Overview: You will design, execute, analyze and display data from a self-created study to assess correlation between two variables.

Materials:

* notes from class
* tablet
* Google Suite- to record, chart, and analyze data

Vocabulary Addressed:

* Independent variable
* Dependent variable
* statistical question
* positive correlation
* negative correlation
* no correlation
* scatterplot
* two way table
* range
* line of best fit
* population (size)

Directions:

1. Come up with your own statistical question to assess correlation between two variables, along with options for you will ask to other students, teachers, family, and friends. I must approve of your question before you continue.
2. Ask your question to at least 50 people. You may ask more people, but 50 people is the minimum. Record your data on your Google spreadsheet (share your spreadsheet with me) or another piece of paper (turn in).
3. Set up your graph: Place the independent variable on the x-axis, and the dependent variable on the y-axis. Your graph will not be correct if these two are switched. Make sure you use even spacing for your graph.
4. Plot all your points on your graph. This means you will have at least 50 dots on your graph.
5. Visual conclusion: Determine the correlation type on your graph, and decide the strength of the correlation. Draw any lines to indicate correlation.
6. On your Google spreadsheet, answer the following questions in *paragraph* form. You will lose points if you fail to follow this direction.
   1. What question did you ask others?
   2. To whom did you ask your question? Why *them*? Describe a population of people who would yield different results from your own graph and explain why their results would differ.
   3. What was your independent variable? Dependent variable? How do you know?
   4. What type of correlation is your graph? How do you know?
   5. What was the range of your data?
   6. Was there any outlier? How did this affect your results?
   7. Anytime we ask a question to someone else, we try to anticipate how they will respond. Was there anything surprising about your results?
7. Create a visual presentation of your project—this can be done online via Google or can be a poster board. Up to you, but all pieces here MUST be included in presentation!
8. Review the rubric—I will use this to grade you!
9. Have fun!