**Central Tendency and Variability**

Central Tendency is a fancy term we use to describe Mean, Median, and Mode.

**Mean** – average

(good to use in data sets without extreme highs and lows)

**Median** – middle number ***when in order*** from least to greatest

(good to use instead of mean when there are extreme values, aka outliers)

**Mode** – number that occurs the most often

\*\* When the mean and median values are close to each other, the data set or information is considered “good data”/”more reliable”. \*\*

Variability is a term we use to describe **the spread of a data set**. The most common used measures of variation are *range*, *interquartile range*, *variance*, and *standard deviation*. Today we’re only going to mess with *range* and *interquartile range*.

**Box-and-Whisker Plots**

A box-and-whisker plot is a good tool to use to show variability because it shows the spread of a data set. A box and whisker plot displays 5 key points.

* Minimum Value
* Maximum Values
* The Median
* 1st Quartile (the median of the *lower* half of the data)
* 3rd Quartile (the median of the *upper* half of the data)

Range is the value we get when we subtract the minimum value from the maximum value. (Maximum – Minimum)

The *Interquartile Range* (IQR) is the difference between the 1st and 3rd quartiles. (Q3 – Q1) It represents the middle 50% of the data.

**Assignment: pg 833 # 2-4, 6-8, 13-15, 17-19**