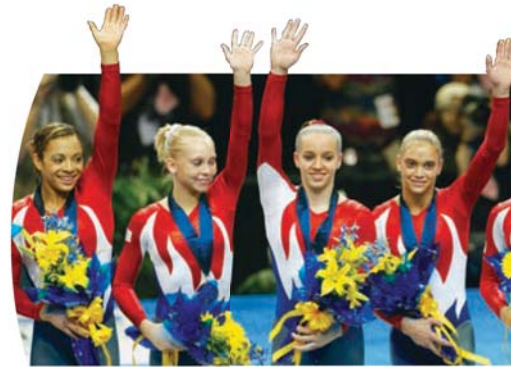
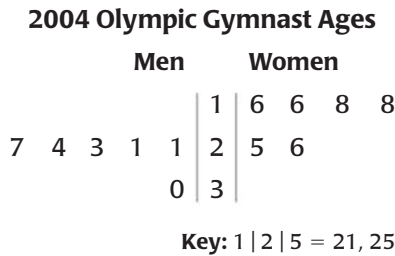


EXAMPLE 2 Interpret a stem-and-leaf plot

GYMNASTICS The back-to-back stem-and-leaf plot shows the ages of members of the U.S men's and women's 2004 Olympic gymnastics teams. Compare the ages of the gymnasts on the two teams.



Solution

Consider the distribution of the data. The interval for 10–19 years old contains more than half of the female gymnasts. The interval for 20–29 years old contains more than half of the male gymnasts. The clustering of the data shows that the men's team was generally older than the women's team.

FREQUENCY The **frequency** of an interval is the number of data values in that interval. A stem-and-leaf plot shows the frequencies of intervals determined by the stems. A **frequency table** is also used to group data values into equal intervals, with no gaps between intervals and no intervals overlapping.

A **histogram** is a bar graph that displays data from a frequency table. Each bar represents an interval. Because intervals have equal size, the bars have equal width. A bar's length indicates the frequency. There is no space between bars.



EXAMPLE 3 Make a histogram

SANDWICH PRICES The prices (in dollars) of sandwiches at a restaurant are listed below. Make a histogram of the data.

4.00, 4.00, 4.25, 4.50, 4.75, 4.25, 5.95, 5.50, 5.50, 5.75

Solution

CHOOSE AN INTERVAL SIZE

To choose the interval size for a frequency table, divide the range of the data by the number of intervals you want the table to have. Use the quotient as an approximate interval size.

STEP 1 Choose intervals of equal size that cover all of the data values. Organize the data using a frequency table.

Prices	Sandwiches
\$4.00–4.49	
\$4.50–4.99	
\$5.00–5.49	
\$5.50–5.99	

STEP 2 Draw the bars of the histogram using the intervals from the frequency table.

