**Lesson: Box Plots (aka Box and Whisker Plots)**

*A box plot, or box-and-whisker plot, uses a number line to show the distribution of a set of data by using the median, quartiles, and extreme values. A box is drawn around the quartile values, and the whiskers extend from each quartile to the extreme data points that are not outliers. The median is marked with a vertical line.*

*Box plots separate data into four parts. Even though the parts may differ in length, each contains 25% of the data. The box shows the middle 50% of the data.*



Example 1: Draw a box plot of the car speed data.

Median: Maximum:

Minimum: Q1:

Q3:

 *25 35 27 22 34 40 20 19 23 25 30*

***Step 1:*** *Order the numbers from least to greatest. Then draw a number line that covers the range of the data.*

***Step 2:*** *Find the median, the maximum, the minimum, the first quartile, and the third quartile. Mark these points above the number line.*

*****Step 3:*** *Draw the box so that it includes the quartile values. Draw a vertical line through the box at the median value. Extend the whiskers from each quartile to the extreme data points. Include a title.*



Find the measures of variability:

Median: Q1:

Q3: Range:

Interquartile Range: Outlier:

How to Make a Box Plot:

T - Title

O - Put data set in order, least to greatest

C - Create a number line

M - Median

L - Lower extreme (smallest #)

U - Upper extreme (largest #)

L - Lower quartile

U - Upper quartile

D - Draw box-whiskers

Example 3: Draw a box plot of the data set below.

 15 16 17 17 18 19 20 21 22

Median:

Maximum:

Minimum:

Q1:

Q3: