Excel Charts 1: Create and Format

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1.5-hour Classroom / 1.0-hour Zoom

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Charts

A chart helps you display your data into a graphical representation. The data has to be organized so Excel can understand what you are trying to chart. Excel will chart your data selection or your connected data range. As long as there are no blank columns and no blank rows within your dataset, you can skip selecting the cells.


Here is a dataset we will use in class:

Item	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
Pants	456	489	423	468
Shoes	498	435	472	436
Socks	128	168	157	138
Blouses	579	498	531	589
Hats	126	129	123	119

This is a structured collection of related data set in a table format. When plotted onto a clustered column chart, like the one shown above, the titles in the first column of the dataset appear along our category axis. The titles in the first row appear within the legend. The values are represented by the height of each column.

Line charts are usually set up to go across a period of time, think *Time Line*. For this chart I've used the **Switch Row Column** tool so we can see the trend of the sales through the year. In this case our first column titles appear in the legend, and the first row of titles appears in our category axis.
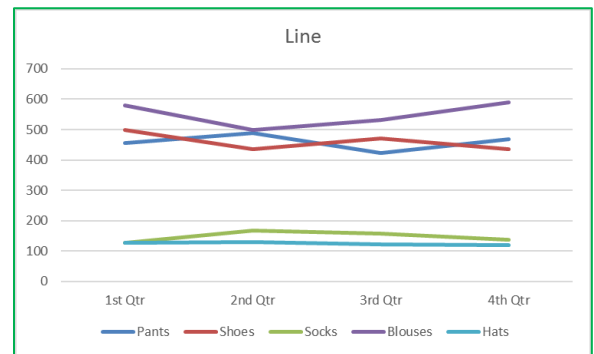
Pie charts are usually created to display the breakdown of the total values within the whole. Pie charts can only be based on one set of data. When you try to create one with the above dataset, you will only see the first value set appear within the chart. If you want to go to an extreme and have all four quarters show, try using a *Doughnut* chart.
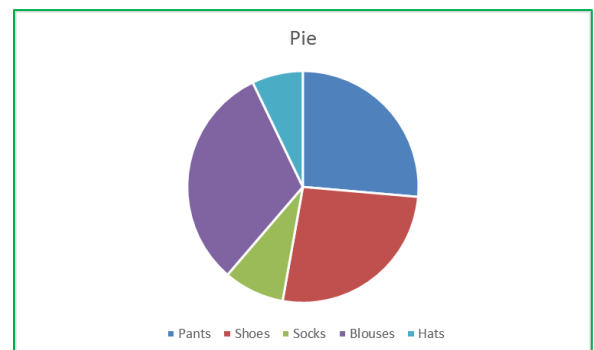
Creating a Chart

To create a chart, make sure your cursor is in the dataset you would like to plot. If you want a subset of the dataset, select that portion. You can use your Ctrl key to add to a current selection.

You will find the **Charts** group on the **Insert** tab. Click on any small chart button to see a list of possible charts.
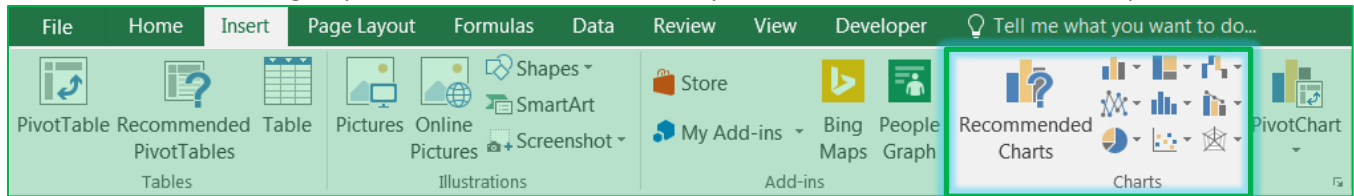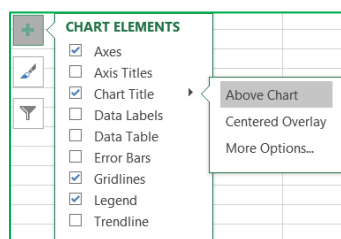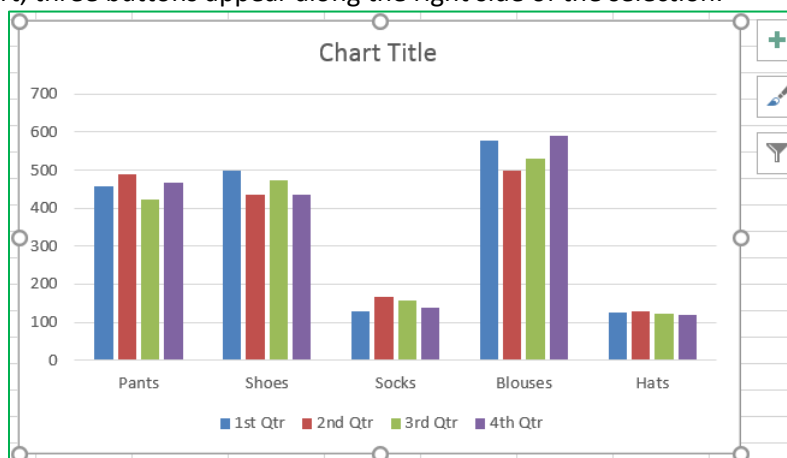

The buttons may look slightly different depending on your version of Excel, but the buttons will behave the same.

If you are unsure of the best chart option for your data, use the **Recommend Charts** button. It will open the Insert Chart window shown here.
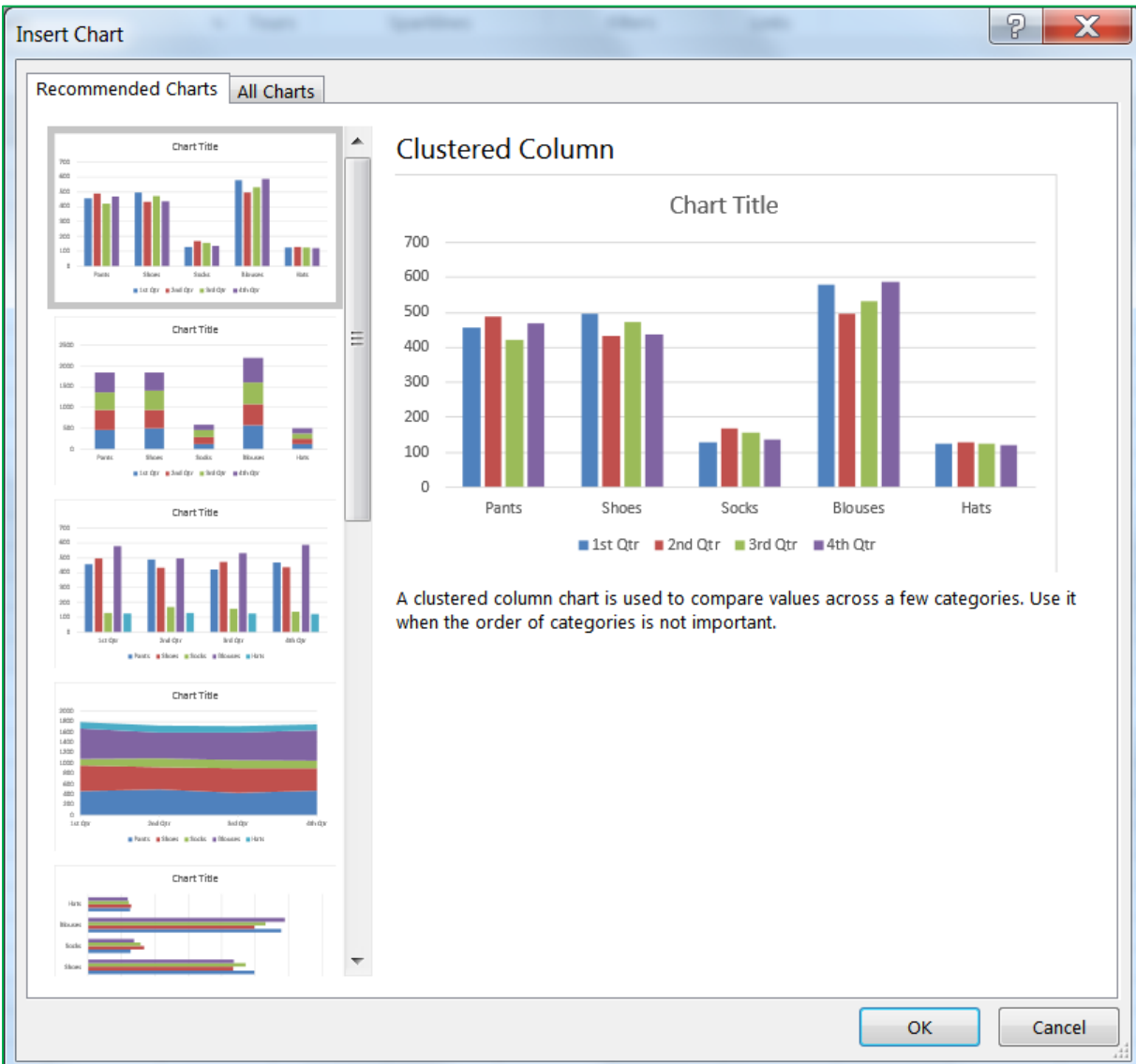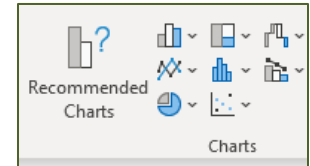
Chart Tools

When you select a chart, three buttons appear along the right side of the selection.

The plus sign is the **Add Chart Element** button. This option is used to add and remove different pieces of your chart. The list of options will vary depending on the type of chart. For example, a pie chart will not have a set of category axis titles. As you hover your mouse over each option, you will see a small arrow head pointing to the right. This will open another menu with more detailed choices. Each menu also has a "More Options..." button which will open a Format Pane on to customize each chart element.

There is a *Chart Style Gallery* and a *Colors* menu on the *Design* tab, but the **Chart Styles** button, the paint brush next to the chart, offers the same options.

If you are patient while you hover over each option, Excel will provide you with a Live Preview of the result.

The **Color** options are available at the top of the menu.
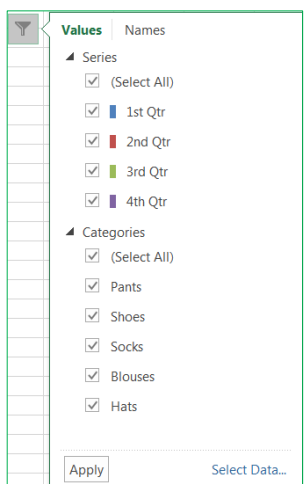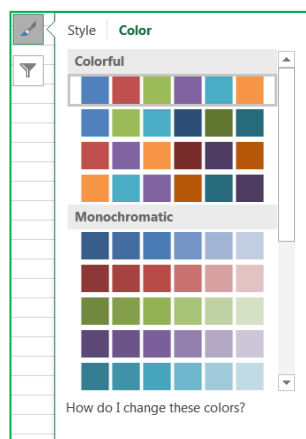
The third button is a funnel. This is a **Chart Filters** button.

The **Values** group allows you to add and remove data points from the chart.

The **Names** page allows you to change the labels that appear in the legend (series) and axis titles (category).

The **Select Data...** option at the bottom of the window opens the same window as the *Select Data* button on the *Design* tab. From there you can change or adjust the range of cells used to create this chart.

Chart Tabs

When a chart is selected two chart tool tabs appear at the end of the ribbon, **Design** and **Format**.

Design Tab

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
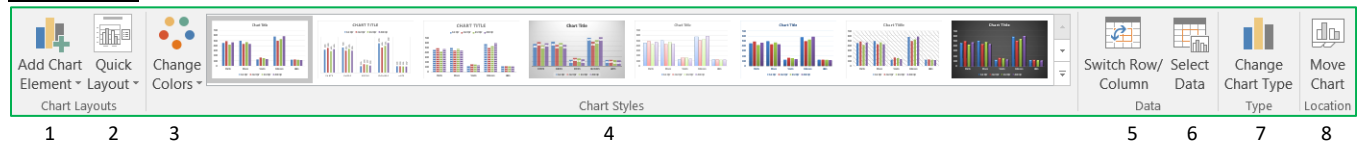
1. **Add Chart Element** – A menu of chart elements that can be added or removed to the chart. Each option will have a expand arrow at the end of the element name that will provide specifics and a **More Options** button to open the Format Pane. This is the same as the Add Chart Element button that appears next to the selected chart.

2. **Quick Layout** – A variety of layouts that offer suggested views and choices that adjust the chart elements such as adding a title, varying the space between columns, and moving the legend.

3. **Change Colors** – Different color that can be applied to your chart. Changing the Theme on the *Page Layout* tab will give you a different sets of colors.

4. **Chart Style Gallery** – Different chart styles that can be applied to your chart. Because Excel automatically adjusts the Ribbon to fit on your screen, your copy of Excel may show less options than the picture above. Use the scroll arrows and open menu buttons at the right side of the gallery for more.

5. **Switch Row/Column** – Changes the direction the chart looks at the data. In our column chart, each column is plotted on the chart, when we **Switch** each row is plotted. We are swapping the category labels with the legend labels.

Item	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
Pants	456	489	423	468
Shoes	498	435	472	436
Socks	128	168	157	138
Blouses	579	498	531	589
Hats	126	129	123	119
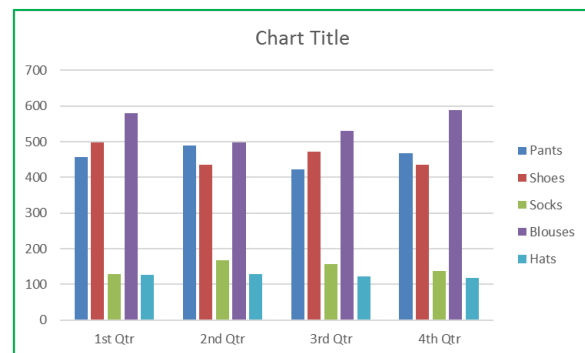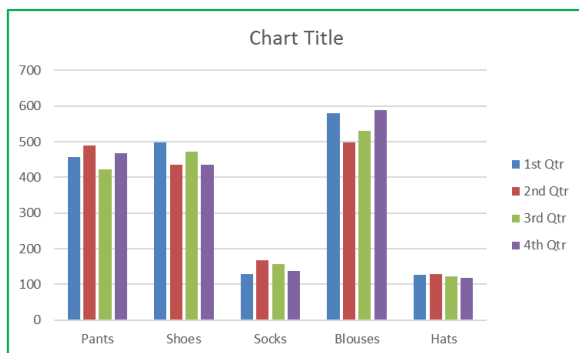
6. **Select Data** – Opens a Select Data Source window where you can customize the source of the chart data, even edit the labels. Use this window to reorder your legend and change how Line charts deal with blank cell values.

7. **Change Chart Type** – Opens Insert Chart window where you can change to other chart types. If you have multiple series you can change each to be different chart type by choosing the *Combo* chart type from the bottom of the left pane.

8. **Move Chart** – By default when you create a chart it is placed on the same worksheet as your data set. You can move the chart to its own worksheet or to any existing worksheet with the workbook.
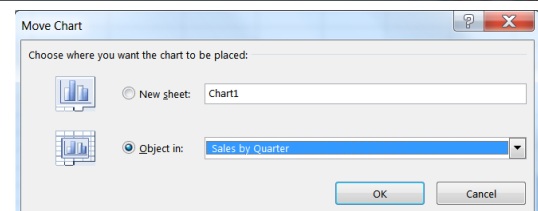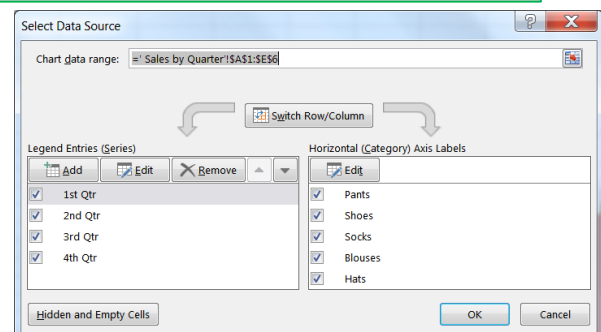
Format Tab
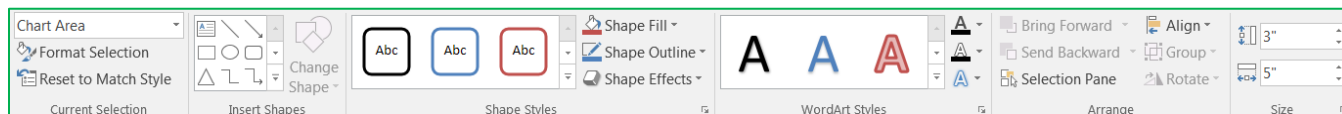
1. **Current Selection**

   a. Chart Elements – This box shows the currently selected Chart Element, and the menu provides a list of the major chart elements. Choose an item from this list to select that element.

   b. Format Selection – Opens the Format Pane based on the current selection shown in the Chart Elements box.

   c. Reset to Match Style – Changes the current selection to match the original style of the chart.

2. **Insert Shape**

   a. Shape Gallery – Use this gallery to find a shape such as a block arrow to add to your chart.

   b. Change Shape – Use this tool to change the current shape to a different one, perhaps a rectangle into a rounded rectangle.


3. **Shape Styles**

   a. Style Gallery – Different shape styles, options will vary based on the current selection.

   b. Shape Fill – Menu of the most common fill colors and options, such as pictures and textures. For more options, open the Format Pane.

   c. Shape Outline – Menu of the most common outline colors and options, such as dashes and arrows. For more options open the Format Pane.

   d. Shape Effects – Menu of the most common shape effects, such as shadows. For more options open the Format Pane.

4. **WordArt Styles**

   a. WordArt Gallery – Different WordArt styles

   b. Text Fill – Menu of the most common fill colors and options, such as pictures and textures.

   c. Text Outline – Menu of the most common outline colors and options, such as dashes and line weight.

   d. Text Effects – Menu of the most common Text effects, such as shadows. For more options open the Format Pane.
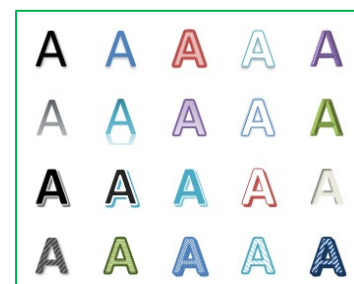
5. **Arrange** – Change the alignment and arrangement of multiple charts. Use the **Shift** key to select more than one chart at a time.

6. **Size** – Change the height and width of the chart.

*Format Pane*

There are multiple ways to open the Format Pane.

- Click on the **Format Selection** button in the *Format* tab
- Click on **More** option from any menu
- Right-click on a chart element and choose **Format…**
- Double-click on a chart element

The format pane can remain open for as long as you need it. The properties shown change depending on the current selection. The current selection is shown on the Format tab and in the title of the Format Pane.
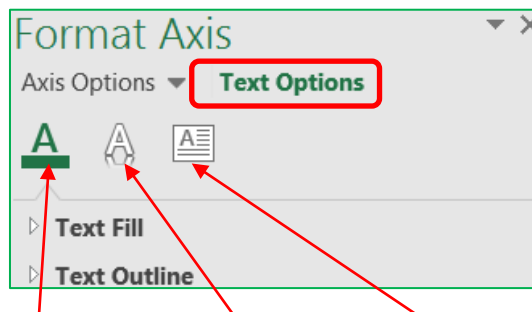
The pane can be pulled free from the side by dragging the title toward the middle of the window. To return the pane to the side of the window drag it back into place or double-click the title of the Format Pane.

To close the pane, click on the X in the upper right hand corner. If you accidentally close the pane, use any method above to reopen it.

Within the Format Pane, click on each icon to see the subset of properties. Click on the expand arrow in front of the options to see the relevant properties.
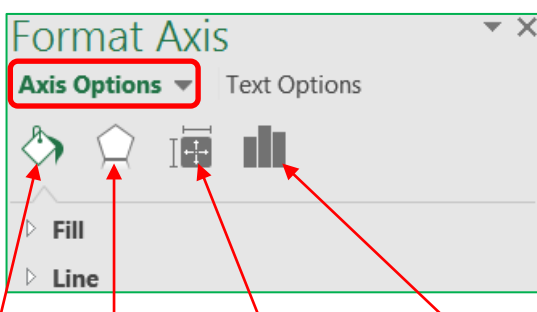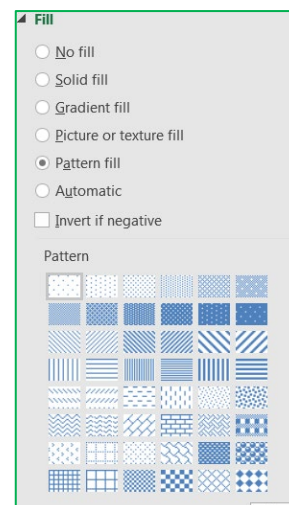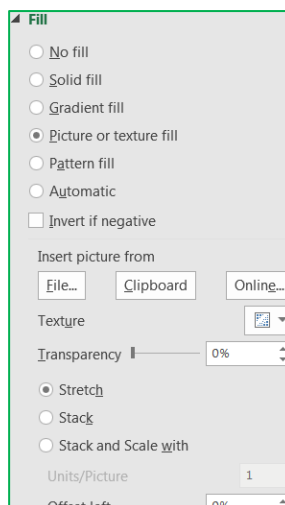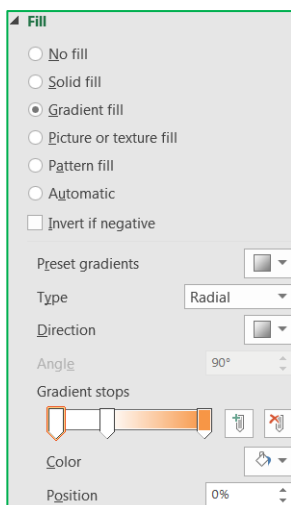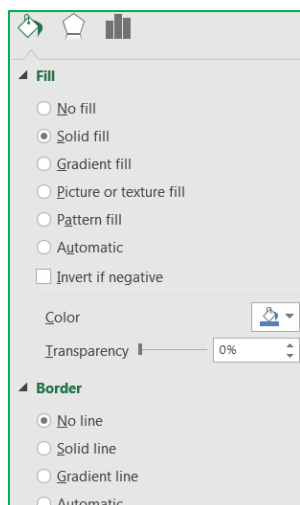

Fill & Line   Effects   Size & Properties   Options   Text Fill & Outline   Text Effects   Text Box Options

The Fill & Line and Effects options are the same for all the of the chart elements. If an option cannot be applied to that chart element, Excel will disable (grey out) that option.

Below are the fill options for a Chart Element. Each **Fill** choice provides a new set of options.

Class Exercise

Explore workbook
- Open ChartData.xlsx
- Discuss 'consistent' range of data
    o No blank columns, no blank rows

|	COLUMN TITLE	COLUMN TITLE
ROW TITLE	DATA	DATA
ROW TITLE	DATA	DATA

Create Chart
- Turn to Sheet 'Sales by Quarter'
- Turn to the **Insert** Tab
- Click on Recommended Charts
    o Click on each suggestion to see a preview of our dataset
    o Click on the ALL CHARTS page at the top of the window and explore the options
    o Choose first **Column Chart**
- Chart Tool tabs – **Design** and **Format**
- Click outside of chart to deselect
    o Tabs disappear

Chart Elements
- Click on the Add Chart Element button in the Design Tab

    o **Add:** Data Labels on the Outside End
    o **Remove:** Chart Title
    o **Move:** Legend to the top
- Click on the Chart Elements Button on the side of the chart

    o **Add:** Chart Title
    o **Remove:** Data Tables
    o **Move:** Legend to the right

- Explore different Quick Layouts
    o Choose first layout (title above, legend on right)
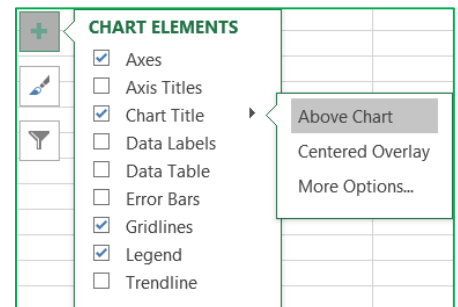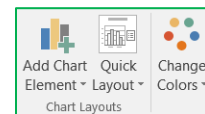
Chart Styles
- Explore different Chart Colors
- Explore different Chart Styles
    o Notice it changes the Chart Layout
    o Return to the Quick Layout menu and choose the first one again
- Use the Chart Styles button 🖌
    o Notice the color tab at the top
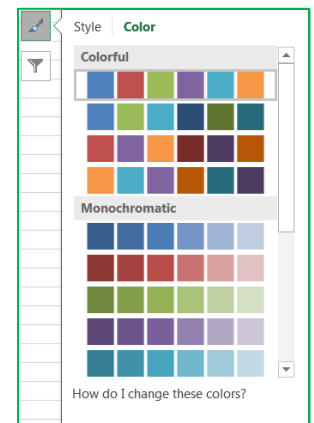
Chart Data
- Click on the **Switch Row/Column** button
  - o This switches the legend with the category axis
  - o Leave the chart with the Quarters in the legend

- Click the **Select Data** button
 - o Rearrange legend 4th Qtr - 1st Qtr
  - o Cancel the window
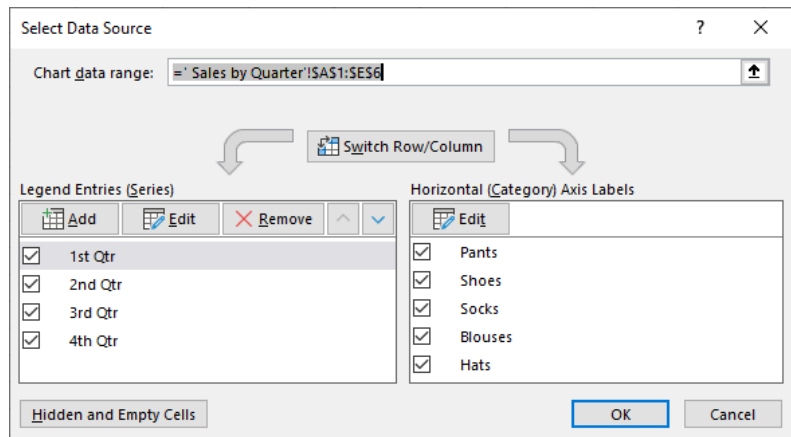
- **Select Data** button again
  - o Uncheck 4th Qtr
  - o Uncheck Shoes
- Click on the **Chart Filters** button on the side of the chart
  - o Click on 4th Qtr and click Apply
  - o Click on Shoes and click Apply

Chart Type
- Click on the **Chart Type** button
  - o Choose different types
  - o Notice different chart layouts and styles for different charts

Move Chart
- Delete the chart
  - o Click on the edge of the chart and press Delete on the keyboard
- Create a new column chart
  - o Set to the first **Quick Layout**

- Click on the **Move Chart** button
 - o Move the chart to a New Sheet named "Chart1"
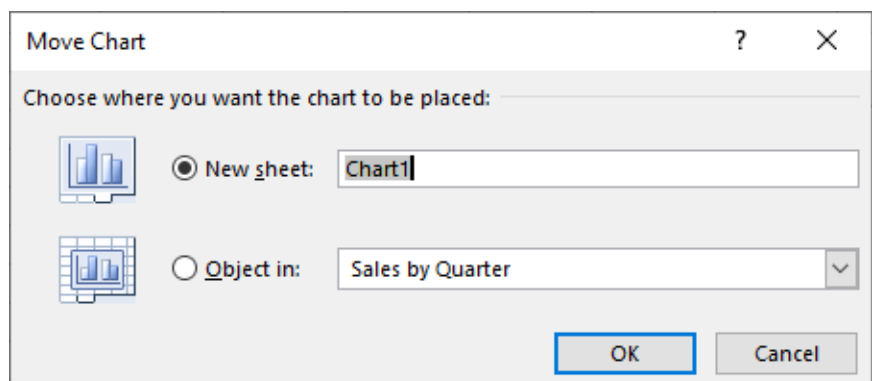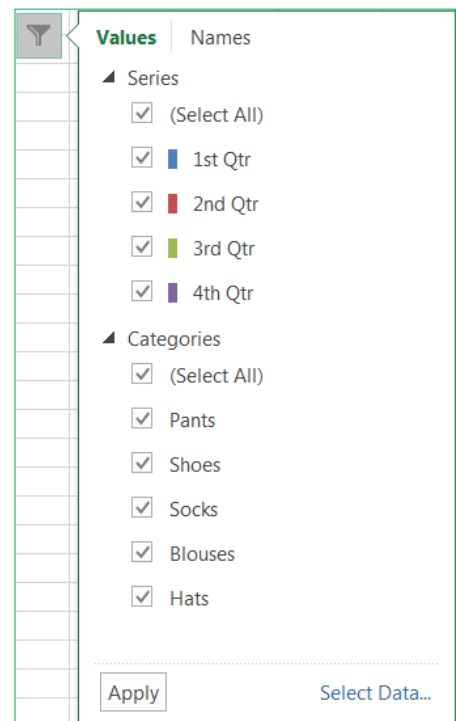
Format Fonts
- Right-click on *Pants* in the category axis, at the bottom of the chart
    - o Open the Font option
    - o Change to size 14
    - o This changes only the category Axis
- Undo

- Right-click in the Chart Area, the blank space next to the chart title or above the legend
    - o Open the Font option
    - o Change to size 14
    - o This changes all the text in the chart

Format Chart
- Select Plot Area from Current Selection dropdown

- Click **Format Selection** button
    - o Fill
        - ▪ Solid Fill
        - ▪ Gradient Fill
        - ▪ Picture or Texture Fill
            - • Textures
            - • Online
                - o Offset
                - o Stack vs stretch
    - o Border
        - ▪ Solid line
        - ▪ Increase width
        - ▪ Gradient

- In the **Format** tab in the ribbon, click **Reset to Match Style**

- Within the chart select the Legend
    - o Effects
        - ▪ Add a Shadow
        - ▪ Add a Glow

- In the **Format** tab in the ribbon, click **Reset to Match Style**
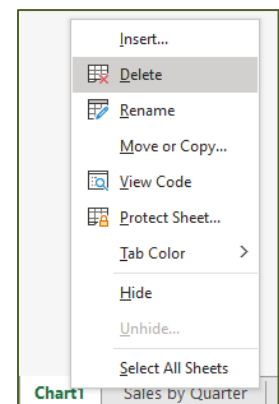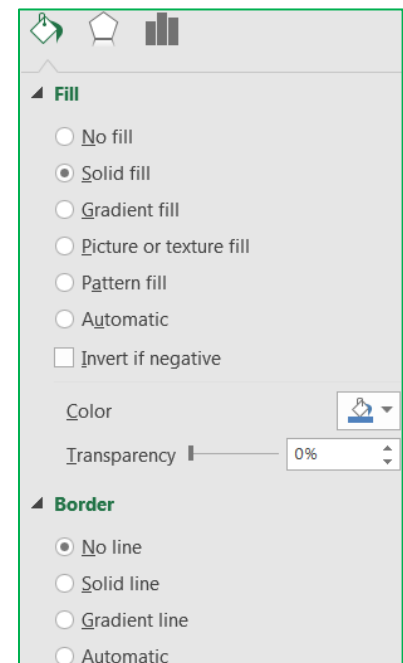
Format WordArt
- Select the Chart Title
  - From the Home tab
    - Resize the font to size to 44
    - Set the font to Arial Black
  - Add a border to the title and make it glow
    - If you don't add a border, the glow option will not work
  - On the format tab, use the style gallery for the **WordArt Styles**
  - Add a glow to the words of Chart Title

- Delete the chart
  - Right-click on the worksheet name at the bottom of the window
  - Choose *Delete*

Format Tab Drawing Options
- From the **Insert** tab choose **Shapes**
- Click on the happy face and click or drag the shape onto the spreadsheet
- Notice the formatting tab and pane are the same as they are for charts
- Modify the chart
  - The circles on the corners and sides resize
  - The circle on the smile is a moveable part
  - The circle at the top of the shape is a rotation tool
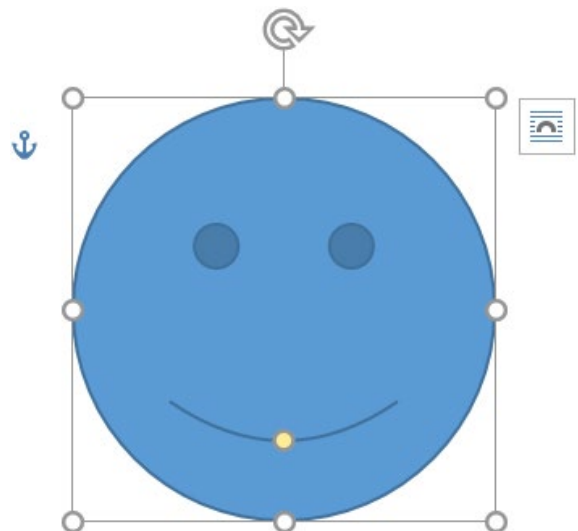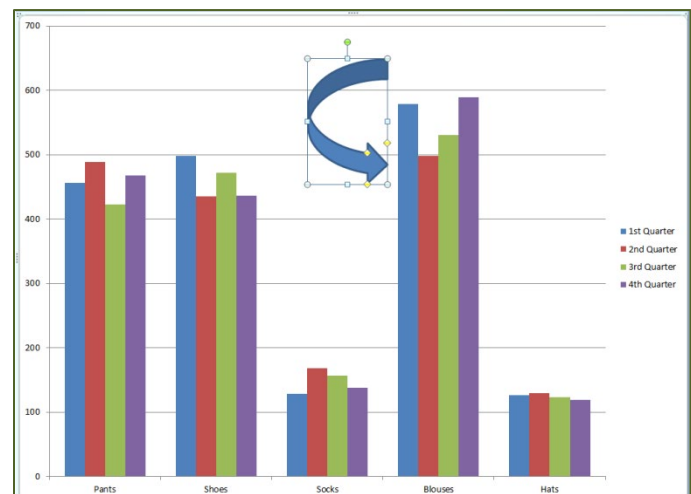

- Delete the shape

- Create a new column chart
  - Set to the first **Quick Layout**
  - Put the chart on a new sheet

- Insert Shapes
  - Insert Block Arrow
  - Rotate and modify the chart

- Delete the chart (the entire sheet)

Practice
- Turn to Sheet 'Sales by Year'

- Press F11 to create a new column chart on a new sheet

- Set up the new chart
  - Set to the first **Quick Layout**
  - Change Chart Font to 14

- Click on a column in the series
  - Change one of the fills
    - All of the columns change

- Click on one of the columns again

- Format the data points, each column with a different fill
  - Solid
    - Glow!
  - Gradients
  - Patterns
  - Online Picture
    - Stacked
  - Textures