Ways to Display Data

Frequency Table

A frequency table shows how often something occurs. The frequency may be shown by tally marks or the number.

Data is displayed numerically.

A frequency table is best used to keep track and organize data!

A frequency table contains 3 columns.

of Cats in Homes

# of Cats	Tally	Frequency
0	IIII	4
1	~~IIII~~ I	6
2	III	3
3 or more	I	1

Class Exercise

What type of soda is your favorite?

Choose one of the following….

- Coke
- Mountain Dew
- Dr. Pepper
- Sprite
- Diet Coke

Now, complete the table. Compare your frequency table with your neighbor's. Are the same? Any differences?

Stem-and-Leaf Plot

A stem-and-leaf plot displays and organizes numerical data by separating the digits of each number into a stem and a leaf.

- The number of students enrolled in a dance class in the past 12 years:

Stem	Leaf
8	1 4 5 6
9	3 4 7
10	0 2 3
11	0 1

81, 84, 85, 86, 93, 94, 97, 100, 102, 103, 110, and 111.

Stem & Leaf Example

Make a stem-and-leaf plot of the exam scores shown below. The first one is done for you.

Exam Scores		
75	83	99
69	95	80
71	88	92
84	79	97

Stem	Leaf
6	9

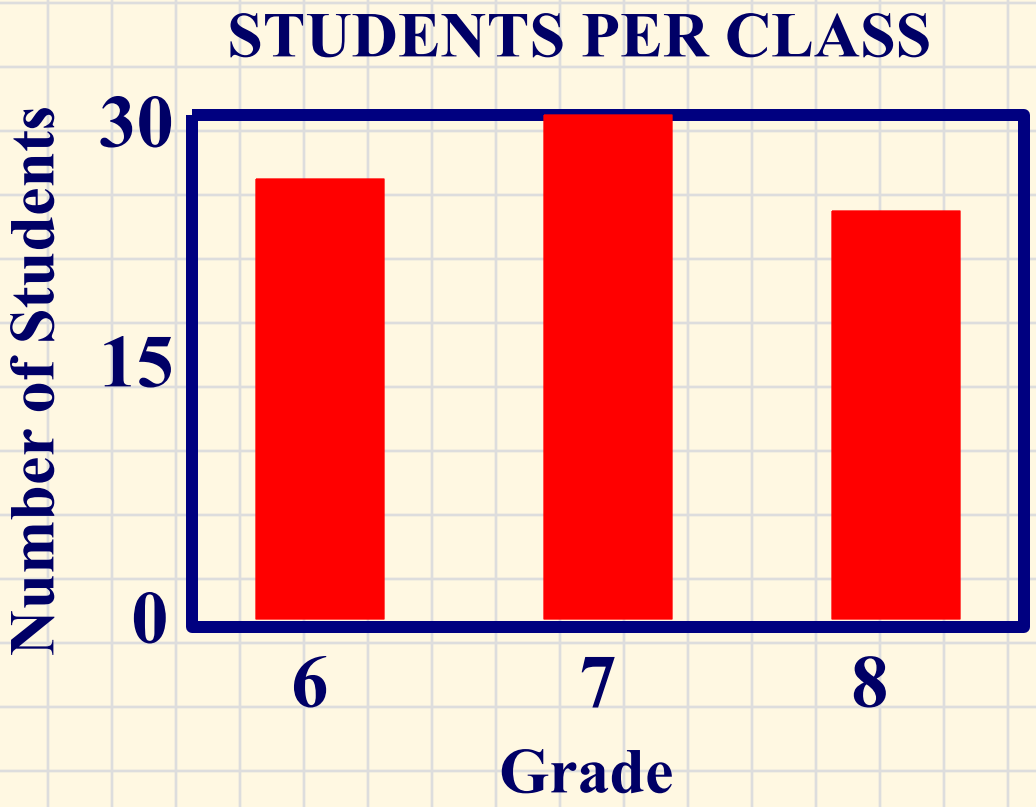
69, 71, 75, 79, 80, 83, 84, 88, 92, 95, 97, 99

Compare your stem-and-leaf plot to the one below.

Stem	Leaf
6	9
7	1 5 9
8	0 3 4 8
9	2 5 7 9

Bar Graph

A single bar graph uses the same color or shade of bar to compare amounts, such as number of students per class.

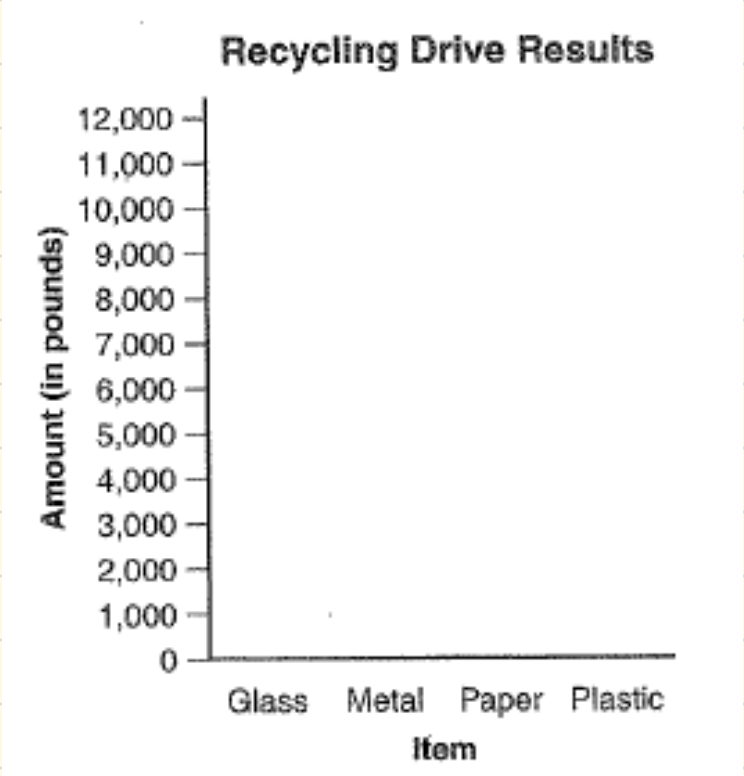


Bar Graph Example

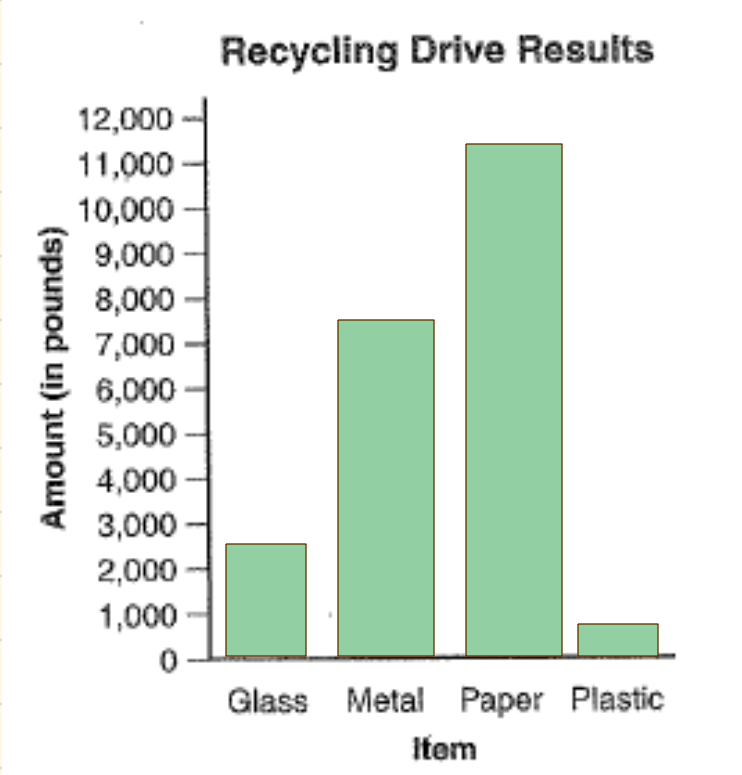
A middle school near Athens, has a recycling drive every year. The table shows the results of last year's drive. Complete the bar graph on your own.

Recycling Drive Results

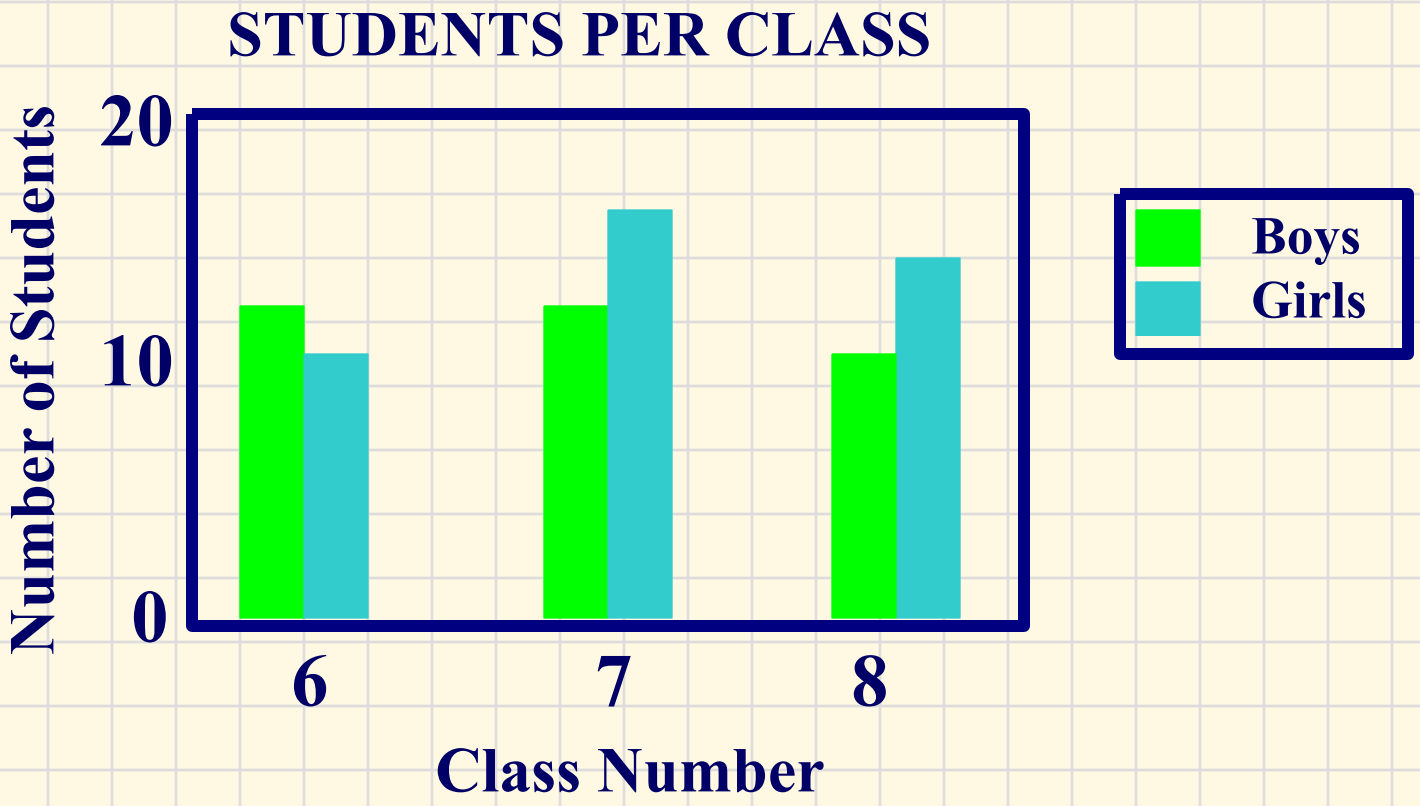
Item	Amount (in pounds)
Glass	2,115
Metal	7,228
Paper	11,950
Plastic	832



Compare your bar graph to the one below.



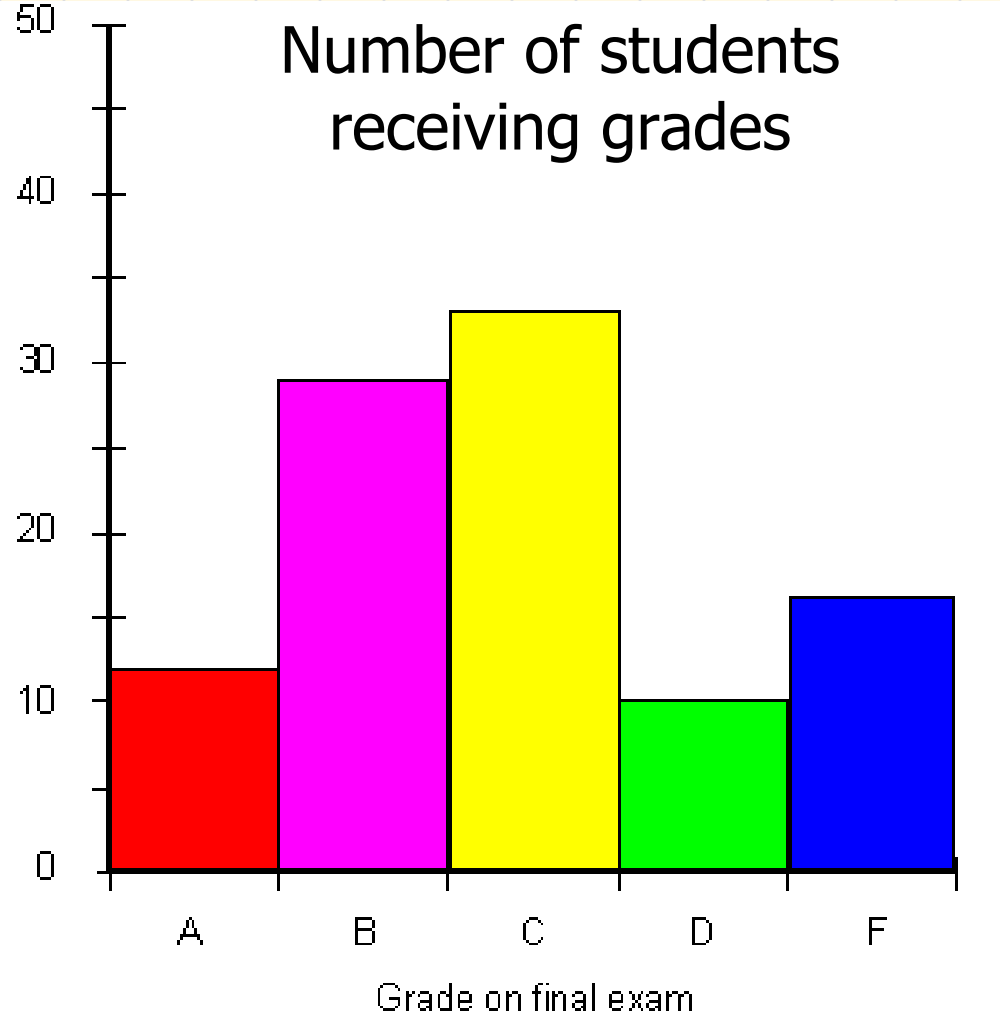
A double bar graph uses two or more colors or shades of bars and a key to compare amounts, such as the number of boys and girls in each class.



Histogram

A histogram is a special kind of bar graph that shows how ranges (or intervals) of data differ from one another. There are no spaces between the bars of a histogram.

A histogram is also used to compare data clearly and efficiently.



This histogram compare grades on a final exam.

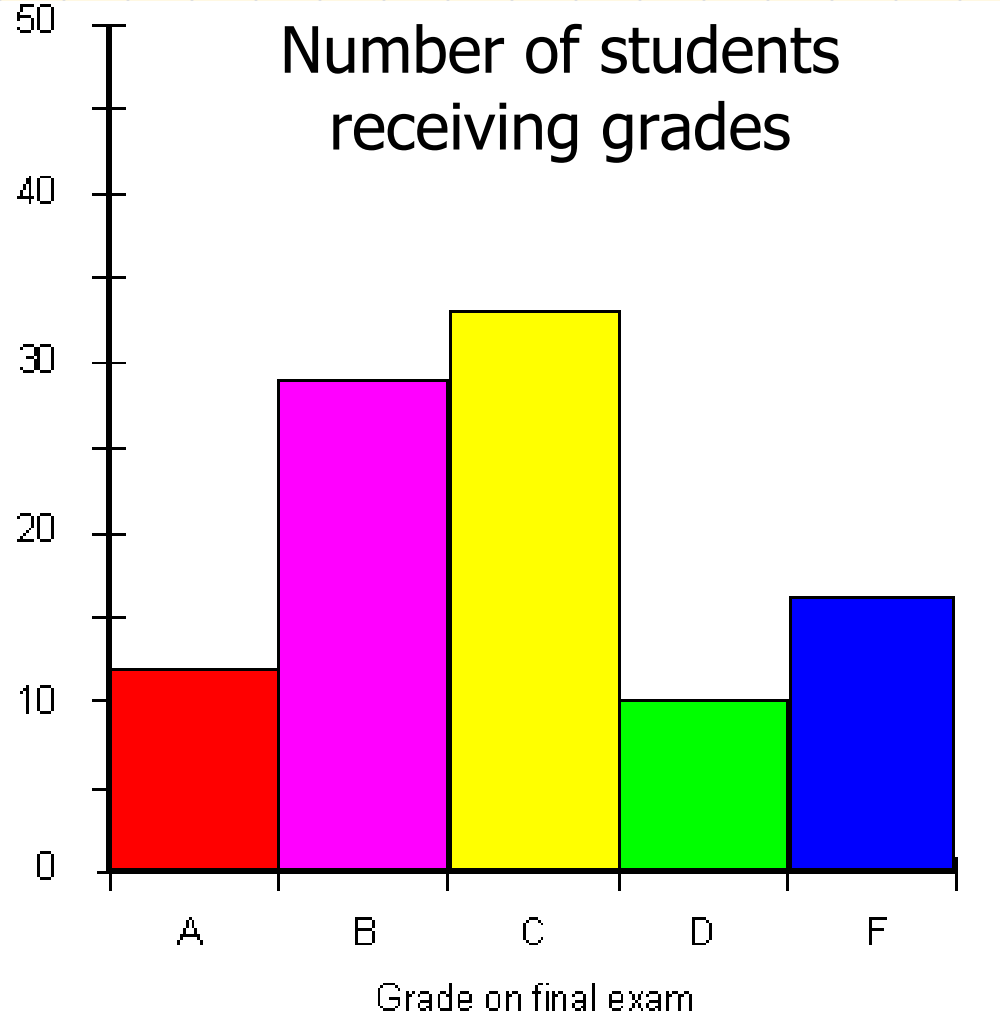
What are the intervals?

Letter Grades:

A → 90-100

B → 80-89

So forth

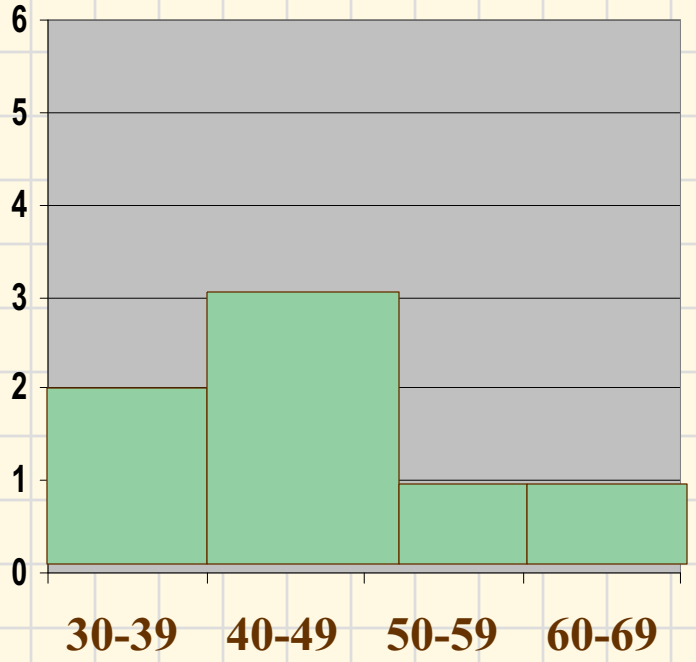


Histogram Example

Minutes Spent on Homework

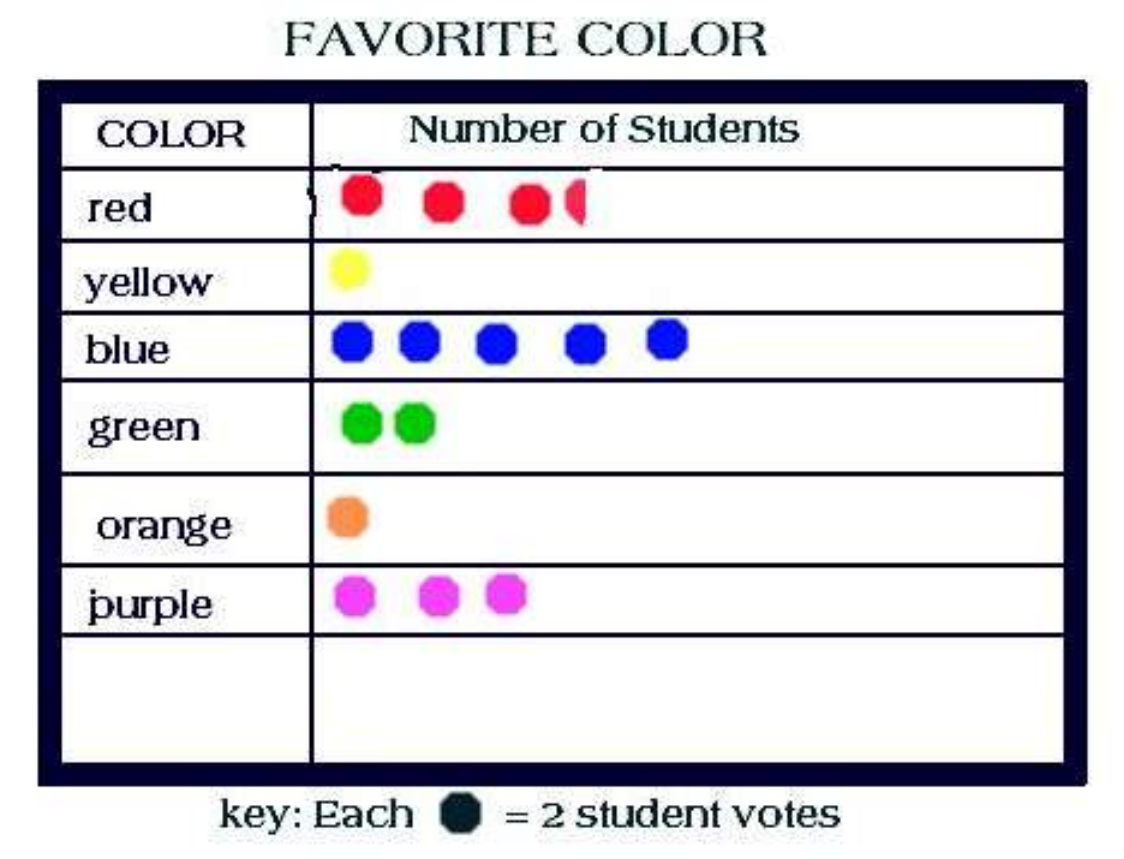
# of Minutes	Tally	Frequency
30-39	||	2
40-49	|||	3
50-59	|	1
60-69	|	1

Histogram



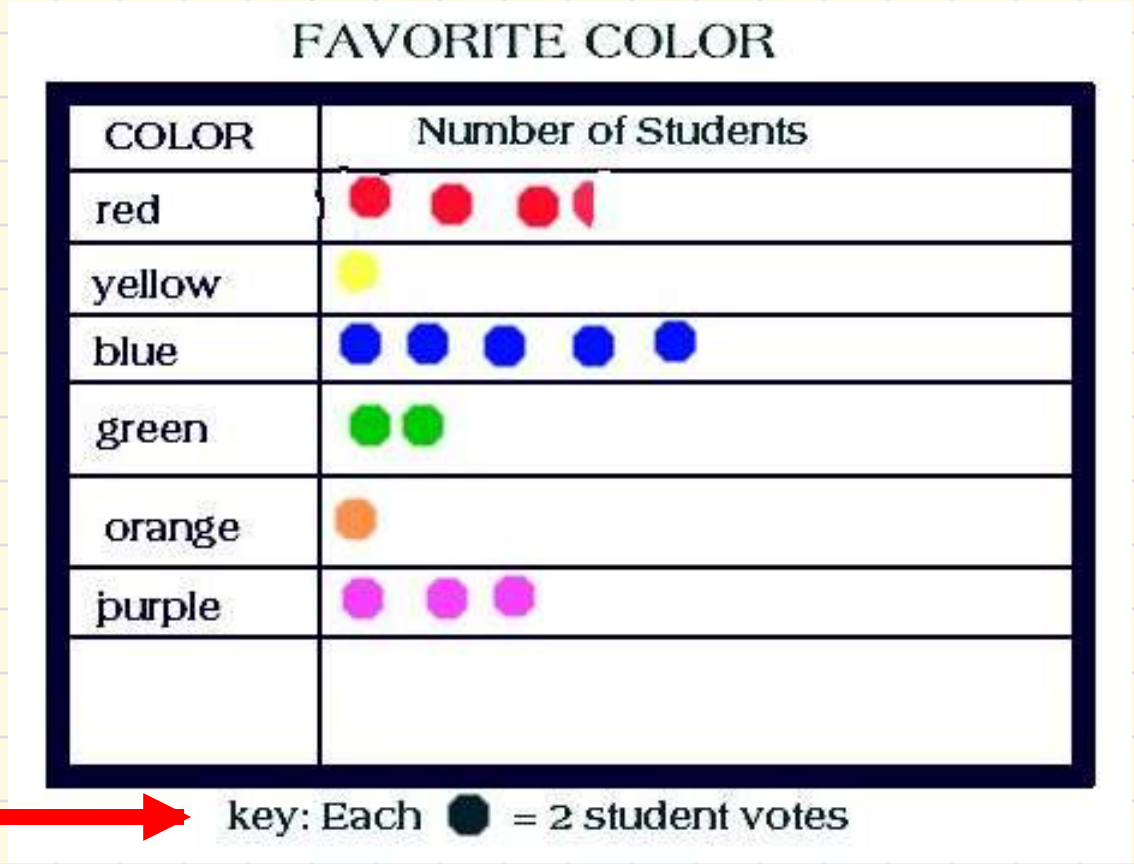
Pictograph

A pictograph uses pictures or symbols to compare data.



A pictograph has a key that tells the value of each picture.

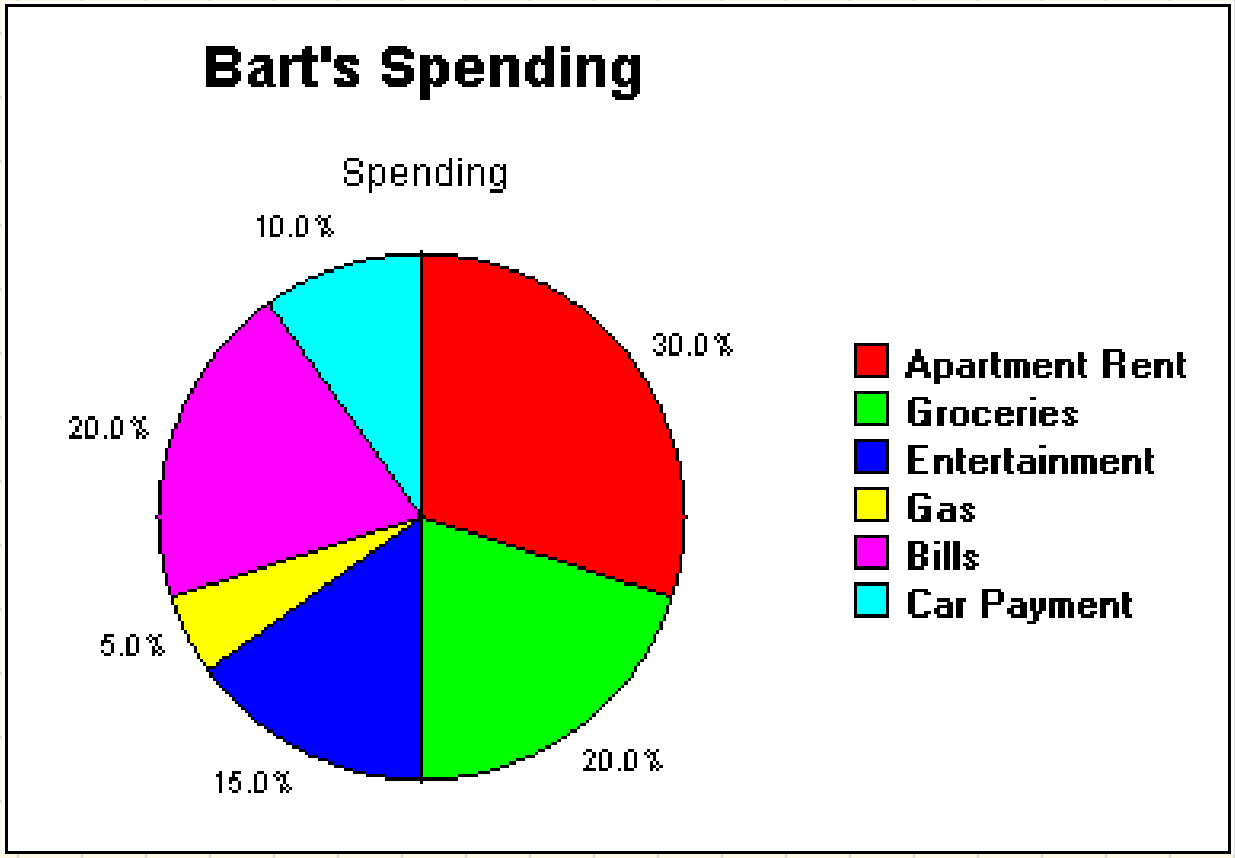
KEY



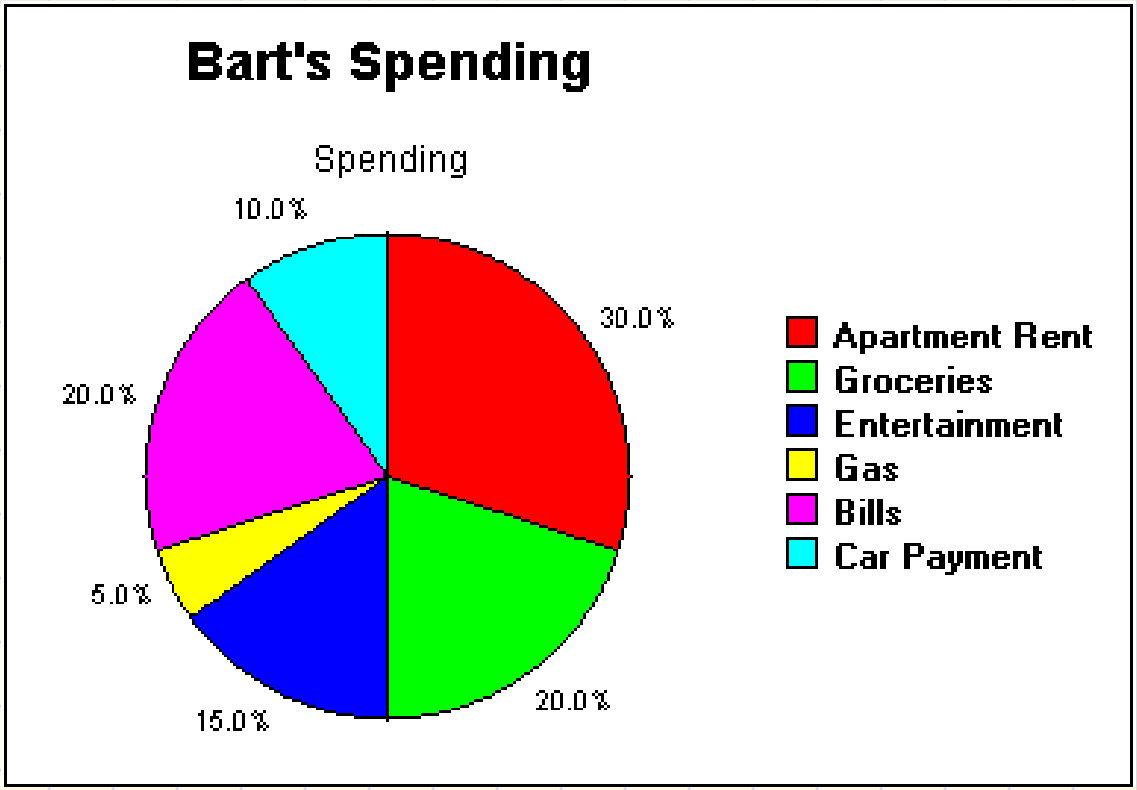
A pictograph is similar to the bar graph and histogram because it is also used best to compare data.

Circle Graph

A circle graph shows how a whole circle is broken into parts.



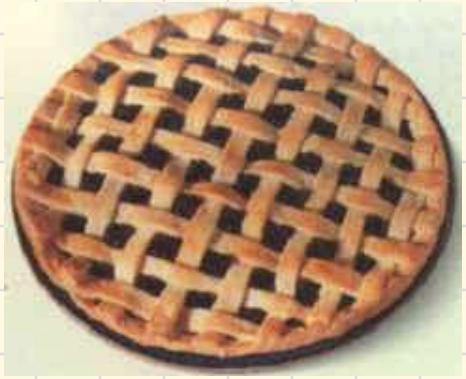
The sum of the parts (percents) in a circle graph must always equal 100%!



30%
20%
15%
5%
20%
+ 10%
100%

A circle graph is used best when comparing data, especially data that involves percentages.

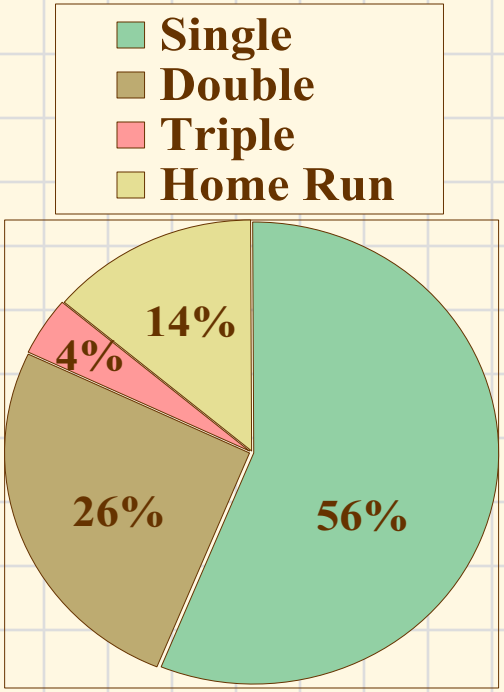
Sometimes a circle graph is referred to as a pie chart.



Circle graph Example

Dwight's Hits

Type of Hit	Tally	Number
Single	𝍸 𝍸 𝍸	15
Double	𝍸 II	7
Triple	I	1
Home Run	IIII	4



1) Find the total. 27

2) Write a fraction and change each fraction to a percent.

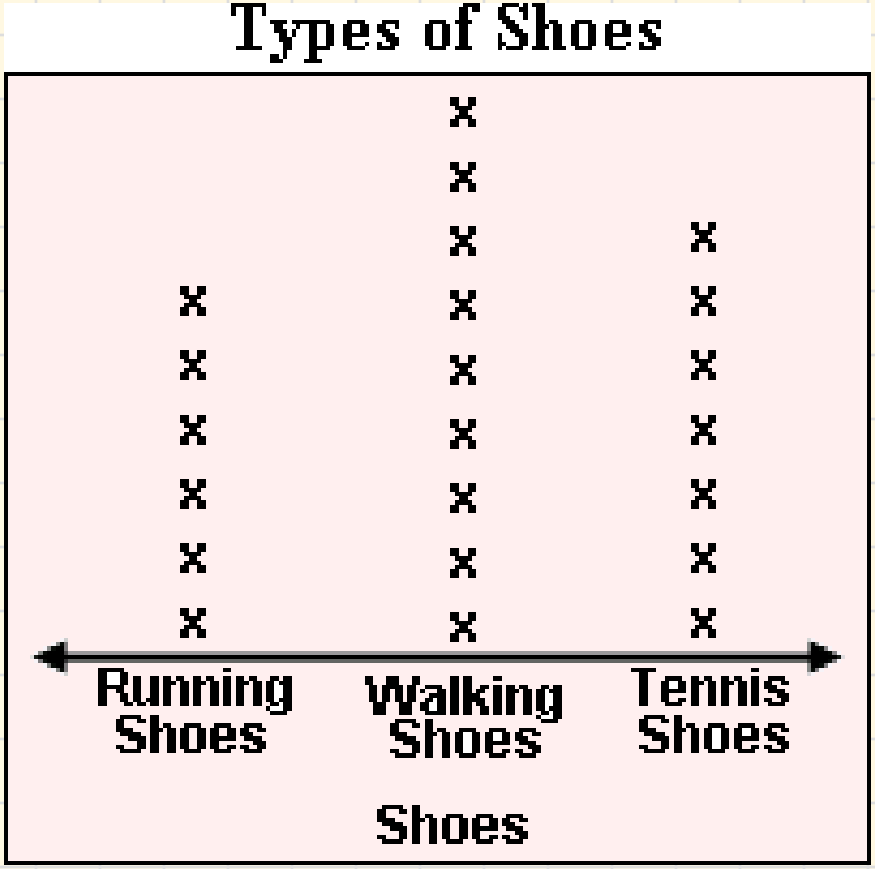
$\frac{15}{27}$ = 56% $\frac{7}{27}$ = 26% $\frac{1}{27}$ = 4% $\frac{4}{27}$ = 14%

3) Create a key and graph the percentages.

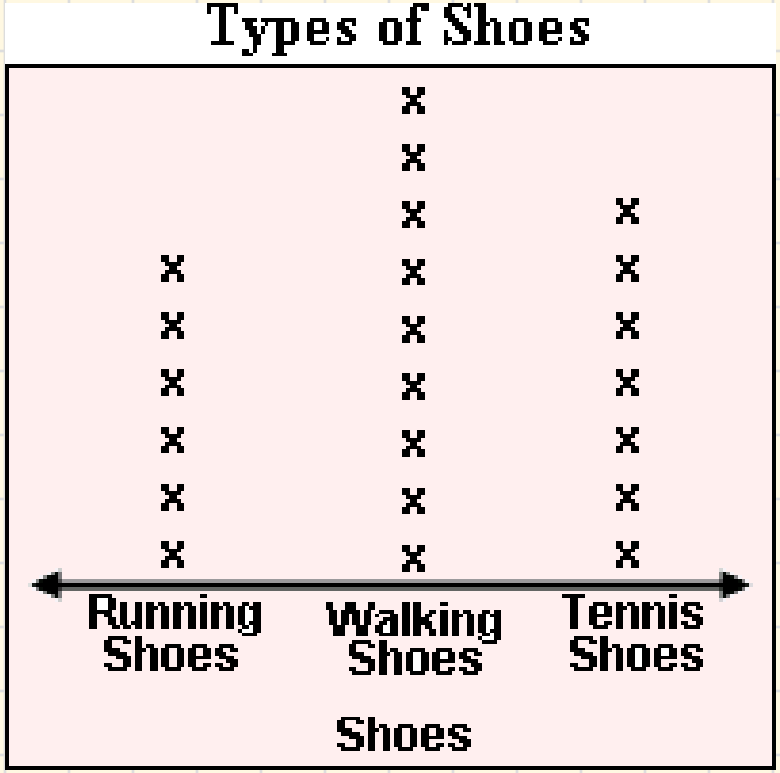
Line Plot

A line plot uses a horizontal number line and individual data points (usually Xs) to show how the data is grouped.

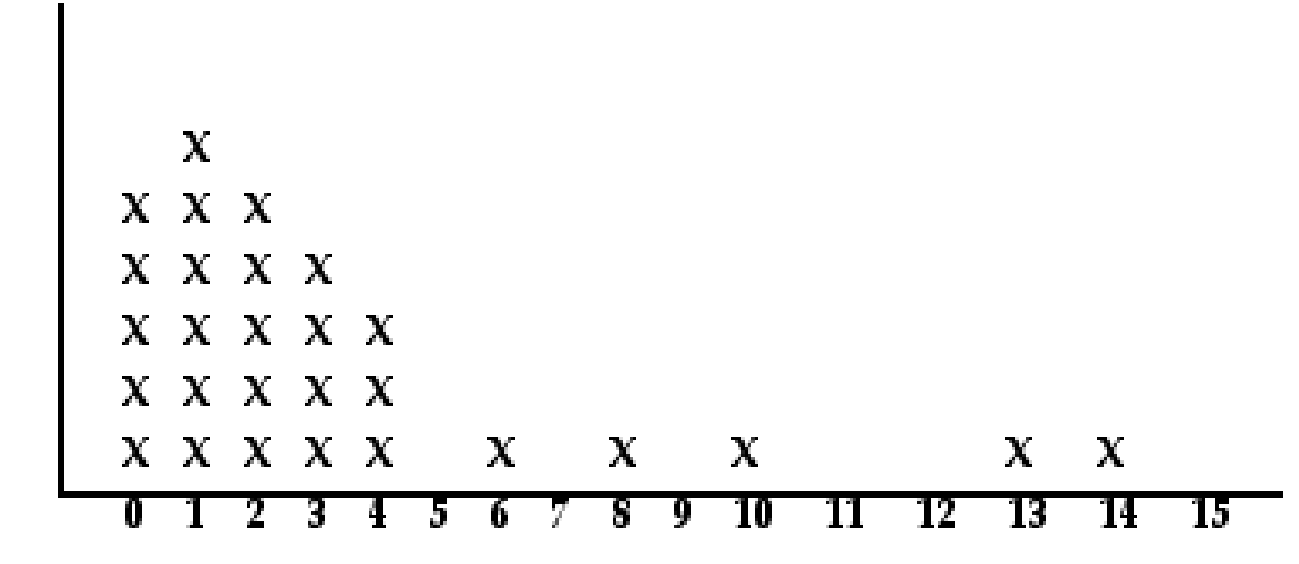
Each X on a line plot stands for one piece of data.



Line plots are a quick way to determine the mode because it is the number on the scale with the most Xs.



Number of Pets in each Household

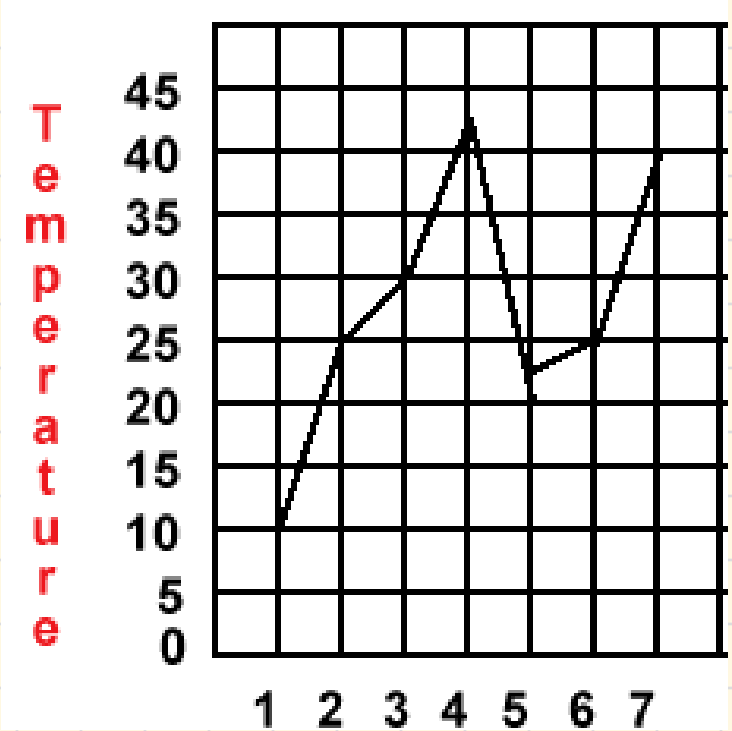


Outliers, or data items that are much larger or smaller than the rest of the items are easy to spot as well.

Line Graph

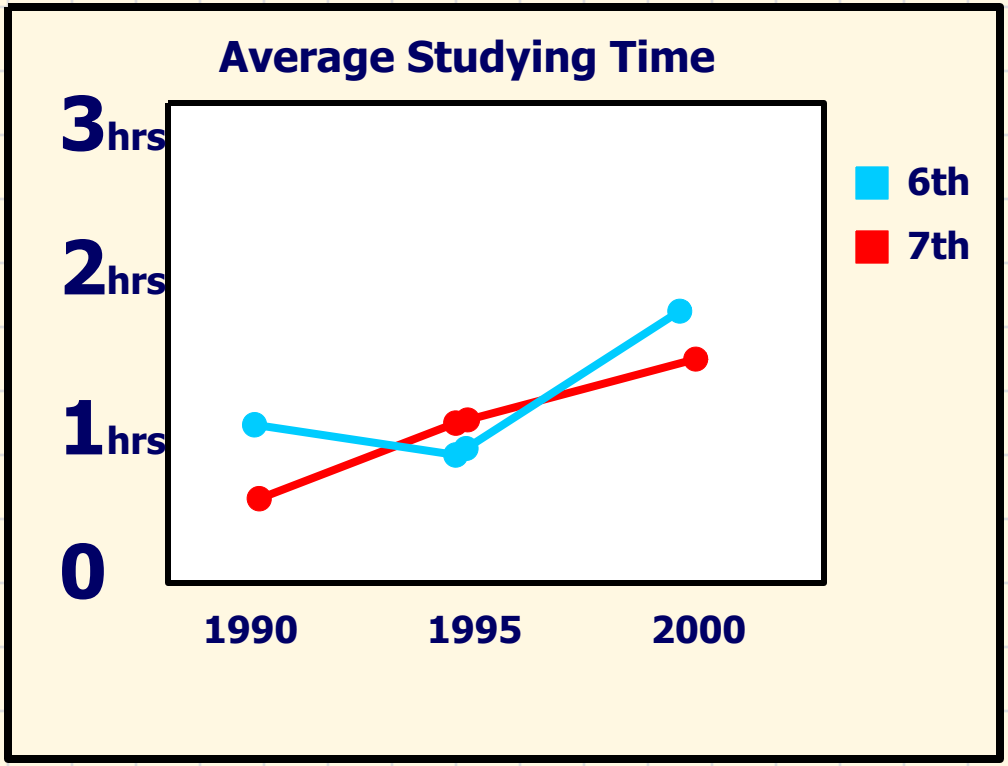
A single line graph uses one line to show how something changes over time.

Average Daily Temperature for January 1-7 in Degrees Fahrenheit



A multiple line graph compares two or more groups of data during the same time period.

Each group of data will have its own line.



A line graph shows trends, or how things change over time.

By looking at the line(s) on a line graph, you can tell whether something is increasing, decreasing or staying the same.

A steady trend may be used to help predict what will likely happen in the future.