S1: Statistics Projects (DRAFT)

Project 1:

Students create a 1 question survey that has a variety of answers. Teachers can provide a list of topics to choose from or allow students to pick their own. Students must conduct this survey with two or more distinct populations. They should have at least 10 participants in each population.

For example:” How many pairs of shoes do you own?” Populations = HS girls and HS boys

After gathering data, students use a histogram and a boxplot to graph the data. Either by hand, or using technology, students calculate central tendency and spread using mean and median, range and standard deviation. Justify which type of data display is best for comparing the two data sets? Describe the shapes of the data and determine if the data sets represent a normal distribution. Compare the data’s two populations and determine what similarities and differences of spread, central tendency and outliers mean in context of their survey. Write a prediction based on your data.

Students create a poster, presentation or report describing their survey and findings.

Project 2:

Students gather data on a topic of interest that has 2 or more measurable characteristics. They must have at least 10 data points for each characteristic.

After gathering data, students use a scatterplot to plot two of the characteristics at a time. Determine to what extent the two characteristics are correlated and what trends exist. Determine the line of best fit. Can this “line” be represented by a linear or exponential function? Write a prediction based on your data.

Students create a poster, presentation or report describing their survey and findings.