

## **Math Lesson Plan #10**

### **Graphs**

**Introduction:** A **graph** is a pictorial display of information. Since it is drawn, rather than written, a graph makes it possible to get a quick impression of a great deal of data and to easily make comparisons and draw conclusions. Graphs are often used in government, business, and education and may appear in reports, newspapers, and magazines. There are four types of graphs; pictographs, circle graphs, bar graphs and line graphs. Today we will work with bar graphs.

### **Objectives:**

In this lesson, students will:

- The student will be able to understand, make and read a bar graph.

### **Session time:**

Approximately one hour

### **Materials:**

- Pictures of favorite snacks; for example popcorn, chips, fruit and nuts
- A Post-it note for each student and tape and tacks
- Handouts of the four types of graphs

### **Methods:**

Work as a group activity.

### **Procedures:**

- 1) After introduction tape or tack pictures high on the wall or caulk-board in a vertical or horizontal line. This is the start of your graph.
- 2) Pick your favorite snack and place it in the row or column with the picture to show students how it is done.
- 3) Have each student come up and place their post-it in a row or column with their favorite snacks.

### **Conclusion:**

After the graph is completed the students determine which snack was picked the most. Ask students if they see this information important and who would need it. Ask students how they could gather this information. Explain other uses of graphs and how they are useful. Hand out examples of the four types of graphs. Having students pick a type of graph and subject for homework research can extend lesson.

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# What Are Graphs?

A **graph** is a pictorial display of information. Since it is drawn, rather than written, a graph makes it possible to get a quick impression of a great deal of data and to easily make comparisons and draw conclusions. Graphs are often used in government, business, and education and may appear in reports, newspapers, and magazines.

## Types of Graphs

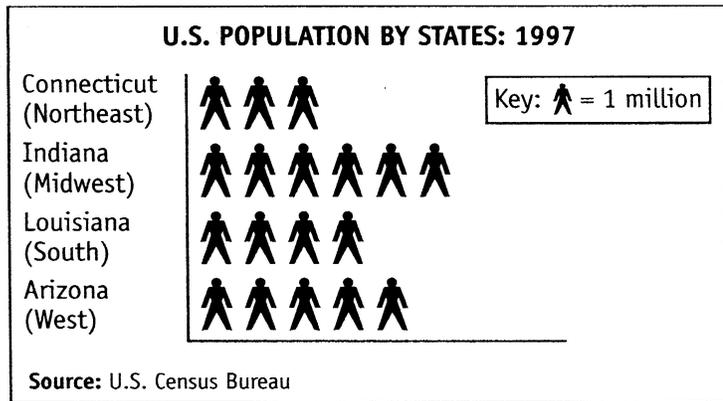
In this workbook, you will study four main types of graphs.

### PICTOGRAPHS

A **pictograph** uses pictures or symbols to display information.

A pictograph usually has a **key** to show the value of each symbol.

Pictographs are read by counting the **symbols** on a line of a graph and computing their value.

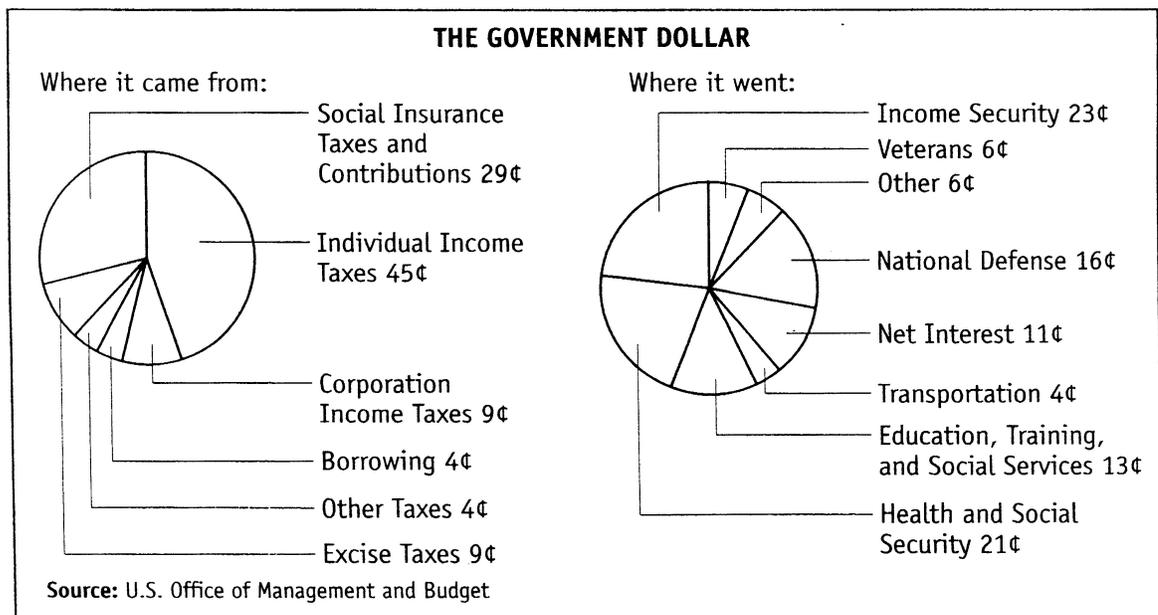


### CIRCLE GRAPHS

A **circle graph** uses parts of a circle to show information.

Circle graphs show values in each part of a divided circle. A part of a circle graph is called a **segment** or a **section**.

The segments of a circle add up to a whole or to 100% of the topic.



## BAR GRAPHS

A **bar graph** uses thick bars to show information.

Bar graphs are usually drawn in one of two different directions:

1. With the bars running up and down. The bars are placed at equal distances along the **horizontal axis** that runs across the bottom of the graph.
2. With the bars running from left to right. The bars are placed at equal distances along the **vertical axis** on the left side of the graph.

To measure a bar accurately, you may want to lay the edge of a sheet of paper across the top of the bar to align with its value at the left (or at the bottom) of the graph.

Sometimes, a graph may have a break in the vertical axis and an open space running across the graph. This means that some values have been left off to save space on the graph.

## LINE GRAPHS

A **line graph** is drawn with one or more thin lines that extend across the graph.

Like the bar graph, a line graph is drawn using values along a horizontal and a vertical axis. Using the edge of a paper will help you measure locations on the graph accurately.

A line graph is most useful in showing trends and developments.

