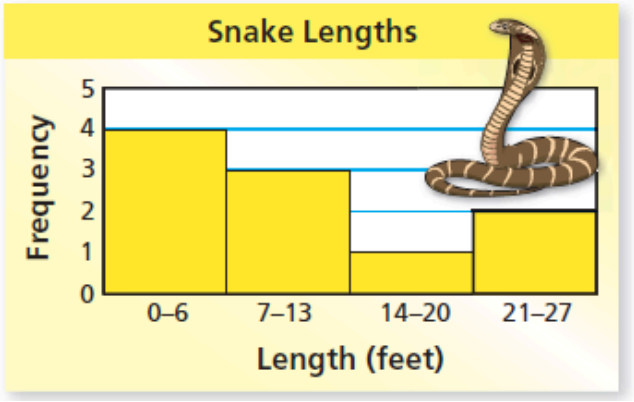
Key Idea

Histograms

A **histogram** is a bar graph that shows the frequencies of data values in intervals of the same size.

The height of a bar represents the frequency of the values in the interval.



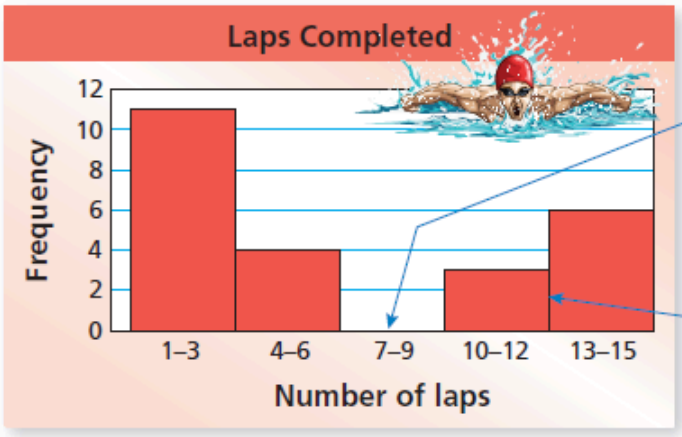
Making a Histogram

The frequency table shows the numbers of laps that people in a swimming class completed today. Display the data in a histogram.

Number of Laps	Frequency
1–3	11
4–6	4
7–9	0
10–12	3
13–15	6

Step 1: Draw and label the axes.

Step 2: Draw a bar to represent the frequency of each interval.



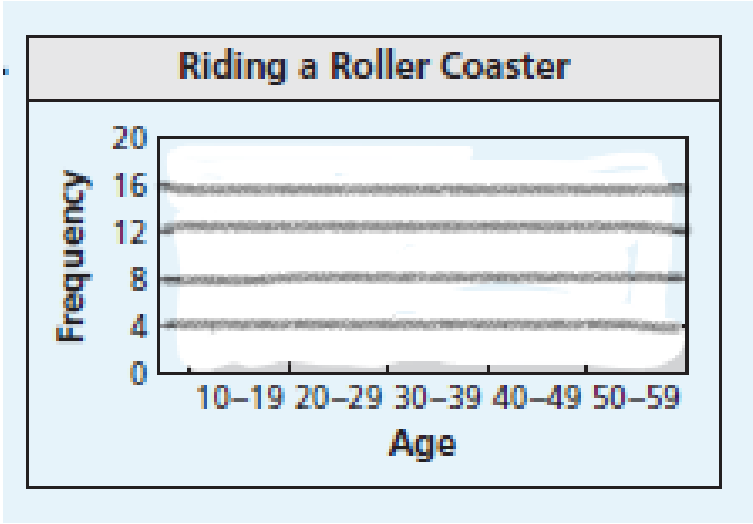
Include any interval with a frequency of 0. The bar height is 0.

There is no space between the bars of a histogram.

Try It

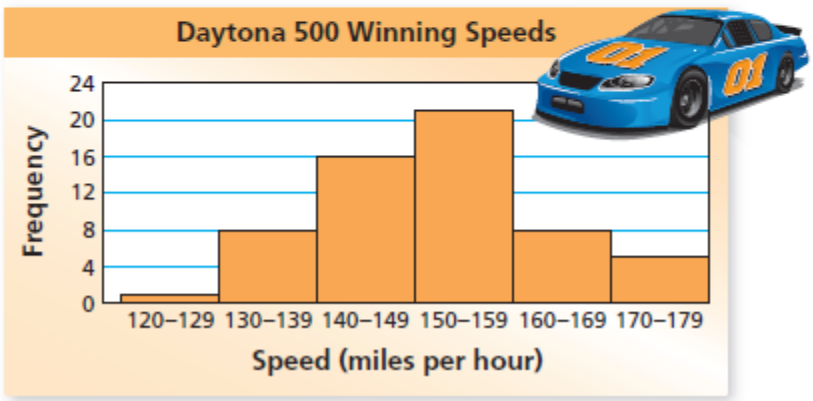
1. The frequency table shows the ages of people riding a roller coaster. Display the data in a histogram.

Age	10–19	20–29	30–39	40–49	50–59
Frequency	16	11	5	2	4



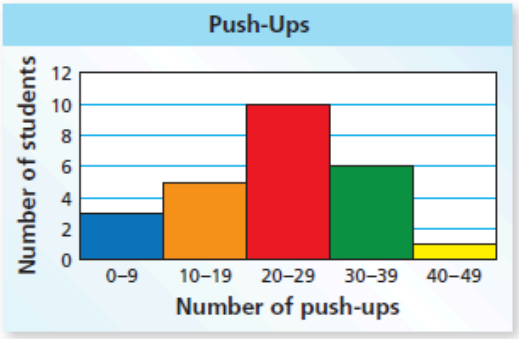
Using a Histogram

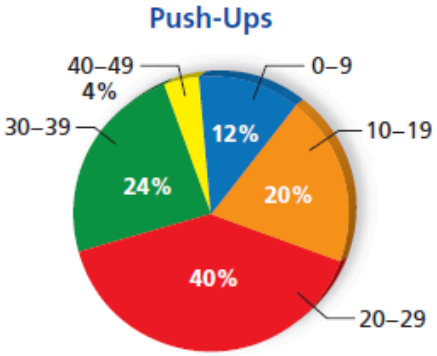
The histogram shows winning speeds at the Daytona 500.
(a) Which interval contains the most data values?
(b) How many of the winning speeds are less than 140 miles per hour?
(c) How many of the winning speeds are at least 160 miles per hour?



EXAMPLE 3 Comparing Data Displays

The data displays show how many push-ups students in a class completed for a physical fitness test. Which data display can you use to find how many students are in the class? Explain.





You can use the histogram because it shows the number of students in each interval. The sum of these values represents the number of students in the class. You cannot use the circle graph because it does not show the number of students in each interval.