

Computer Technology

Microsoft Excel 2010

Lesson 7:

In this lesson you will master the following concepts in Excel:

- Graphing data from online sources
- Setting up a graph from scratch
- Graphing by rank
- Adding additional information to a created graph



In this lesson, we will take a step a bit further in making graphs in Excel. So far all graphs have been set up for you. In this lesson, you will be taking simple raw data and setting it up yourself. You will be making a line chart which shows the popularity of your first name.

- Note: If you have a very common first name that has been in the top twenty for a long time, you may want to select your middle name or the name of a family member, since your graph may not be very interesting!
- Note: If you have a very uncommon first name and it is not on the site, you will need to pick another name as well.
- Note: If you have a more common name but an uncommon spelling, you may still want to graph the more common spelling, so as to get a more accurate picture of your name's popularity.

1. Begin with a blank page in Excel.
2. **Access Raw Data** - Now, go to the Social Security website. This site tracks the top 1,000 names each year going way, way back. The site is: <http://www.ssa.gov/OACT/babynames/>.
 - a. Scroll down and select the "Popularity of a name" tab. Type in your selected name and enter 100 for the number of years, and select a gender.
 - b. You now will see a list of each year and what the name you entered ranked each year. If the rank shows a, that means that it was not in the top 1,000 for that particular year. If it doesn't go back 100 years, it will go back to the first year that name appeared on the list.
3. **Transfer data** – Choose from this large amount of data what you want to graph. Because this graph is going to show *change over time*, we are going to create a line graph. Enter the information on Excel in a way you think will work.
 - a. Don't use every year and DON'T just copy and paste! It's too much data!
 - b. Choose which years to show, every five or ten years is sufficient.
 - c. If there is a year that doesn't have a number, just type "0"
 - d. Make sure you type the name you are graphing and include it in what you highlight for your graph.
 - e. Highlight it and make a line chart. Look at the next section to see if you did it right!

Popularity of a Name

See how the popularity of a name has changed over time!

Name?

Go

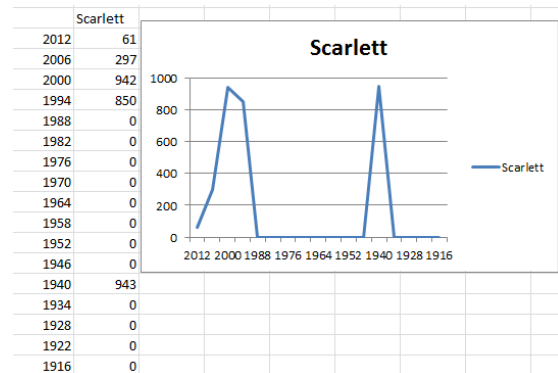
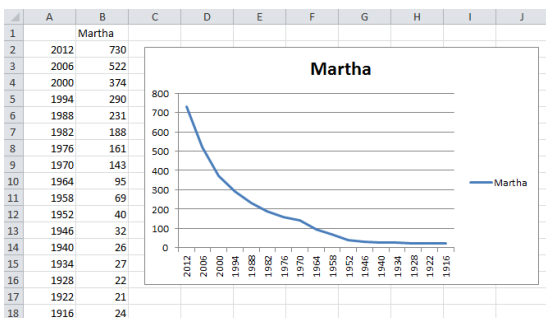
Sex associated with name

Male Female None

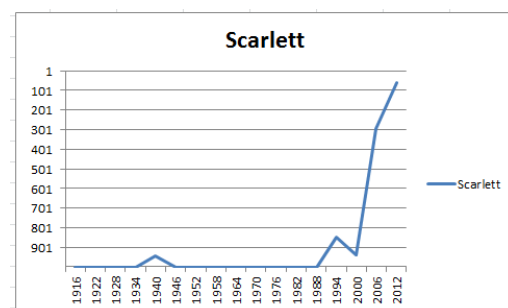
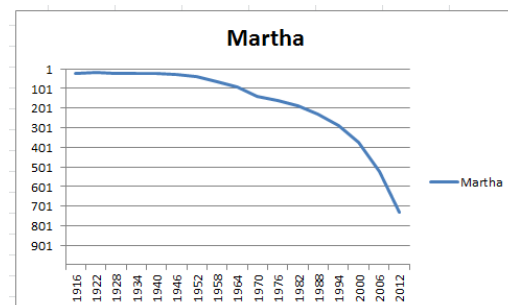
Number of years?

Reset

Please note that the name you select must be in the top 1000 most popular names in order for the name to appear in the results of your



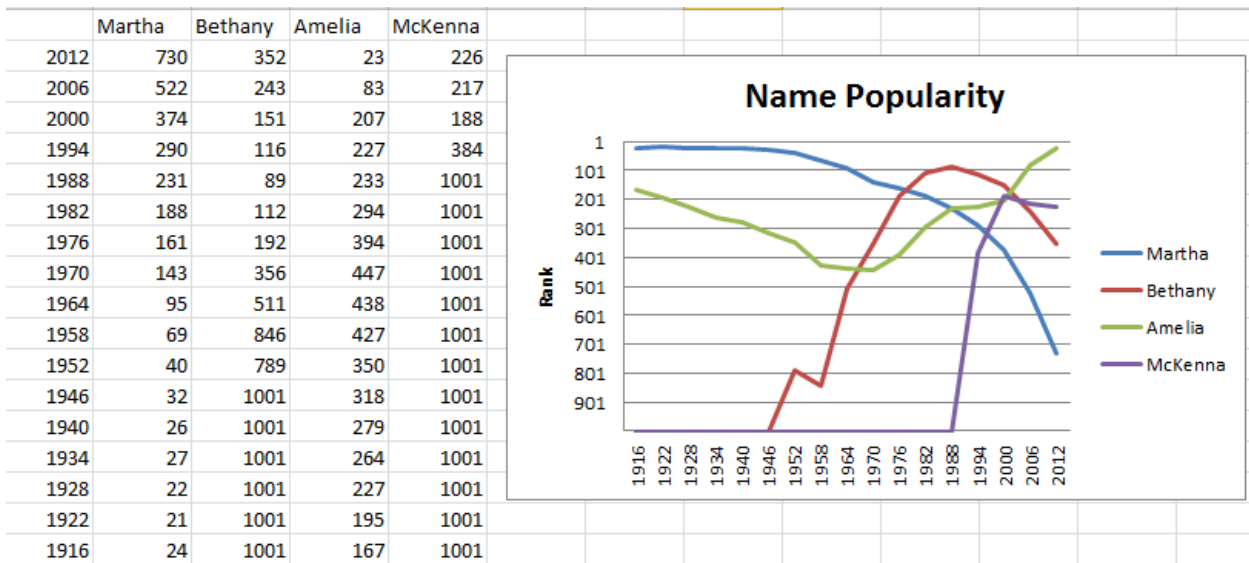
4. **Assess your graph** - If your chart was arranged something like this, you did it right. But you might notice that this is actually not a good chart at all. It has a few major problems:
 - a. The graph goes from 2012 to 1916. It's going backwards. I probably want the first point on the graph to be the oldest year.
 - b. The graph is upside down. It appears the name was very popular in in 2012 and then lost popularity. In reality it's just the opposite. In a "rank" chart, the highest number is a 1 and the lowest is 1000.
 - c. If you have a name with years without data, like the second chart, the data is also skewed. "0" isn't actually applicable in a rank chart.
5. **Fix the X axis** - First, we need to get the order right—the year starting with lowest to highest.
 - a. Right click on the years on your X axis and choose Format Axis. Check the "Categories in reverse order" box. Now our years are in order, but the Y axis has switched to the other side, making an awkward looking graph. To fix this, check the "At Maximum category" button in the same menu. This will switch it back.
 - b. Note that if you type the years in from the oldest the newest, you won't have to do this step at all.
6. **Fix the Y axis, graphing rank** - We still have the problem with rank. We need to make 1 the highest number and therefore flip the chart.
 - a. Right click on the numbers in your Y axis.
 - b. In Axis Options, change the Minimum to 1. Change the Maximum to 1000. This will change your numbers to 101, 201, and so on, but that's ok.
 - c. Check the "values in reverse order" button. Now our chart has the years on the top—VERY awkward. To fix this, once again check the "maximum axis value" button in the same menu.
7. **Account for missing data** – If you have a chart that has years without data and skips years, entering a "0" only makes it look like the name was really popular.
 - a. Change all years without data to 1001—this will put it on the bottom and off the chart.
8. **Format the chart** – Choose a chart layout. Make sure you pick one that has an axis title for your Y axis. Name the chart "Name Popularity" and name the Y axis "Rank"



9. **Add additional information to your chart** – Now that we have our chart arranged, we are going to add THREE more names!

- Look up data for three more names that have some meaning to you. Enter their information in the way you think will work best.
- You will have to use the SAME YEARS that you used with your first name.
- Once you have entered it, click on your chart (which still only shows your first name) and you will see colored lines. Click on the blue square and drag across all your other data. It will now be added to your chart.
- Did you do it right?

	Martha
2012	730
2006	522



10. Change the color and style of the graph if you like. Make sure it all fits on one page. Add a header, print preview, and send via DropBox.