Computer Technology
Microsoft Excel 2010

Lesson 6:

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

- Graph Pie, Bar, Column Line, and Composite graphs
- Change chart layout and style
- Moving charts
- Switch row/column data
- Format chart data and plot area
- Format Axis
- Secondary Axis
- Change chart type
- Fit to page

Pull up Lesson 6 Starter

1. **Create a new sheet**

    a. Click on the [image] button on the bottom the create a new sheet.
    b. Name it "Graphs"
    c. Save your file as "Lesson 6 – Your Name"
    d. Click on that sheet and add a header with your name, file name, and period.
    e. Keep the view as page layout so you can see your page edges. You will be moving all your completed graphs here, and this is the only page you will print.
    f. Change the orientation to Landscape
2. **Pie Charts** – Pie charts are used to graph ONE set of data, and to demonstrate parts of a whole. All your data added up should equal the total amount. A pie chart would not be good for something like "the top ten best movies" because the results, added together, do not equal the total amount of votes for all movies.
    a. Highlight all the expense categories and their amounts
        i. Do not include the total
    b. Go to Insert>Pie chart
        i. Choose the 3-D chart, not exploding
    c. Choose Chart layout 6. You will have to pull down the menu to get the one in the sixth slot.
    d. Type in the title in "Chart Title" to "June Expenses"
    e. Change the chart style
        i. Pull down the chart styles menu and choose any style you wish.
    f. Move the chart to your graphs tab
   i. If necessary, click on the Chart Tools tab so you can see all your chart options.
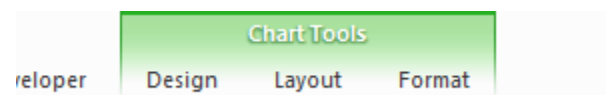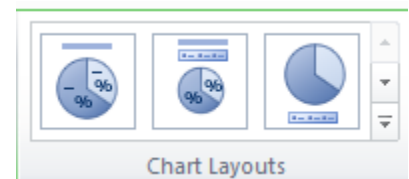
    ii. With your chart highlighted, click on the Move Chart button on the far right of the ribbon.

    iii. Pull down the menu in "object in" and choose "Graphs"

    iv. Move your graph to the upper right corner. Resize it so it's easy to read.

3. **Bar Charts** – Bar charts and line charts are similar and chan be interchangeable, but some data looks better in one or the other. They help you visualize one or more categories of data.

    a. Go the Bar Chart tab. You will see the 2012 data of the percentage of households that have certain types of pets. Enter the results of the class survey into cells B14-B18. (If any of them have a zero, change it to a 1 for the sake of the assignment.
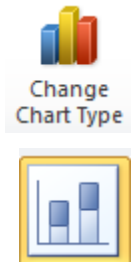
	# of Owners	
Dogs	10	29%
Cats	14	40%
Birds	6	17%
Horses	1	3%
No pets	4	11%
Total:	35	

      i. If you are doing this on your own, enter the information the right. The percentages in column C will show up automatically.

    b. *Chart 1* – Highlight cells A6:E9. Insert a bar chart type in the *first column only*.

      i. Add chart layout 1.

      ii. Name it "Pet Ownership" press enter and type "By Pet Type"

        1. Highlight your subtitle (by Pet Type) and change the font size to 11.

      iii. Now we will switch the Row/Column data. In this way, we

      iv. This chart's axis can be misleading—only up to 50% own pets, but the chart makes it look like a lot more because of the axis.

      v. Click on the x axis until the percentages are highlighted. Right click and choose Format Axis…

      vi. Change the maximum from .4 to 1.

      vii. Move the finished graph to the Graphs tab.

    c. *Chart 2* – Highlight A13:B18. Choose the 2D chart.

      i. Choose Layout 1.

      ii. Change the title to "Our Class Pet Ownership"

      iii. Switch the Row/Column data so you have a legend on the right listing all pet types and "no pets"

      iv. Change Fill on each column—click on the dog column twice so it's the only one highlighted. Then double click to pull of the Format Data Series dialogue box.

      v. Click on Fill. Click on "Picture or Texture Fill"

      vi. Under "insert from" choose the Clipart button

      vii. Do a search for a picture of a dog.

        1. Make sure the "Include content form Office.com" is checked.

      viii. Select a picture that is surrounded by white

      ix. Check the "Stack and scale" button. Now you will have on picture for each person who voted for dogs.

      x. Do the same for Cats, birds, and horses. For No Pets, type "no" in the search to find a no sign.
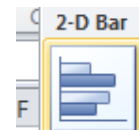
1. You do not need to close the dialogue box each time—just click on the next column and you can continue.

4. **Column Charts** – Similar to bar charts, just facing the other direction. Interchangeable with bar charts, but some data is better represented in one or the other type.
   a. Highlight A5:F17. Choose a column chart, selecting a type from the first column.
      i. Although there's nothing really wrong with this chart, we will simplify it because there is so much data.
      ii. With the chart highlighted, click on the Change Chart Type button.
      iii. Choose a stacked column type.

      iv. Now your data is much easier to read, and at a glance you can spot which cancers are more prevelent in which states and in which regions of the country.
   b. Add a chart layout 3. Change the title to "New Cases of Cancers by State and Region" Add "2012" as a smaller subtitle below it. You may need to change the font size of your title to get it to fit on one line.
   c. Format Plot Area – right click on the white background inside your chart
      i. Choose Format Plot Area
      ii. Add a gradient fill to the background
      iii. Double click on "Breast Cancer" in the legend. Go to Solid Fill and change the color. Do the same for all of the cancer types.
   d. Move the graph to your graphs page. You will not be able to fit all graphs on one page, so put this one on a second page.

5. **Line** – Displays numeric data, particularly good for expressing change over time.
   a. In this chart we will be graphing the change in stock prices for four different companies over three years.
   b. To begin, you will need to get the current stock price for each company.
      i. Go to Google. In the web search, type the Code number (NFLX) and you should get a graph.
      ii. Enter the large black number (330.38 in the example) in column L where indicated.
      iii. Do this for all three companies.
         1. For Costco, you might want to type "COST stock" for it to come up.
   c. Once you have entered, you are ready to highlight.
      i. Highlight B6:L11 and do a line chart
      ii. Go to chart layout and choose layout 1
      iii. Add a title, "Changes in Stock" and two subtitles in a smaller font, "for selected companies" and "2011-2013"
      iv. Change the Y Axis Title to Stock Price
      v. Move it to page 2 of your graphs tab.

6. **Composite Graph** – In this section we will do a comparison graph using two different types of graphs together—column and line. We want to compare how much certain states spend per pupil in their schools, to their graduation rate. This graph would answer the question, Does per pupil spending increase graduation rates?
    a. Highlight the required cells to make the chart, and choose a 2-D Column chart.
    b. You'll note, though, that this isn't a very good chart. We are graphing money and percentages in the same graph—we are comparing apples and oranges! To fix this, we need to add a new axis.
        i. On the legend, click on "graduation rate" twice so only it is highlighted. Right click and choose Format Data Series
        ii. Click on the Secondary Axis button.
        iii. You will now see a new axis appear on the right side of the chart. Click close.
        iv. Now the red is overtaking the blue! Without clicking on the chart, click on Change Chart Type on the far right. Choose the first line option.
            1. Now we can see both a line and a column chart, comparing graduation rate with per pupil spending.
        v. Choose chart layout 3 and title it "Per Pupil Spending vs. Graduation Rate"
        vi. Change the percentage axis from .8 max to 1, so that it shows 100% graduation rate at the top of the axis.
        vii. Change the color scheme however you wish.
        viii. Move to your graphs page.
7. Fit to page – Make sure you do NOT have one of the graphs on your graphs page highlighted.
    a. Go to File, Print
    b. Choose Fit Sheet on One Page from the drop down menu.
    c. All six graphs should now fit on one page.
    d. Saveas: **yournamelesson6** and submit via DropBox

Settings

| Print Active Sheets |
| Only print the active sheets |

Pages: [ ] to [ ]

| Print One Sided |
| Only print on one side of the page |

| Collated |
| 1,2,3   1,2,3   1,2,3 |

| Landscape Orientation |

| Letter |
| 8.5" x 11" |

| Normal Margins |
| Left: 0.7"   Right: 0.7" |

| Fit Sheet on One Page |
| Shrink the printout so that it fits on one page |

Page Setup