

# Section Overview



## Make a Table

Lesson 6-1

**Why?** Making a table helps you to organize and interpret data.

At 1 P.M., the temperature was 72°F. At 2 P.M. it was 74°F. At 3 P.M., it was 76°F. At 4 P.M., it was 73°F.

Time (P.M.)	Temperature (°F)
1	72
2	74
3	76
4	73

## Measures of Central Tendency

Lesson 6-2

**Why?** The mean, median, and mode are measures used to represent values of a data set.

Consider the following data set: **9, 2, 2, 4, 8, 2, 8.**

### Mean

The **mean (average)** is the sum of all the items, divided by the number of items in the set.

$$9 + 2 + 2 + 4 + 8 + 2 + 8 = 35$$

$$35 \div 7 = 5$$

The mean is 5.

### Median

The **median** is the middle value when the data are in numerical order or the mean of the two middle values if there is an even number of items.

$$2, 2, 2, \underline{4}, 8, 8, 9$$

The median is 4.

### Mode

The **mode** is the value or values that occur most often. There may be more than one mode for a data set. If all values occur an equal number of times, the data set has no mode.

The number 2 occurs most often. The mode is 2.

## Additional Data and Outliers

Lessons 6-3

**Why?** Data values that are not close to most other values in the data set can greatly change the mean.

Add the value 47 to the data set above to form the new data set: **9, 2, 2, 4, 8, 2, 8, 47.**

Find the mean, median, and mode of the new data set.

$$9 + 2 + 2 + 4 + 8 + 2 + 8 + 47 = 82$$

$$82 \div 8 = 10.25$$

The mean is 10.25.

$$2, 2, 2, \underline{4}, 8, 8, 9, 47$$

The mean of 4 and 8 is 6.  
The median is 6.

$$9, 2, 2, 4, 8, 2, 8, 47$$

The number 2 still occurs most often.  
The mode is 2.

In this case, the mean is not very representative of the data set because it is greater than all the data values except 47. The mean best represents a data set when the values are close and there are not outliers.