

Chapter

10

Data

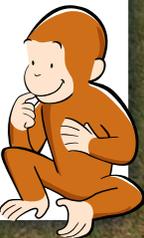


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Curious About Math with
**Curious
George**

Look at the different kinds
of balloons.

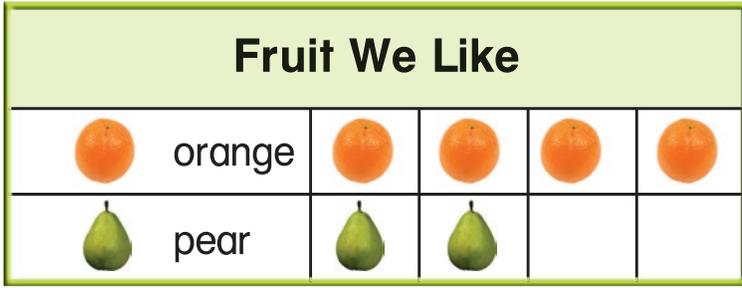
What are some ways
you can sort these
balloons?



Show What You Know 

Read a Picture Graph

Use the picture graph.



- How many children chose pear? _____ children
- Circle the fruit that more children chose.



Read a Tally Chart

Complete the tally chart.

Color We Like		Total
green		
red	I	
blue		

- How many children chose red?
_____ children
- Which color did the fewest children choose?

Addition and Subtraction Facts

Write the sum or difference.

5. $10 - 4 =$ _____	6. $4 + 5 =$ _____	7. $6 + 5 =$ _____
8. $9 - 3 =$ _____	9. $5 + 7 =$ _____	10. $11 - 3 =$ _____



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

GO Online Assessment Options
Soar to Success Math

Name _____

Review Words

tally marks

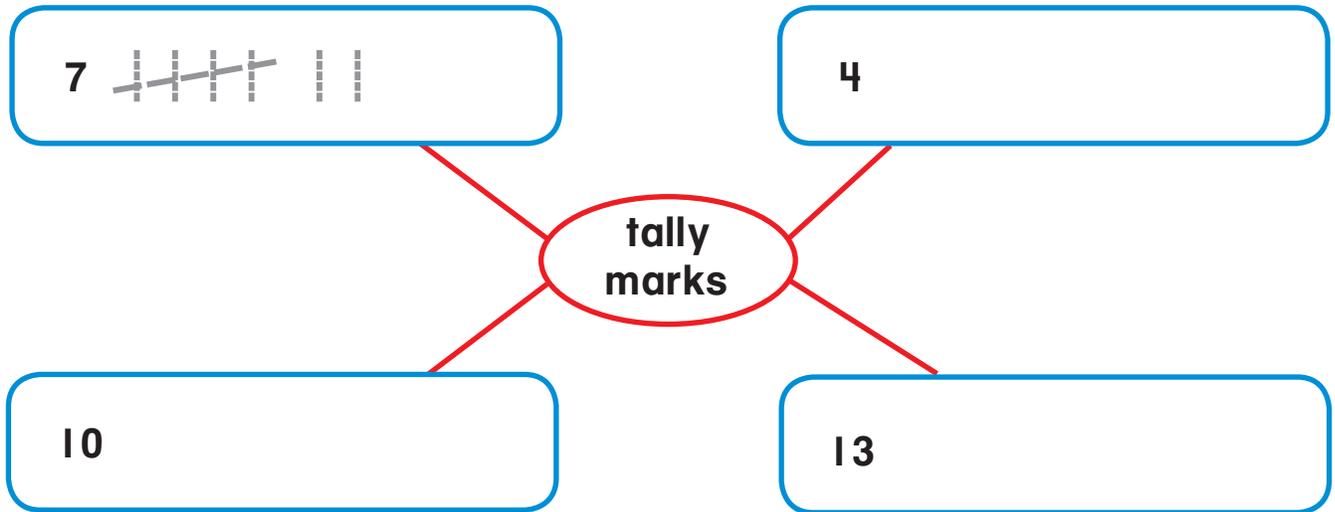
more than

fewer than

Vocabulary Builder

Visualize It

Draw **tally marks** to show each number.



Understand Vocabulary

Write a number to complete the sentence.

1. 10 apples is **more than** _____ apples.

2. 6 bananas is **fewer than** _____ bananas.

3. _____ grapes is **more than** 6 grapes.

4. _____ oranges is **fewer than** 5 oranges.

Game

Making Tens

Materials

- small bag

-  • 25 

Play with a partner.

- 1 Put 25  in a bag.
- 2 Toss the . Take that many  and put them on your ten frame. Take turns.

- 3 When you have 10  on your ten frame, make a tally mark on the tally chart. Then put the 10  back in the bag.
- 4 The first player to make 10 tally marks wins.

Player 1									

Player 2									

Making Tens	
Player	Tally
Player 1	
Player 2	

Name _____

Collect Data

Essential Question How do you use a tally chart to record data from a survey?

Listen and Draw

Take turns pulling a cube from the bag.
Draw a tally mark in the chart for each cube.

Cube Colors	
Color	Tally
blue	
red	
green	



HOME CONNECTION • Your child made tally marks to record the color of cubes pulled from a bag. This activity prepares children for using and recording data in this chapter.

Math Talk

Explain how tally marks help you keep track of what has been pulled.



MATHEMATICAL PRACTICES

Model and Draw

You can take a **survey** to collect **data**.
You can record the data with tally marks.

Greg asked his classmates which lunch is their favorite.

Favorite Lunch	
Lunch	Tally
pizza	
sandwich	I
salad	
pasta	

The tally marks in the tally chart show the children's answers. Each tally mark stands for one child's choice.

Share and Show



- Take a survey. Ask 10 classmates which pet is their favorite. Use tally marks to show their choices.

Favorite Pet	
Pet	Tally
cat	
dog	
fish	
bird	

- How many classmates chose dog?
_____ classmates

- Which pet did the fewest classmates choose?

- Did more classmates choose cat or dog? _____

How many more? _____ more classmates

Name _____

On Your Own

5. Take a survey. Ask 10 classmates which indoor game is their favorite. Use tally marks to show their choices.
-

6. How many classmates chose board game?

_____ classmates

Favorite Indoor Game	
Game	Tally
board	
card	
computer	
puzzle	

7. Which game did the most classmates choose?

8. Did more classmates choose a card game or a computer game?

How many more? _____ more classmates

9. Which game did the fewest classmates choose?

10. How many classmates did not choose a board game or a puzzle? **Explain** how you know.

PROBLEM SOLVING REAL WORLD



Claire asked her classmates to choose their favorite subject. She made this tally chart.

Favorite Subject	
Subject	Tally
reading	
math	
science	

11. How many more classmates chose math than reading?

_____ more classmates

12. How many classmates did Claire ask?

_____ classmates

13.  Write a new question about the data in the chart. Then write the answer to your question.

14. **Test Prep** Use the tally chart. Which statement is true?

- 13 children voted for breakfast.
- 35 children voted in all.
- 12 children voted for dinner.
- Fewer children voted for lunch than for breakfast.

Favorite Meal	
Meal	Tally
breakfast	
lunch	
dinner	



TAKE HOME ACTIVITY • With your child, take a survey about favorite games and make a tally chart to show the data.

Name _____

Read Picture Graphs

Essential Question How do you use a picture graph to show data?

Listen and Draw



Use the tally chart to solve the problem.
Draw or write to show what you did.

Favorite Hobby	
Hobby	Tally
crafts	I
reading	
music	
sports	II

_____ more children

Math Talk

Can the chart be used to find how many girls chose music?

Explain.



MATHEMATICAL PRACTICES



FOR THE TEACHER • Read the following problem. Mr. Martin's class made this tally chart. How many more children in his class chose sports than chose reading as their favorite hobby?

Model and Draw

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



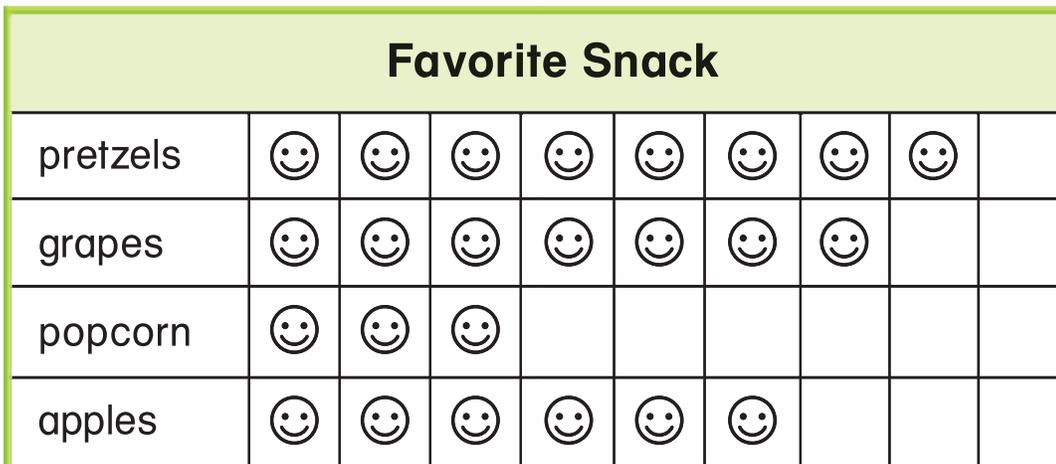
A key tells how many each picture stands for.

Key: Each  stands for 1 game.

Share and Show



Use the picture graph to answer the questions.



Key: Each  stands for 1 child.

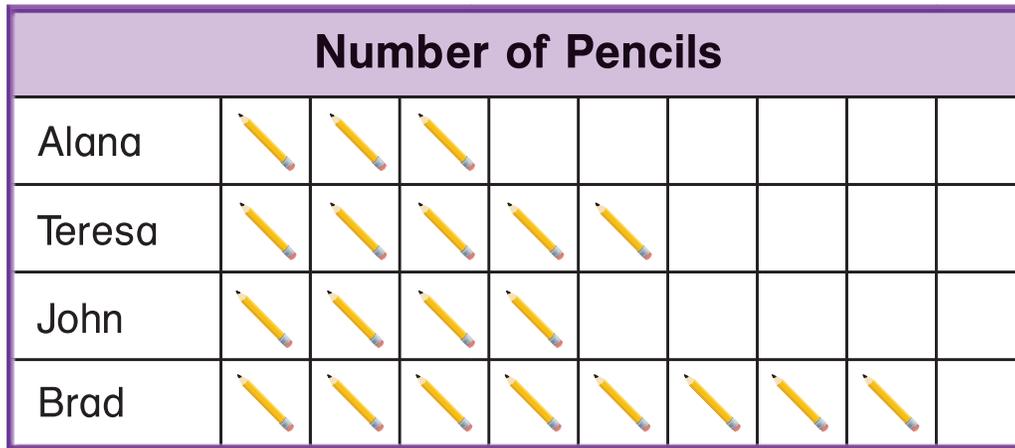
1. Which snack was chosen by the fewest children? _____

2. How many more children chose pretzels than apples? _____ more children

Name _____

On Your Own

Use the picture graph to answer the questions.



Key: Each  stands for 1 pencil.

- How many pencils do Alana and Brad have? _____ pencils
- How many more pencils does Teresa have than Alana has? _____ more pencils
- How many pencils do the four children have? _____ pencils
- Christy has 7 pencils. Write two sentences to describe how her number of pencils compares to the data in the picture graph.

PROBLEM SOLVING

REAL WORLD

Write Math

Favorite Balloon Color								
green								
blue								
red								
purple								

Key: Each  stands for 1 child.

7. How many children chose the color blue or chose the color green? _____ children

8.  Which three colors were chosen by a total of 13 children?

9. **Test Prep** Use the picture graph. How many pets do the three children have?

- 6
- 5
- 4
- 3

Number of Pets				
Scott				
Andre				
Maddie				

Key: Each  stands for 1 pet.



TAKE HOME ACTIVITY • Have your child explain how he or she solved Exercise 9.

Name _____

Make Picture Graphs

Essential Question How do you make a picture graph to show data in a tally chart?

Listen and Draw

Take turns pulling a cube from the bag.
Draw a smiley face in the graph for each cube.

Cube Colors					
blue					
red					
green					
orange					

Key: Each ☺ stands for 1 cube.

Math Talk

Explain how you know that the number of smiley faces for blue matches the number of blue cubes.



MATHEMATICAL PRACTICES



HOME CONNECTION • Your child made a graph by recording smiley faces for the colors of cubes taken from a bag. This activity prepares children for working with picture graphs in this lesson.

Model and Draw

Each picture in the graph stands for 1 flower.
Draw pictures to show the data in the tally chart.

Number of Flowers Picked	
Name	Tally
Jessie	
Inez	
Paulo	

Number of Flowers Picked					
Jessie					
Inez					
Paulo					

Key: Each  stands for 1 flower.

Share and Show



- Use the tally chart to complete the picture graph.
Draw a 😊 for each child.

Favorite Sandwich	
Sandwich	Tally
cheese	
ham	
tuna	
turkey	

Favorite Sandwich					
cheese					
ham					
tuna					
turkey					

Key: Each 😊 stands for 1 child.

2. How many children chose tuna? _____ children

3. How many more children chose cheese than ham? _____ more children

Name _____

On Your Own

4. Use the tally chart to complete the picture graph.
Draw a 😊 for each child.

Favorite Fruit	
Fruit	Tally
apple	
plum	
banana	
orange	

Favorite Fruit					
apple					
plum					
banana					
orange					

Key: Each 😊 stands for 1 child.

5. How many children chose banana? _____ children

6. How many fewer children chose plum than banana? _____ fewer children

7. Which fruit did the most children choose? _____

8. How many more children chose banana than orange? _____ more children

9.  Which three fruits were chosen by a total of 10 children?



TAKE HOME ACTIVITY • Ask your child to explain how to read the picture graph on this page.

Name _____



Mid-Chapter Checkpoint

Concepts and Skills

Use the picture graph to answer the questions.

Favorite Season									
spring	😊	😊	😊	😊	😊	😊			
summer	😊	😊	😊	😊	😊	😊	😊	😊	
fall	😊	😊	😊	😊					
winter	😊	😊	😊	😊	😊	😊	😊		

Key: Each 😊 stands for 1 child.

- Which season did the fewest children choose?

- How many more children chose spring than fall?
_____ more children

- How many children chose a season that was not winter?
_____ children

- James took a survey. 5 children chose green as their favorite color. Which group of tally marks should James use to show this?
 - |||
 - ||||
 - ||||
 - |||| |

Name _____

Read Bar Graphs

Essential Question How is a bar graph used to show data?

Listen and Draw



Use the picture graph to solve the problem.
Draw or write to show what you did.

Red Trucks Seen Last Week								
Morgan	■	■	■					
John	■	■	■	■	■	■		
Cindy	■	■	■	■	■	■	■	■
Carlos	■	■	■	■				

Key: Each ■ stands for 1 red truck.

_____ red trucks



FOR THE TEACHER • Read this problem to children. Morgan made a picture graph to show the number of red trucks that she and her friends saw last week. How many red trucks did the four children see last week?

Math Talk

Describe how the data in the graph for John and for Cindy are different.

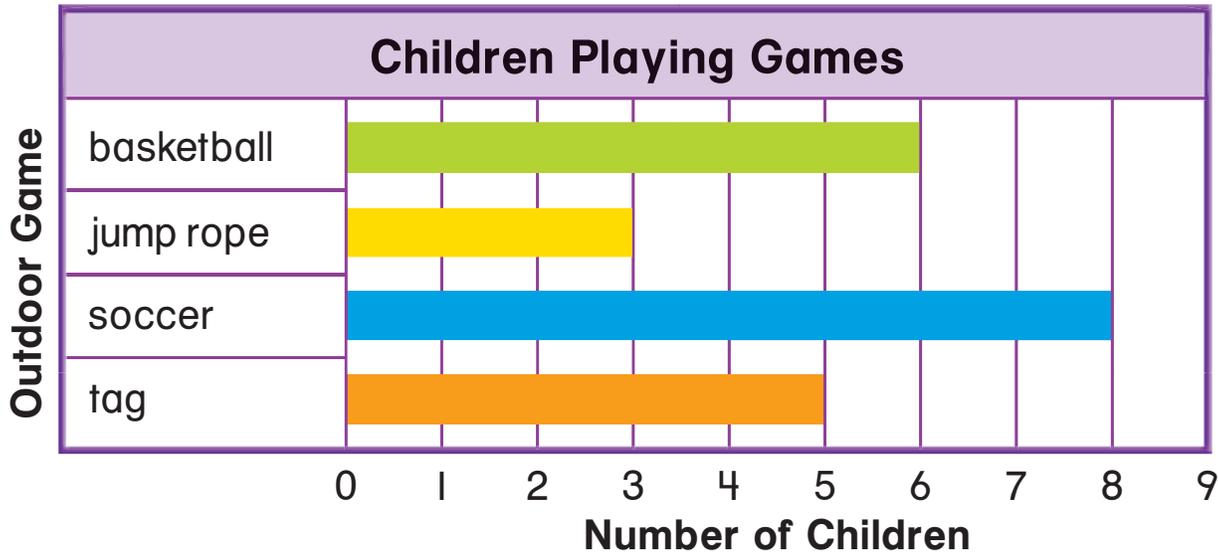


MATHEMATICAL PRACTICES

Model and Draw

A **bar graph** uses bars to show data.
Look at where the bars end.
This tells how many.

There are
8 children playing
soccer.



Share and Show



Use the bar graph.

1. How many green marbles are in the bag?

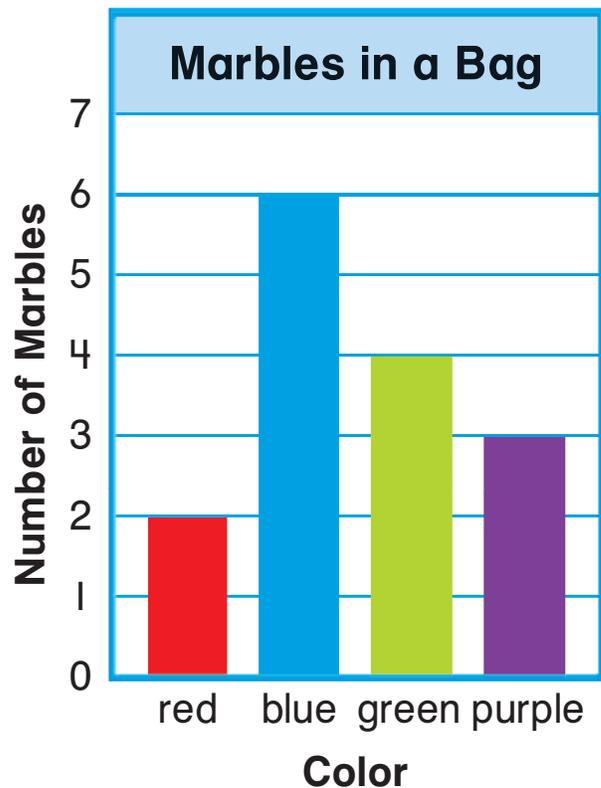
_____ green marbles

2. How many more blue marbles than purple marbles are in the bag?

_____ more blue marbles

3. How many marbles are in the bag?

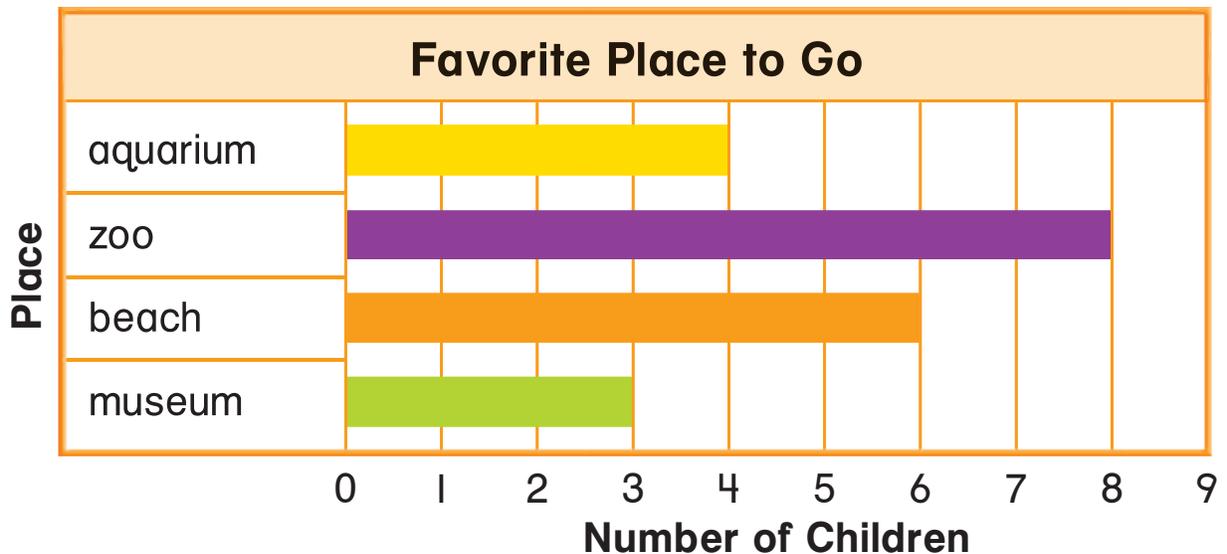
_____ marbles



Name _____

On Your Own

Use the bar graph.



4. How many children chose the beach?

_____ children

5. Which place did the fewest children choose?

6. How many more children chose the zoo than the aquarium?

_____ more children

7. How many children chose a place that was not the zoo?

_____ children

8. Find the number of children who chose the aquarium and the beach. Then find the number of children who chose the zoo and the museum. Describe how these two numbers are different.

PROBLEM SOLVING

REAL WORLD

Write Math

Use the bar graph.

9. How many maple trees are there?

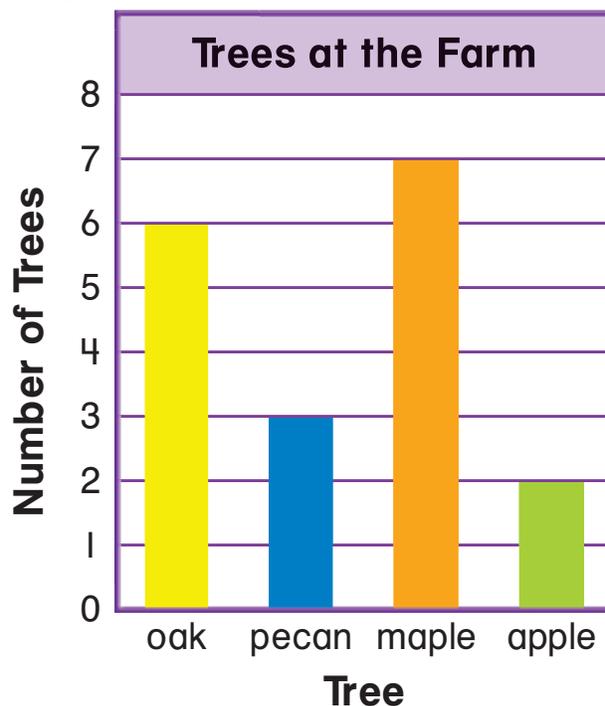
_____ maple trees

10. How many fewer apple trees than oak trees are there?

_____ fewer apple trees

11. How many trees are not apple trees?

_____ trees



12. **H.O.T.** Suppose 7 more trees are brought to the farm. How many trees would be at the farm then? Explain.

13. **Test Prep** Look at the bar graph above. How many oak trees are at the farm?

- 3
- 6
- 7
- 8



TAKE HOME ACTIVITY • Ask your child to explain how he or she solved Exercise 10.

Name _____

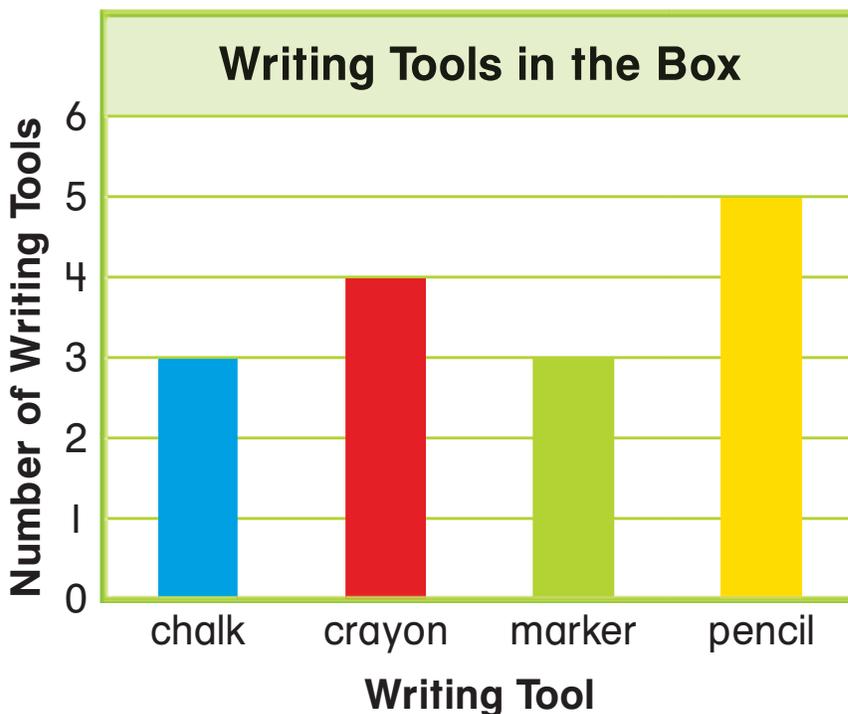
Make Bar Graphs

Essential Question How do you make a bar graph to show data?

Listen and Draw



Use the bar graph to solve the problem.
Draw or write to show what you did.



_____ writing tools

Math Talk

Describe how the information in the graph for crayon and for marker is different.



MATHEMATICAL PRACTICES

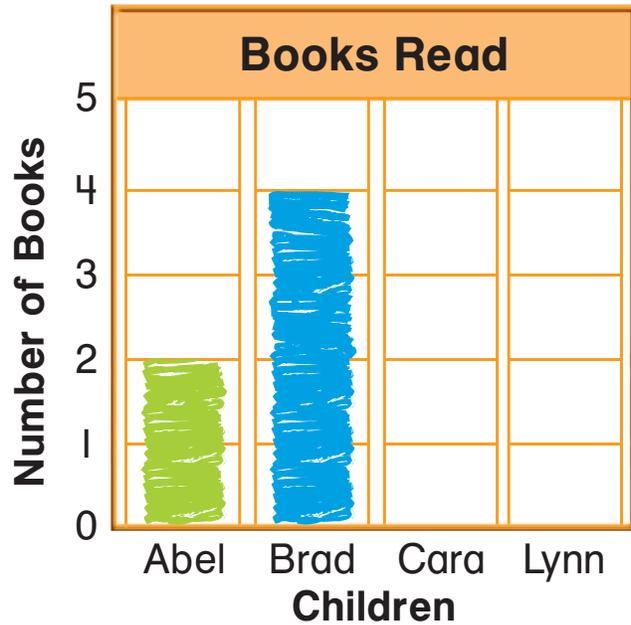


FOR THE TEACHER • Read the following problem. Barry made this bar graph. How many writing tools are in the box?

Model and Draw

Abel read 2 books, Brad read 4 books, Cara read 1 book, and Lynn read 3 books.

Complete the bar graph to show this data.



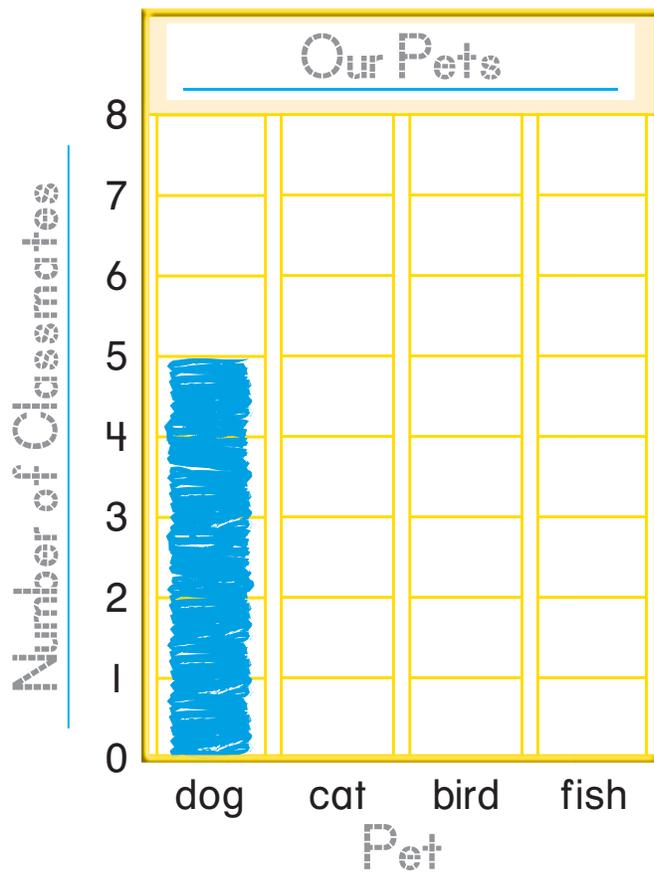
Share and Show



Ella is making a bar graph to show the kinds of pets her classmates have.

- 5 classmates have a dog.
- 7 classmates have a cat.
- 2 classmates have a bird.
- 3 classmates have fish.

1. Write labels and draw bars to complete the graph.
2. How will the graph change if one more child gets a bird?



Name _____

On Your Own

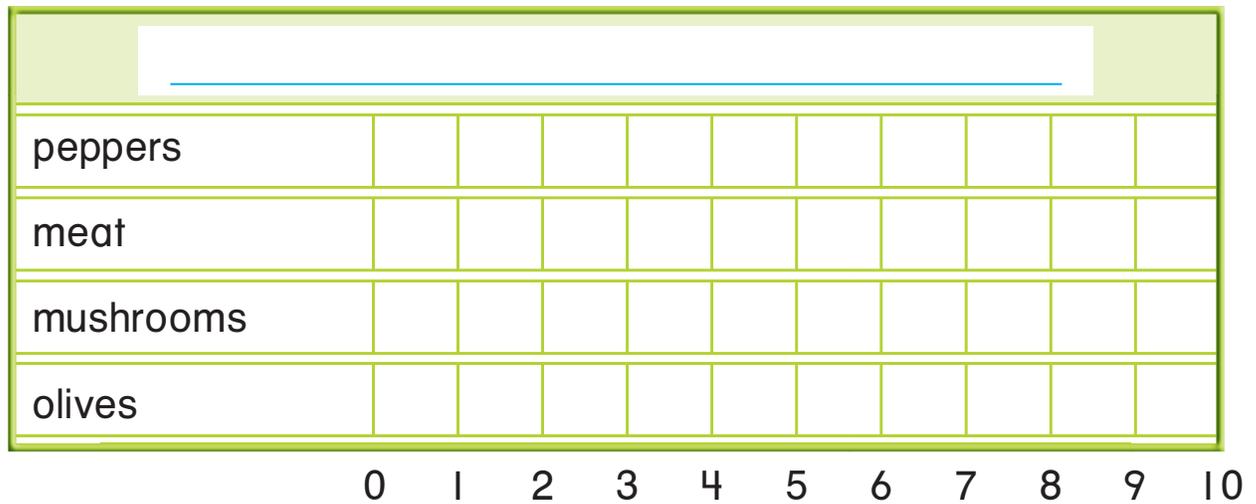
Dexter asked his classmates which pizza topping is their favorite.

- 4 classmates chose peppers.
- 7 classmates chose meat.
- 5 classmates chose mushrooms.
- 2 classmates chose olives.



3. Write a title and labels for the bar graph.

4. Draw bars in the graph to show the data.



5. Which topping did the most classmates choose? _____

6.  Did more classmates choose peppers and olives than meat? **Explain.**

PROBLEM SOLVING

REAL WORLD



Cody asked his classmates which zoo animal is their favorite.

- 6 classmates chose bear.
- 4 classmates chose lion.
- 7 classmates chose tiger.
- 3 classmates chose zebra.

Use the data to complete the bar graph.

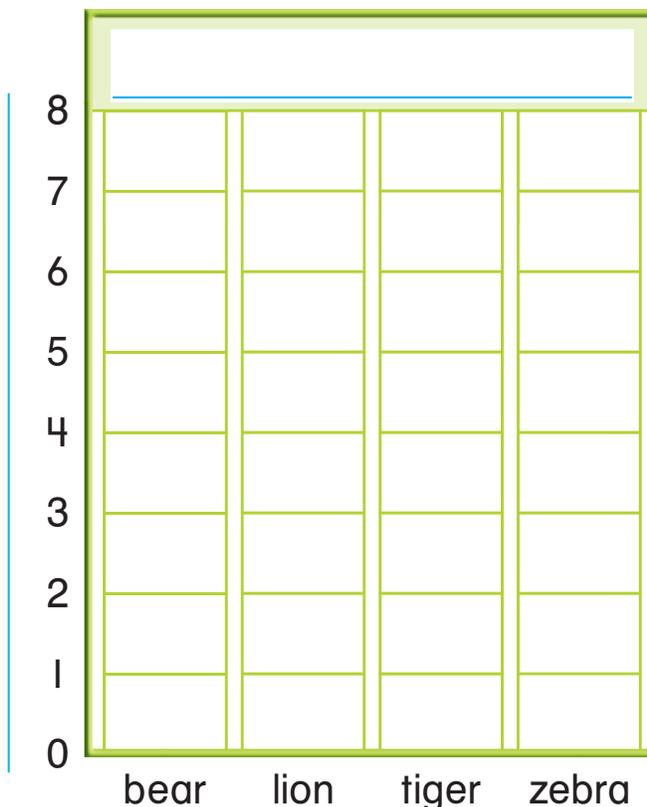
7. Write a title and labels.
Draw bars.

8. How many more classmates chose bear than zebra?

_____ more classmates

9.  How many fewer classmates chose lion than classmates that chose the other zoo animals?

_____ fewer classmates



10. **Test Prep** Look at the bar graph above. Which animal did the most classmates choose?

- bear
- tiger
- lion
- zebra



TAKE HOME ACTIVITY • Ask your child to describe how he or she used the favorite zoo animal data to complete the bar graph.

Name _____

Problem Solving • Display Data

Essential Question How does making a bar graph help when solving problems about data?

Maria recorded the rainfall in her town for four months. How did the amount of rainfall change from September to December?

September	4 inches
October	3 inches
November	2 inches
December	1 inch



Unlock the Problem

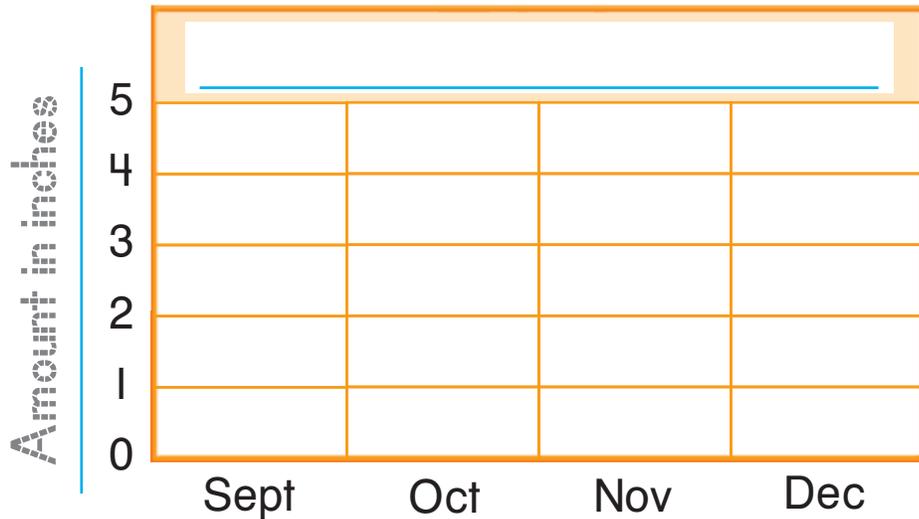
What do I need to find?

how the amount of rainfall changed from September to December

What information do I need to use?

the amount of rainfall in each of the four months

Show how to solve the problem.



The amount of rainfall _____

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HOME CONNECTION • Your child made a bar graph to show the data. Making a graph helps your child organize data to solve problems.

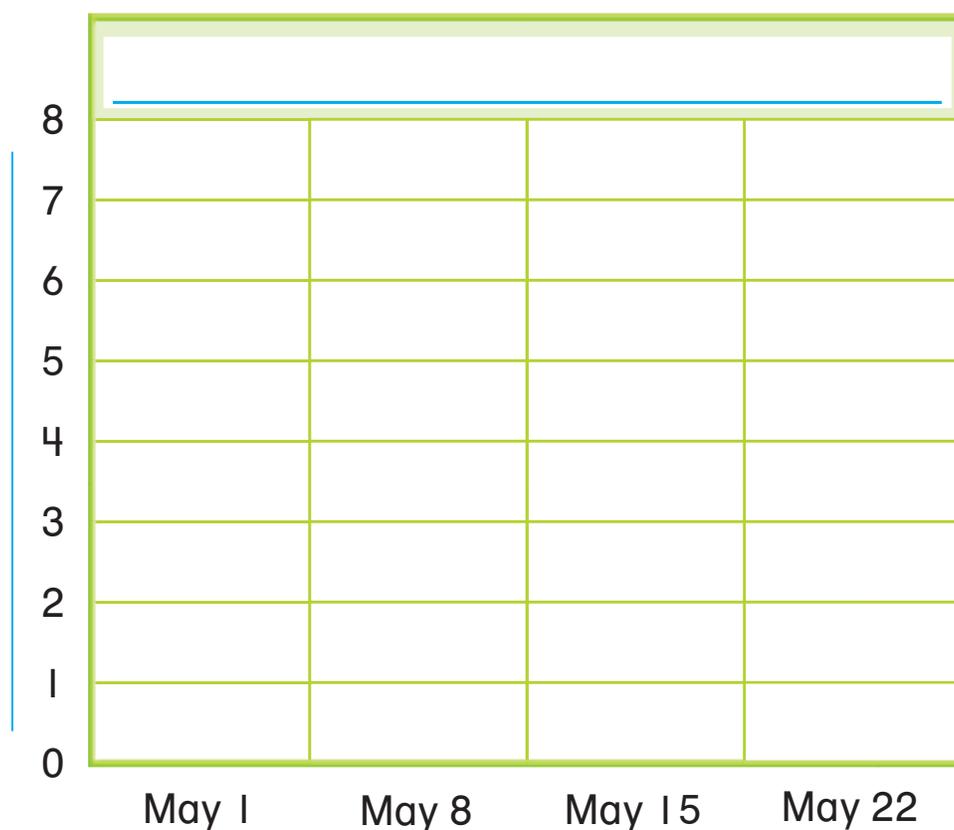
Try Another Problem

Make a bar graph to solve the problem.

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

1. Matthew measured the height of his plant once a week for four weeks. Describe how the height of the plant changed from May 1 to May 22.

May 1	2 inches
May 8	3 inches
May 15	5 inches
May 22	7 inches



The height of the plant _____

Math Talk

How many inches did the plant grow from May 1 to May 22?

Explain.



MATHEMATICAL PRACTICES

Name _____

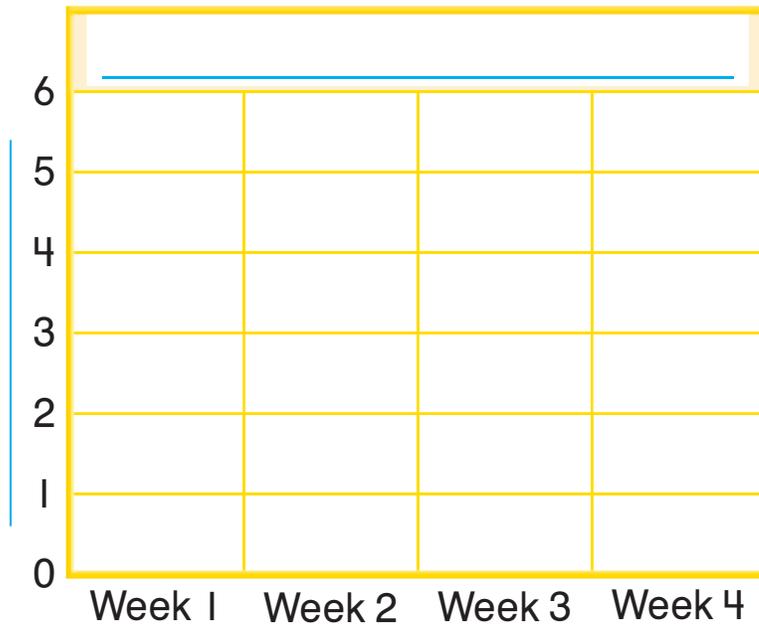
Share and Show



Make a bar graph to solve the problem.

2. Bianca wrote the number of hours that she practiced playing guitar in June. Describe how the amount of practice time changed from Week 1 to Week 4.

Week 1	1 hour
Week 2	2 hours
Week 3	4 hours
Week 4	5 hours



The amount of practice time _____

3. If Bianca's practice time is 4 hours in Week 5, how does her practice time change from Week 1 to Week 5?

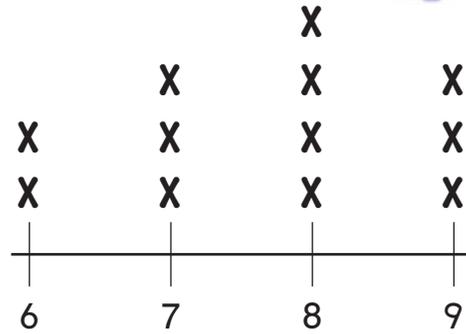
On Your Own

Solve.



4. How many strings are 9 inches long?

_____ strings

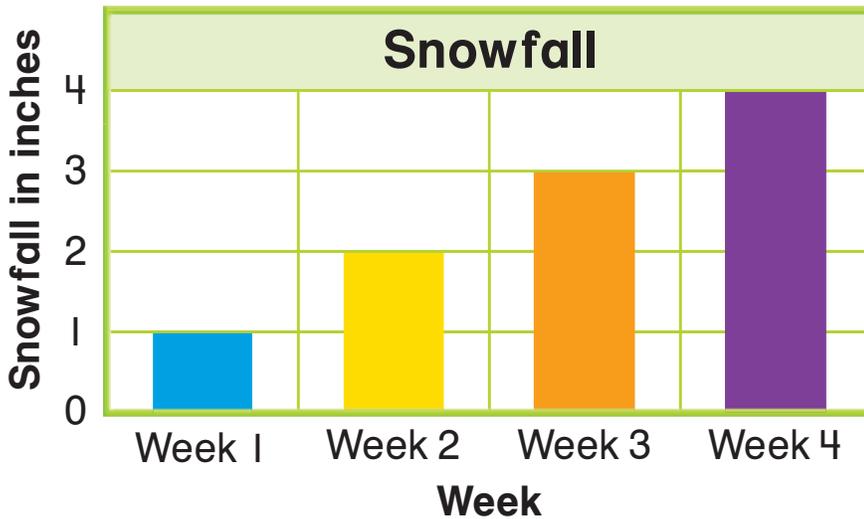


5. **H.O.T.** How many strings are more than 6 inches long?

_____ strings

Lengths of Strings in Inches

6. **Test Prep** Use the bar graph. How did the amount of snowfall change from Week 1 to Week 4?



- The amount of snowfall stayed the same.
- The amount of snowfall increased.
- The amount of snowfall decreased.
- The amount of snowfall decreased and then increased.



TAKE HOME ACTIVITY • Have your child explain how he or she solved Exercise 5.

Name _____



Chapter 10 Review/Test

Vocabulary

Use a word in the box to complete each sentence.

1. You can take a survey to collect _____.
(p. 470)
2. A _____ uses pictures to show data in a graph. (p. 474)

bar graph
picture graph
data

Concepts and Skills

Use the tally chart to complete the picture graph.

Draw a ☺ for each bird.

Birds Counted at the Park	
Child	Tally
Reggie	
Kate	
Ted	
Mandy	

Birds Counted at the Park					
Reggie					
Kate					
Ted					
Mandy					

Key: Each ☺ stands for 1 bird.

3. Which child counted the most birds?

4. How many fewer birds did Ted count than Reggie counted?
_____ fewer birds
5. How many birds did the four children count?
_____ birds

Fill in the bubble for the correct answer choice.

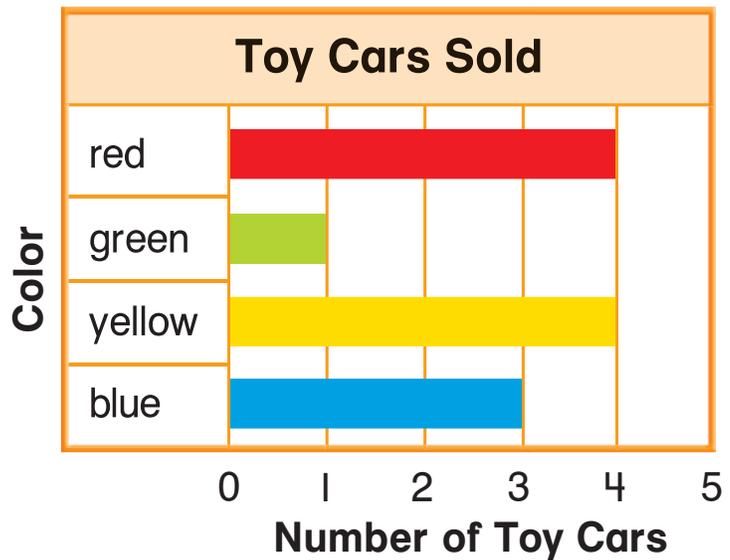
6. Use the tally chart.
How many children chose apple muffins?

- 13
- 8
- 7
- 5

Favorite Muffin	
Muffin	Tally
banana	
blueberry	
apple	

7. Use the bar graph.
How many more yellow toy cars than green toy cars were sold?

- 1
- 3
- 4
- 5



8. Use the picture graph.
How many stickers do Megan and Lin have?

- 4
- 5
- 6
- 7

Stickers We Have					
Shane	😊	😊	😊		
Megan	😊	😊			
Lin	😊	😊	😊	😊	
Elroy	😊	😊	😊		

Key: Each 😊 stands for 1 sticker.

Name _____

Fill in the bubble for the correct answer choice.

9. Use the picture graph.
How many fewer books did Joy read than Tony?

- 1
- 2
- 3
- 5

Books We Read					
Joy					
Dave					
Sasha					
Tony					

Key: Each  stands for 1 book.

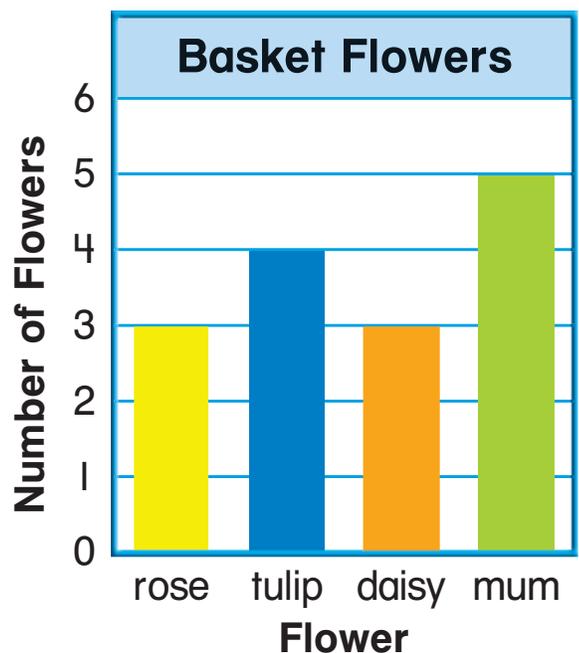
10. Use the tally chart. How many children chose truck?

- 5
- 8
- 10
- 12

Favorite Toy	
Toy	Tally
ball	
truck	
doll	

11. Use the bar graph.
How many more mums than roses are in the basket?

- 1
- 2
- 3
- 8



Constructed Response

12. The data for grape juice is not shown in the picture graph. If 13 children voted in all, how many pictures should there be for grape juice?

_____ pictures

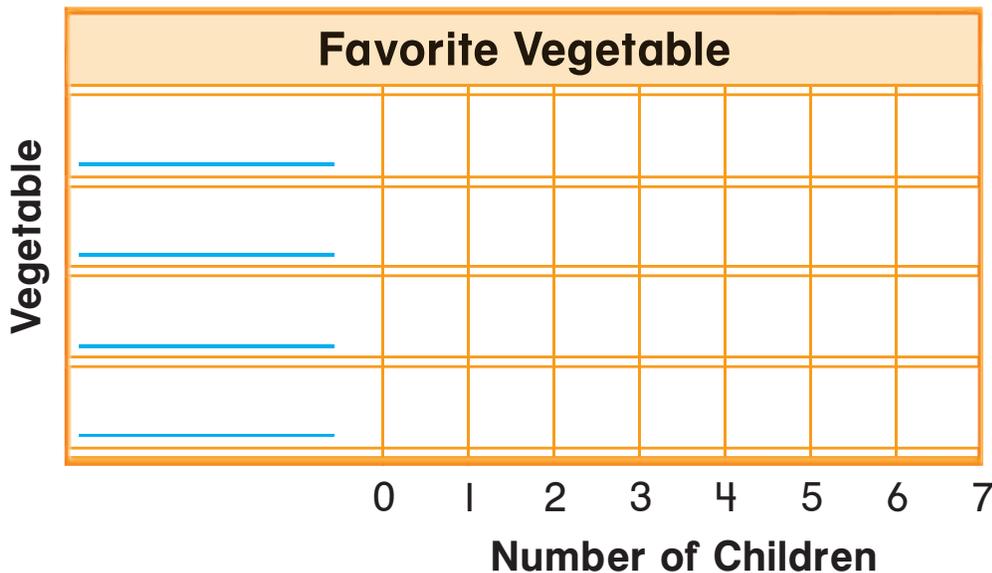
Explain your answer.



Key: Each  stands for 1 child.

Performance Task

13. In a survey for favorite vegetable, 3 children chose squash, 4 children chose beans, 6 children chose corn, and 5 children chose carrots. Write labels and draw bars to complete the graph.



Write a sentence to describe the data in the graph.

A Farmer's Job

by Tami Morton



Describing and analyzing shapes



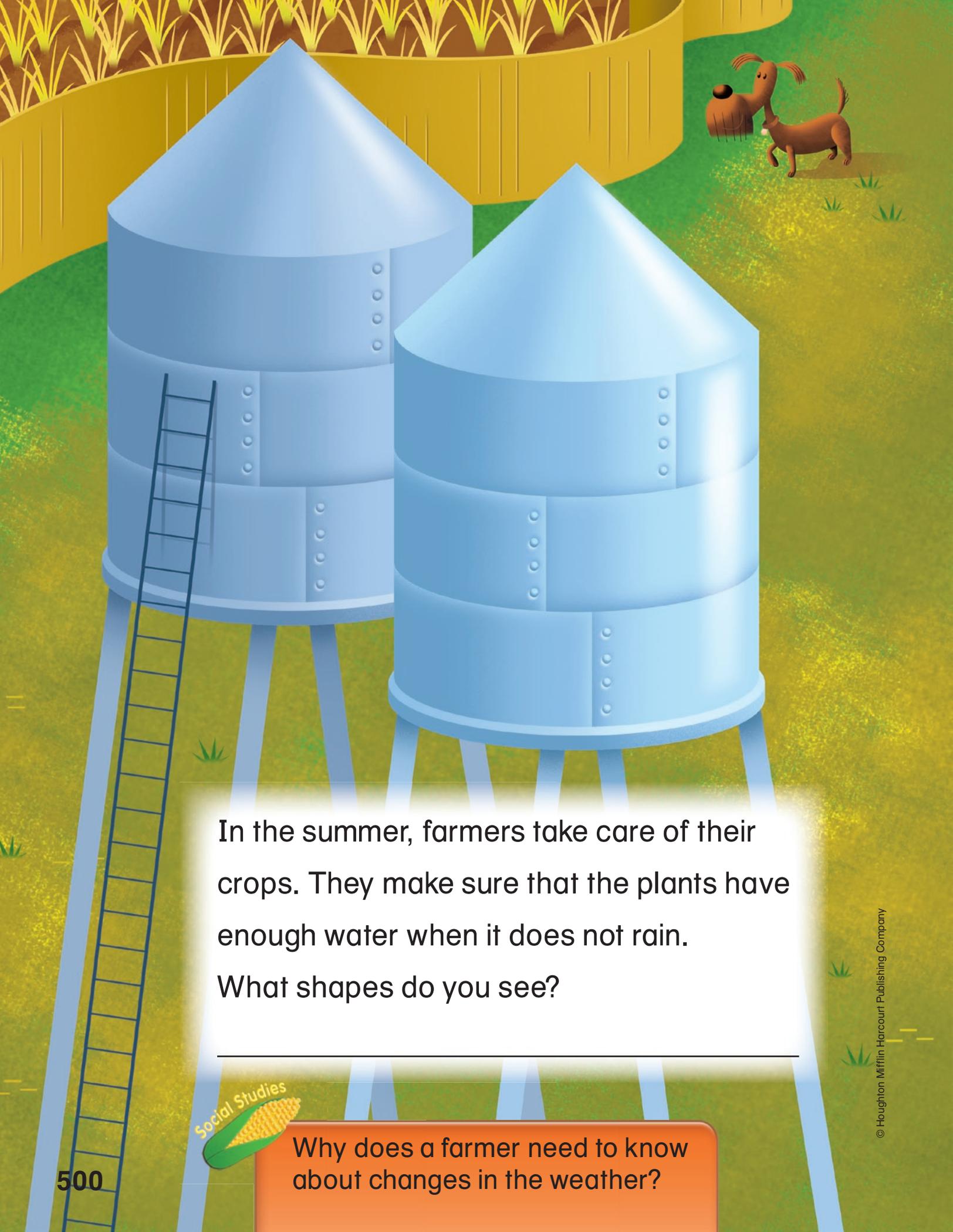
A farmer's job is never done. Farmers are busy during all of the seasons of the year. They grow fruits and vegetables for people to eat.

What shapes do you see?





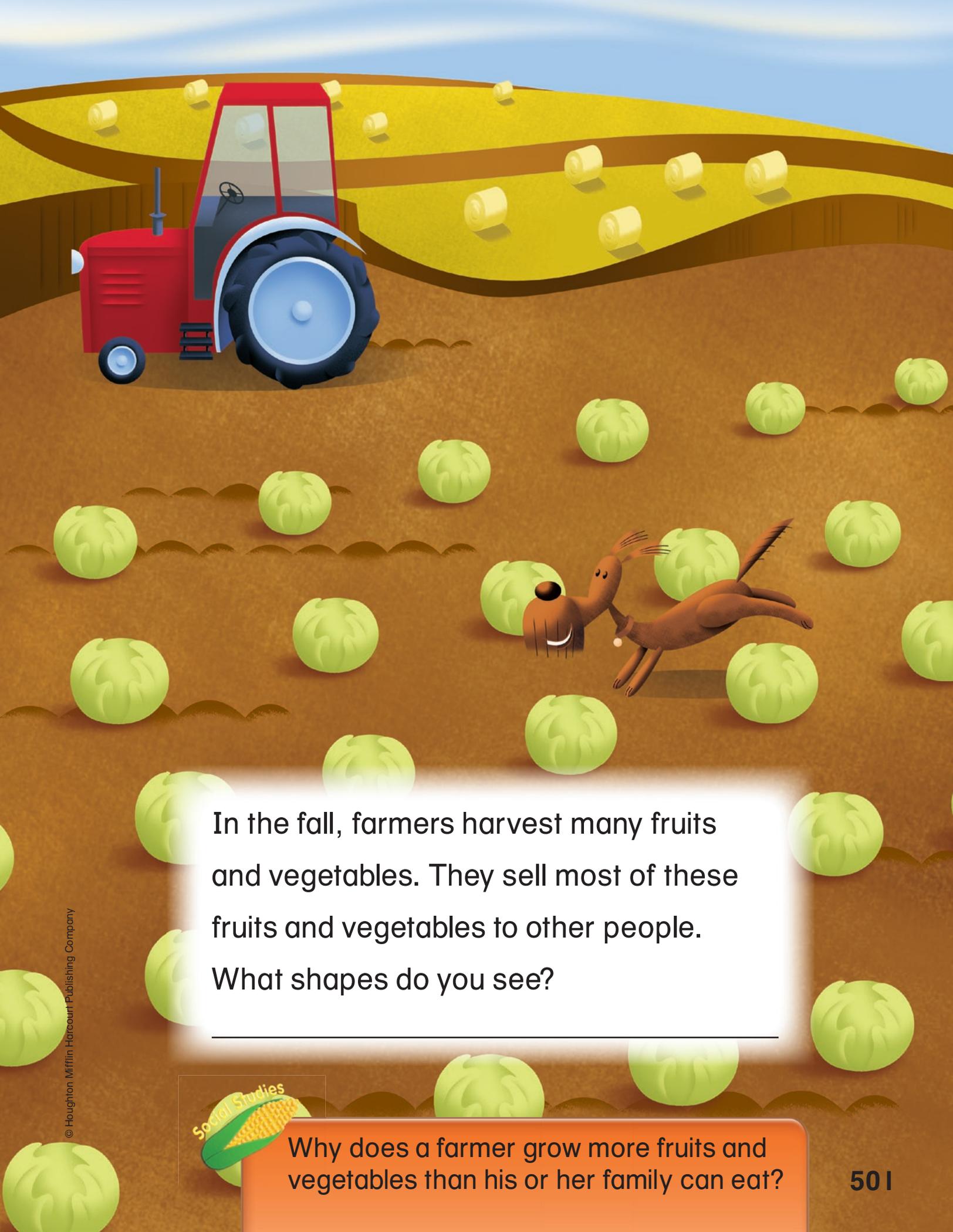
In the spring, farmers get the fields ready.
They plow the fields and fertilize the soil.
They plant their seeds.
What shapes do you see?



In the summer, farmers take care of their crops. They make sure that the plants have enough water when it does not rain. What shapes do you see?



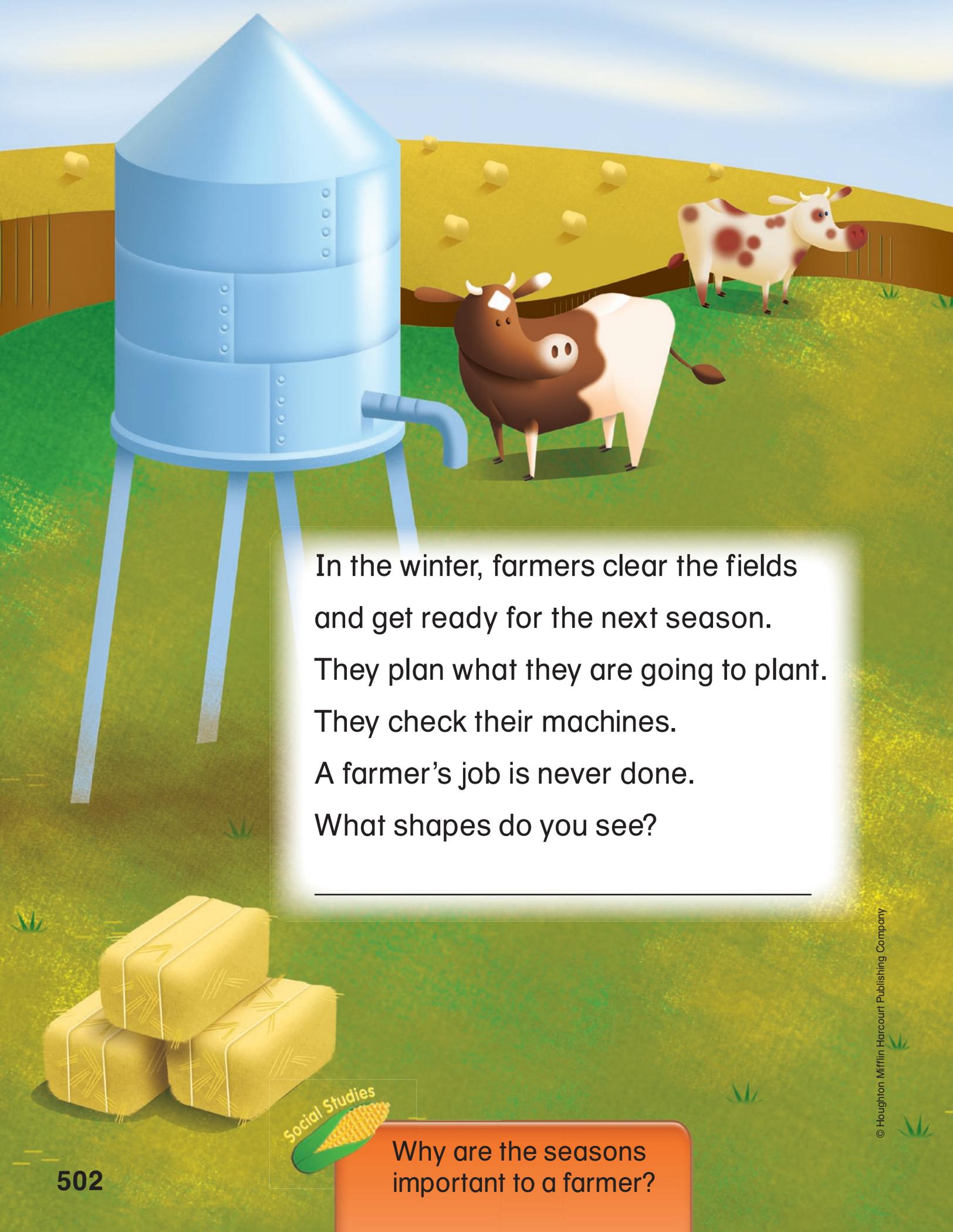
Why does a farmer need to know about changes in the weather?



In the fall, farmers harvest many fruits and vegetables. They sell most of these fruits and vegetables to other people. What shapes do you see?



Why does a farmer grow more fruits and vegetables than his or her family can eat?



In the winter, farmers clear the fields and get ready for the next season. They plan what they are going to plant. They check their machines. A farmer's job is never done. What shapes do you see?

Name _____

Write About the Story

Look at the pictures of the farm objects.
Draw a picture and write your own story
about the objects. Tell about the shapes
that the objects look like.



Vocabulary Review

cylinder	cube
cone	circle
sphere	triangle
square	rectangle
rectangular prism	



What shape do you see?

Draw a line to match the shape with the name.



●



●



●

●
cylinder

●
rectangular prism

●
circle

Circle each shape that has a curved surface.

cylinder

rectangular prism

cube

cone

sphere



Write a riddle about a shape. Ask a classmate to read the riddle and name the shape.