

Your name(s):

DAY 1 EXPERIMENTS
Section 3.1 - Descriptive Statistics

Have each person in your group perform the following experiment: Go stand in a corner with nothing except a roll of string and a pair of scissors. Cut a length of string as close to 12 inches long as possible. Then, go back to your table and measure your string to compute its length. Record each person's name, gender, class year, major, and string length in the Google doc <http://spreadsheets.google.com/viewform?formkey=dDdtcy0yekxuMjdqNjU1c2VaZEtOM1E6MA>.

1. Describe how many outcomes are possible for this experiment. The set of all outcomes is called the *sample space*. An *event* is a collection of outcomes from the sample space. How many events are possible? Describe mathematically what an event might look like.
2. Compute the average length of string amongst the measurements by your group's members. On average, did the group over- or under-estimate a 12" length of string?
3. What is the probability of a given individual estimating a 12" length of string exactly? Use the results of the class members and your own common sense.
4. Next, use the Excel spreadsheet generated from the data in the Google doc to create a frequency histogram of the data. Note the shape of the histogram and any interesting features. Compute the descriptive statistics of the data set.
5. Create separate histograms for the measurements by the male students and the female students. Also compute the corresponding descriptive statistics for each group separately. Based on the data, do you have any indication that males estimate differently than their female counterparts?
6. Can you hypothesize how we might determine if the two groups are statistically different in the way they estimate a 12" length of string?