

Here is a quick overview of Excel. This is not meant to be a complete tutorial of the program but it should be enough to get you familiar with how to use it. As always, make sure you save your work frequently!

Excel is a very powerful program that can do lots of things, but we will concentrate on three things today.

1. How to enter data.
2. How to obtain summary or descriptive statistics.
3. How to graph your data.

When you open Excel you will see a spreadsheet. Each “cell” on the sheet does one of two things. It either contains information, or it calculates data.

1. Entering data is easy. Use the mouse to click on one of the cells. Type the information that you want to be stored within that cell then hit “Return”.

It is important to clearly organize your data, and to make sure that everything is labeled.

PRACTICE EXAMPLE: Here are some data on two groups of heterosexual women - one which received alcohol prior to the task and one that did not. For each of ten opposite sex (male) pictures, researchers asked the subject if she would give out her phone number. The researcher recorded the number of times (out of ten) each subject agreed to give out their phone number. The researchers wants to know if there are any differences in the distribution (“giving out”) of phone numbers between the alcohol and control groups.

Control Group	Alcohol Group
3	5
2	3
4	4
1	6
2	5
3	4
3	2
1	3
5	3
3	5

You should notice that at the top of each column is a letter, and at the beginning of each row is a number. These are used to refer to your data. So if you if you wanted to refer to a specific number that you have entered, you can refer to it like (a1) or (b3). You can also refer to a range of data by butting a “:” between the name of the first cell in the range and the name of the last cell in the range. For example (a1:a5) refers to cells a1, a2, a3, a4, a5. Using ranges of cells becomes very useful for large data sets.

2. You can also do calculations on the data that you have entered. To get all of the descriptive statistics you will need, you can go to the built in data analysis function. You'll find it under the "Tools" menu, and at the bottom of the list that pops up you should see "Data Analysis". After you click on "Data Analysis" a list of possible statistical tests will pop up, and you should select "Descriptive Statistics". Once you've done this you'll have to highlight the cells you want Excel to use in calculating means, variances, etc. Be sure to click the SUMMARY STATISTICS box to get all of the important descriptive statistics for this class, including the Skewness and Kurtosis values.
3. Excel is kind of picky when it comes to graphing your data. If you want to make a graph of two means, the two means should be next to each other in your spreadsheet (You can enter these manually into the excel sheet or go to the table of descriptive statistics created from problem 2). After highlighting your means all you need to do is click on the icon of a little bar graph near the top of the screen. By clicking on this, Excel will step you through the process of creating a graph. After your simple graph is created, you need to add error bars. If you click on one of the bars in your graph, a square "dot" should appear in each of your bars. Double click on the dot. A list of options will come up; one of which will say "Y-error bars". At the bottom click the "custom" button. Then for the "+" highlight the standard errors (from your descriptive table)—you should have highlighted two values! Then do the same for the "-" standard error. Click OK and you have error bars!
4. Be sure that your graph includes X- and Y-axis labels, bar label/legend (making it clear which group is represented by which bar), and a title.

5. This is your HOMEWORK!

In Excel, do the following

A. Enter in the data listed below (number of errors made on a standardized reading comprehension test) and produce descriptive statistics as described in the tutorial above.

7-year Olds	8-year Olds
5	6
6	7
3	5
4	4
7	6
3	5
4	7
5	5
2	6
4	7
5	5
3	
4	

B. Graph the data from the two groups (BE SURE TO GRAPH THE MEANS AND TO ADD Standard Error Bars as described in the tutorial, under #3-4).

C. **What to turn in:** *A print out of your descriptive statistics and a graph of your data.*