

## 9-3


# Frequency Tables and Dot Plots

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6.SP.4

### What You'll Learn

To analyze a set of data by finding the range and by making frequency tables and dot plots

 **New Vocabulary** frequency table, dot plot, range

### Why Learn This?

Data, such as your classmates' favorite colors, are easier to read in a table or graph than in a list.

A **frequency table** is a table that lists each item in a data set with the number of times the item occurs.



A clipboard with a silver clip at the top and a brown border. The paper is yellow with blue horizontal lines. The title 'Favorite Colors' is at the top. Below it is a list of colors in two columns.

Favorite Colors	
Blue	Blue
Purple	Red
Red	Orange
Blue	Yellow
Blue	Green
Yellow	Blue
Green	Yellow
Purple	Blue

Blue	Blue
Purple	Red
Red	Orange
Blue	Yellow
Blue	Green
Yellow	Blue
Green	Yellow
Purple	Blue

## EXAMPLE Frequency Table

- 1 Your classmates' favorite colors are shown above. Organize the data in a frequency table. Find the mode.

Color	Tally	Frequency
Blue		6
Green		2
Orange		1
Purple		2
Red		2
Yellow		3

Make a tally mark for each color chosen.

The number of tally marks in each row is the frequency.

Students selected blue most often. So the mode is blue.

## Example

- 1 **Frequency Table** The favorite lunch choices of ten students are: pizza, pizza, chicken, hamburger, chicken, pizza, chicken, pizza, pizza, pizza. Organize the data in a frequency table. Find the mode.

Lunch	Tally	Freq.
hamburger		1
pizza		6
chicken		3

Make a tally mark for each lunch item chosen.

The number of tally marks in each row is the frequency.

Since the most students selected **pizza** as their favorite lunch item, the mode is **pizza**.

### Quick Check

1. The first initials of the names of 15 students are listed below.

A J B K L C K D L S T D V P L

Organize the data in a frequency table. Find the mode.

Initial	A	B	C	D	J	K	L	P	S	T	V
Tally											
Frequency											

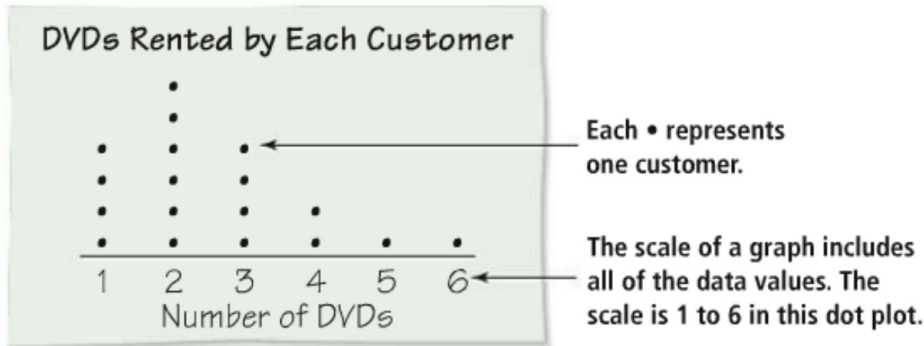
The mode is

A **dot plot** is a graph that shows the shape of a data set by stacking dots above each data value on a number line. This type of graph is also known as a *line plot*.

## EXAMPLE

### Using a Dot Plot

- 2 **Movies** The number of DVDs each customer rents when he or she visits a video store are 3, 5, 1, 2, 2, 1, 2, 3, 3, 4, 1, 2, 6, 2, 2, 4, 3, 1. Use a dot plot to interpret the data.

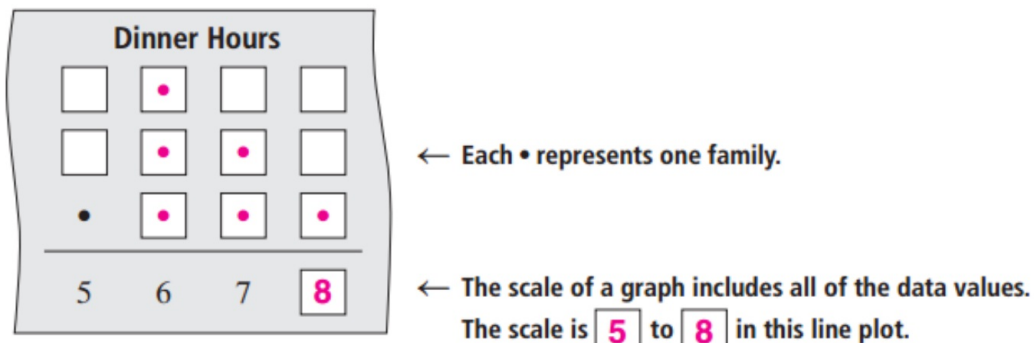


Customers usually rent between one and three DVDs. Most customers rent two DVDs.

## Examples

- 2 **Using a Dot Plot** Make a dot plot to display the dinner hour for seven families:

5:00 7:00 6:00 6:00 8:00 7:00 6:00



The **range** of a data set is the difference between the least and greatest values.



### EXAMPLE Finding the Range

**3 Geography** In 1849 and 1850, six different surveyors made the following measurements of the height of Mount Everest.

28,990 ft; 28,992 ft; 28,999 ft; 29,002 ft; 29,005 ft; 29,026 ft

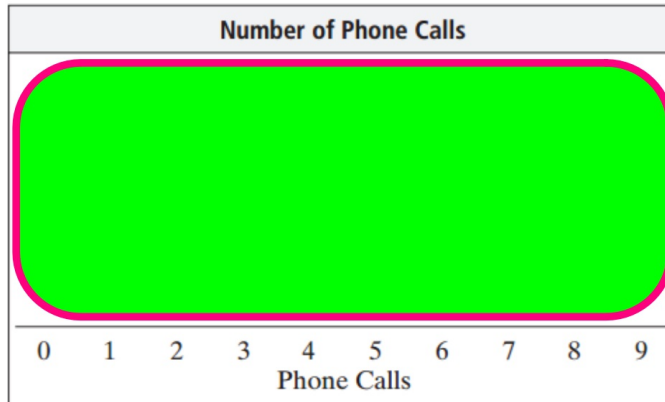
What is the range of the measurements?

$$29,026 - 28,990 = 36 \quad \leftarrow \text{Subtract the least from the greatest value.}$$

The range of the measurements is 36 feet.

**Quick Check**

2. Use a dot plot to interpret the number of sales calls made each hour:  
2, 3, 0, 7, 1, 1, 9, 8, 2, 8, 1, 2, 8, 7, 1, 8, 6, 1.



3. The numbers of pottery items made by students are 36, 21, 9, 34, 36, 10, 4, 35, 30, 7, 5, and 10. Find the range of the data.

**Vocabulary**

A frequency table is

A dot plot a graph that shows the shape of the data by stacking dots above each data value on a number line.

The range of a data set is

**Your assignment in on Manga High  
called Use Frequency Tables.**

**You must earn at least a Bronze Medal.**