**Vocabulary List Answer Key**

Provide definitions for the vocabulary terms listed below; use equations where appropriate.

**Mean**: The average value in a data set.

**Median**: The middle number (or the average of the two middle numbers) after a data has been arranged from least to greatest. The 50th percentile.

**Mode**: The most frequently occurring number in a data set.

**Range**: The difference between the largest and smallest values in a data set.

**Standard deviation**: The variance in the data, or how “spread out” the data is.

**Population vs. sample**: A population is every possible data point, whereas a sample is a reasonable subset of the population. Samples are used when it is unreasonable to measure an entire population.

**Histogram**: A type of plot used to understand the distribution of a data set. All possible data points are plotted along the x-axis, and the y-axis is the frequency with which the points occur.

**Time series plot**: A graph with time on the x-axis and the values of interest on the y-axis. Useful for examining *temporal* trends (or trends in time).

**Scatter plot**: A graph that enables the examination of the relationships between variables. Each variable is plotted on an axis, and patterns or fitted models suggest relationships in the data.

**Linear regression (or linear fit):** A method by which a standard “*y = m\*x+b”* model is fit to a data set to solve for the coefficients (*m* and *b*) that result in the best fit, or the line with the least distance to each data point. Used to explain relationships in data or predict future data.

**Coefficient of determination (R2):** A number that explains how well the data fits the model (such as a linear model). A value of 1 indicates a perfect fit, while a value of 0 indicates a poor fit. If data fits a model well, all of the points are close to the line or pattern; if the data is a poor fit, the points are far away or spread out from the line or pattern. (Refer to the example plots in the *Pre-Activity Reading* for more explanation.)