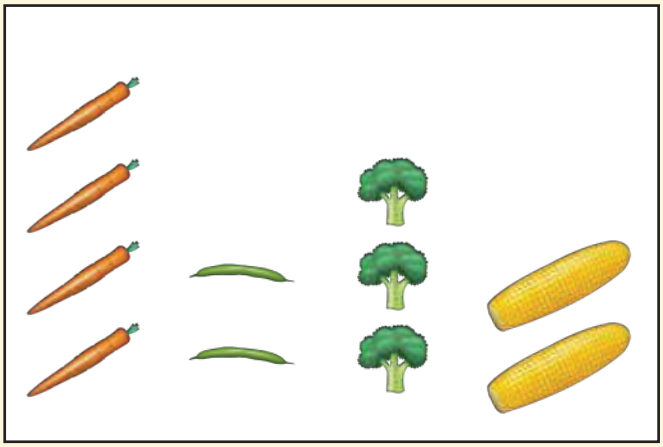
Draw and Use Bar Graphs and Picture Graphs

Use What You Know

You know how to add and subtract to solve problems.

Parker asked his friends to tell him their favorite vegetable. He organized their answers in a **picture graph**.

Favorite Vegetables



Carrots Beans Broccoli Corn

a. How many carrots are on the graph? _____

This tells how many friends chose carrots.

b. How many beans are on the graph? _____

This tells how many friends chose beans.

c. Write an equation to find how many friends chose carrots and beans in all.

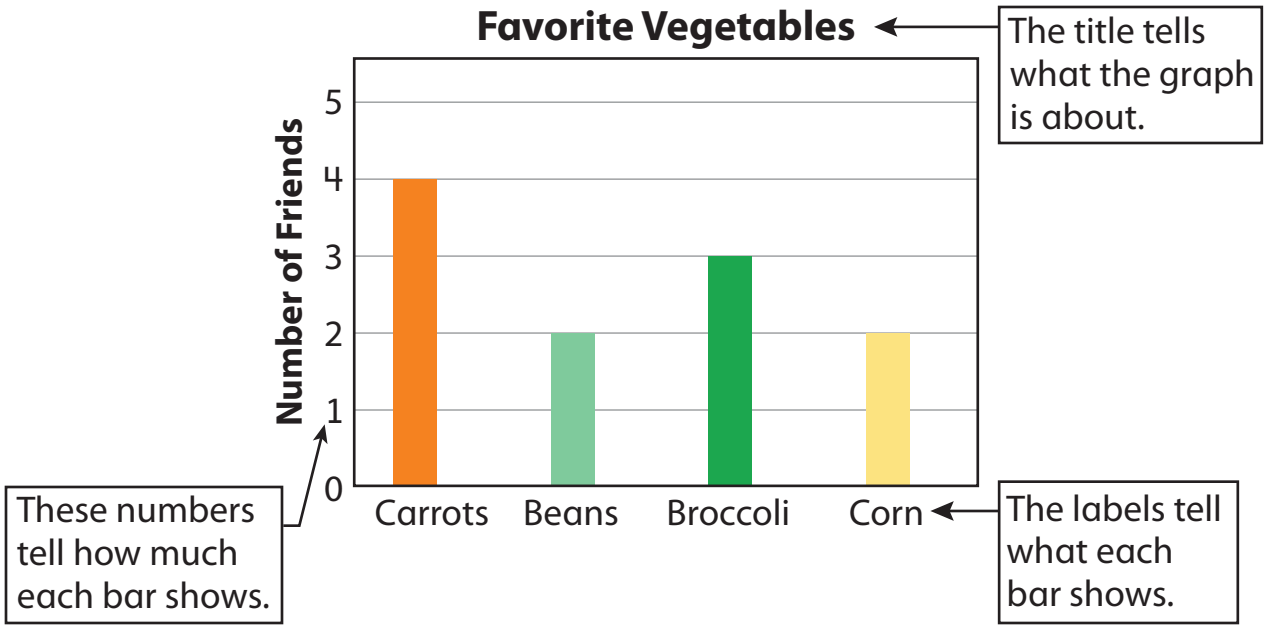
_____ + _____ = _____

d. Write an equation to find how many more friends chose carrots than beans.

_____ − _____ = _____

Find Out More

A **bar graph** uses bars to show information.



The information shown in graphs is called **data**.

Reflect **Work with a partner.**

1 **Talk About It** How are the Favorite Vegetables picture graph and bar graph alike? How are they different?

Write About It _____

_____

_____

_____

Learn About Using a Picture Graph and Bar Graph

Read the problem. Then you will use the graphs to answer questions.

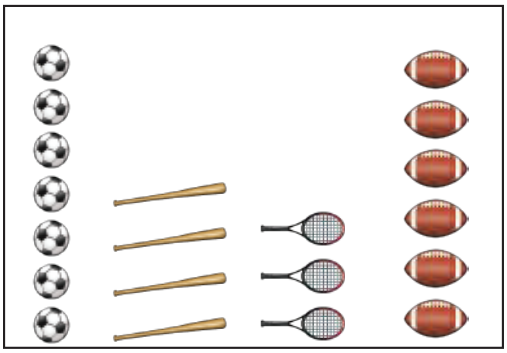
Martin asked the students in his class, "What is your favorite sport?" His results are in the tally chart.

Soccer	Baseball	Tennis	Football
𝍸 ||	||||	|||	𝍸 |

How many students did Martin ask?

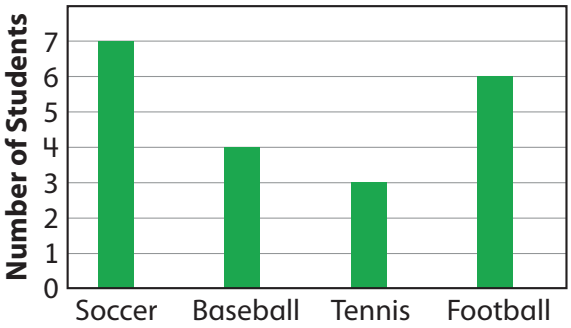
Picture It You can make a picture graph.

Favorite Sports



Model It You can make a bar graph.

Favorite Sports



Connect It Use the graphs.

2 How do you use the picture graph to find the number of students who chose soccer?

_____

3 How do you use the bar graph to find the number of students who chose soccer?

_____

_____

4 How many students chose soccer as their favorite? _____

5 Explain how to use the bar graph to find the total number of students Martin asked.

_____

_____

6 How many students did Martin ask? Show your work.

_____

_____

Try It Try more problems.

7 How many fewer students chose tennis than football? _____

8 Two students changed their answers from soccer to baseball.

Now how many students chose soccer? _____

Now how many students chose baseball? _____

Learn About Making Bar Graphs and Picture Graphs

Read the problem. Then you will show the data in a graph.

Lynn visited an apple orchard. She looked at one row of trees. She wrote down the color of the apples on each tree.

red, red, yellow, green, red, green, red, red, yellow, red, green, green

First, organize the data. Then make a picture graph and a bar graph to show the data.

Model It **You can organize the data in a tally chart.**

Red	Yellow	Green
𝍸 |	||	||||

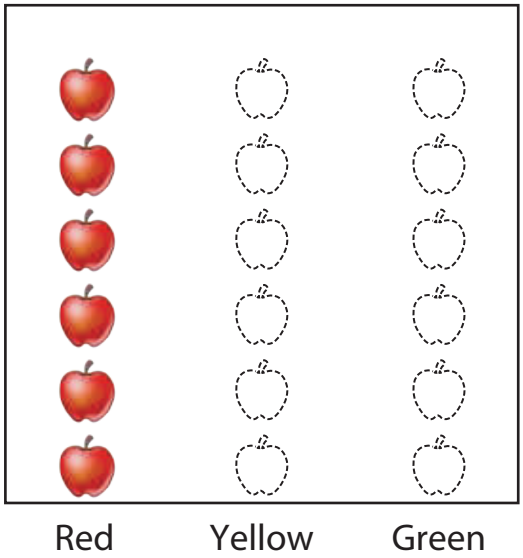
Model It **You can organize the data in a table.**

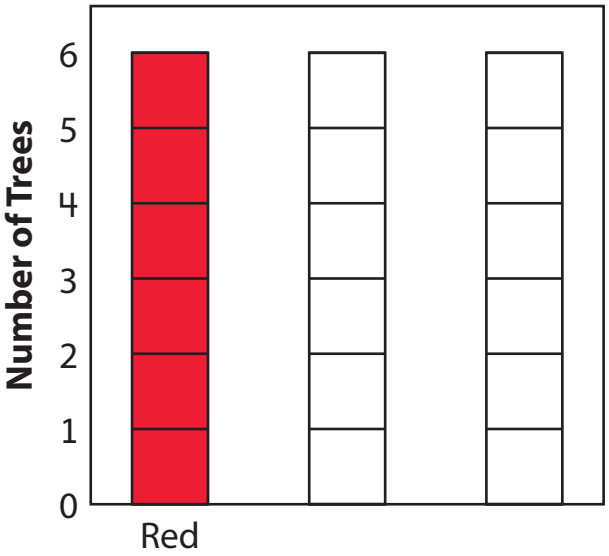
Color of Apple	Number of Trees
Red	6
Yellow	2
Green	4

Connect It Make a picture graph and a bar graph.

For Problems 9–11, use these graphs and the data from the previous page.

Apple Orchard Trees





9 Color the picture graph to show how many yellow apple trees and green apple trees Lynn saw.

10 On the bar graph, fill in the title and labels.

11 Color the bar graph to show how many yellow apple trees and green apple trees Lynn saw.

Try It Draw a bar graph.

12 Make a bar graph for this data. Show your work on a separate sheet of paper.

Favorite Colors			
Blue	**Purple**	**Green**	**Red**
5	6	2	3

Practice Making Bar Graphs and Picture Graphs

Study the model below. Then solve Problems 13–15.

Example

Gavin made a picture graph to show the stickers he has. How many more stars does Gavin have than moons and dots combined?

Stickers	
Moon	☾
Heart	♥ ♥ ♥ ♥ ♥
Star	★ ★ ★ ★ ★ ★ ★ ★
Dot	● ●

Look at how you can show your work.

$1 + 2 = 3$ $8 - 3 = 5$

Answer He has 5 more stars than moons and dots combined.

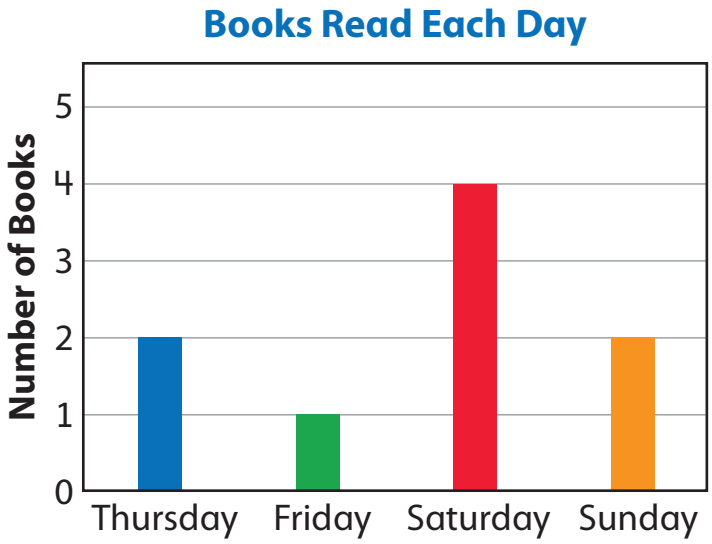
13 How many more yellow stickers does Gavin have than red stickers?

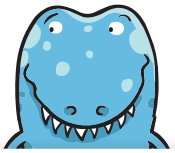
Show your work.

How many yellow stickers are there? How many red stickers? Find the total of each and then compare.

Answer _____

14 Ally made this graph on Sunday morning. Then she read 2 more books that day. Fill in the graph to show that she read 2 more books on Sunday.





What is the total number of books for Sunday?

15 How many fewer books did Ally read on Thursday and Friday combined than on Saturday?

A 1

B 2

C 3

D 4

John chose **C** as the answer. This answer is wrong. How did John get his answer?

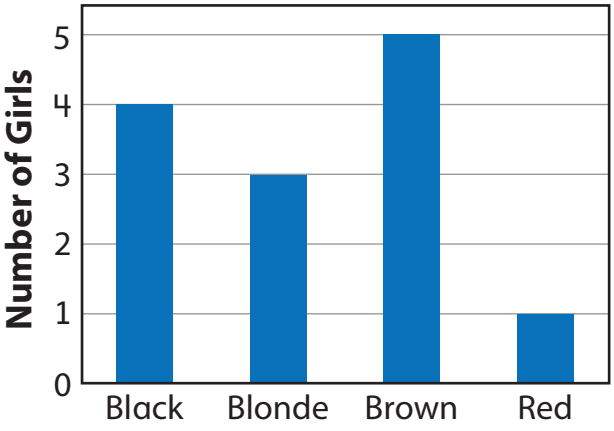
This problem has two steps. What do you need to do first?

Practice Making Bar Graphs and Picture Graphs

Solve the problems.

Use the graph to solve Problems 1 and 2.

Maggie recorded the hair color of the girls on her softball team. She put her data in a bar graph.



1 Which two colors have the least number of girls with that hair color? Circle the correct answer.

A black and blonde

B brown and black

C black and red

D red and blonde

2 Circle *True* or *False* for each sentence.

a. There are more girls with black hair than brown hair. True False

b. There are more girls with brown hair than the other three colors combined. True False

c. There are 2 fewer girls with red hair than blonde hair. True False

d. There are 8 girls with brown hair or blonde hair. True False

3 Wes recorded the weather for one week in the table at the right.

Complete the picture graph below using the data in the table. Draw a ☼ for sunny days and a ☁ for cloudy days.

Day	Weather
Sun.	cloudy
Mon.	cloudy
Tues.	sunny
Wed.	sunny
Thur.	rainy
Fri.	sunny
Sat.	cloudy

Sunny, Cloudy, and Rainy Days	
Sunny	
_____	
Rainy	💧

4 Use your completed picture graph from Problem 3 to fill in the blanks below.

There were the same number of _____

and _____ days.

There were _____ more sunny days than

_____ days.

5 If Saturday had been sunny, how would the picture graph be different than it is now?

_____

_____

Self Check **Now you can make bar and picture graphs. Fill this in on the progress chart on page 153.**