

Chapter

10

Represent Data

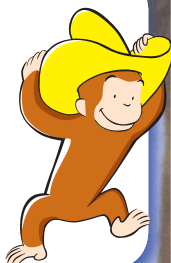


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Curious About Math with

**Curious
George**

How many days will it
snow or rain this week
where you live? How
can you find out?





Name _____

Show What You Know



Make a Concrete Graph





Sort a handful of  and . Make a concrete graph.

Square Colors							
							
							


1. How many  are there? _____



More, Fewer

2. Color the squares to show a set of fewer.

Draw Equal Groups

3. Draw a  below each picture to show the same number of objects.



Family note: This page checks your child's understanding of important skills needed for success in Chapter 10.



Assessment Options
Soar to Success Math

Name _____

Vocabulary Builder

Review Words

graph
more
fewer
most
fewest

Visualize It

Complete the chart.

Mark each row with a ✓.

Word	I Know	Sounds Familiar	I Do Not Know
graph			
more			
fewer			
most			
fewest			

Understand Vocabulary

Use the review words. Label the groups.

1.




2.



Materials  • 16  • 16  • 16 

Play with a partner.

- 1 Spin the .
- 2 Put 1 cube of that color in the correct row of your graph.
- 3 Take turns. Play until each partner has 5 turns.
- 4 The player who went last spins again to get a color.
- 5 The player with more cubes of that color wins. Spin again if you both have the same number of cubes of that color.

Player 1

Player 2

Name _____

Read Picture Graphs

Essential Question What do the pictures in a picture graph show?

Listen and Draw



Use  . Draw to show the cubes.

Write how many more .



_____ more 

Math Talk
Describe how you can use your picture to compare the cubes.











MATHEMATICAL PRACTICES



FOR THE TEACHER • Read the following problem. There are 2 green cubes and 4 blue cubes. How many more blue cubes are there than green cubes?

Model and Draw


Children at the Playground

	swings					
	slide					

A **picture graph** uses pictures to show information.

Each  stands for 1 child.

There are 4 children on the .















There are 2 children on the .

There are more children on the _____.

Share and Show



Our Favorite Activity at the Fair

	animals							
	rides							

Each  stands for 1 child.



Use the picture graph to answer the question.

- Which activity did more children choose? Circle.



- How many children chose ? _____ children

- How many children chose ? _____ children

- How many fewer children chose  than ? _____ fewer children

Name _____

On Your Own

What We Drink for Lunch									
	milk								
	juice								
	water								

Each  stands for 1 child.

Use the picture graph to answer the question.

5. How many children

drink  ?

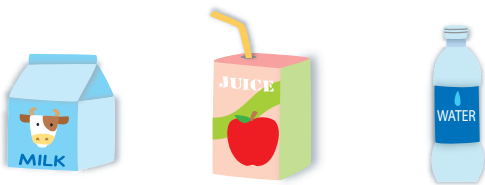
_____ children

6. How many children in all

drink  and  ?

_____ children

7. What do most children drink for lunch? Circle.



8. How many more children

drink  than  ?

_____ more children

9. How many fewer children

drink  than  ?




_____ fewer children

10. How many children in all

drink , , and .

_____ children

11.  4 new children join the class.

They drink  at lunch. Now, how many more children drink  than  ?

_____ more children


















PROBLEM SOLVING

REAL

WORLD

Write Math

Our Favorite Animal at the Zoo



	zebras								
	lions								
	seals								

Each  stands for 1 child.





Write a number sentence to solve the problem.

12. How many children chose  and  altogether?


___ ○ ___ ○ ___
 ___ children

13. How many more children chose  than  ?

___ ○ ___ ○ ___
 ___ more children

14.  How many more children chose  than  and  altogether?

___ ○ ___ ○ ___
 ___ more children

15. **Test Prep** Use the graph at the top.
 How many children chose  ?

9 children

8 children

5 children

1 child



TAKE HOME ACTIVITY • Keep track of the weather for one week by drawing a picture each day to show if it is sunny, cloudy, or rainy. At the end of the week, ask your child what the weather was like for most of the week.

Name _____

HANDS ON Lesson 10.2

Make Picture Graphs

Essential Question How do you make a picture graph to answer a question?

Listen and Draw

REAL

WORLD

Use  to solve the problem.

Draw to show your work.



--	--	--	--	--	--	--



--	--	--	--	--	--	--

Which has more?



FOR THE TEACHER • Read the following problem. Asaf has 6 baseballs. He has 4 bats. Does he have more baseballs or bats? Have children draw circles to show the baseballs and bats. Then have them circle the object with more.

Math Talk

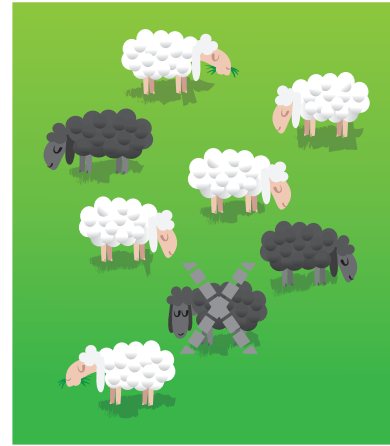
Describe what the picture graph shows.



MATHEMATICAL PRACTICES

Model and Draw

Are there more black or white sheep in the picture? Make a picture graph to find out.



Sheep in the Meadow

	black						
	white						

Each ○ stands for 1 sheep.



There are more _____ sheep.

Share and Show



Do more children like cats or dogs?
Ask 10 friends which pet they like better.
Draw 1 circle for each child's answer.

Our Favorite Pet

	cats										
	dogs										

Each ○ stands for 1 child.

Use the picture graph to answer each question.

1. How many children chose ? _____ children

2. How many children chose ? _____ children

3. Which pet did more children choose? Circle.




Name _____

On Your Own



Which activity do the most children like best?

Ask 10 friends. Draw 1 circle for each child's answer.

Our Favorite Activity										
 reading										
 computer										
 sports										

Each ○ stands for 1 child.

Use the picture graph to answer the question.

4. How many children chose  ?

_____ children

5. How many children chose  and  ?

_____ children

6. Which activity did the most children choose? Circle.



7. Did all your classmates make picture graphs that look the same? Write **yes** or **no**.

8.  Write your own question about the graph.













PROBLEM SOLVING

REAL

WORLD

Write Math



Matt made this picture graph to show the paint colors his friends like best.

Favorite Paint Color					
	blue				
	red				
	green				


Each  stands for 1 child.

9. How many children chose a paint color?

_____ children

10. How many fewer children chose  than .

_____ fewer children

11.  Matt adds his own choice to the graph. Now, two colors have the same number of circles. Circle the color Matt chose.





blue



red



green

12. **Test Prep** Use the graph at the top. How many children chose  and .

2



3



5



8




TAKE HOME ACTIVITY • Ask your child to make a picture graph showing how many glasses of water each family member drinks in a day. Discuss how to find who drinks the most water.

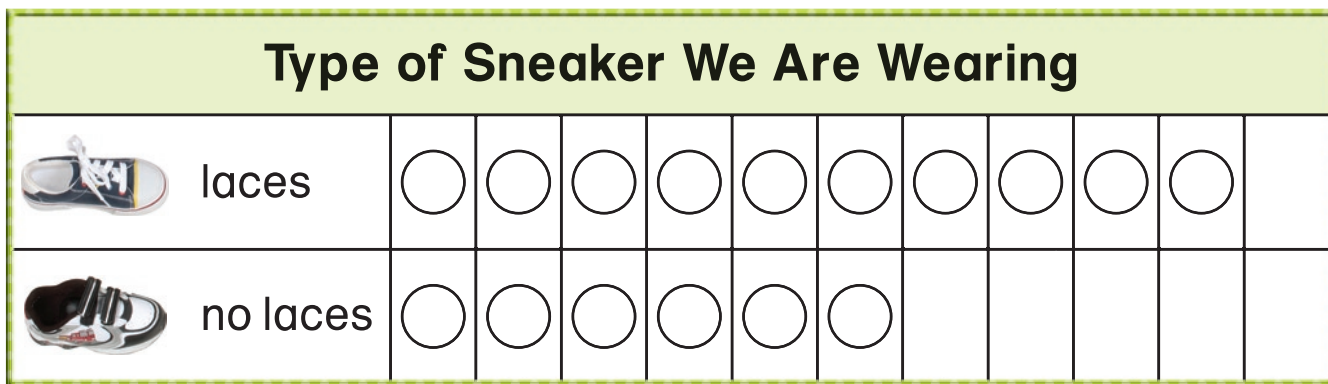
Name _____

Read Bar Graphs

Essential Question How can you read a bar graph to find the number that a bar shows?



Write a question about the graph.
Use  to help solve the problem.



Each ☐ stands for 1 child.



FOR THE TEACHER • Read the following problem.
Emma's class made this picture graph. What question could Emma's class answer using the graph? Write the question and the answer.

Math Talk
Describe how the class made this picture graph.



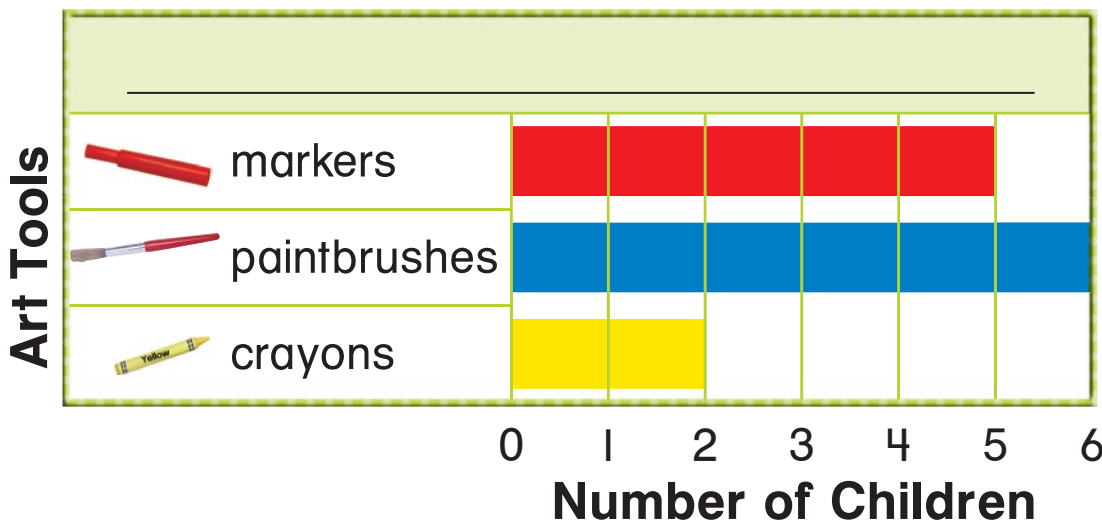
MATHEMATICAL PRACTICES

Model and Draw

In a **bar graph**, each bar shows information. You can compare the lengths of the bars.

What title describes this graph?

Touch the end of a bar. Look down to see the number of children.



Share and Show



Use the bar graph to answer the question.

1. How many children chose  ?

_____ children

2. How many children chose  ?

_____ children

3. How many more children chose  than  ?

_____ more children

4. Which art tool did the fewest children choose? Circle.



5. Which art tool did the most children choose? Circle.



Name _____

On Your Own

Use the bar graph to answer the question.

6. How many children

chose  ?

_____ children

7. How many children

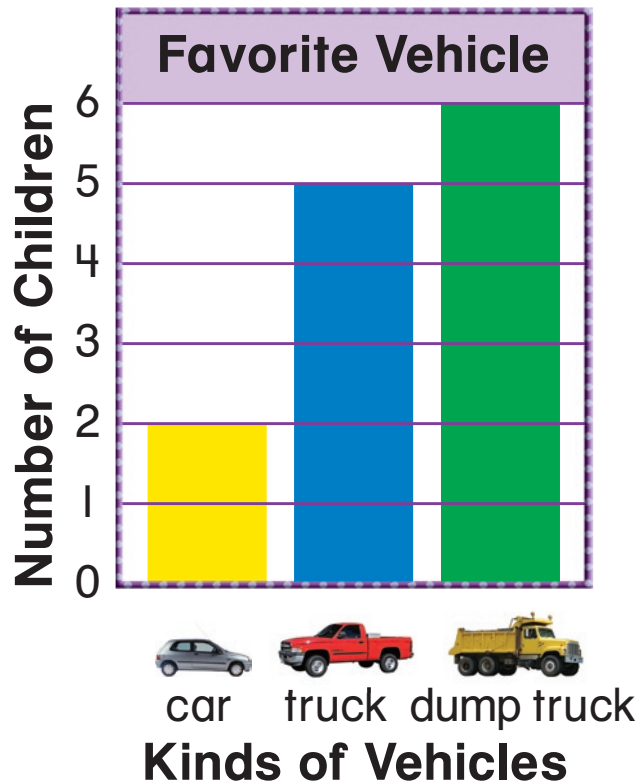
chose  ?

_____ children

8. How many children in all

chose  and  ?

_____ children




9. How many more children

chose  than  ?

_____ more children

10. Which vehicle did the most children choose? Circle.



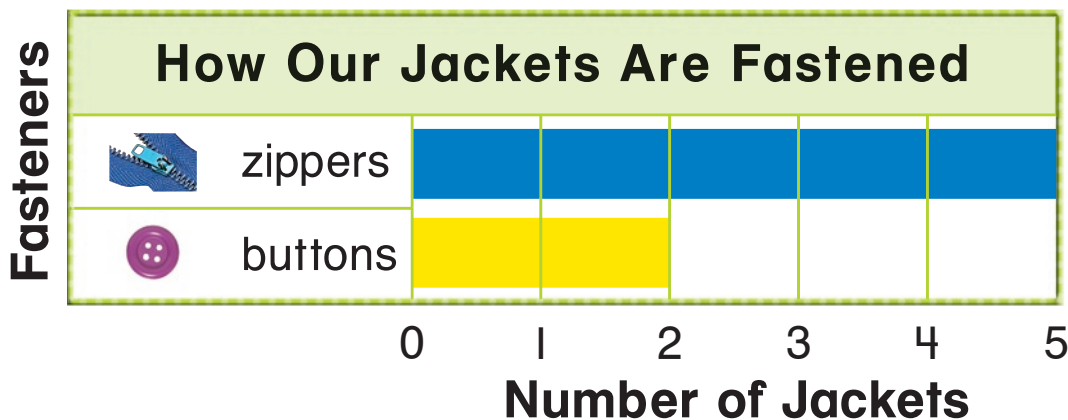
11.  Order the vehicles from least to most votes. Write 1 for the least votes and 3 for the most votes.



PROBLEM SOLVING REAL WORLD



Use the bar graph to answer the question.



12. How many more jackets have than ? _____ more jackets

13. Kim puts on a jacket with . Add her jacket to the graph. Now how many jackets have ? _____ jackets

14. Ed adds a row to the graph to show jackets with snaps. 2 fewer jackets have snaps than have zippers. How many jackets have snaps? _____ jackets

15. **Test Prep** Use the graph at the top. How many jackets have ?

2 jackets



5 jackets



7 jackets



10 jackets



TAKE HOME ACTIVITY • Have your child look through newspapers and magazines for examples of bar graphs. Talk about what information is shown in each graph you find.


Name _____

Make Bar Graphs

Essential Question How does a bar graph help you compare information?

Listen and Draw

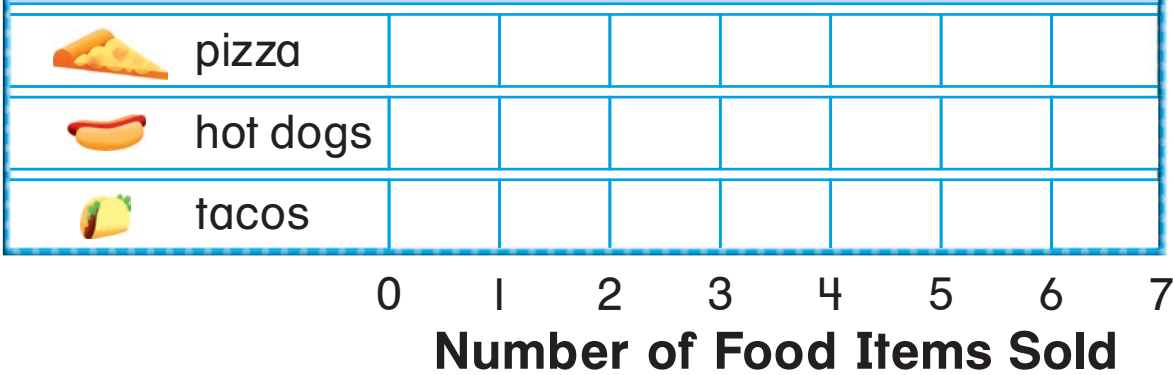
REAL WORLD

Use  to model the problem.
Color 1 box for each food item
to complete the graph.



Kinds of Food

Food Sold at the Soccer Game



FOR THE TEACHER • Read the following problem. Dan keeps track of the food he sells at the soccer game. He sells all of the food on the table. Make a bar graph to show the food Dan sells.

Math Talk

How do you know that you counted each food in the picture? **Explain.**



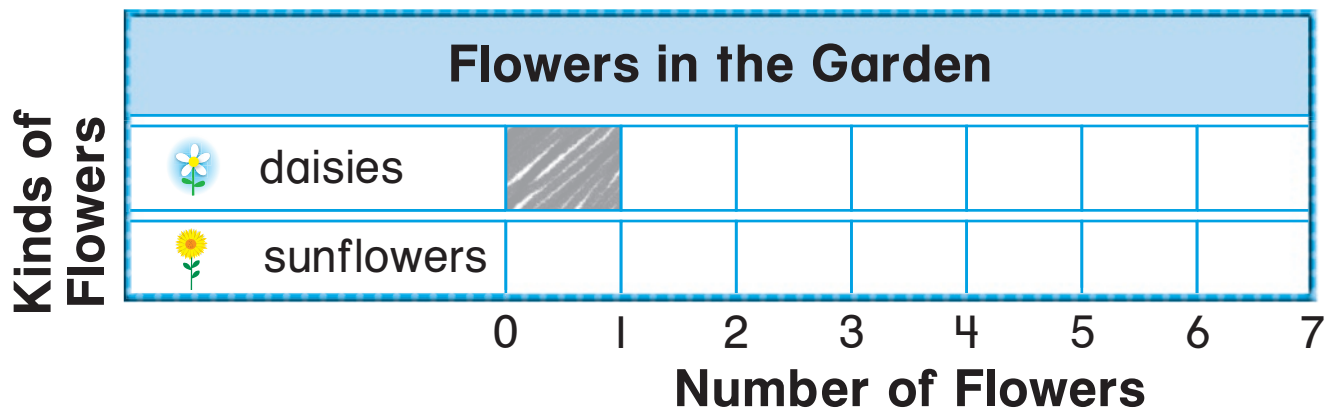
MATHEMATICAL PRACTICES

Model and Draw

Are there more  or  in the garden?

Make a bar graph to find out.

Color 1 box for each flower in the picture.



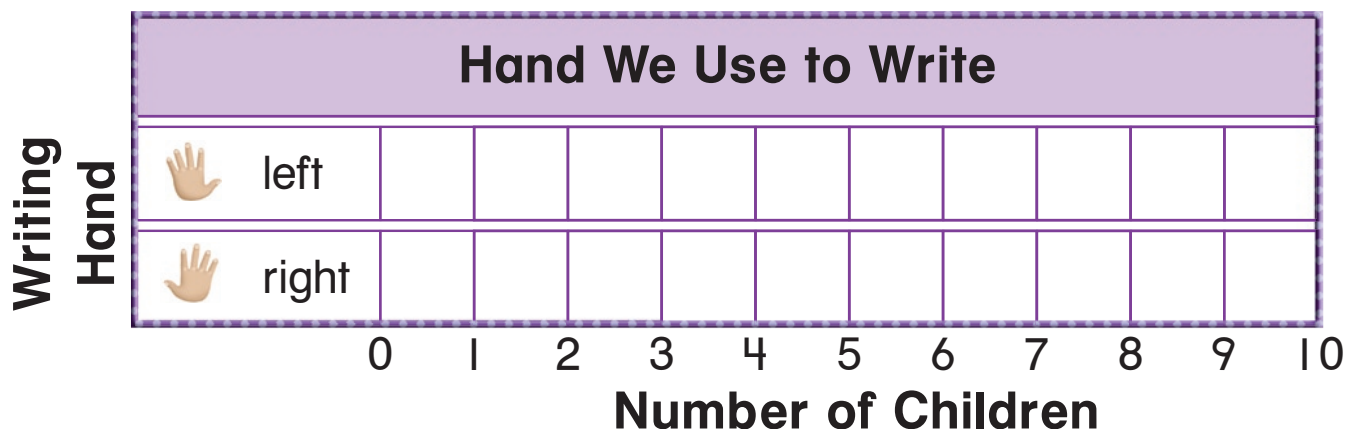
There are more _____ in the garden.

Share and Show



Do more children write with their left hand or right hand?

Ask 10 friends which hand they use. Make a bar graph.



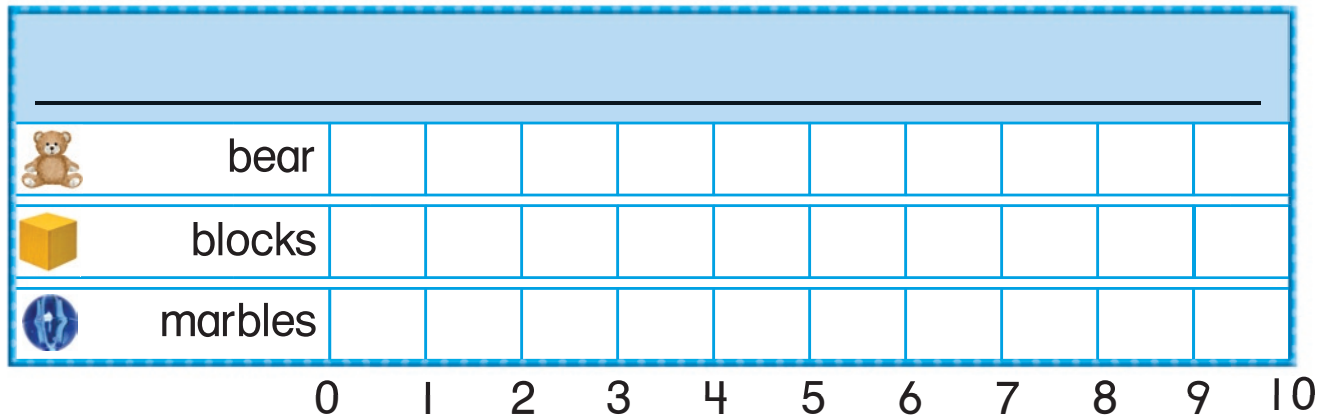
 1. Which hand do more children use to write? _____

Name _____

On Your Own

Do children like , , or  best?
Ask 10 friends which toy they like best.

2. Make a bar graph. Write a title and labels for your graph.




3. Which toy did the most children choose? Circle.



4. How many children chose ?

_____ children

5.  How are picture graphs and bar graphs alike?

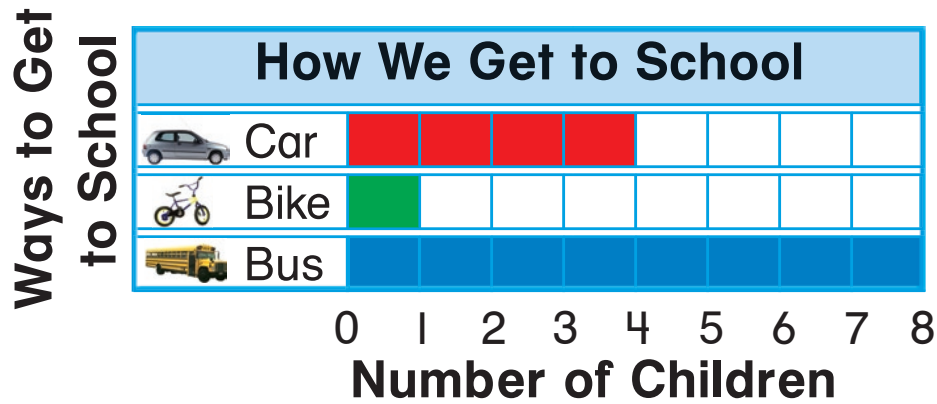




Mid-Chapter Checkpoint

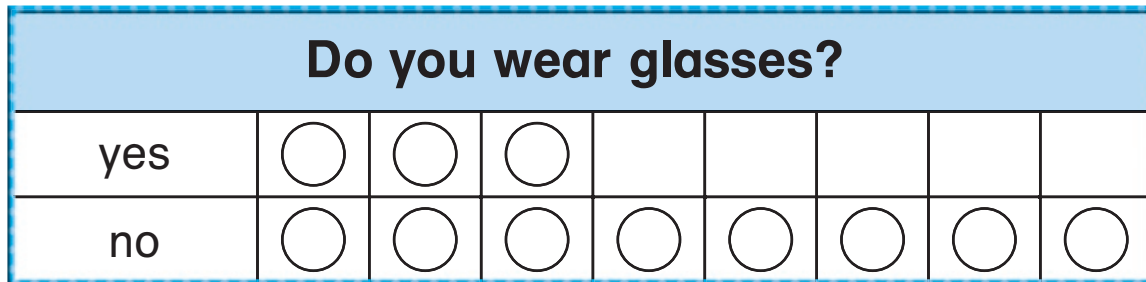
Concepts and Skills

Use the bar graph to answer the question.



1. How many children take the bus to school? _____ children

Use the picture graph to answer the question.



Each stands for 1 child.

- | | |
|--|---|
| <p>2. How many children do not wear glasses?</p> <p>_____ children</p> | <p>3. How many children wear glasses?</p> <p>_____ children</p> |
|--|---|

4. **Test Prep** How many fewer children answered yes than no about wearing glasses?

3 fewer children



4 fewer children



5 fewer children



8 fewer children



Name _____

Read Tally Charts

Essential Question How do you count the tallies on a tally chart?

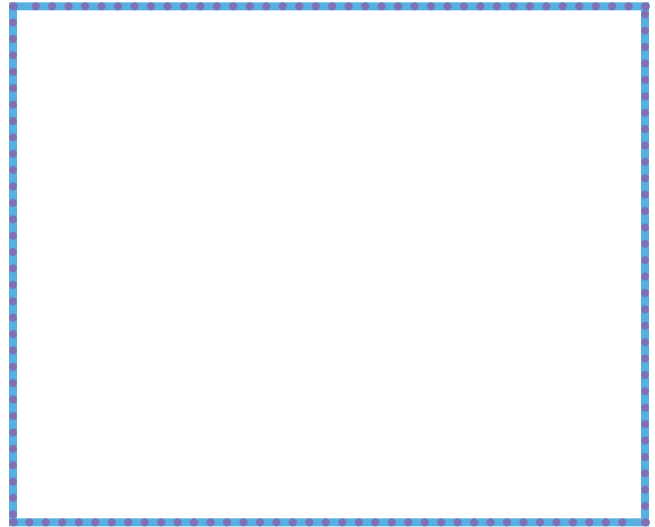
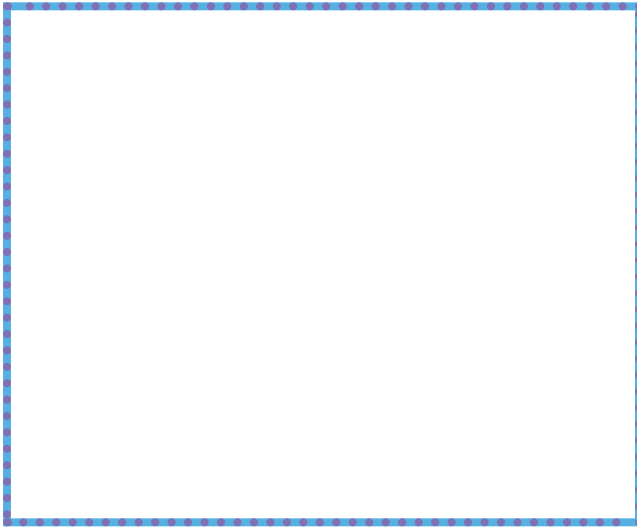
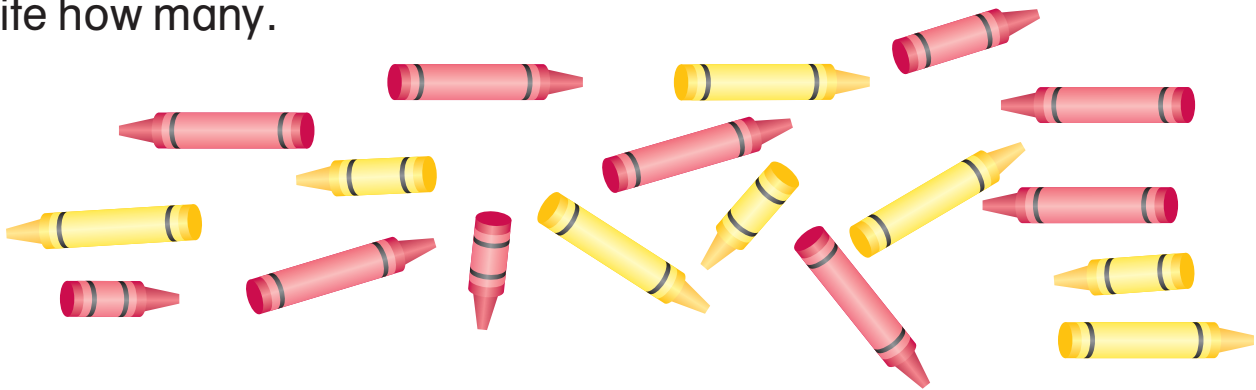
Listen and Draw

REAL WORLD

Use ● to solve the problem.

Draw to show your work.

Write how many.





FOR THE TEACHER • Read the following problem. Jane is sorting her crayons. Draw to show how she can sort the crayons into two groups.



Math Talk
Describe how you sorted the counters.



MATHEMATICAL PRACTICES

Model and Draw

Do more children like chicken or pizza better?

Food We Like		Total
 chicken		3
 pizza		

You can use a **tally chart** to collect information.

Each | is a **tally mark**.

It stands for 1 child.

|||| stands for 5 children.



More children like pizza.



Share and Show



Complete the tally chart.

Boys and Girls in Our Class		Total
 boys		
 girls		




Use the tally chart to answer each question.

- How many girls are in the class? _____ girls
- How many boys are in the class? _____ boys
- How many children are in the class in all? _____ children
- Are there more boys or girls in the class? _____





Name _____

On Your Own

Complete the tally chart.




Our Favorite Sport		Total
 t-ball		
 soccer		
 swimming		

Use the tally chart to answer the question.

5. How many children chose ? _____ children
6. How many children chose ? _____ children
7. How many more children chose  than ? _____ more children
8. Which sport did the most children choose? Circle.



9.  Write your own question about the tally chart.

10.  Sam asked some other children which sport they like. They all chose . Now the most children chose . How many children did Sam ask? _____ children

PROBLEM SOLVING

REAL

WORLD

Write Math

Color We Like Best		Total
 red		
 blue		
 green		





Remember to write the total.

Complete each sentence about the tally chart.
Write **greater than**, **less than**, or **equal to**.

11. The number of tallies for  is _____
the number of tallies for .

12. The number of tallies for  is _____
the number of tallies for .

13. The number of tallies for  is _____
the number of tallies for .

14.  The number of tallies for  is _____
the number of tallies for both  and .

15. **Test Prep** Which tally marks show the number 10?

||||

☐

|||| |

☐

|||| | |||| |

☐

|||| | |||| | |||| |

☐



TAKE HOME ACTIVITY • Together with your child, make a tally chart showing how many times you all say the word “eat” during a meal. Then have your child write the number.

Name _____

Make Tally Charts




Essential Question Why is a tally chart a good way to show information that you have collected?

Listen

REAL

WORLD

Complete the tally chart.

Our Favorite Game		Total
 card game		
 puzzle		
 board game		

Use the tally chart to answer the question.

Which game did the most children choose? Circle.



Which game did the fewest children choose? Circle.



FOR THE TEACHER • Read the following problem.
Ava asks the children in her class which of three games they like the best. She makes a tally mark to show each child's answer. Which game did the most children choose? Which did the fewest children choose?

Math Talk

How do you know which game is the favorite? **Explain.**



MATHEMATICAL PRACTICES

Model and Draw

How can you make a tally chart to show the boats at the lake?

Decide if each boat has a sail.



Boats at the Lake		Total
boats with sails		
boats without sails		

Share and Show



Use the picture to complete the tally chart. Then answer each question.



Fish in the Tank		Total
zebra fish		
angel fish		

1. How many are in the tank?

2. How many more than are there?

_____ more

3. How many and are in the tank?

_____ fish

Name _____

On Your Own




Which of these snacks do most children like the best?

Ask 10 friends. Make 1 tally mark for each child's answer.

Our Favorite Snack		Total
 pretzel		
 apple		
 yogurt		

Use the tally chart to answer each question.

4. How many children chose ?



_____ children

5. How many children chose ?

_____ children

6. Which snack do most children like best? Circle.



7.  What if 6 children out of the 10 chose ? Which snack would be the favorite? Circle it.



8. **Explain** Write your own question about the tally chart.

PROBLEM SOLVING

REAL

WORLD

Write Math

Jenna asked 10 friends to choose their favorite subject. She will ask 10 more children.




Our Favorite School Subject		Total
math	I	
reading		
science		

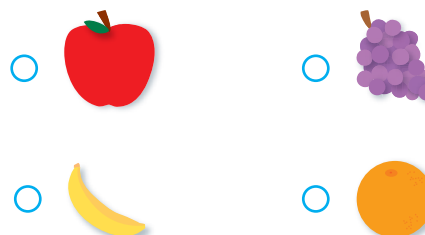
9. Predict. Which subject will children most likely choose?

10. Predict. Which subject will children least likely choose?

11. **H.O.T.** How can you prove if your prediction is good? Try it.

12. **Test Prep** Which fruit did the most children choose?

Fruit We Like			Total
	apple		4
	banana		5
	grapes		2



TAKE HOME ACTIVITY • With your child, survey friends and family to find out their favorite food. Draw tally marks to record the results and then prepare the food.

Name _____

Problem Solving • Represent Data

Essential Question How can showing information in a graph help you solve problems?

Brad sees many animals at the park.
How can you find how many animals
Brad sees?



Unlock the Problem

REAL WORLD

What do I need to find?

how many animals
Brad sees

What information do I need to use?

the number of rabbits,
birds, and deer in
the picture

Show how to solve the problem.

Animals Brad Sees									
Animals	rabbit								
	bird								
	deer								
		0	1	2	3	4	5	6	7

Number of Animals

___ + ___ + ___ = ___ animals



HOME CONNECTION • Your child learned how to represent data from a picture in a bar graph. Have your child explain why it is easier to use data in a bar graph than in a picture.

Try Another Problem

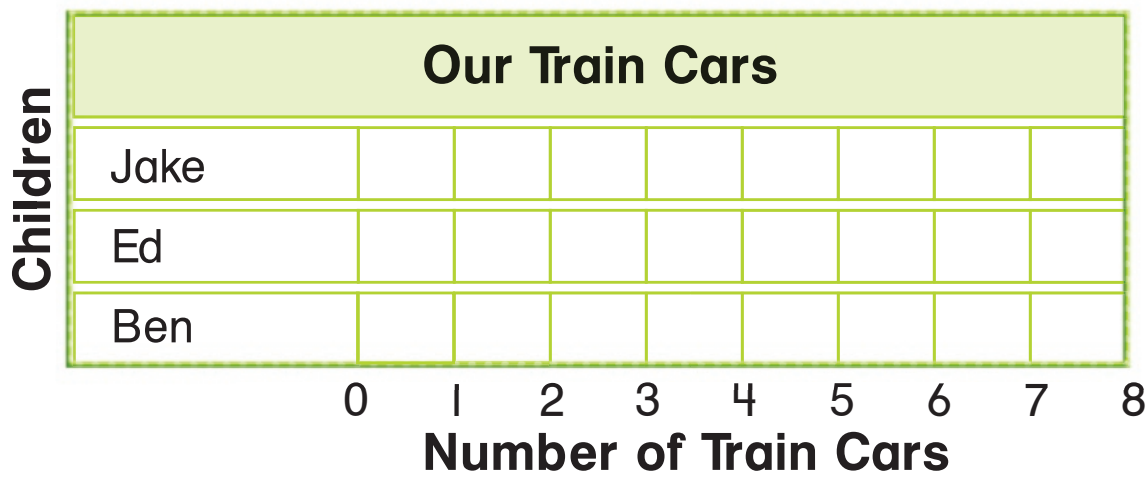
Make a graph to solve.

- Jake has 4 more train cars than Ed. Ed has 3 train cars. Ben has 2 fewer train cars than Ed. How many train cars does Jake have?

- What do I need to find?
- What information do I need to use?



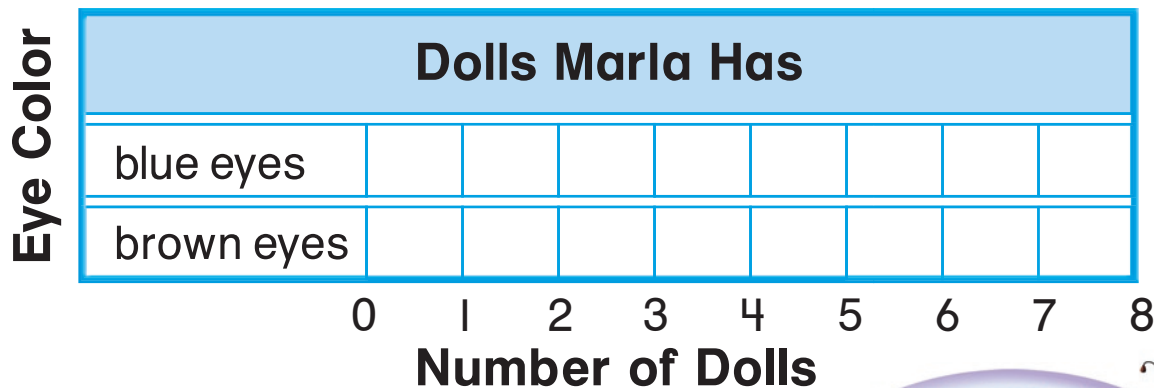
_____ train cars



- Marla has 8 dolls. Three dolls have blue eyes. The rest have brown. How many dolls have brown eyes?



_____ dolls



Math Talk

Describe how the bar graph helps you solve Exercise 2.



MATHEMATICAL PRACTICES

Name _____

Share and Show



Find out about the eye color of your classmates.



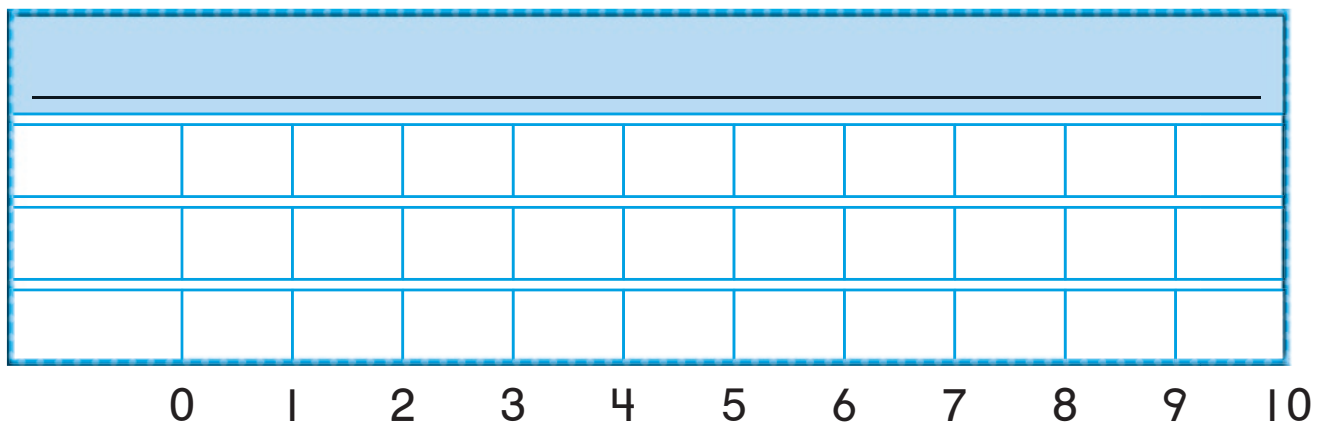
3. Write a question you can ask your friends.

4. Ask 10 friends your question.
Make a tally chart.



		Total

5. Use the tally chart to make a bar graph.

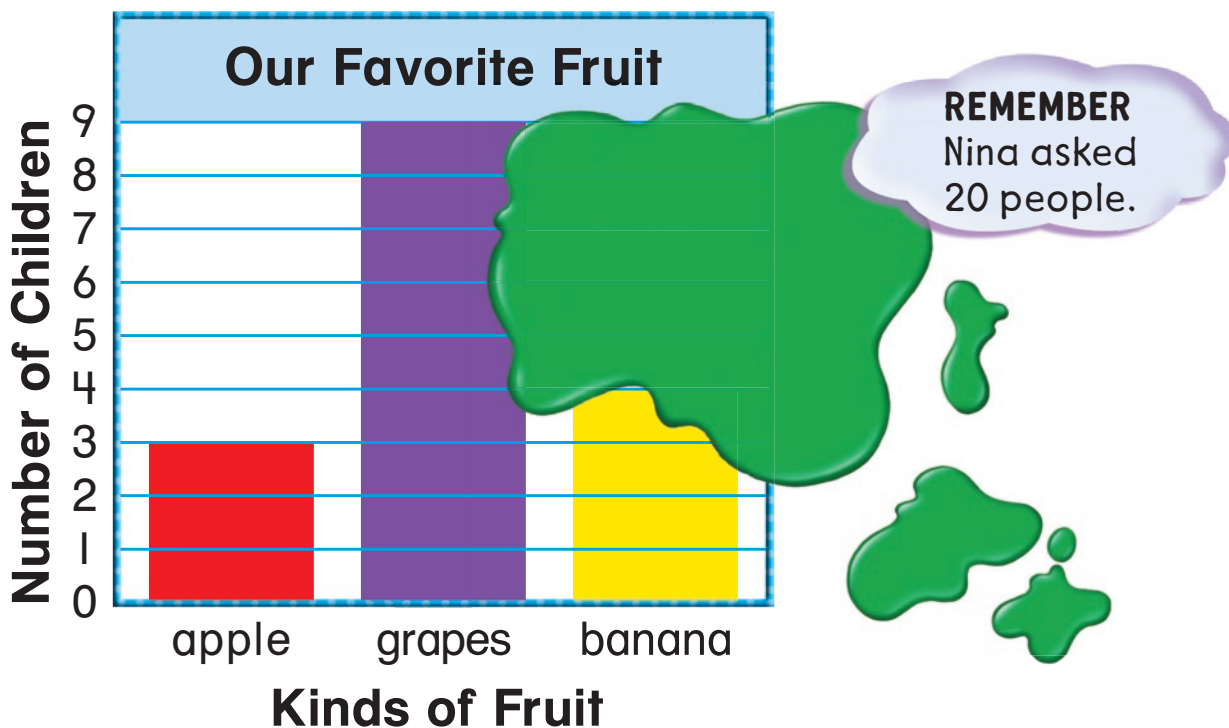


6. **Explain** What did you learn from the graph?

On Your Own

Write Math

What is your favorite fruit? Nina asked 20 children this question. Then she made a bar graph. But Nina spilled paint on the graph.



7. How many children chose grapes?

_____ children

8. **H.O.T.** How many children chose banana?

_____ children

9. **Test Prep** Use the graph at the top. How many more children chose grapes than apple?

3 more children | 6 more children | 9 more children | 12 more children



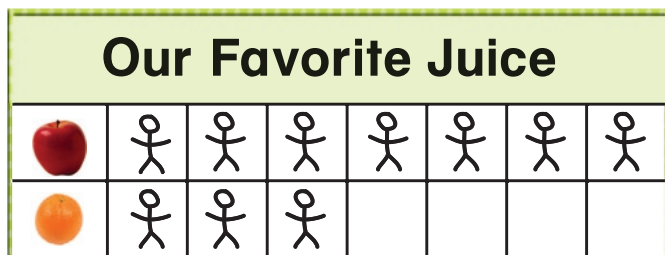
TAKE HOME ACTIVITY • Work with your child to make a tally chart and a bar graph showing the favorite color of 10 family members or friends. Talk about the results.



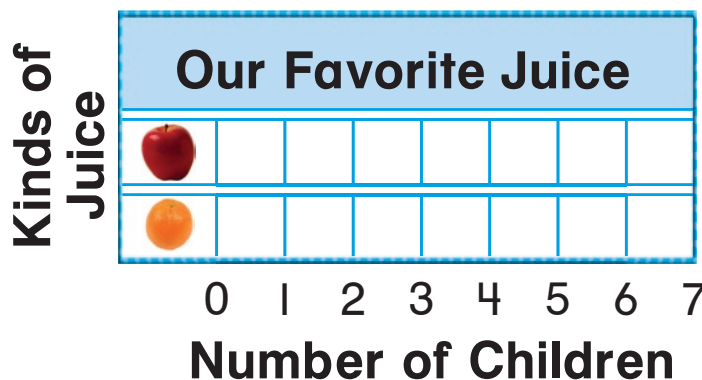
Chapter 10 Review/Test

Vocabulary

1. Circle the **picture graph**. (p. 414)
2. Use the picture graph to complete the **bar graph**. (p. 422)





Each  stands for 1 child.





Concepts and Skills

Use the graphs above to answer the question.

3. How many children chose ? _____ children



4. How many children chose ? _____ children

5. How many more children chose  than ? _____ more children

6. Which juice did more children choose? Circle it.



7. How many children chose soccer?

Our Favorite Sport			Total
	t-ball		3
	soccer	I	

3



4






6



9



8. Which snack did the most children choose?

Our Favorite Snack		
	banana	
	pretzel	
	raisins	



9. How many children chose  ?

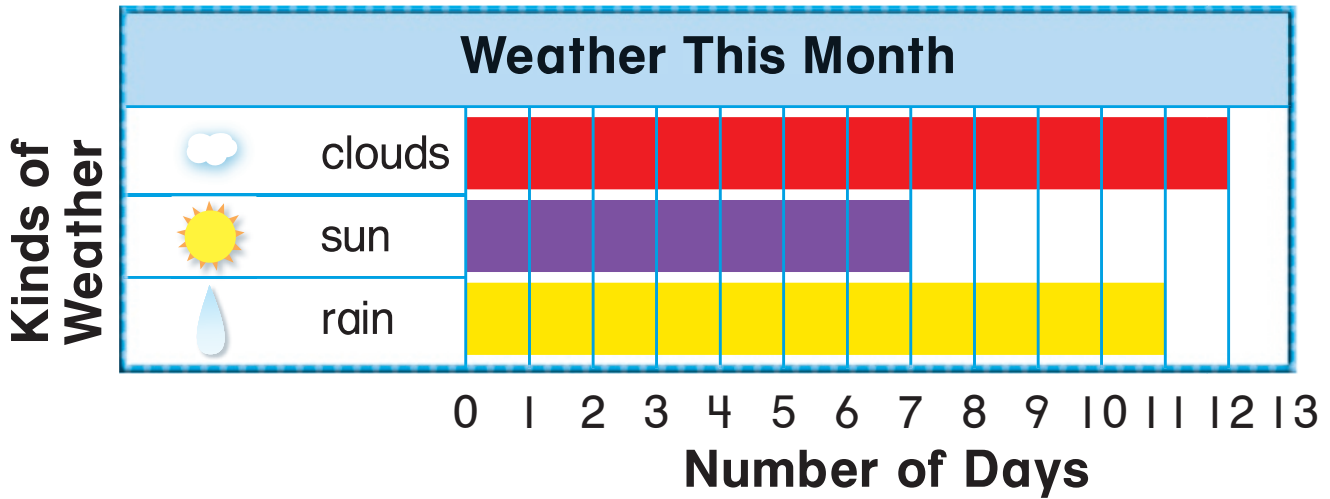
Color We Like							
	red						
	blue						

- ☐ 3 children
- ☐ 5 children
- ☐ 6 children
- ☐ 9 children

Each  stands for 1 child.



Name _____

10. How many more days this month had  than  ?



- ☐ 1 more day ☐ 5 more days
☐ 4 more days ☐ 11 more days

11. Sam makes a tally chart to show how many cars and trucks he has. Which group of tally marks shows how many cars Sam has?

Sam's Cars and Trucks		Total
 cars		8
 trucks	I	6

|||| I

☐

|||| |||

☐

|||| ||||

☐

|||| ||||

☐

Performance Task

Write a question to ask your class.

- Ask 10 children your question.
- Record the information in a tally chart.
- Show the same information in a picture graph or a bar graph.

Use words, numbers, or pictures to tell which thing is the favorite.



On

the

Move

written by Jennifer Earnshaw





The train car waits for the engine.
Name some shapes you see.



The big truck travels up the road.
Name some shapes you see.



What will this truck bring?



The ship loads at the dock.
Name some shapes you see.



These trucks drive across town.
Name some shapes you see.



The airplane arrives at the airport.
Name some shapes you see.

Name _____

Write About the Story

Think of another kind of truck that takes goods from one place to another.
Draw a picture. Use circles, squares, triangles, or rectangles in your drawing.

Vocabulary Review

circle

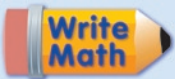
triangle

square

rectangle



truck



Write about your drawing.

Handwriting practice lines consisting of solid top and bottom lines with a dashed middle line. There are four sets of these lines for writing.

Figure It Out

1. Draw an airplane.
Use some triangles and circles in your drawing.



2. Draw a train.
Use some rectangles and circles in your drawing.



Choose two shapes to use to draw a ship. Draw the ship.