

## Solve Problems Using Scaled Graphs

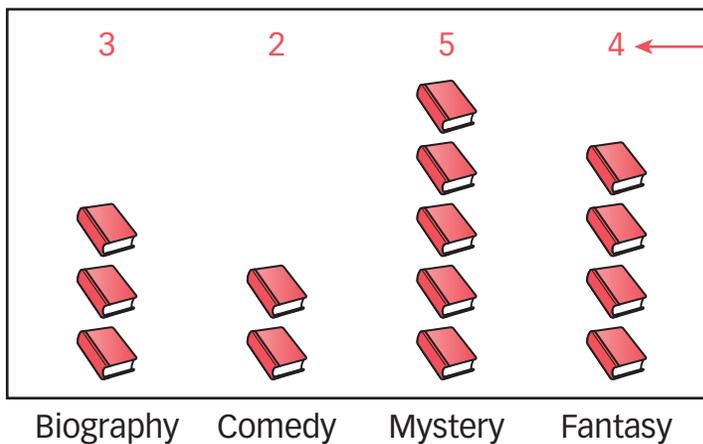
Name: \_\_\_\_\_

**Prerequisite:** Read Pictographs and Bar Graphs

Study the example showing how to use a pictograph to answer a question. Then solve problems 1–8.

**Example**

Annie made a pictograph to show the types of books she read last summer. How many more mystery books than comedy books did Annie read?

**Books Annie Read**

Count to find how many of each type she read.

Write a number sentence to find the difference:

$$5 - 2 = 3$$

Annie read 3 more mystery books than comedy books.

Use the pictograph above to solve problems 1–3.

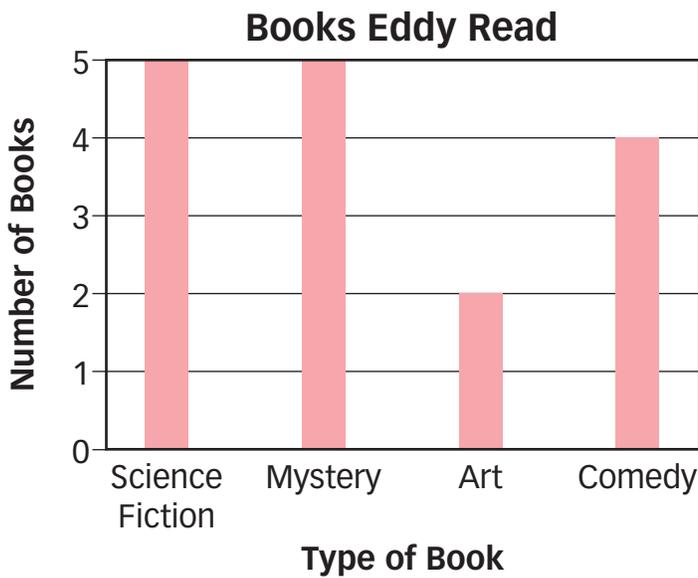
- 1 How many biography and fantasy books did Annie read in all? \_\_\_\_\_
- 2 How many fewer comedy books than biography books did Annie read? \_\_\_\_\_
- 3 How many books in all did Annie read last summer?  
\_\_\_\_\_

**Vocabulary**

**pictograph** a graph using pictures or symbols to show data.

**data** pieces of information.

The bar graph shows the number of each type of book Eddy read last summer.



Use the bar graph to solve problems 4–8. Complete each sentence.

- 4 Eddy read the same number of \_\_\_\_\_ and \_\_\_\_\_ books.
- 5 Eddy read \_\_\_\_\_ more comedy books than art books.
- 6 Eddy read \_\_\_\_\_ mystery and art books.
- 7 Eddy read a total of \_\_\_\_\_ books that were not science fiction.
- 8 Last summer Eddy read \_\_\_\_\_ books altogether.

### Vocabulary

**bar graph** a graph using bars to show data.

## Read and Interpret Scaled Pictographs

Study the example showing how to read and interpret a scaled pictograph. Then solve problems 1–9.

### Example

Some third graders went on a field trip to the zoo. They voted for their favorite animals. The pictograph shows their choices. How many students chose giraffes as their favorite?

The key shows that each picture stands for 4 students. The row for giraffes has 4 pictures.

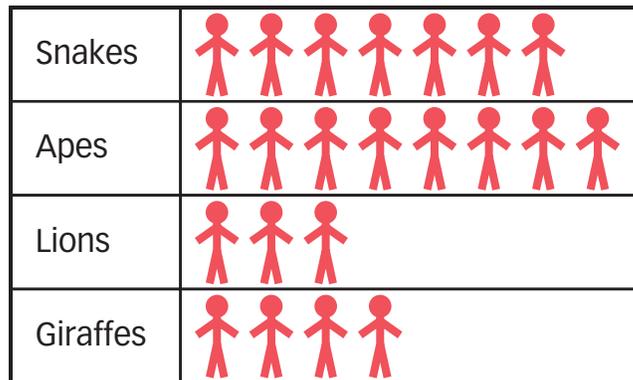
You can add 4 four times:

$$4 + 4 + 4 + 4 = 16.$$

You can multiply 4 by 4:  $4 \times 4 = 16$ .

So, 16 students chose giraffes.

### Favorite Zoo Animals



Each  stands for 4 students.

Use the pictograph to solve problems 1–4.  
Show your work.

- How many students chose lions? \_\_\_\_\_
- How many students chose snakes? \_\_\_\_\_
- How many more students chose giraffes than lions? \_\_\_\_\_
- How many fewer students chose lions than apes? \_\_\_\_\_

### Vocabulary

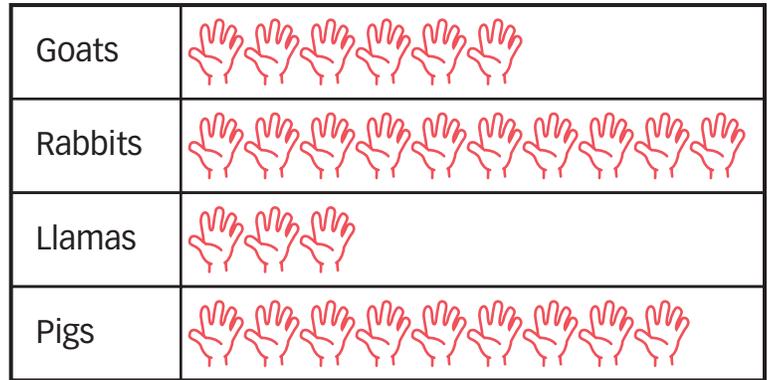
**key** explanation of what each symbol represents in a pictograph.

**scale** the numbers that show the units used on a graph.

Use the pictograph to solve problems 5–9. Show your work.

Students voted for their favorite animal at the petting zoo. The pictograph shows the number of students who voted for each animal.

Favorite Zoo Animals



Each  stands for 6 students.

- 5 How many students voted for llamas? \_\_\_\_\_
- 6 How many fewer students chose goats than pigs? \_\_\_\_\_
- 7 How many votes did goats and rabbits get altogether? \_\_\_\_\_
- 8 How many more students chose rabbits than llamas? \_\_\_\_\_
- 9 Make your own statement about the data in the pictograph. Show how you know your statement is true.

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## Read and Interpret Bar Graphs

Study the example problem showing how to read and interpret a bar graph. Then solve problems 1–5.

### Example

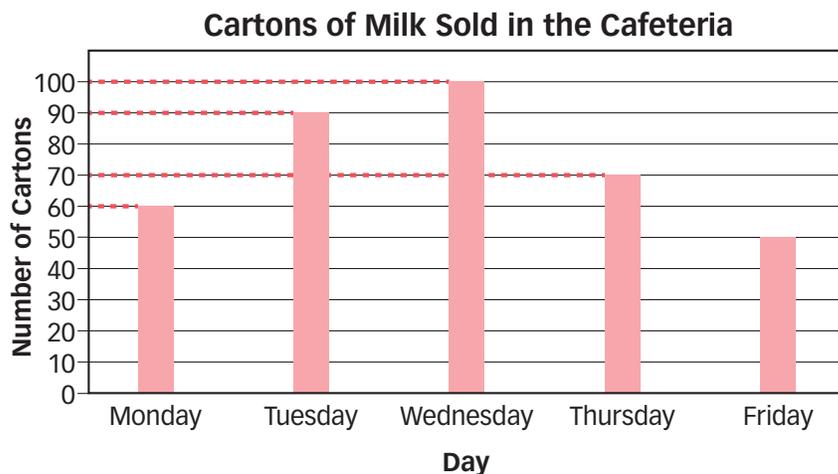
The bar graph shows the number of cartons of milk sold in one week. Were more cartons sold on Monday and Tuesday or on Wednesday and Thursday?

Look where the bars end. Read the scale on the left side of the graph:

Monday = 60, Tuesday = 90,  
Wednesday = 100, Thursday = 70.

$$60 + 90 = 150 \text{ and } 100 + 70 = 170$$

More cartons of milk were sold on Wednesday and Thursday than on Monday and Tuesday.



Use the bar graph above to solve problems 1 and 2.  
Show your work.

- 1** How many cartons of milk were sold on the two days with the least number of cartons?

\_\_\_\_\_

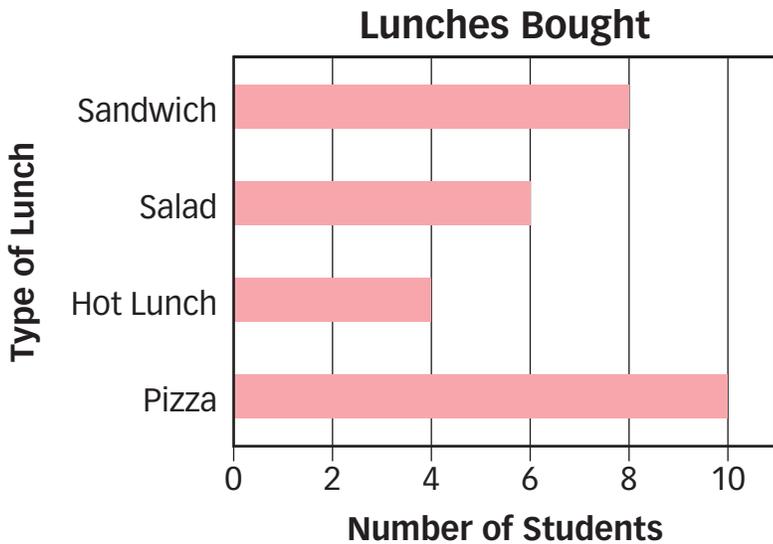
- 2** How many cartons of milk were sold in all that week?

\_\_\_\_\_



Use the bar graph to solve problems 3–5. Fill in the blanks. Show your work.

The bar graph shows what students in Ms. Owens' class bought for lunch one day.



3 Students bought the same number of pizza lunches as \_\_\_\_\_ and \_\_\_\_\_ together.

4 The number of salads bought is 2 less than the number of \_\_\_\_\_ bought.

5 Make your own statement about the data in the graph. Tell how you know your statement is true.

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## Solve Problems Using Scaled Graphs

Use the pictograph to solve the problems.

Mr. Green’s science class does shadow experiments. The pictograph shows the items they use.

**Materials for Shadow Experiments**

Masks	★ ★ ★ ★ ★ ★ ★
Flashlights	★ ★ ★ ★
Blocks	★ ★ ★ ★ ★ ★ ★ ★
Gloves	★ ★ ★
Rulers	★ ★ ★ ★

Each ★ stands for 10 items.

**1** Which two items total 100? Circle the letter for all that apply.

- A** masks and rulers      **C** blocks and gloves  
**B** flashlights and blocks      **D** masks and flashlights

How can you use addition facts to help find the answer?



**2** How many gloves and rulers are used? Circle the letter of the correct answer.

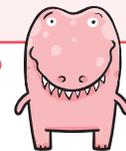
- A** 7      **C** 40  
**B** 10      **D** 70

Leo chose **A** as the correct answer. How did he get that answer?

\_\_\_\_\_

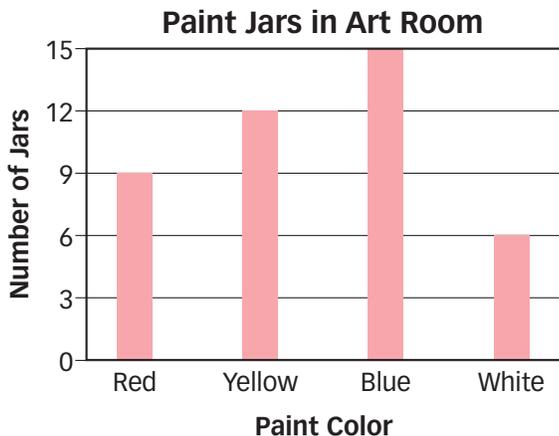
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Look at the key to understand what the symbols mean.



## Use the bar graph to solve the problems.

Ms. Duddy counted the jars of paint that are in the art room. She made a bar graph to show the data.



**3** Tell whether each sentence is *True* or *False*.

- a. There are as many jars of blue paint as jars of red and white paint combined.  True  False
- b. There are more than 40 jars of paint in all.  True  False
- c. There are fewer jars of yellow and red paint than blue and white paint.  True  False

You may want to label and keep track of the computations you do.



**4** What two colors of paint have at least 20 jars altogether? List two different pairs of colors.

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“At least 20” means 20 or more than 20.

