

Animal Speeds

Speeds	Number of Animals
1-5	0
6-10	0
11-15	2
16-20	0
21-25	0
26-30	1
31-35	2

1. Use the bar graph to fill in the "Number of Animals" column in the table.
2. Which display allows you to find a rabbit's maximum speed?
the bar graph
3. In which display is it easier to find the number of animals with a maximum speed of 15 miles per hour or less? Explain.
the table; In order to find the number of animals with a maximum speed of 15 or less, you can add three entries on the table.

Guided Practice

1. Which display makes it easier to determine the greatest number of calendars sold? Justify your reasoning. (Example 1)



line plot; The line plot shows the greatest value as a numerical value rather than a bar.

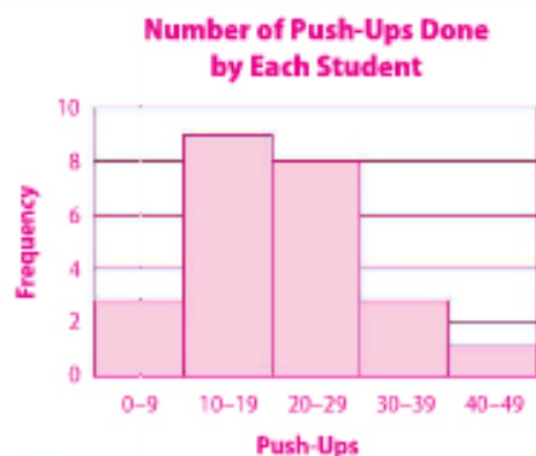
Select an appropriate type of display for data gathered about each situation. Justify your reasoning. (Example 2)

2. the favorite cafeteria lunch item of the sixth-grade students bar graph; It is easier to look for the tallest bar than for the greatest value.
3. the temperature from 6 A.M. to 12:00 P.M. line graph; A line graph shows the trend over time.

4. Select and make an appropriate display for the following data. (Example 3)

Number of Push-Ups Done by Each Student											
15	20	8	11	6	25	32	12	14	16	21	25
18	35	40	20	25	15	10	5	18	20	31	28

Sample answer: histogram



5. **Building on the Essential Question** Why is it important to choose the appropriate display for a set of data?

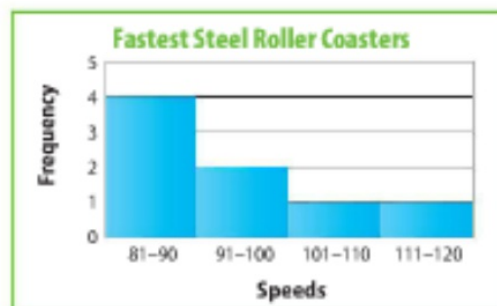
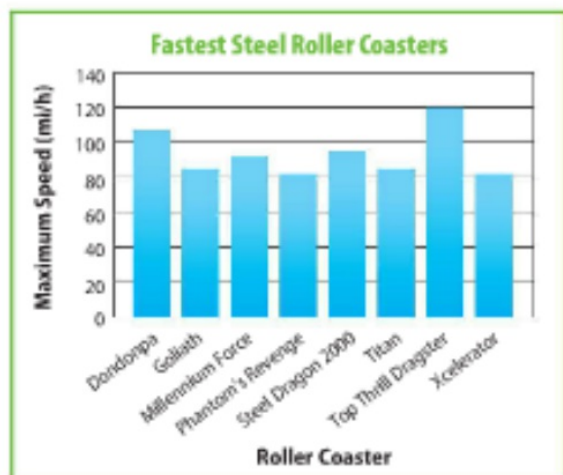
Sample answer: The type of data influences which displays are appropriate, as does what you want the display to show.

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1 Which display makes it easier to compare the maximum speeds of Top Thrill Dragster and Millennium Force? Justify your reasoning. (Example 1)



bar graph; The bar graph shows the maximum speeds, not just the interval in which the data occurs.

Select an appropriate type of display for data gathered about each situation. Justify your reasoning. (Example 2)

2. the test scores each student had on a language arts test

line plot; The display can show individual scores.

3. the median age of people who voted in an election

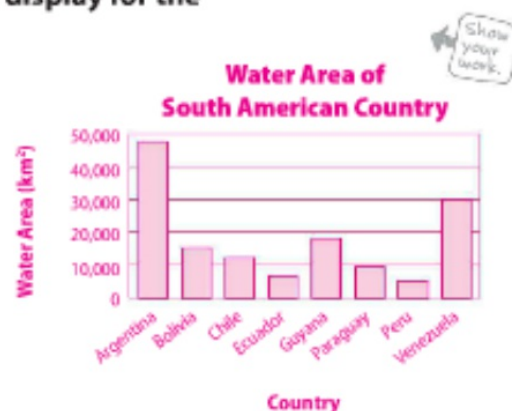
box plot; A box plot easily displays the median.

CCSS Use Math Tools Select and make an appropriate type of display for the situation. (Example 3)

4.

South American Country	Water Area (km ²)	South American Country	Water Area (km ²)
Argentina	47,710	Guyana	18,120
Bolivia	15,280	Paraguay	9,450
Chile	12,290	Peru	5,220
Ecuador	6,720	Venezuela	30,000

Sample answer: bar graph



5. **CCSS Use Math Tools** Use the Internet or another source to find a set of data that is displayed in a bar graph, line graph, frequency table, or circle graph. Was the most appropriate type of display used? What other ways might these same data be displayed? **See students' work.**

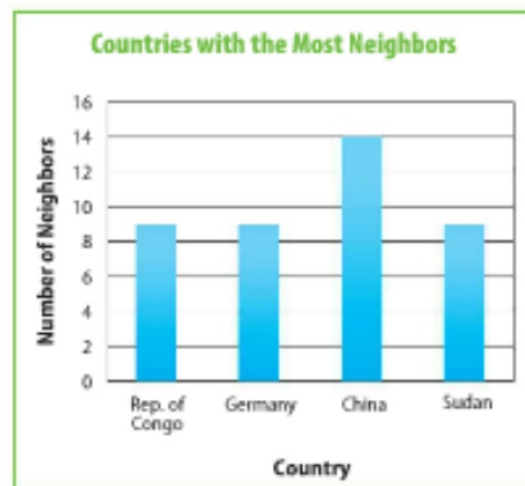
6. **CCSS Be Precise** Fill in the graphic organizer below.

Display	What it shows
line plot	individual data
histogram	a large amount of data displayed in intervals
box plot	the median and spread of a data set
bar graph	amount within a category

7 Display the data in the bar graph using another type of display. Compare the advantages of each display.

Sample answer: The line plot allows you to easily see how many countries have a given number of neighbors. The bar graph, however, allows you to see the number of neighbors for each given country.

Show your work.





H.O.T. Problems Higher Order Thinking

8. **CCSS Construct an Argument** Determine whether the following statement is *true* or *false*. If true, explain your reasoning. If false, give a counterexample.

Any set of data can be displayed using a line graph.

false; Sample answer: To compare the price of five different cell phones, a line graph would not be appropriate because these data do not show change over a period of time.

9. **CCSS Persevere with Problems** Which type of display allows you to easily find the mode of the data? Explain your reasoning. **Sample answer: line plot; You can easily locate the values with the most Xs to find the mode.**

10. **CCSS Reason Inductively** The table shows the number of each type of plant at a botanical garden. The director of the garden would like to add cacti so that the relative frequency of the plant is 50%. How many cactus plants should the director add? **14 cactus plants**

Type of Plant	Frequency
Rose	13
Cactus	18
Palm	4
Ferns	15

