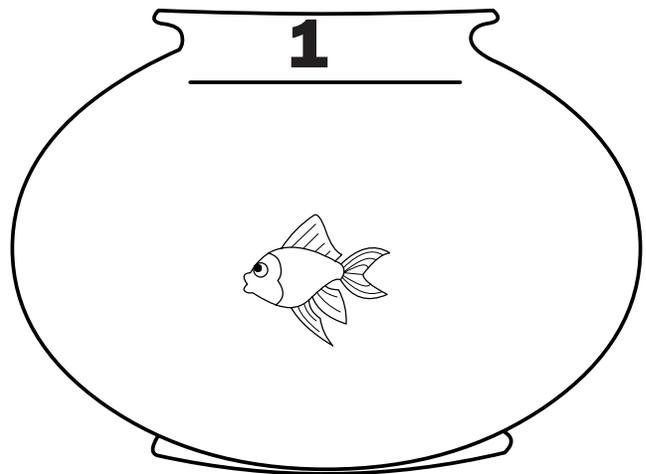
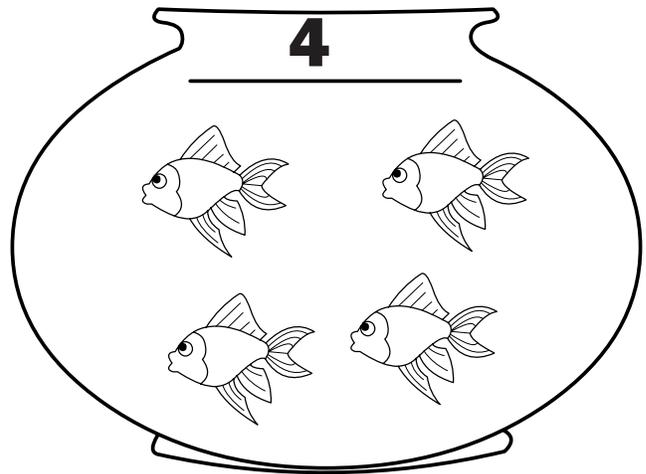
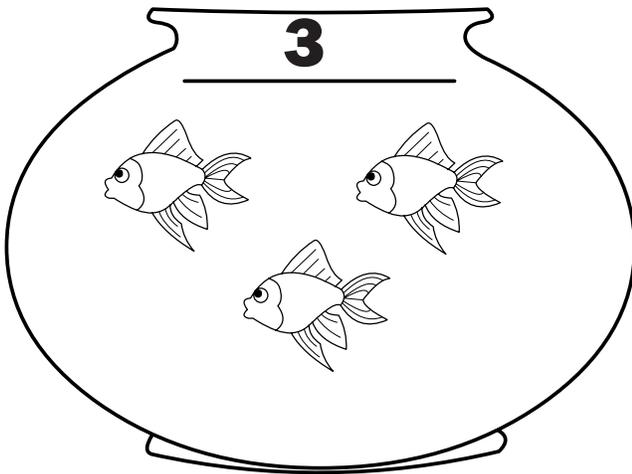
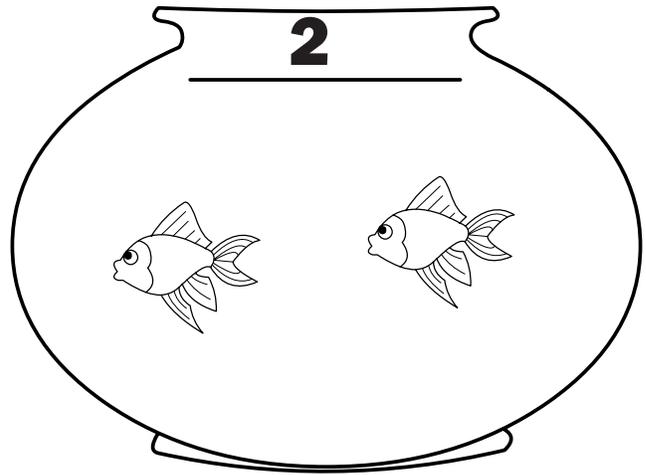
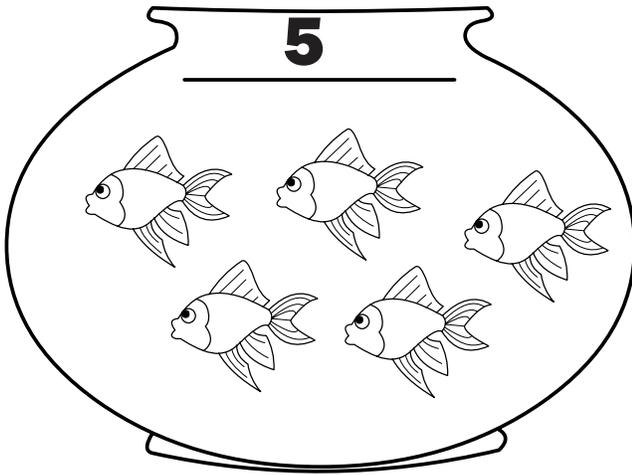
Color each shape with 2 stars .

Color each shape with 4 stars .



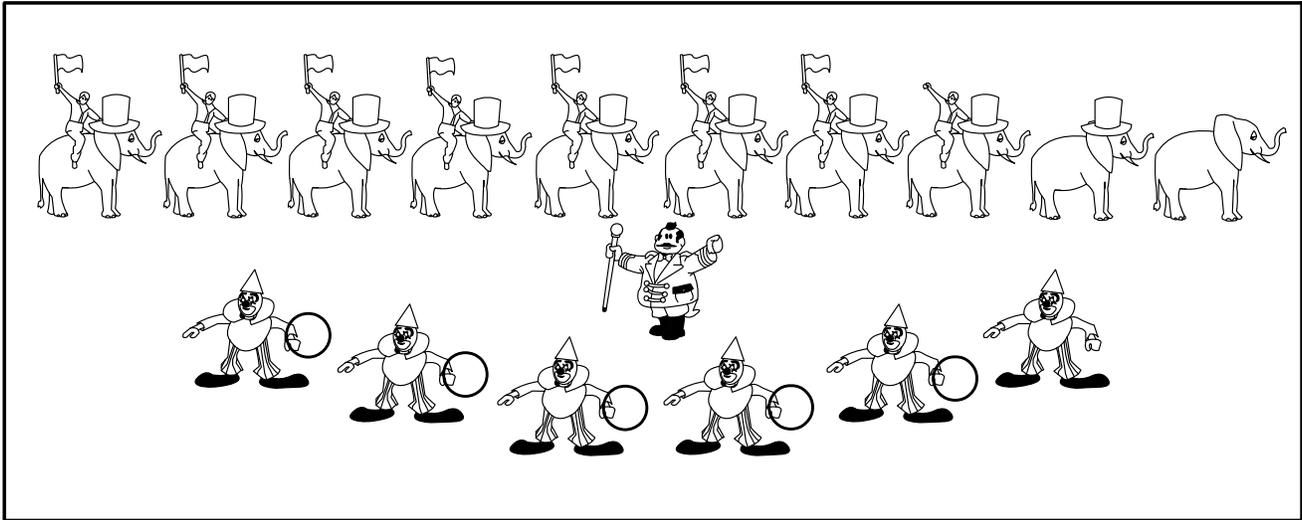
# Fish Bowls: Answer Key

Cut out the fish. Paste the correct number of fish in each fish bowl.

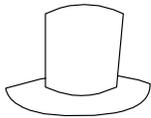


# Circus Show: Answer Key

Look at the picture. Write how many.

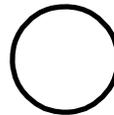


How many?

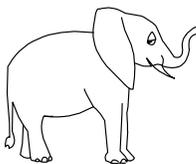


9

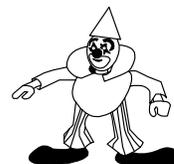
How many?



5



10



6



8

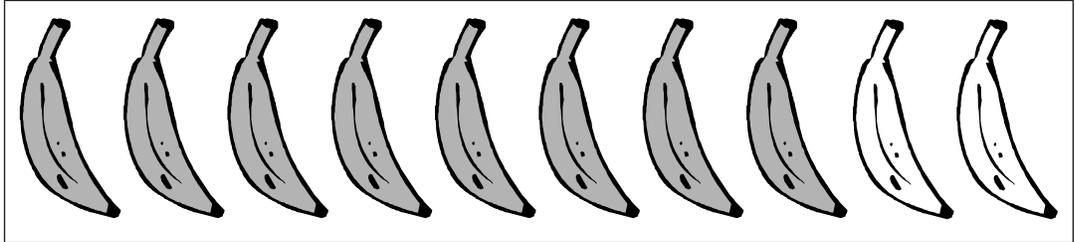


7

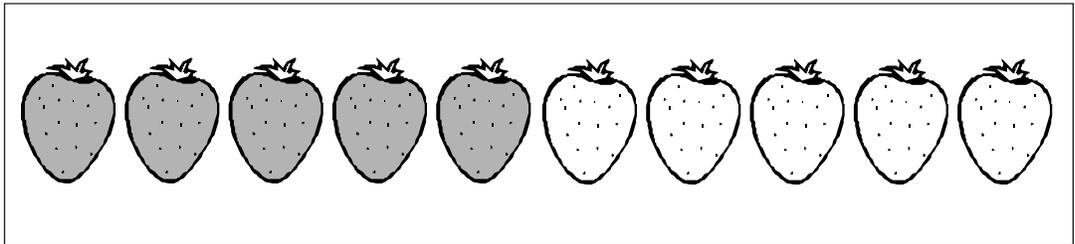
# Fresh Fruit Salad: Answer Key

Look at a number. Color that many fruit.

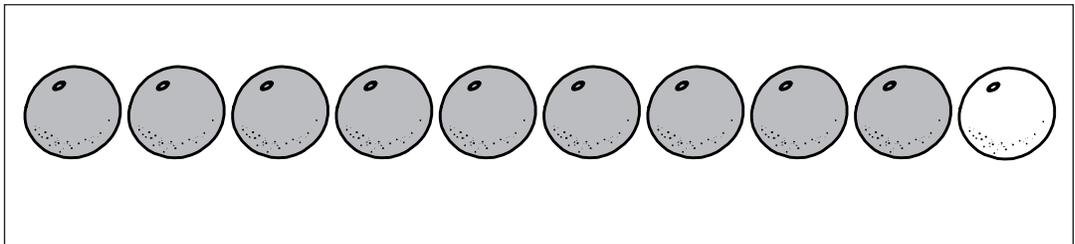
Color **8** .



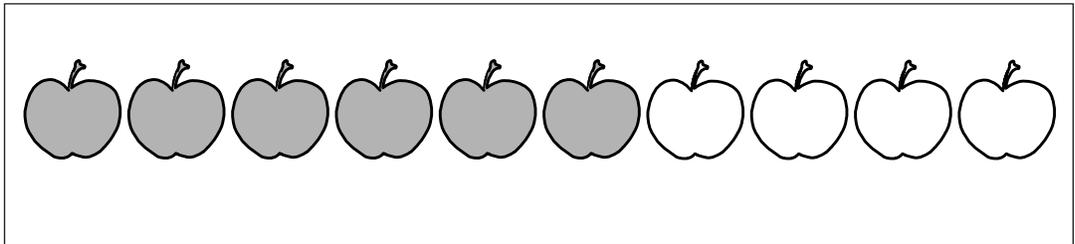
Color **5** .



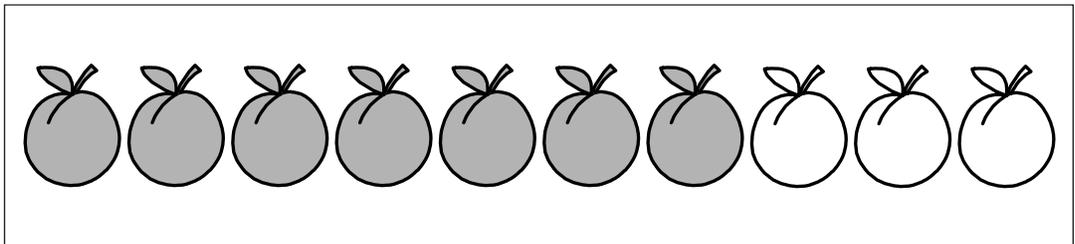
Color **9** .



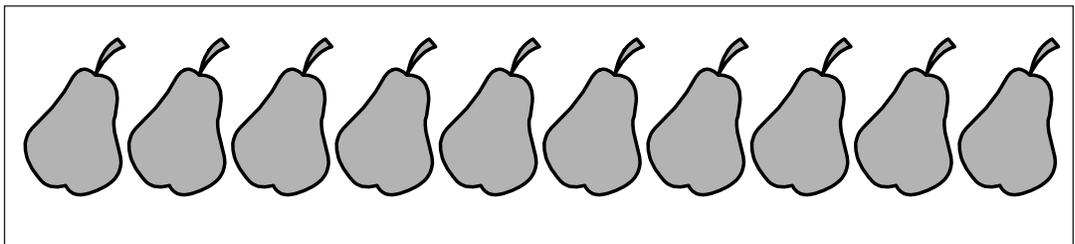
Color **6** .



Color **7** .



Color **10** .

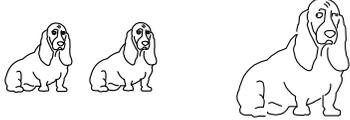


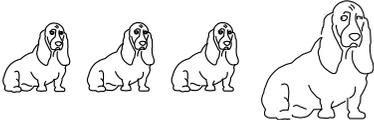
# Hound Dogs: Answer Key

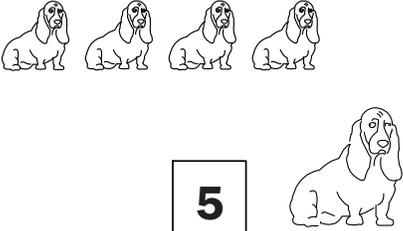
Cut out the dogs. Paste  to show 1 more. Write how many in all.

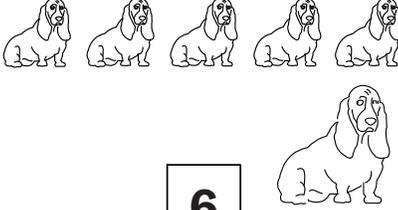
  
**1**

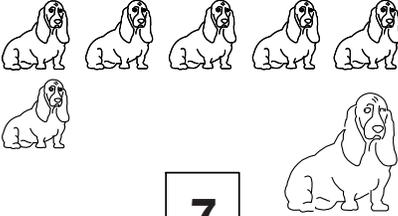
  
**2**

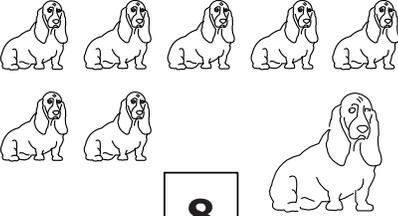
  
**3**

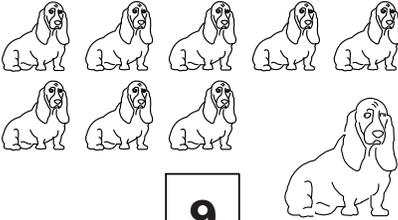
  
**4**

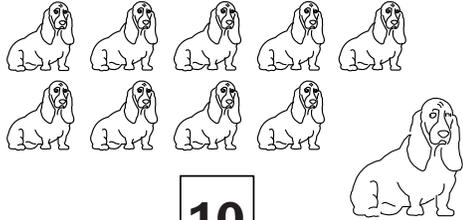
  
**5**

  
**6**

  
**7**

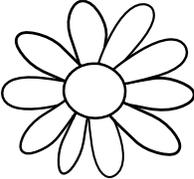
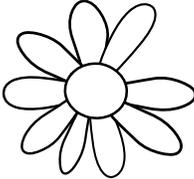
  
**8**

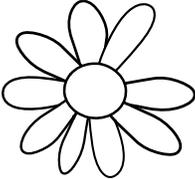
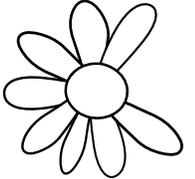
  
**9**

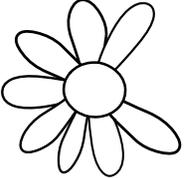
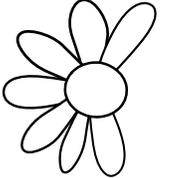
  
**10**

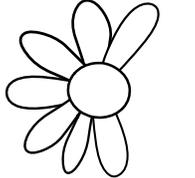
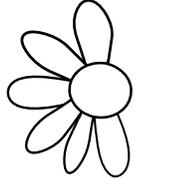
# Daisy Petals: Answer Key

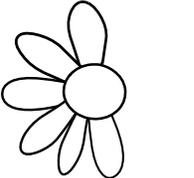
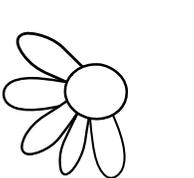
How many petals on each daisy? Write the number that shows one fewer.

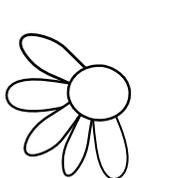
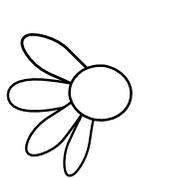
	
<b>10</b>	<b>9</b> 

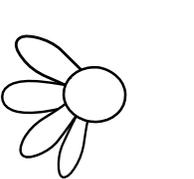
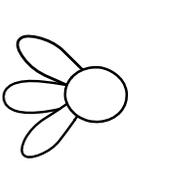
	
<b>9</b>	<b>8</b> 

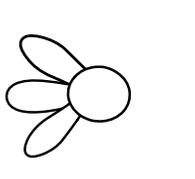
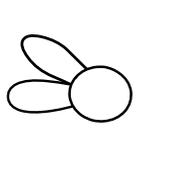
	
<b>8</b>	<b>7</b> 

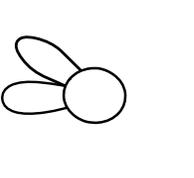
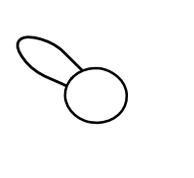
	
<b>7</b>	<b>6</b> 

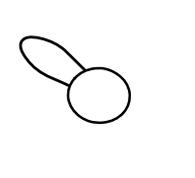
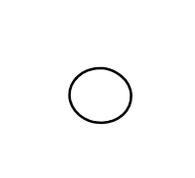
	
<b>6</b>	<b>5</b> 

	
<b>5</b>	<b>4</b> 

	
<b>4</b>	<b>3</b> 

	
<b>3</b>	<b>2</b> 

	
<b>2</b>	<b>1</b> 

	
<b>1</b>	<b>0</b> 

# Log Trucks: Answer Key

How many logs altogether?

**10**      **4**      **14**

**10**      **8**      **18**

**10**      **2**      **12**

**10**      **7**      **17**

Draw more logs to show each number.

**13**      **10**

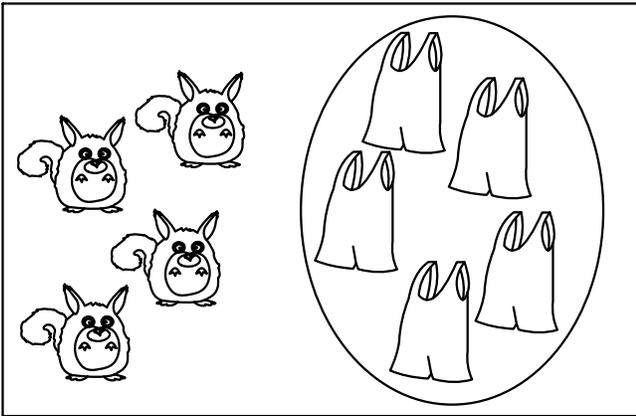
**15**      **10**

**12**      **10**

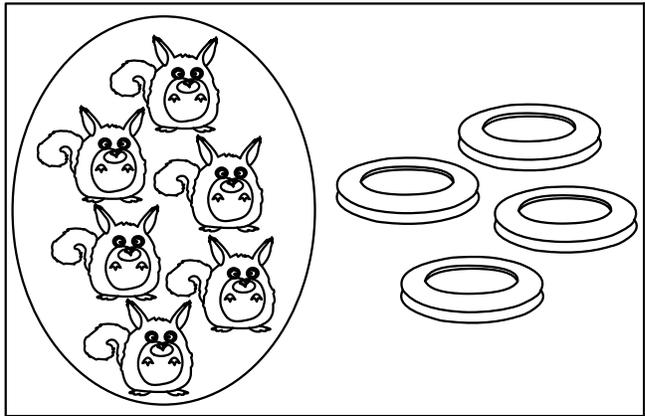
**11**      **10**

# Day at the Beach: Answer Key

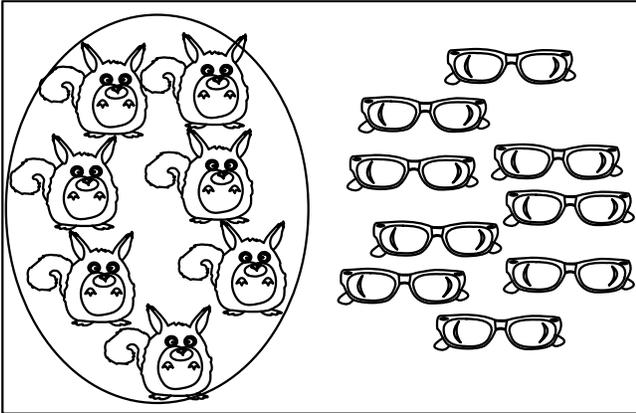
Draw a ring around more.



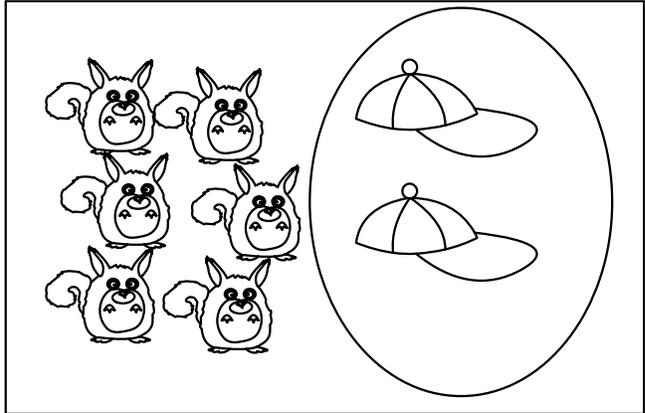
Draw a ring around more.



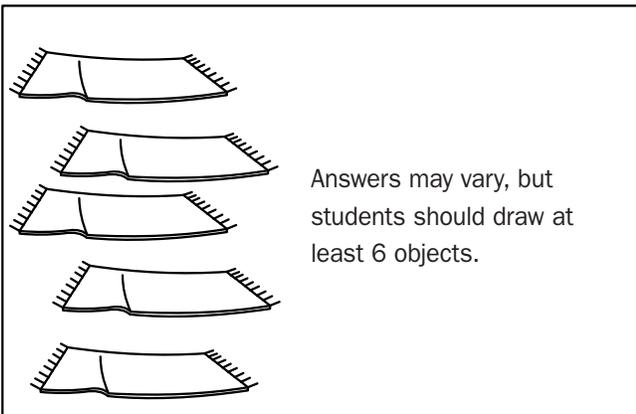
Draw a ring around fewer.



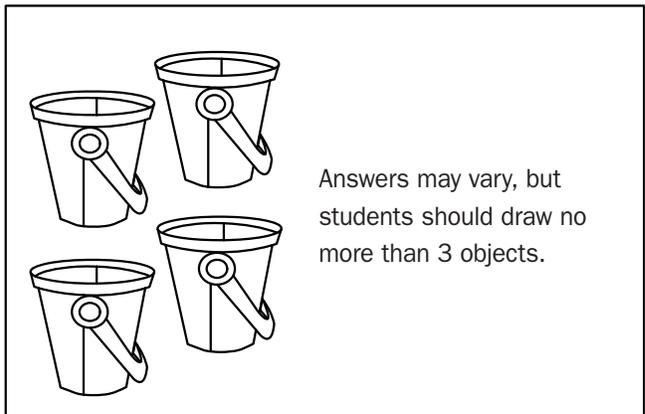
Draw a ring around fewer.



Draw a new picture. Show more.

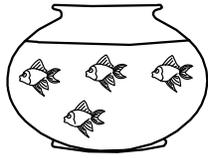
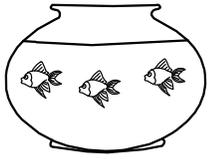


Draw a new picture. Show fewer.

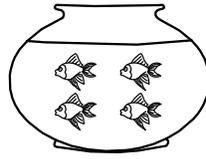


# Fish Stories: Answer Key

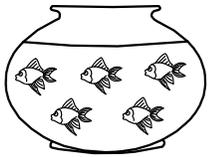
How many fish altogether?



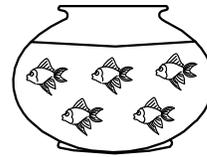
$$3 + 4 = \underline{7}$$



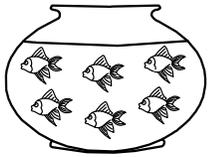
$$4 + 2 = \underline{6}$$



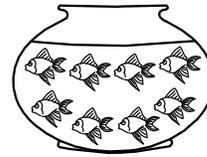
$$5 + 0 = \underline{5}$$



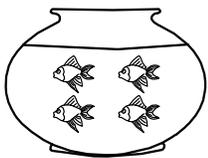
$$5 + 5 = \underline{10}$$



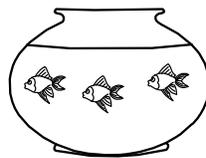
$$6 + 2 = \underline{8}$$



$$1 + 8 = \underline{9}$$

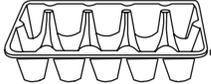


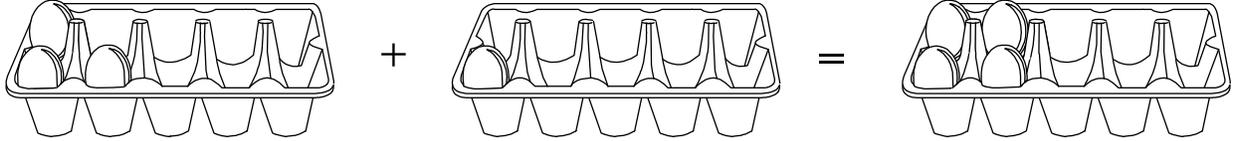
$$4 + 5 = \underline{9}$$

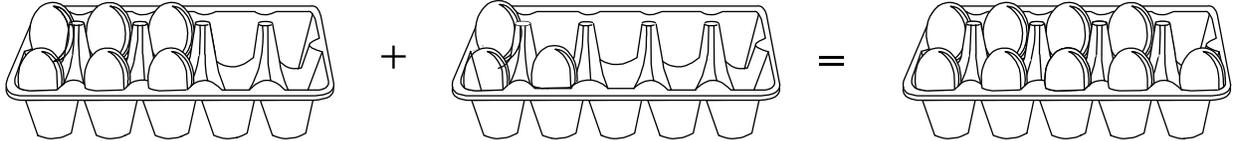


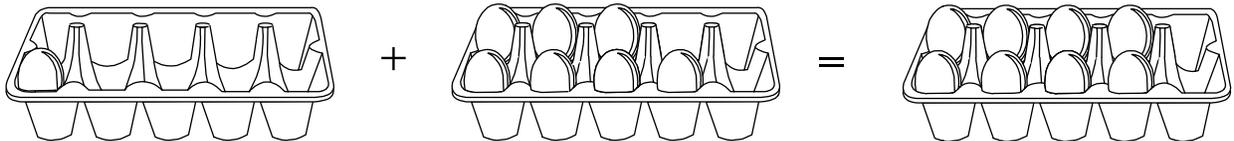
$$3 + 2 = \underline{5}$$

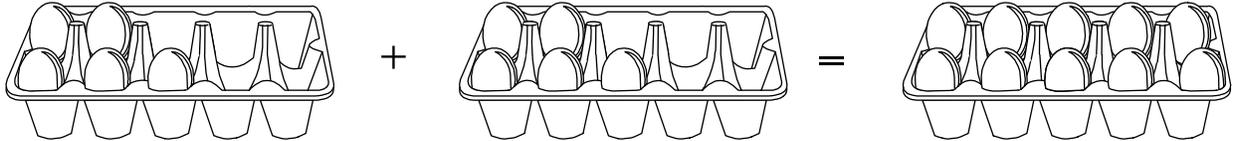
# What's Missing: Answer Key

Draw eggs in the . Show the missing number.



$$3 + 1 = 4$$


$$6 + 3 = 9$$


$$1 + 7 = 8$$


$$5 + 5 = 10$$

Show the missing number.

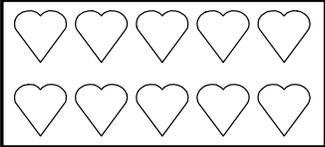
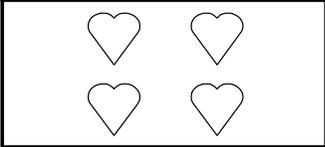
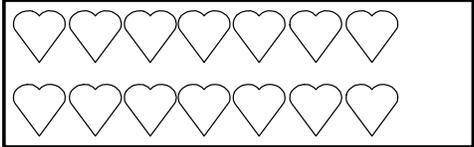
$$3 + \boxed{2} = 5$$

$$8 + \boxed{2} = 10$$

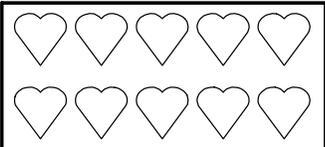
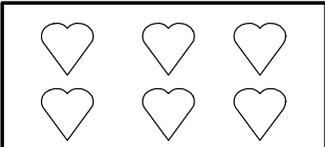
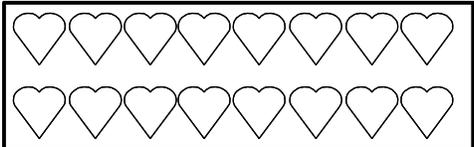
$$\boxed{4} + 3 = 7$$

# Addition Sentences: Answer Key

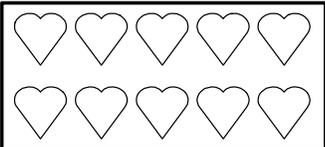
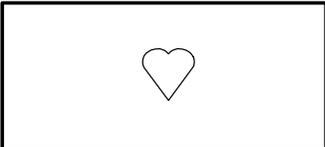
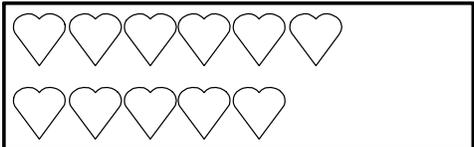
Draw s in each box. Color the hearts. Write the missing number in each .

 and  is 

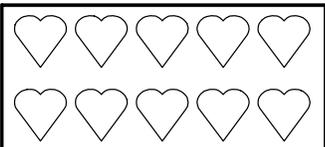
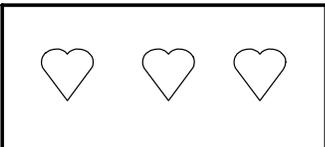
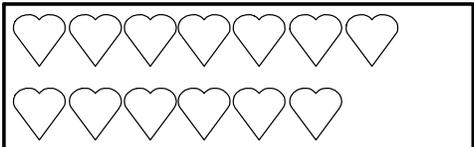
$$10 + \triangle 4 = 14$$

 and  is 

$$10 + \triangle 6 = 16$$

 and  is 

$$10 + \triangle 1 = 11$$

 and  is 

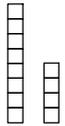
$$10 + \triangle 3 = 13$$

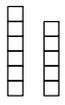
# Same But Different: Answer Key

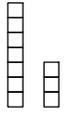
Look at the number in each circle.

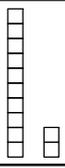
Draw a ring around the additions and groups of blocks that equal that number.

**12**

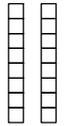
$8 + 4$  

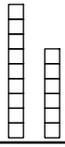
$6 + 5$  

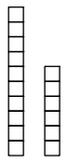
$7 + 3$  

$10 + 2$  

**16**

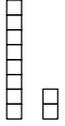
$8 + 8$  

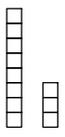
$9 + 6$  

$10 + 6$  

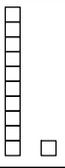
$5 + 11$  

**11**

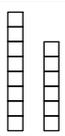
$8 + 2$  

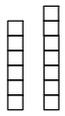
$8 + 3$  

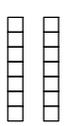
$9 + 2$  

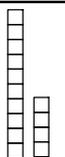
$10 + 1$  

**14**

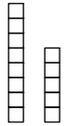
$8 + 6$  

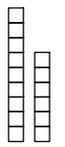
$6 + 7$  

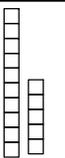
$7 + 7$  

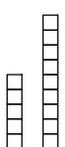
$10 + 4$  

**15**

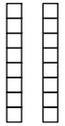
$8 + 5$  

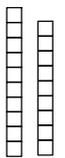
$9 + 6$  

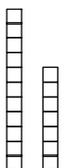
$10 + 5$  

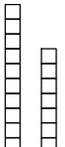
$5 + 9$  

**19**

$8 + 8$  

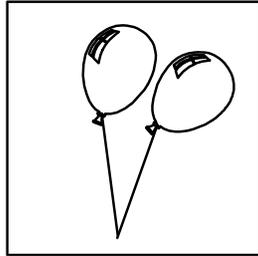
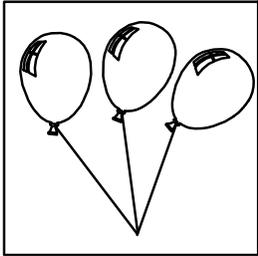
$10 + 9$  

$11 + 7$  

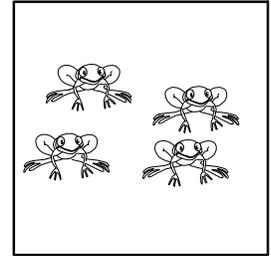
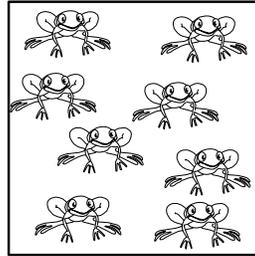
$10 + 7$  

# Take Away! Answer Key

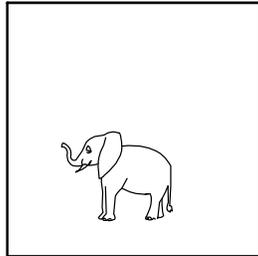
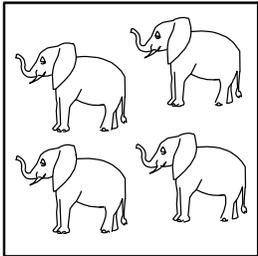
How many are left?



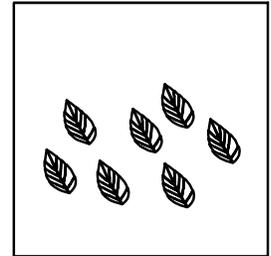
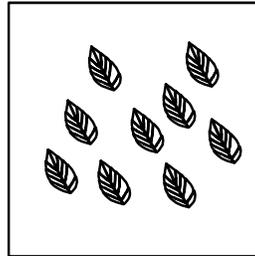
$$3 - 1 = 2$$



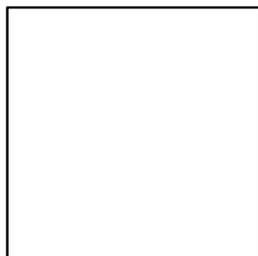
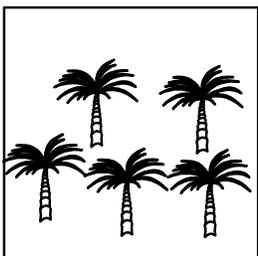
$$8 - 4 = 4$$



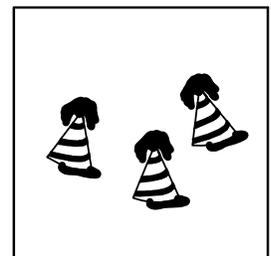
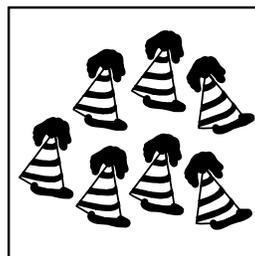
$$4 - 3 = 1$$



$$9 - 2 = 7$$



$$5 - 5 = 0$$

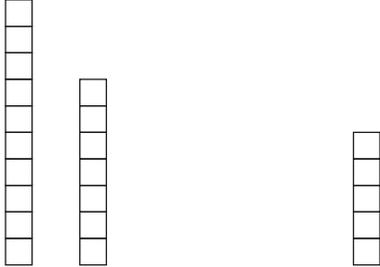


$$7 - 4 = 3$$

# How Many More or Fewer?

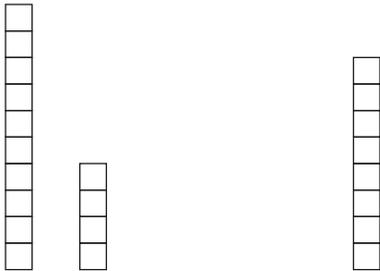
Compare the groups of blocks. Then, complete the number sentence.

1. One boy has 17 blocks. His sister has 5 blocks. How many more blocks does the boy have?



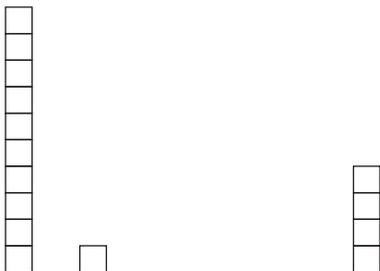
$$17 - 5 = \underline{12}$$

2. A teacher has 14 blocks. A student has 8 blocks. How many fewer blocks does the student have?



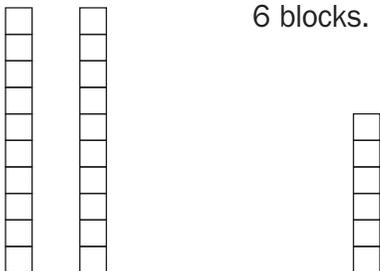
$$14 - \underline{8} = \underline{6}$$

3. A girl has 11 blocks. Her friend has 4 blocks. How many fewer blocks does her friend have?



$$11 - \underline{4} = \underline{7}$$

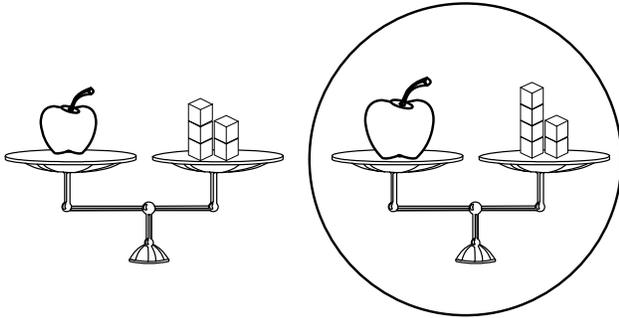
4. A girl has 20 blocks. Her brother has 6 blocks. How many fewer blocks does her brother have?



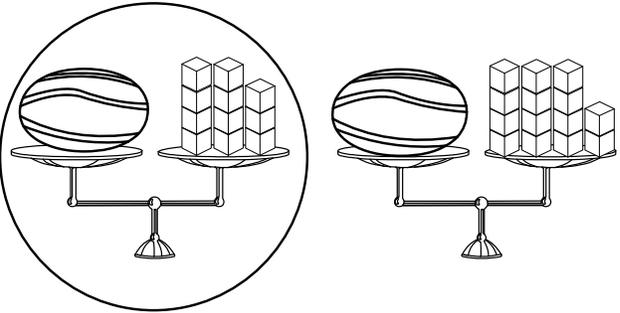
$$\underline{20} - 6 = \underline{14}$$

# County Fair: Answer Key

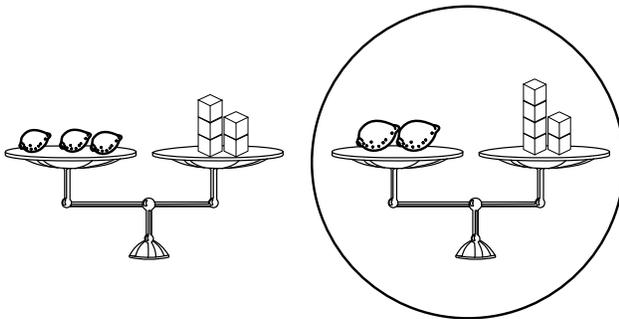
**Circle the balance with the heavier object.**



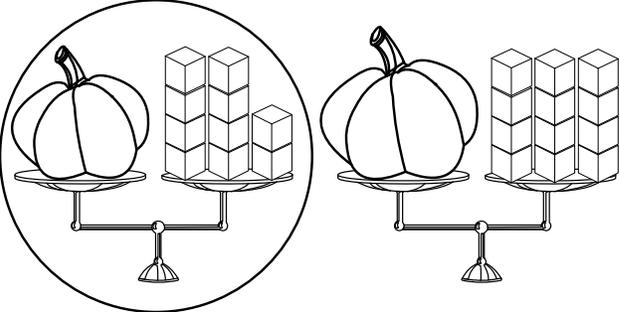
**Circle the balance with the lighter object.**



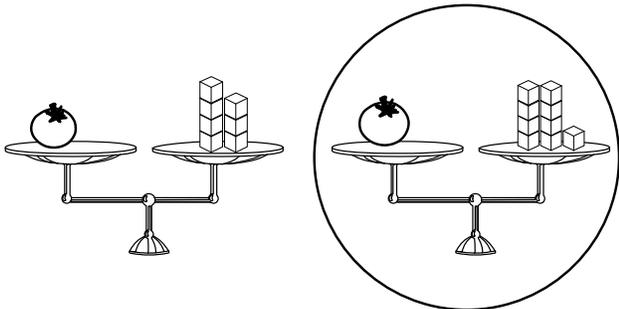
**Circle the balance with the heavier object.**



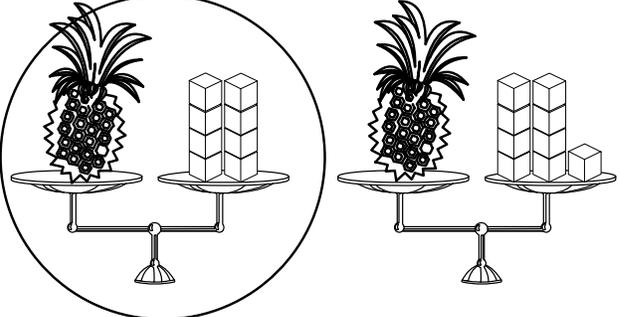
**Circle the balance with the lighter object.**



**Circle the balance with the heavier object.**



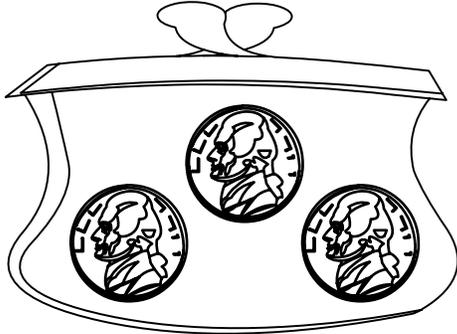
**Circle the balance with the lighter object.**



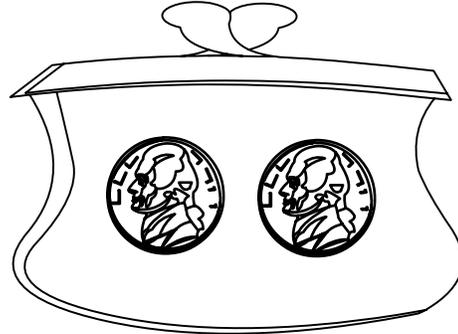
# Change Purses: Answer Key

Cut out the coins. Paste coins in the purses.

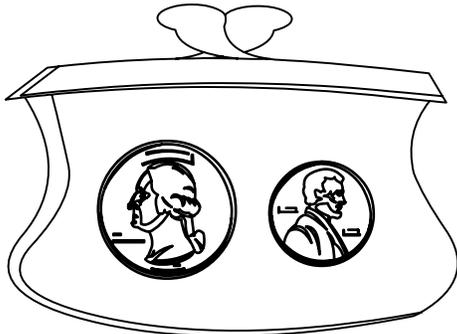
I have 3 coins. I have 15¢.



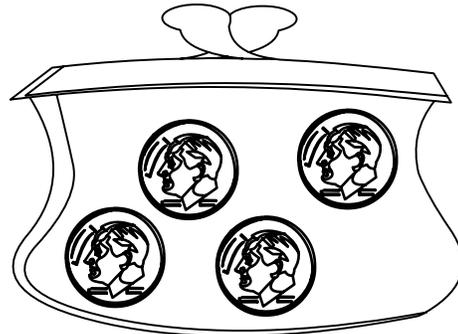
I have 2 coins. I have 10¢.



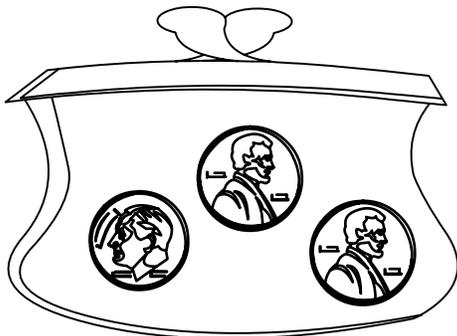
I have 2 coins. I have 26¢.



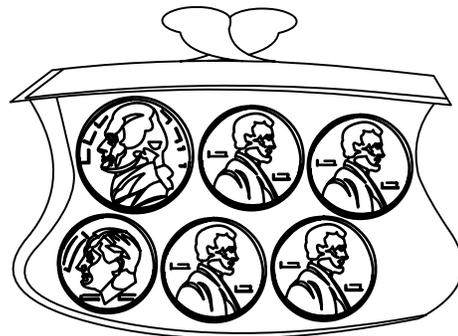
I have 4 coins. I have 40¢.



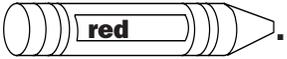
I have 3 coins. I have 12¢.

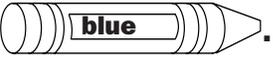


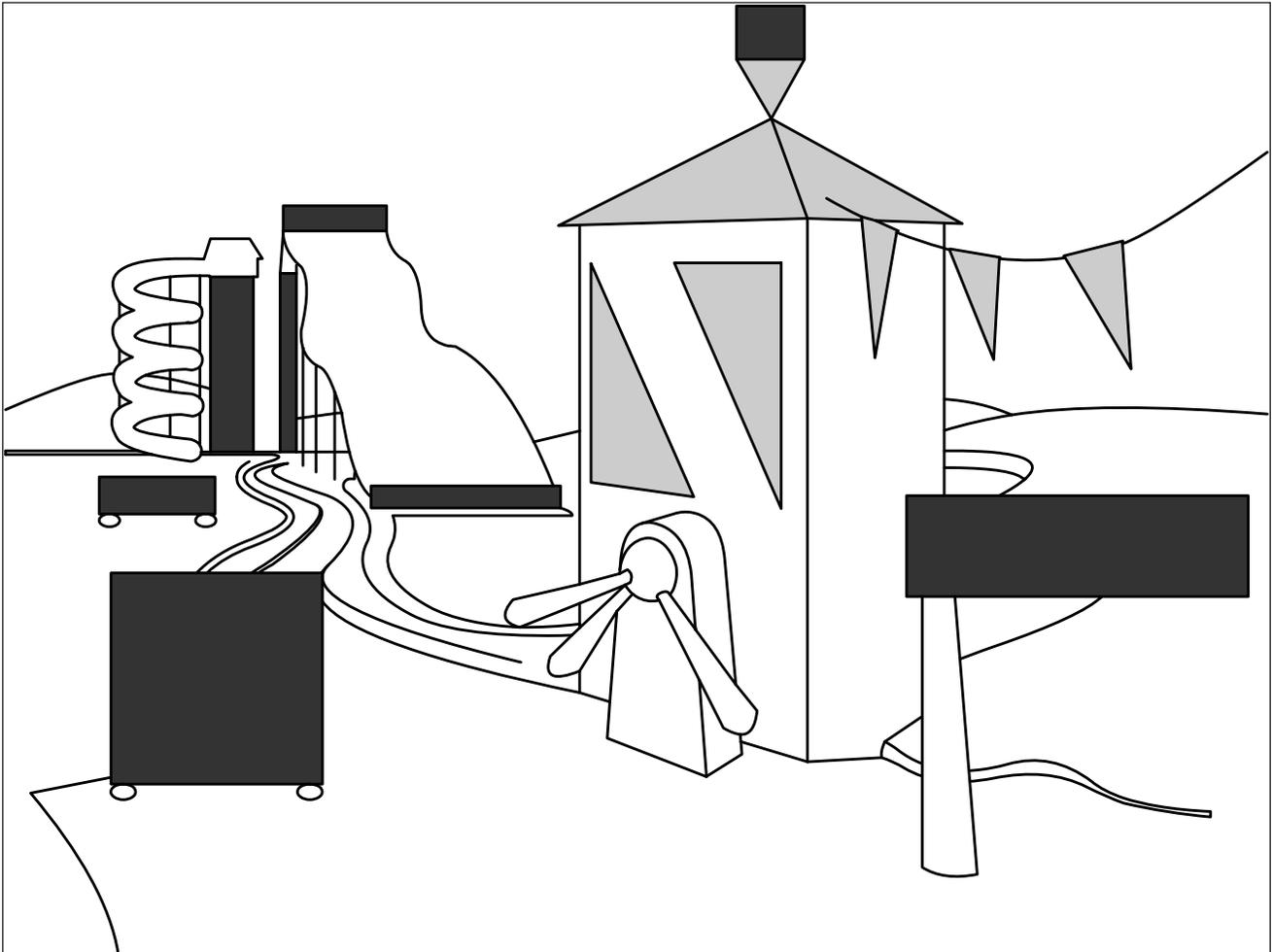
I have 6 coins. I have 19¢.



# Circus Time: Answer Key

Color triangles .

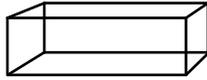
Color rectangles .



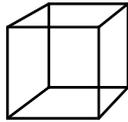
Note: Unobstructed, two-dimensional rectangles have been colored in this answer key. There are some other rectangles in the drawing, which are either partially obstructed, or distorted to achieve three-dimensional perspective. Some students may have found and colored these rectangles as well.

# Match-a-shape: Answer Key

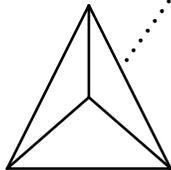
How many faces in each shape? Match each shape to its net.  
 How many triangles and rectangles in each net?



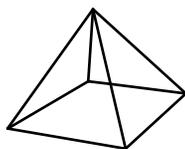
**6** Faces



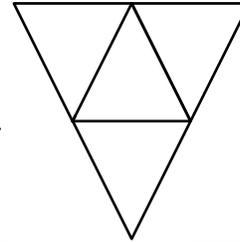
**6** Faces



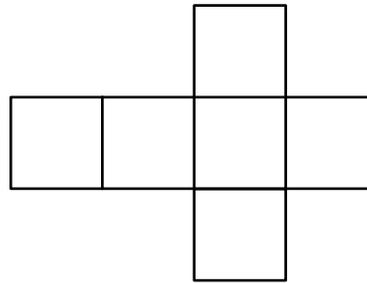
**4** Faces



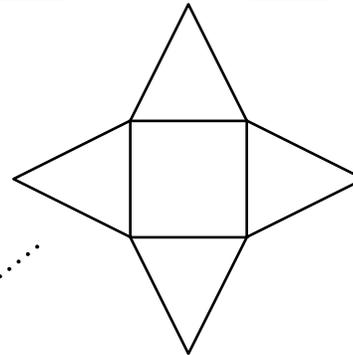
**5** Faces



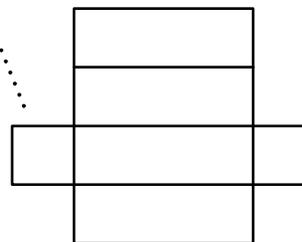
**4** Triangles **0** Rectangles



**0** Triangles **6** Rectangles



**4** Triangles **1** Rectangles



**0** Triangles **6** Rectangles

# Missing Numbers: Answer Key

Find the pattern. Paste in the missing number.

<b>3</b>	<b>5</b>	<b>7</b>	<b>9</b>
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<b>2</b>	<b>5</b>	<b>8</b>	<b>11</b>
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<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>
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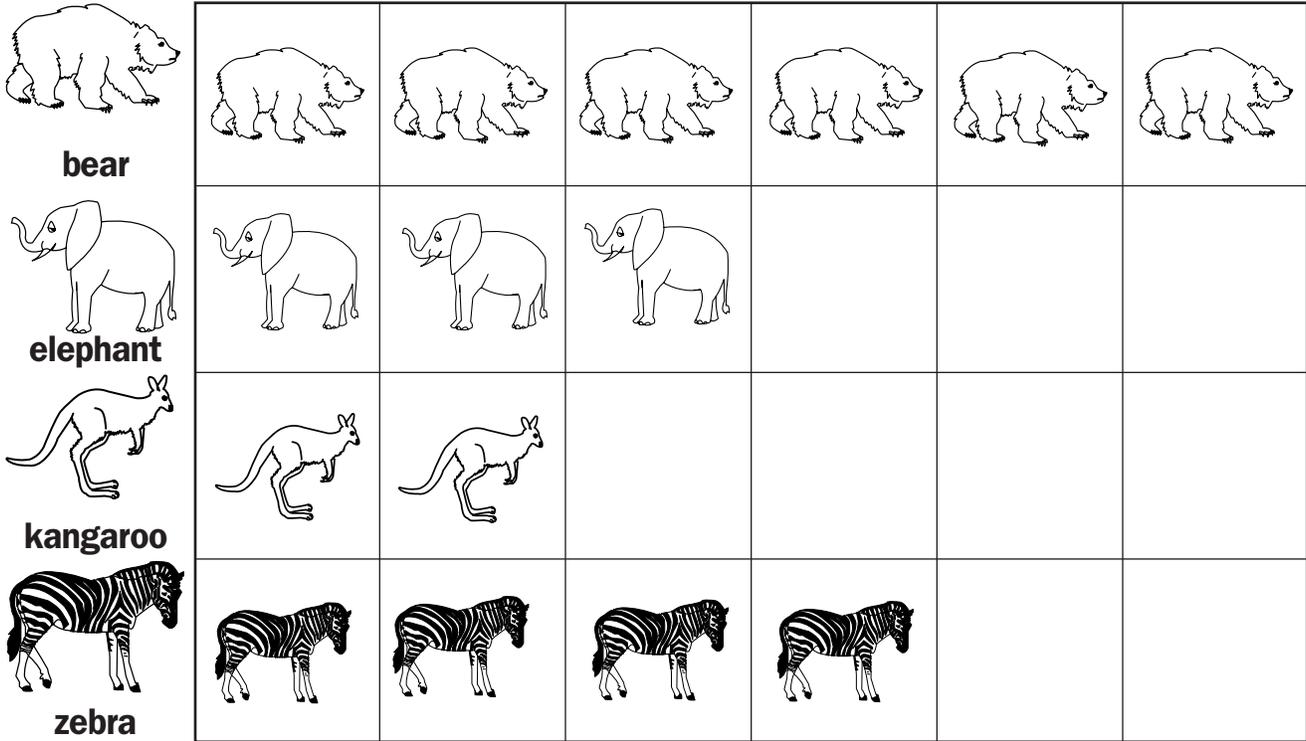
<b>3</b>	<b>6</b>	<b>9</b>	<b>12</b>
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<b>10</b>	<b>9</b>	<b>8</b>	<b>7</b>
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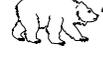
<b>16</b>	<b>11</b>	<b>6</b>	<b>1</b>
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# Day at the Zoo: Answer Key

Cut out the animals. Make a bar graph.



How many more or fewer?

- How many more  than ? **2**
- How many fewer  than ? **1**
- How many more  than ? **3**
- How many more  than ? **1**
- How many fewer  than ? **4**