

# Investigate Dot Plots



Model with mathematics.

**MATERIALS** • ruler, graph paper

**QUESTION** How do you represent data in a dot plot?

Data can be represented by dots in a display called a dot plot. A dot plot shows the frequency of data and how the data are distributed.

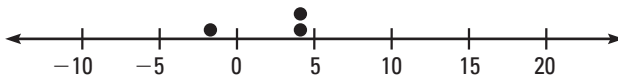
**EXPLORE** Draw a dot plot

**STEP 1** Collect data

Look up the low temperature for a city in the northern United States for each day in January of last year.

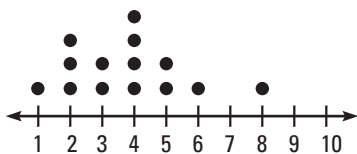
**STEP 2** Make a dot plot

Use graph paper to draw a horizontal axis. Label it Temperatures and number it using a reasonable scale. Place a dot above the appropriate temperature to represent the low temperature for each day in January. For example, put a dot over the temperature 4 to indicate that the low temperature on one day was 4°F. The sample graph shows that it was 4°F on two days and -3°F on one day.

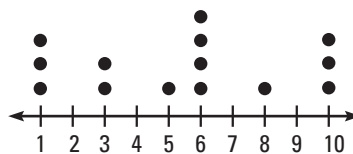


**DRAW CONCLUSIONS** Use your observations to complete these exercises

- Examine your dot plot. What is the range of the data values?
- Are the data tightly clustered or spread apart?
- Is there a value that occurs more often than the others? If so, what does this mean in the context of the data?
- If you were to add the temperature for February 1st to your dot plot, what would you expect it to be? Explain your reasoning. What types of values would be surprising? Why?
- How would your dot plot change if you collected temperatures from a summer month rather than from January?
- Compare the data in the dot plots.



**Plot A**



**Plot B**