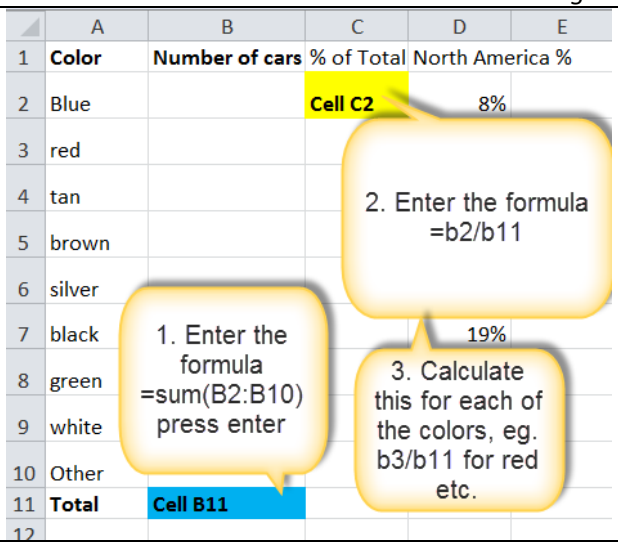
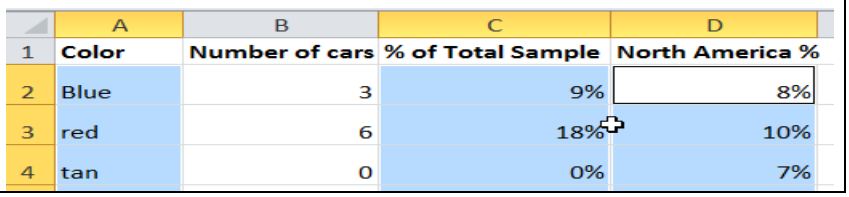
21things4students MISSION: DIG THE DATA

QUEST 2: Just Function (Fx) Step 4– Use the Car Data Spreadsheet you downloaded in step 2.

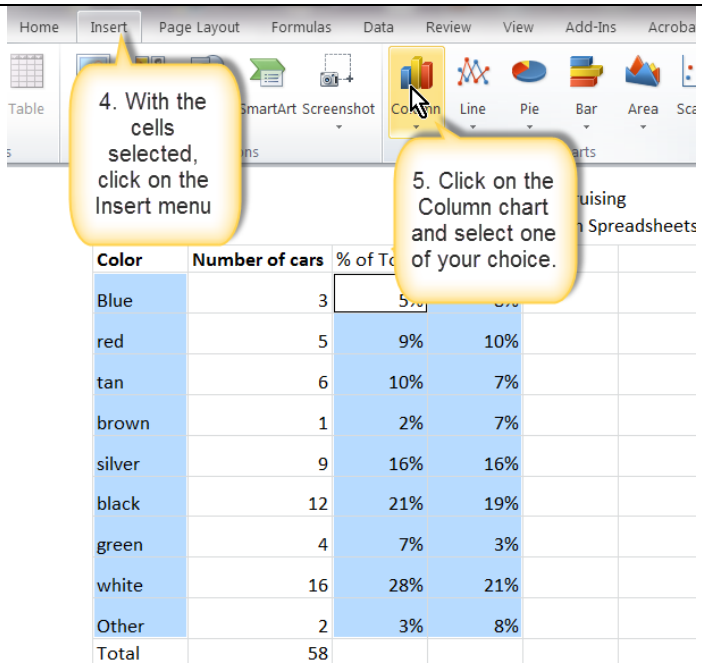
1. Click on the Car Color tab	
2. Total the number of cars in column B.	Click in cell B11 and enter the formula to total the cells. =sum(B2:B10) and click enter. *Note: the video shows the use of the mathematical symbol "Sigma"* Σ *to calculate the sum. This is in Excel or Google sheets.*
3. Calculate the % of each of your colors of cars to the total by clicking in the Cell in column C, typing = And the / for divided by, and then click in the cell with the total in column B. Press enter or return. This calculation will not let you fill it down like when you did the totals. Why not? What happens when you try it?	
4. Complete this action for all the other cells in column C until you finish calculating the % total of each color for your sample.	How does your sample data compare to the data from North America? To see the comparison visually, we'll show you how to create a bar graph of the results.
5. Comparing your results to the survey data. *****Note if you are using a Google spreadsheet, skip down to step 11.**	You will be "selecting 3 columns of data" for our graph to compare your results with the National survey. Column A with the names of the colors + Column C with the % for your data + Column D with the North America % data. You will be skipping column B, the number of cars you counted. It is important to compare similar types of data, or your percents of colors to the percent of colors for the North Amercia data. 

	A	B	C	D
1	Color	Number of cars	% of Total Sample	North America %
2	Blue	3	9%	8%
3	red	6	18%	10%
4	tan	0	0%	7%

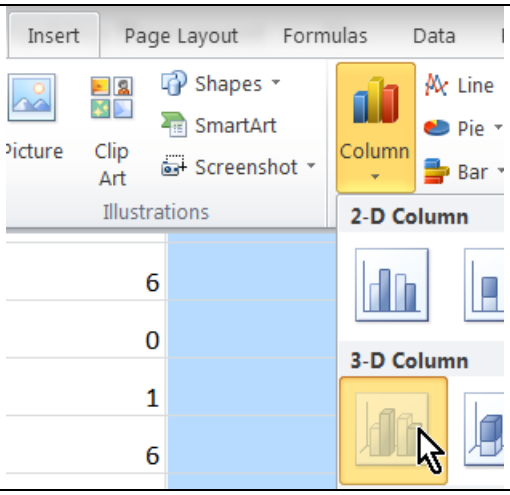
6. Click in cell A2 and drag down to A10 (not including the total), **holding your control key down**. The top one in the column won't look shaded, but it shows where you first put your cursor.

KEEP the Control key down, click on the first number cell in column C (C2) and drag down to C10, to select them also.

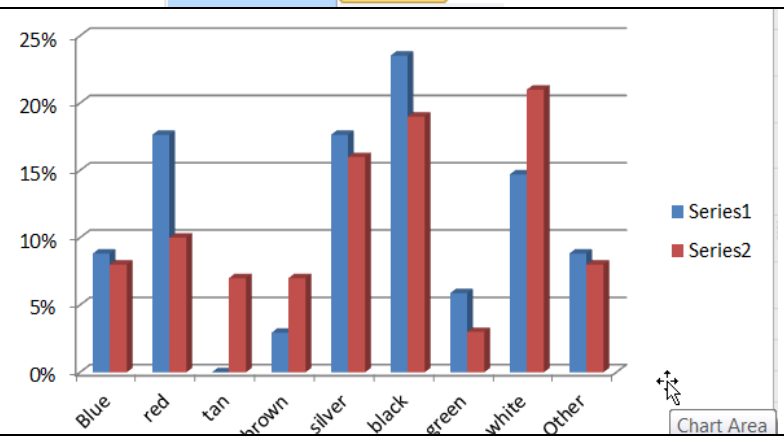
KEEP the Control key down, click on the top number in column D (D2) and drag down to D10.
With the 3 columns of information selected:
Click on the **Insert menu**

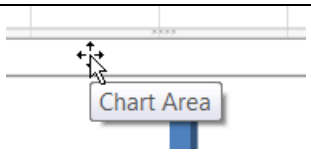


7. Select the 3-D column chart showing the columns next to each other.



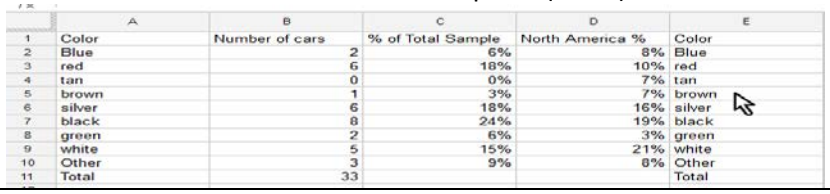
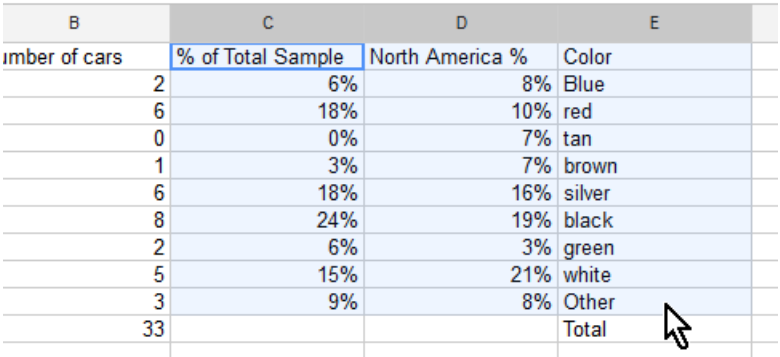
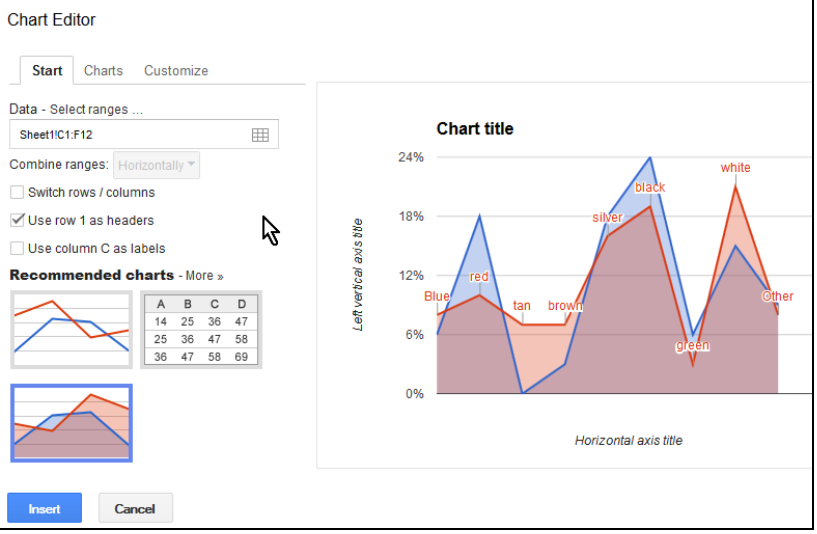
8. Your chart should appear on top of your spreadsheet. The bars will show two sets of colors, the first one (series 1) will be your own data, and the 2nd one (series 2) will be the National data.

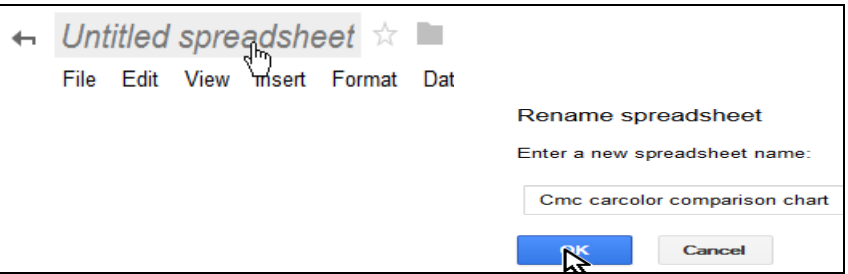
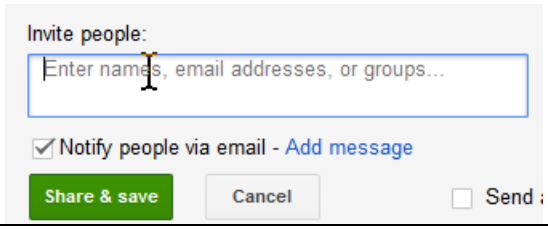


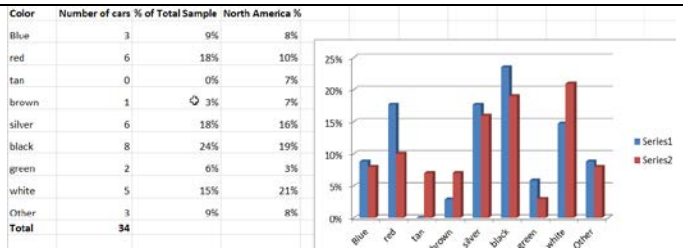
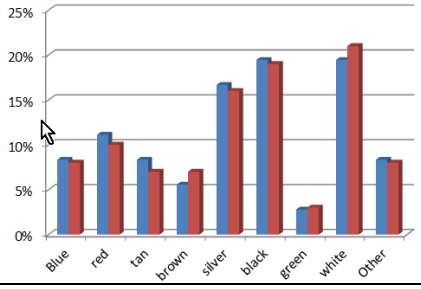
9. You can move your mouse over the spreadsheet until you see a 4-headed arrow which will allow you to drag it over so you can see your data and the chart at the same time.	
10. Save your document and ask your instructor how to submit it.	

******Excel Users skip down to step 11******

Google Sheets users charting section

Google sheet 6. **To create a comparison chart in Google sheets, and be able select 3 columns of data, we will need to copy the color names in column A and paste them into column E**	Click in cell A1 and drag down to the total in A11 holding down your mouse and use the Ctrl-C (or command C for the mac) to copy it. Click in cell E1 and use the shortcut for paste (Ctrl-v). 
Google sheet 7. **To create the graph select cells C1 through E10 (not including the total row or column A or B) and click on the chart icon** **on the menu bar.**	
Google sheet 8. **Select the overlay chart and click the Insert button.** **Click in the Horizontal axis title and type "Car color comparison"**	

Google sheet 9. **Title the spreadsheet by clicking on the title area. Use your initials and "car color comparison chart" and click OK**	
Google sheet 10. **Share it with your teacher.** **Enter the email address supplied by your teacher.**	Click on the share button 

11. How does your data compare with the North America set? **Which Is the most popular color?** **Are there some similarities?** **Save your spreadsheet!**	
Bonus challenge: **Experiment with your data!** **See if you can change the numbers of cars you counted so that each color in your parking graph is similar to the North America graph. How close can you get? Save this spreadsheet with a different name, ColorGraphChallenge.**	As you change the numbers in column B, notice that the graph changes immediately. Here's how close we came.