EXCEL 2016 – INTERMEDIATE

Participant Guide

Professional
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EXCEL 2016 – INTERMEDIATE

Target Audience: This class is designed for Excel 2016 users with a solid understanding of the basics of spreadsheets who wish to perform more complex operations.

Time Allotted: 3 hours

Objectives:

Overall: Gain experience using intermediate formatting skills in Excel, and creating charts and graphs.

Specific: Participant will…
- List the types of charts and graphs available in Excel and describe their functions
- Compare types of charting tools and choose the best for your data
- Construct various charts and graphs
- Analyze and correct errors in how data is displayed in a chart or graph
- Understand the AutoSum functionality
- Convert text to columns
- Summarize data on the status bar
- Link and embed objects
- Insert hyperlinks

Welcome and Agenda	*Notes*

• Housekeeping
• Introductions
• Charts and Graphs
   o Creating a Chart
   o Chart Tools
• AutoSum
• Text to Columns
• Summarizing Data on the Status Bar
• Linking and Embedding Objects
• Inserting Hyperlinks
• Drop-Down Lists	

Introduction Activity	*Notes*
Please tell us: • *Your Name* • *Your Department* • *What you hope to get out of today's session*	

Charts in Excel are the same as graphs from math class. The terms "chart" and "graph" are often used interchangeably, although Excel uses the term chart.

Charts provide a visual representation of worksheet data. Charts often make it easier to understand the data in a worksheet because you can easily pick out patterns and trends illustrated in the chart that are otherwise difficult to see. Different types of charts serve different purposes.
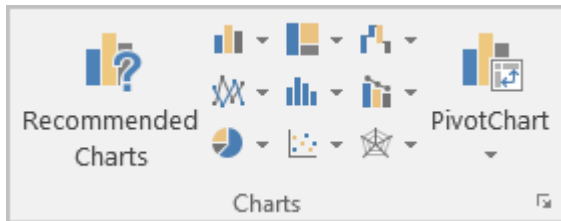

Recommended Charts

Knowing if a Pie Chart, a Line Chart, or a Column Chart (or any of the many other that are available) is the best choice to visually represent your data is not always an intuitive choice. However, when you click on the **Recommended Charts** button, Excel will display chart options that best represent the data you selected. This automated data analysis produces a customized set of the best chart types for your data. Simply select one from the list displayed. You always have the ability to select a different chart type from the list of all charts.

Bar Charts

Illustrate comparisons among individual items. Data that is arranged in columns or rows on a worksheet can be plotted in a **Bar Chart**. Consider a **Bar Chart** when the axis labels are long or the values that are shown are durations.

Types of **Bar Charts** are:
- **Clustered Bar** and **3-D Clustered Bar** – Compare values across categories. Categories are typically organized along the vertical axis, and the values along the horizontal axis
- **Stacked Bar** and **3-D Stacked Bar** – Show the relationship of individual items to the whole
- **100% Stacked Bar** and **3-D 100% Stacked Bar** – Compare the percentage that each value contributes to a total across categories
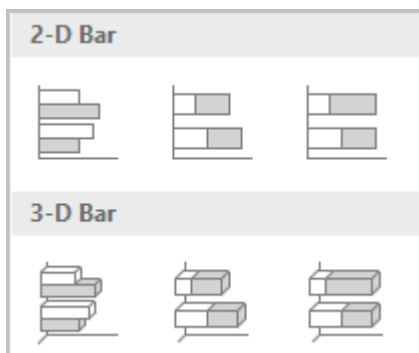
Column Charts

Show data changes over a period of time, or illustrate comparisons among items. Categories are typically organized along the horizontal axis and values along the vertical axis. Data that is arranged in columns or rows on a worksheet can be plotted in a **Column Chart**.

Types of **Column Charts** are:

- **Clustered Column** and **3-D Clustered Column** – Use when you have categories that represent ranges of values (such as item counts), specific scale arrangements (such as strongly agree, agree, neutral, disagree, and strongly disagree), or names that are not in any specific order
- **Stacked Column** and **3-D Stacked Column** – Use to show the relationship of individual items to the whole, comparing the contribution of each value to a total across categories
- **100% Stacked Column** and **3-D 100% Stacked Column** – Compare the percentage that each value contributes to a total across categories
- **3-D Column** – Use three axes (horizontal axis, vertical axis, and depth axis) that you can modify, and compare data points along the horizontal and the depth axes
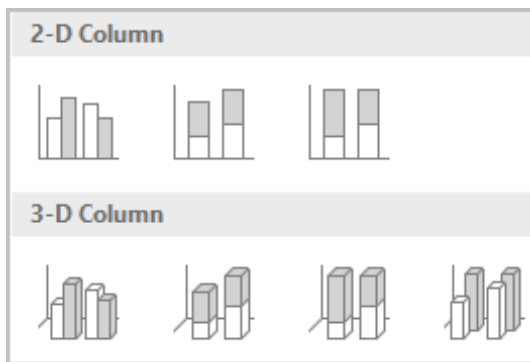

Treemap Chart

Provides a hierarchical view of data and an easy way to compare different levels of categorization. The **Treemap Chart** displays categories by color and proximity and can easily show lots of data which would be difficult to display with other chart types. They are good for comparing proportions within the hierarchy.
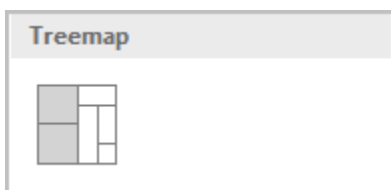
Waterfall Chart

A waterfall chart shows a running total of financial data as values are added or subtracted. This chart is useful for understanding how an initial value is affected by a series of positive and negative values. Columns are color coded to easily tell positive and negative numbers.
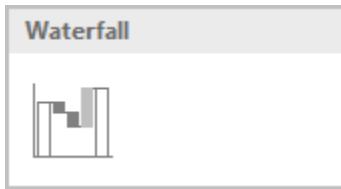
Sunburst Chart

Ideal for displaying hierarchical data and can be plotted when empty cells exist within the hierarchical structure. Each level of the hierarchy is represented by one ring or circle with the innermost circle as the top of the hierarchy. A sunburst chart without any hierarchical data (one level of categories), looks similar to a doughnut chart. However, a sunburst chart with multiple levels of categories shows how the outer rings relate to the inner rings. The sunburst chart is most effective at showing how one ring is broken into its contributing pieces.


Stock Charts

Data that is arranged in columns or rows in a specific order on a worksheet can be plotted in a **Stock Chart**. As the name applies, stock charts can show fluctuations in stock prices. This chart can also show fluctuations in other data, like daily rainfall or annual temperatures. Organize the data in the correct order to create a stock chart.

Types of **Stock Charts** are:
- **High-Low-Close** – Use with three series of price values: High, Low, and Close.
- **Open-High-Low-Close** – Use with four series of price values: Open, High, Low, and Close.
- **Volume-High-Low-Close** – Use with four series of values: Volume, High, Low, and Close.
- **Volume-Open-High-Low-Close** – Use with five series of values: Volume, Open, High, Low, and Close.
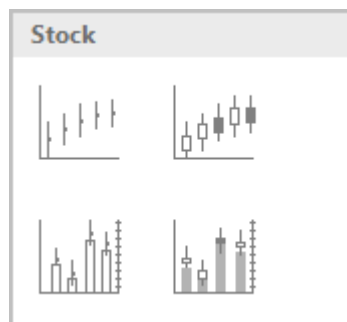
Line Charts

Display continuous data over time, set against a common scale, and are therefore ideal for showing trends in data at equal intervals. Category data is distributed evenly along the horizontal axis, and all value data is distributed evenly along the vertical axis. Data that is arranged in columns or rows on a worksheet can be plotted in a **Line Chart**.

Types of **Line Charts** are:

- **Line** and **Line with Markers** – Show trends over time or order categories, especially when there are many data points and the order in which they are presented is important. Can use markers to indicate individual data values. If there are many categories or the values are approximate, use a line chart without markers.
- **Stacked Line** and **Stacked Line with Markers** – Used to show the trend of the contribution of each value over time or ordered categories. Display with or without markers to indicate individual data values.
- **100% Stacked Line** and **100% Stacked Line with Markers** – Show the trend of the percentage each value contributes over time or ordered categories. Display with or without markers to indicate individual data values. If there are many categories or the values are approximate, use a 100% stacked line chart without markers.
- **3-D Line** – Show each row or column of data as a 3-D ribbon. Contains horizontal, vertical, and depth axes that you can modify.

Area Charts

Emphasize the magnitude of change over time, and can be used to draw attention to the total value across a trend. Data that is arranged in columns or rows on a worksheet can be plotted in an **Area Chart**. By displaying the sum of the plotted values, an **Area Chart** also shows the relationship of parts to a whole.

Types of **Area Charts** are:
- **2-D Area** and **3-D Area** – Display the trend of values over time or other category data. As a rule, you should consider using a line chart instead of a non-stacked area chart, because data from one series can be obscured by data from another series.
- **Stacked Area** and **3-D Stacked Area** – Show the trend of the contribution of each value over time or other category data
- **100% Stacked Area** and **3-D 100% Stacked Area** – Present the trend of the percentage that each value contributes over time or other category data
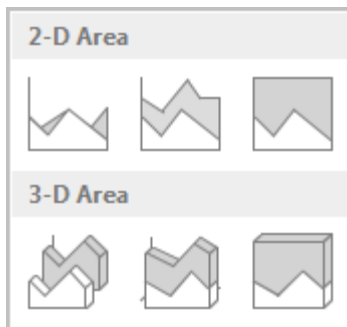

Histogram Chart

Data plotted in a **Histogram Chart** shows the frequencies within a distribution. Each column of the chart is called a bin, which can be changed to further analyze the data.

Types of **Histogram Charts** are:
- Histogram – Shows the distribution of data grouped into frequency bins
- Pareto – A sorted histogram chart that contains both columns sorted in descending order and a line representing the cumulative total percentage.
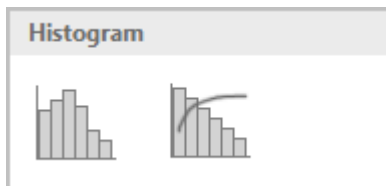
Box and Whisker Chart

Shows distribution of data into quartiles, highlighting the mean and outliers. The boxes may have lines extending called "whiskers" that indicate variability outside the upper and lower quartiles. Any point outside these whisker lines is considered an outlier. Use this chart when there are multiple data sets which relate to each other in some way.
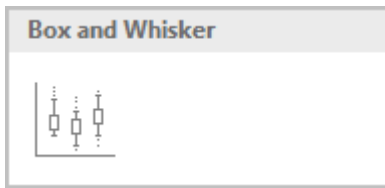
Pie Charts

Show the size of items in one data series, proportional to the sum of the items. The data points are displayed as a percentage of the whole pie. Data that is arranged in one column or row only on a worksheet can be plotted in a **Pie Chart**.

Consider using a pie chart when:
- You only have one data series that you want to plot
- None of the values that you want to plot are negative
- Almost none of the values that you want to plot are zero values
- You do not have more than seven categories
- The categories represent parts of the whole pie

Types of **Pie Charts** are:
- **Pie** and **3-D Pie** – Display the contribution of each value to a total in a 2-D or 3-D format. You can pull out slices of a pie chart manually to emphasize the slices.
- **Pie of Pie** and **Bar of Pie** – Display pie charts with user-defined values that are extracted from the main pie chart and continue into a secondary pie chart or into a stacked bar chart. These chart types are useful when you want to make small slices in the main pie chart easier to distinguish.
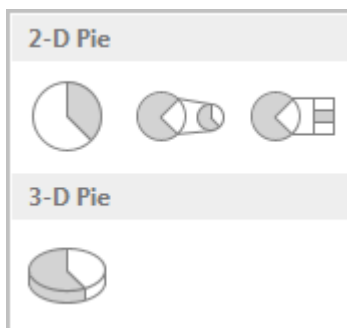
Scatter Charts

Show relationships among the numeric values in several data series, or plot two groups of numbers as one series of XY coordinates. Data that is arranged in columns and rows on a worksheet can be plotted in a **Scatter Chart**. These charts are also called **XY Charts**. To arrange data on a worksheet for a scatter chart, you should place the x values in one row or column, and then enter the corresponding y values in the adjacent rows or columns.

Types of **Scatter Charts** are:
- **Scatter** – Compares pairs of values. Use when you use many data points and connecting lines would make the data more difficult to read. You can also use this chart type when you do not have to show connectivity of the data points.
- **Scatter with Smooth Lines** and **Scatter with Smooth Lines and Markers** – Displays a smooth curve that connects the data points. Can be displayed with or without markers. Use without markers if there are many data points.
- **Scatter with Straight Lines** and **Scatter with Straight Lines and Markers** – Displays straight connecting lines between data points. Can be displayed with or without markers.
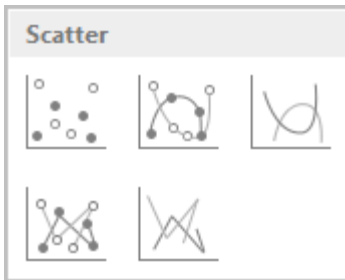
Other Charts – Excel also contains **Surface Charts**, **Radar Charts**, **Doughnut Charts**, **Bubble Charts**, and **Combo Charts**.

With **Recommended Charts**, Excel recommends the most suitable charts for your data. Get a quick peek to see how your data looks in the different charts, and then simply pick the one that shows the insights you want to present.

**Instructions to insert a chart**
1. Select the data on your spreadsheet to include in chart.
2. Click the **Insert** tab.
3. In the **Charts** group, click on **Recommended Charts**.
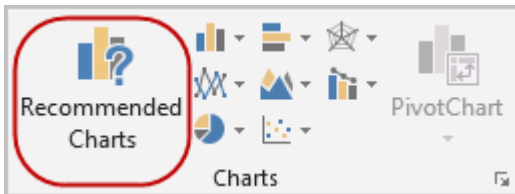
4. On the **Insert Chart** window that opens, scroll through the list of charts that Excel recommends for your data and click on any of the charts displayed to see how your data will look.

    TIP: If you don't see a chart you like, click **All Charts** to see all of available chart types.

5. When you find a chart you like, click on it then click **OK**.
6. Use the **Chart Elements**, **Chart Styles**, and **Chart Filters** buttons next to the upper-right corner of the chart to add chart elements such as axis titles or data labels, or to customize the look of your chart.
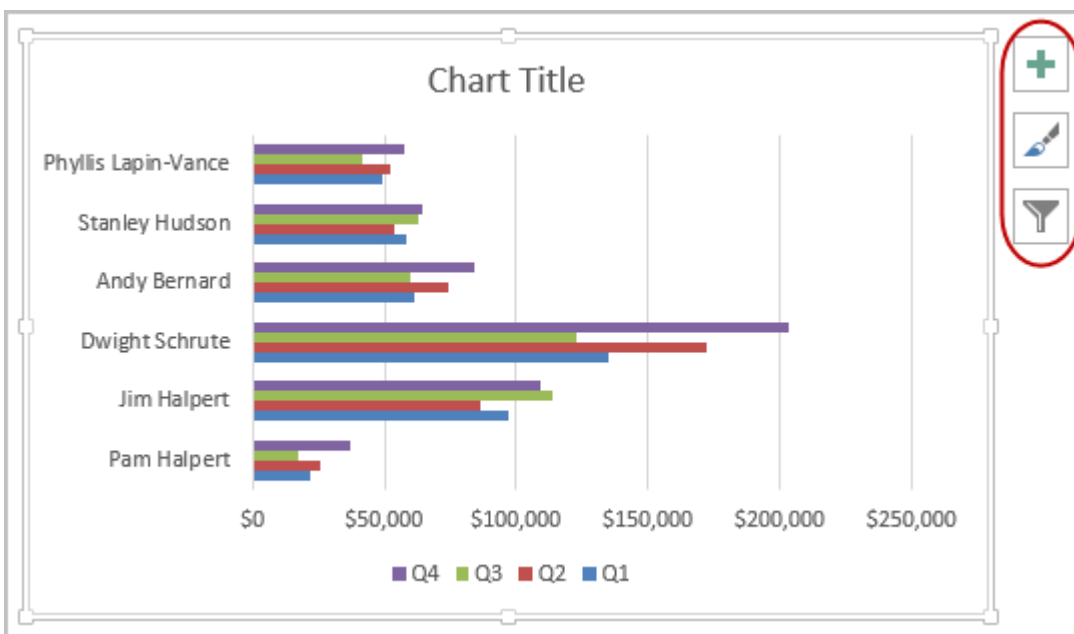
7. To access additional design and formatting features, click anywhere in the chart to add **Chart Tools** to the ribbon, and then click the options you want on the **Design** and **Format** tabs.

Chart Tools – Design Tab | Notes

The **Chart Tools – Design** tab is where you can go to change the chart type, change the data range, change chart colors and styles, and add chart elements. There are five groups in this tab.
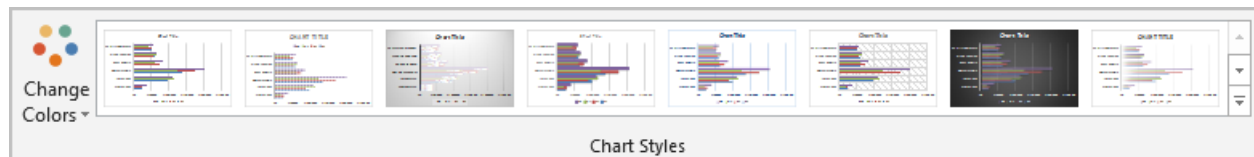
Chart Layouts Group
- Change elements such as axes, axis title, chart title, data labels and more in **Add Chart Element**
- Change the overall layout of the chart in **Quick Layout**
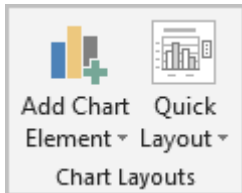
Chart Styles Group
- Customize chart colors with **Change Colors**
- Change the look and feel with **Chart Styles**

Data Group
- Move X axis data to the Y axis and vice versa with **Switch Row/Column**

Type Group
- Change the data range included in the chart with **Select Data**

Location Group
- Select a different type of chart with **Change Chart Type**
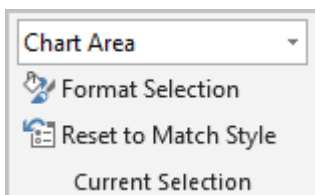- Move a chart to a different sheet or tab in the workbook with **Move Chart**

Charts Tools – Format Tab | Notes

The **Chart Tools – Format** tab is where you can go to insert shapes, change shape styles, insert WordArt styles, arrange elements, and adjust the size and positioning of a chart.
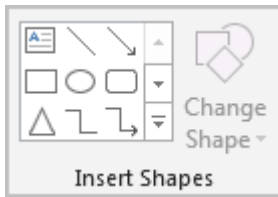
Current Selection Group
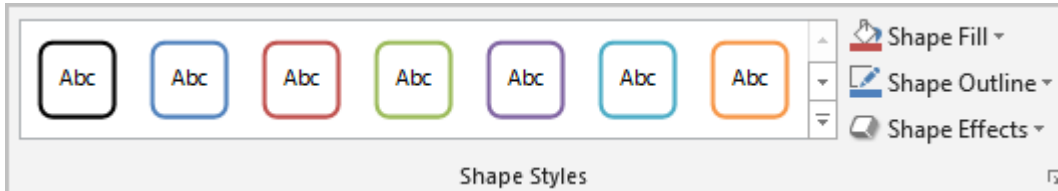- Change the formatting for each specific section of a chart

Insert Shapes Group

- Add shapes and text boxes to a chart

Shape Styles Group

- Change the chart border color and thickness, fill color, and shape effects
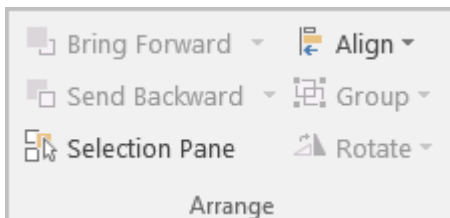
WordArt Styles Group

- Change the text in a chart to WordArt, edit the text fill, outline and effects

Arrange Group

- Bring layered items forward or back, align and group sections

Size Group

- Modify the height and width of a chart

Additional Chart Format Options

Although the **Chart Tools** ribbon is full of great things you can do to your chart, sometimes you might want more control. Options for advanced formatting are available in task panes that are new to Excel with Excel 2016.

When you right-click on any chart element (data series, axes, titles etc.), and select **Format <chart element>**, the new **Format** pane appears with options that are tailored for the selected chart element.
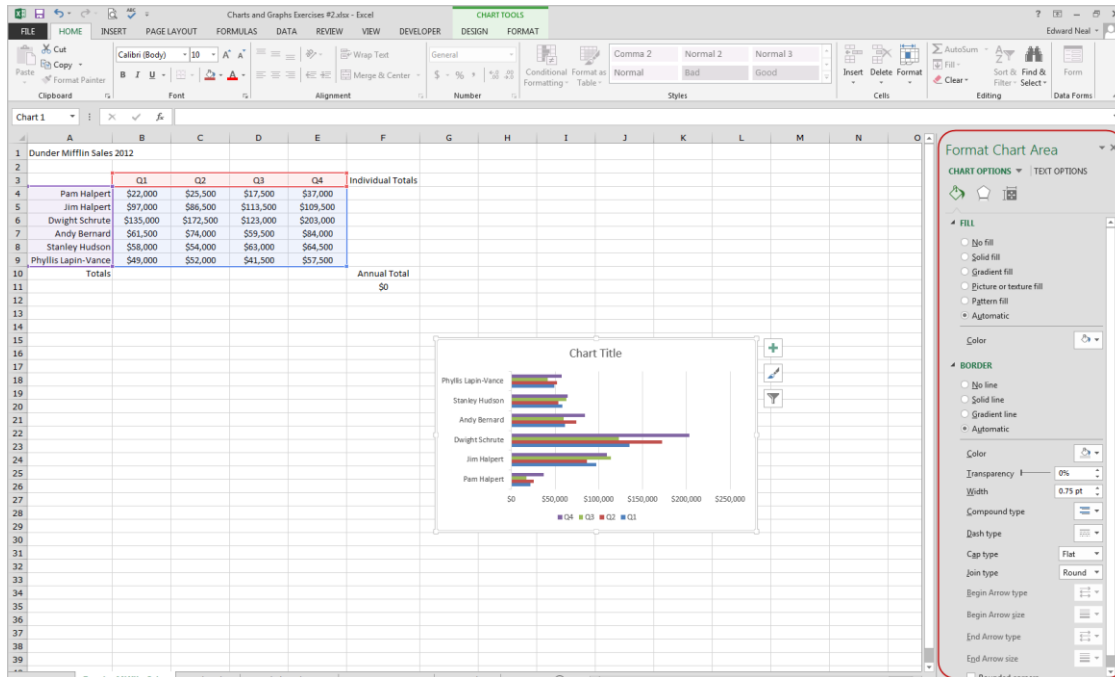
Clicking the small icons at the top of the **Format** pane moves you to other parts of the pane with more options. If you click on a different chart element, the task pane automatically updates to the new chart element.

Fill & Line Icon
Click on the **Fill & Line** to change or remove fill, and add, modify or remove a border for the chart element you have selected.
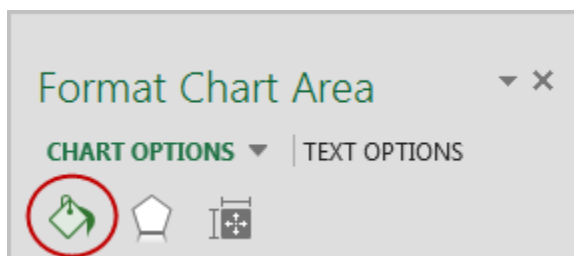
**NOTE**: The screenshots in this section show formatting for the Chart Area. You can easily change which chart element you want to format by clicking on the drop-down arrow to the right of the first option area. When you select a different chart element, format changes apply only to that particular element of the chart. Some elements may have more or fewer formatting selections.
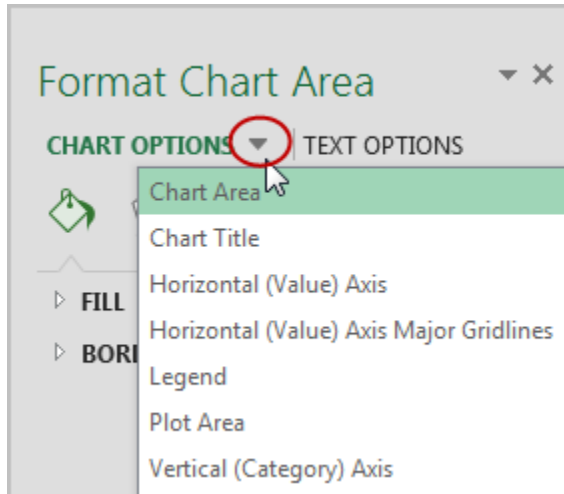
Effects Icon

Click on the **Effects** icon to add or adjust a shadow, a glow, soft edges, or a 3-D format.
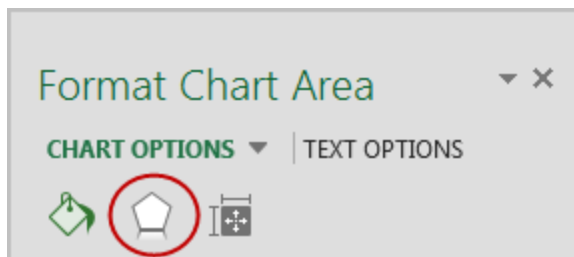
Size & Properties Icon

The size (height and width) and properties (move and/or size with cells, or not) can be set here, and alternate text can be added.

AutoSum	Notes

When you need to add the numbers in a column or row, you don't need to manually insert a formula. The **AutoSum** button in Excel will insert the formula for you.
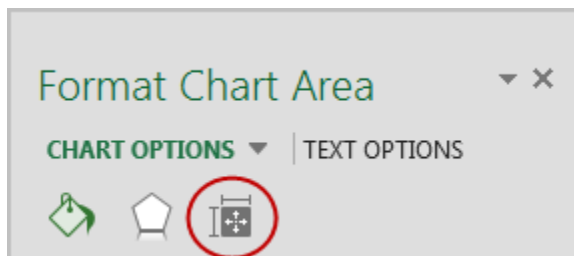
To Sum a Column of Numbers
1. Select the cell immediately below the last number in the column.
2. In the **Home** tab, click on the **AutoSum** button located in the **Editing** group.

   NOTE: The **AutoSum** button can also be found on the **Formulas** tab in the **Function Library** group.

3. Press the **Enter** key to display the result.

To Sum a Row of Numbers
1. Select the cell immediately the right of the last number in the row.
2. In the **Home** tab, click on the **AutoSum** button located in the **Editing** group.

   NOTE: The **AutoSum** button can also be found on the **Formulas** tab in the **function Library** group.

3. Press the **Enter** key to display the result.

   TIP: You can use **AutoSum** on more than one cell at a time. If you have several columns or rows next to each other that each need to be totaled, highlight the appropriate cells and then click on the **AutoSum** button. Excel will total all of the columns or rows individually.

Exercise 1: Chart and Graphs Practice work	Notes

Open the **Charts and Graphs** spreadsheet. Which chart works best to answer each question?

Dunder Mifflin Sales Tab
1. Who was the top earner in Quarter #4?
2. Who was the least productive employee overall?
3. What was the overall best quarter for the company and what was the total?

Candy Sales Tab
4. Who was the top seller of Milky Way?
5. Who sold the least number of Snickers?
6. Who sold the most candy bars?

Income & Expense Tab
7. Make a Pie Chart based on expenses.
8. Add a formula to calculate percent of total for each expense (Hint - % of total = expense divided by total expense)
9. Create a Pie Chart showing percent of expense.

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Exercise 2: Format Data and Create a Chart	Notes

Using the data in the **Create Chart** tab of the **Charts and Graphs** spreadsheet, arrange the information and create a bar or column chart to display the results.

Text To Columns	Notes

You can separate the contents of one or more cells in a column, and then distribute those contents as individual parts across other cells in adjacent columns. For example, if your worksheet contains a column of full names, you easily can split that column into separate first name and last name columns.

**To Distribute the Contents of a Cell into Adjacent Columns**
1. Select the cell, range, or column that contains the text values that you want to separate.

    NOTE: A range that you want to split can include any number of rows, but it can include no more than one column. Keep enough blank columns to the right of the selected column to prevent existing data in adjacent columns from being overwritten by the data that will be distributed. If necessary, insert blank columns.

2. Click the **Data** tab.
3. In the **Data Tools** group click the **Text to Columns** button.

4. In the **Convert Text to Columns Wizard**, select how your data is displayed, either **Delimited** or **Fixed width**.
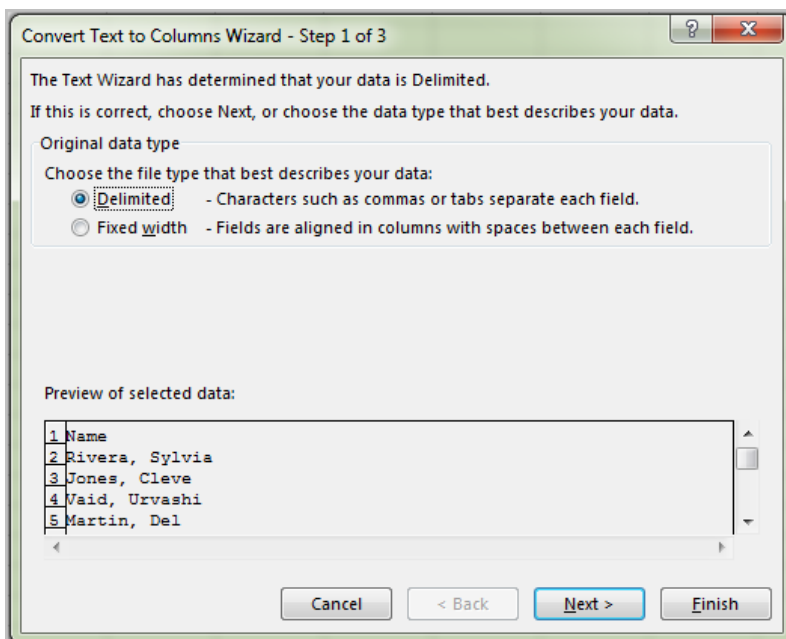
5. Click **Next**.
6. If you selected **Delimited**, choose the method in which the data is delimited.
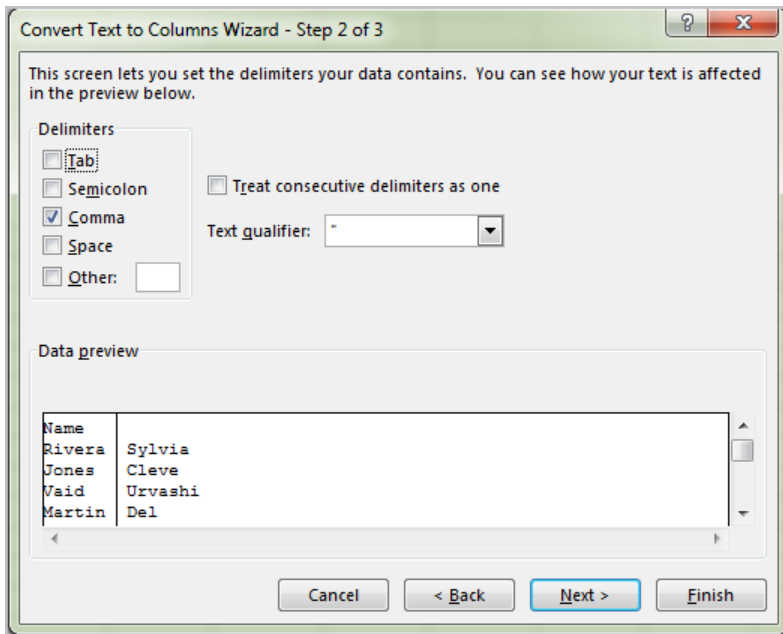
7. Click **Next**.
8. Determine the format for each column, using the **Data preview** area to see how your data will look.
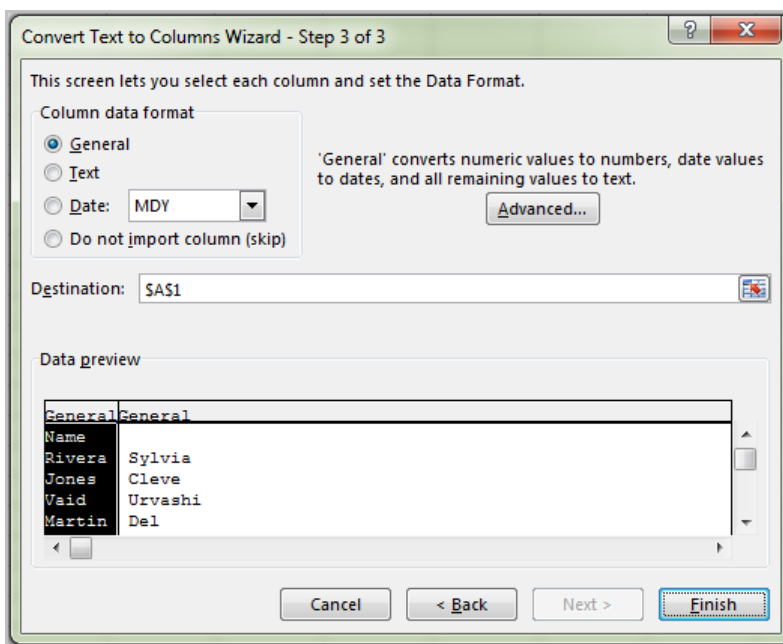
9. Click **Finish**.

NOTE: If you selected **Fixed width** instead of **Delimited**, you add a line in to the preview window in the **Convert Text to Columns Wizard** and move the line to where the separation break should occur.

Exercise 3: Using Text To Columns	***Notes***

On the **Exercise 3** tab of the **Charts and Graphs** spreadsheet, use **Text to Columns** to separate the names in each cell into Last Name and First Name.

Summarizing Data on the Status Bar	***Notes***

When you select cells in a worksheet, take a look at the status bar located on the bottom right of your screen. The status bar displays information such as the sum, average, and the count of the cells. You can use the status bar to summarize selected data. You can also customize the status bar to display only the information that you need. To customize the status bar, right-click on it, and then on the **Customize Status Bar** menu, select or clear the check box for a function.

Average: 136	Count: 11	Sum: 1496	▦	▤	⬓	–	▮	+	100%

Linking and Embedding Objects	***Notes***

Object Linking and Embedding (OLE) is used to insert data from one program into another. In Excel 2016, you can either embed or link an object in a worksheet. The following explains how to embed and link objects in an Excel 2010 worksheet.

Embedding Objects
When you embed an object in an Excel 2016 worksheet, changes made to the source file are not reflected in the embedded object. So, if you embed a Microsoft Word document in an Excel worksheet, any change made to the original Word document is not reflected in the embedded object.

To Embed an Object
1. Open the required Excel 2016 worksheet.
2. Click the cell in which you want to insert the object.
3. On the **Insert** tab, in the **Text** group, click the **Object** button.
4. To embed a file stored on your computer, in the **Object** dialog box, click the **Create from File** tab, and then click **Browse**.
5. In the **Browse** dialog box, browse to the location, select the required file, and then click **Insert**.
6. In the **Object dialog** box, ensure that the **Link to file** check box is clear, and then click **OK**.

NOTE: To create a new file to be embedded in the worksheet, in the **Object** dialog box, click on the **Create New** tab. In the **Object type** list, select the type of file you want to create and then click **OK**.

When you embed content by either creating a new file or embedding an existing one, the contents of the embedded file are displayed in the selected cell in the worksheet. Instead of displaying the contents of the embedded file, you can choose to display an icon representative of the embedded file by selecting the **Display as icon** check box in the **Object** dialog box.

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Linking objects

When you link an object to an Excel 2016 worksheet, changes that you make in the source file are reflected in the linked object. The data in the linked object is not stored in the Excel workbook, but in the source file itself. The Excel workbook only includes a link to the storage location of the linked file.

**NOTE**: If you share a worksheet that contains linked objects, you need to share the linked objects.

You can link objects to a worksheet when the object file size is large or when you need the updated data to be linked to the worksheet.

To Link an Object
1. Open the required Excel 2016 worksheet.
2. Click the cell in which you want to insert the object.
3. On the **Insert** tab, in the **Text** group, click **Object**.
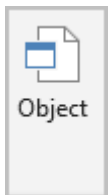
4. To select a file, in the **Object** dialog box, click the **Create from File** tab.
5. On the **Create from File** tab, click **Browse**.
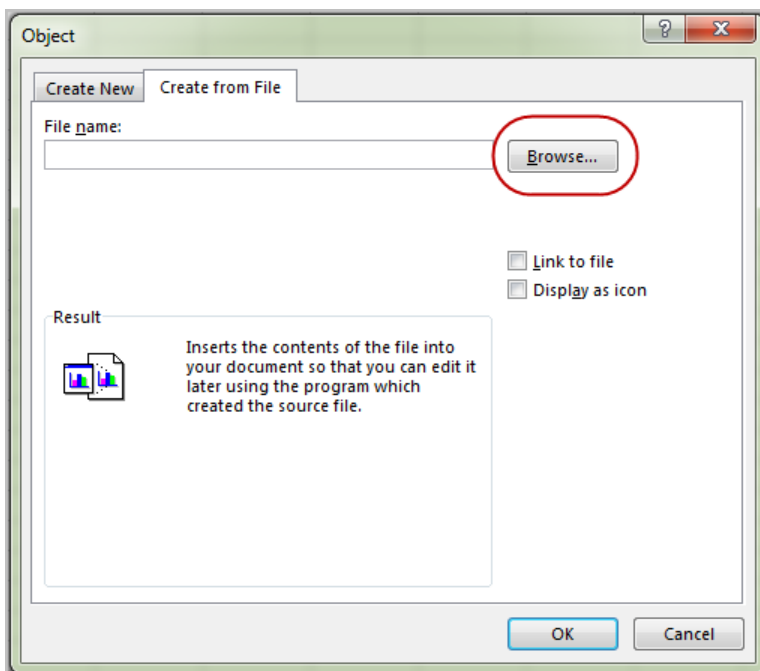
6. In the **Browse** dialog box, browse to the location, select the required file, and then click **Insert**.
7. In the **Object** dialog box, select the **Link to file** check box, and then click **OK**.

NOTE: The contents of a linked object are inserted in the worksheet. If you want to display an icon instead of the contents of the linked object, in the **Object** dialog box, select the **Display as icon** check box.

Inserting Hyperlinks	*Notes*

In an Excel 2016 workbook, using the Hyperlink option in the Links group on the Insert tab, you can create a hyperlink to the different destinations such as another workbook or file, a Web page, or an e-mail address. Select the cell in the worksheet that you want the hyperlink to appear in, and then click the **Hyperlink** button. The **Insert Hyperlink** dialog box opens. Notice that in the left pane of the dialog box, you can select the required destination.

Create a Hyperlink to an Existing File or Webpage
1. On a worksheet, click the cell where you want to create a hyperlink.

TIP: You can also select an object, such as a picture or an element in a chart you want to use to represent the hyperlink.

2. On the **Insert** tab, in the **Links** group, click **Hyperlink**.

3. Under **Link to**, click **Existing File or Web Page**.
4. Do one of the following:
    *   To enter the name and location of a known file or webpage that you want to link to, type that information in the **Address** box.
    *   To locate a Web page, click the **Browse the Web** button, open the web page that you want to link to, and then switch back to Excel without closing your browser. Or, to use recently linked pages, click **Browsed Pages** and then click the web.
    *   To select a file, click **Current Folder**, and then click the file that you want to link to or, to use recently used files click Recent Files, and then click the file.

    NOTE: You can change the current folder by selecting a different folder in the **Look in** list.

5. If you want to create a hyperlink to a specific location in the file or on the webpage, click **Bookmark**, and then double-click the bookmark that you want to use.

    NOTE: The file or webpage that you are linking to must have a bookmark.

6. In the **Text to display** box, type the text that you want to use to represent the hyperlink.
7. To display helpful information when you rest the pointer on the hyperlink, click **ScreenTip**, type the text that you want in the **ScreenTip text** box, and then click **OK**.

Exercise 4: Linking, Embedding and Hyperlinks	*Notes*

1. In the **Charts and Graphs** workbook, select any worksheet tab.
2. Click on an empty cell.
3. Embed the **Annual Report** PDF located in the Classwork folder.
4. Go to another worksheet in the **Charts and Graphs Exercises #2** workbook and link the **Any year calendar** Excel document in an empty cell.
5. Go to another worksheet in the **Charts and Graphs Exercises #2** and add a hyperlink that connects to the UVM website.

Drop-Down Lists	*Notes*

A worksheet can be more efficient with drop-down lists. A drop-down list provides the options for a particular cell or cell range, and only allows something from that list of options to be entered.

To Create a Drop-Down List
1. On a new worksheet, type the entries to appear in the drop-down list. The entries should be in a single column or row without any blank cells.
2. Highlight the cells in the worksheet where the new drop-down list will be used.
3. Go to the **Data** tab.
4. In the **Data Tools** group, click on the **Data Validation** button.

**NOTE**: Can't click **Data Validation**? Here are a few reasons why that might happen.
- Drop-down lists can't be added to tables that are linked to a SharePoint site. Unlink the table or remove the table formatting, and then try Step 4 again.
- The worksheet might be protected or shared. Remove the protection or stop sharing the worksheet, and then try Step 4 again.

5. Select the option **Data Validation**.
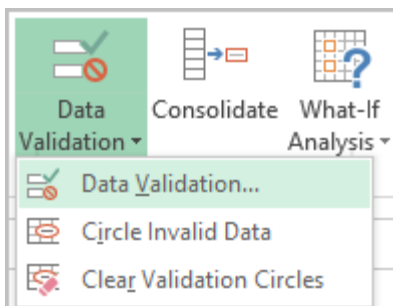
6. In the **Data Validation** dialog box that opens, select the **Settings** tab.
7. Click on the drop-down arrow in the **Allow** field.

8. Select the option **List**.
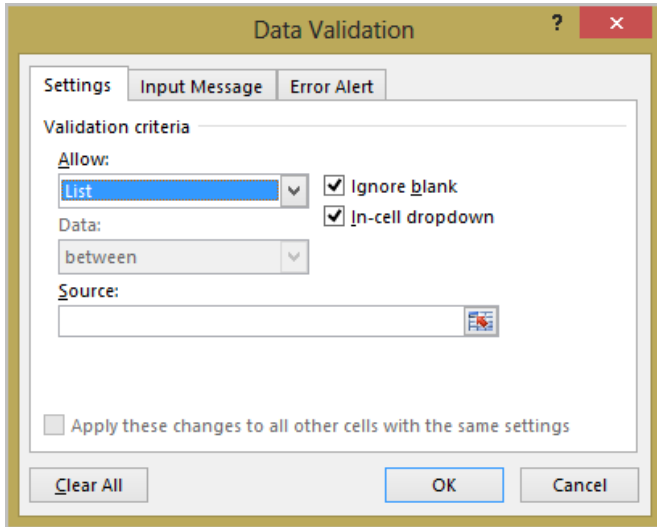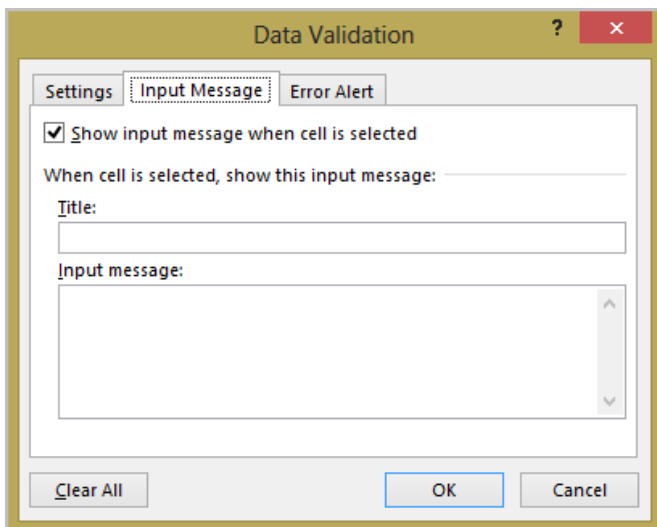

9. Click in the **Source** field.
10. Select the worksheet that contains the list created in Step 1.
11. Highlight the items in that list.
12. Ensure the checkbox for **In-cell dropdown** is selected.
13. If a blank cell is permissible after it is clicked in, check the **Ignore blank** selection.
14. Click on the **Input Message** tab.

15. To have a message to pop up when the cell is clicked, ensure that **Show input message when cell is selected** has a check mark in the box, and type a title and message. If a pop-up message should not display, clear the check box.

16. Click the **Error Alert** tab.
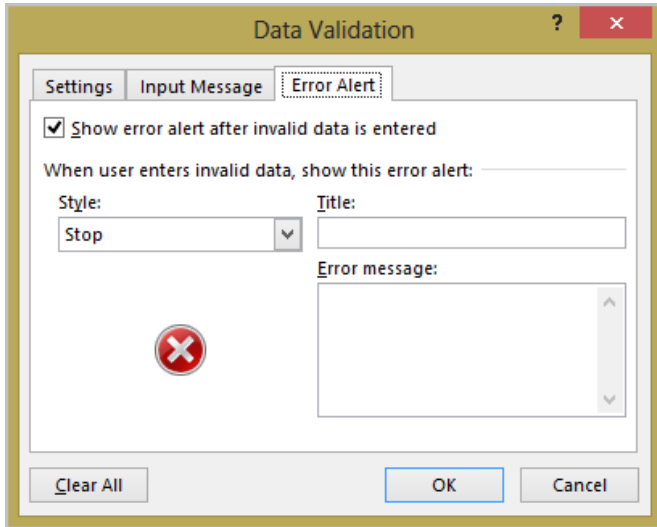
17. Ensure that **Show error alert after invalid data is entered** has a check mark in the box.
18. Click on the drop-down arrow in the **Style** field and select an option.
19. Type a title and message. To not have a message to show up, clear the check box.

    NOTE: If a title or message is not entered, the title defaults to "Microsoft Excel" and the message to: "The value you entered is not valid. A user has restricted values that can be entered into this cell."

20. Click on the **OK** button.

To Use a Named Range Instead of a Cell Range

The list created for the drop-down list can be given a name, and the named range can be referenced in the **Data Validation** dialog box (instead of the cell range). The steps to name and use a named range are:

1. Select all of the list entries, right-click, and then click **Define Name**.
2. In the **Name Box**, type a name for the entries (for example, **ValidDepts**) and then click **OK**. Be sure the name doesn't have any spaces in it. This name will not show up in the list, but the name will be used to link to the drop-down list.

    NOTE: The **Name Box** is the field that displays which cell is selected.
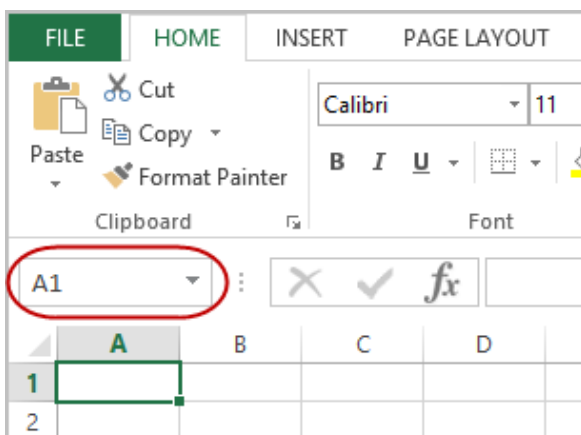
3. Follow steps 2 – 9 in the **To Create a Drop-Down List** section above.
4. In the **Source** box, type an equal sign (**=**), immediately followed by the name given the list (for example, **=ValidDepts**).
5. Complete Steps 12 – 20.

Working with your drop-down list

- After creating a drop-down list, make sure it works. For example, check to see if the cell is wide enough to display all entries.
- If the list of entries for the drop-down list is on another worksheet and it is necessary to prevent users from seeing it or making changes, consider hiding and protecting that worksheet.

Add or Remove Items From a Drop-Down List

After a drop-down list has been created, it may be necessary to add or delete items. How this is done depends on how the list was created. When a drop-down list is created, it is connected to a list of entries, which are used to populate the drop-down list. The connection is through either a name given to the list (called a named range), or to the cells that contain the list of entries (called a cell range).

To Edit a Drop-Down List that is Based on a Named Range

1. Open the worksheet that contains the data that appears in the drop-down list.
2. To add an item, go to the end of the list and type the new item.
3. After editing the list, sort it the way it should appear in the drop-down list.
4. Click on the **Formulas** tab.
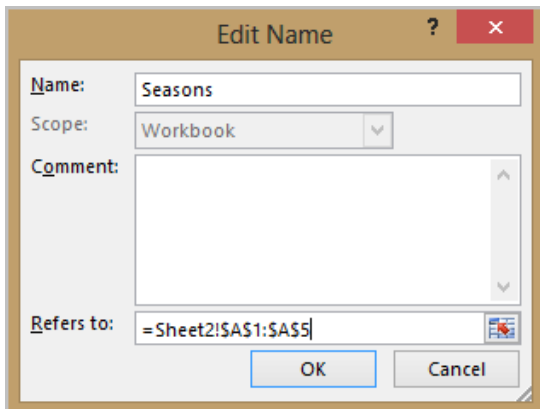5. In the **Defined Names** group, click on the **Name Manager** button.

6. In the **Name Manager** dialog box, click the named range to update.
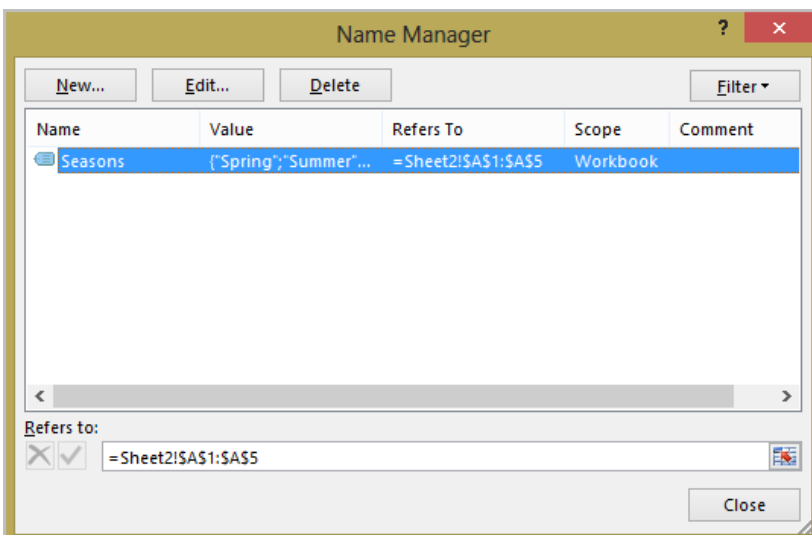
7. Click on the **Edit** button.
8. In the **Edit Name** dialog box that opens, click in the **Refers to** field (be sure to click at the end of the data string that is already there).
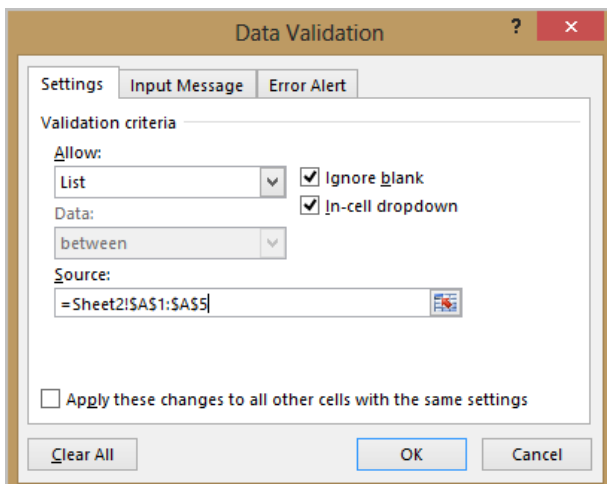

9. Highlight the updated list.
10. Click on the **OK** button.
11. In the **Name Manager** dialog box, click the **Close** button.
12. To remove an item, delete the row that contains the item.

Edit a Drop-Down List that is Based on a Cell Range
1. Open the worksheet that contains the data that appears in the drop-down list.
2. To add an item, go to the end of the list and type the new item.
3. After editing the list, sort it the way it should appear in the drop-down list.
3. Highlight the cells in the worksheet where the drop-down list is used.
4. From the **Data** tab, click on the **Data Validation** button.

5. Select the **Data Validation** option.
6. In the **Data Validation** dialog box that opens, click in the **Source** field (be sure to click at the end of the data string that is already there).
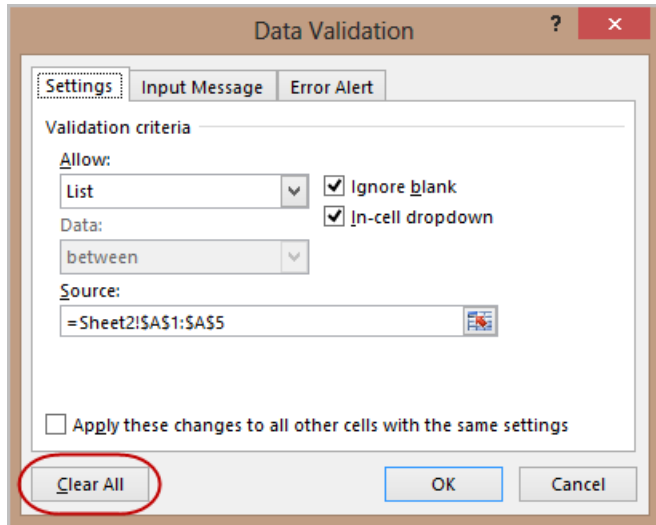
7. Highlight the updated list.
8. Click on the **OK** button.

To Remove a Drop-Down List

If you no longer want a drop-down list in your worksheet, you can remove it.

1. Highlight the cells that contain the drop-down options (not the drop-down list itself).
2. From **Data** tab, click on the **Data Validation** button.
3. On the **Settings** tab, click **Clear All**.

Exercise 5: Drop-Down Lists	Notes

1. In the **Charts and Graphs** workbook, select the **Exercise 5** worksheet.
2. Create a drop-down list (either in this worksheet or in a new one) that will be used in the **Exercise 5** worksheet, containing the following:
    - Cultural Holiday
    - Holiday Pay
    - Regular Pay
    - Sick Pay
    - Vacation Pay
3. Add the drop-down options to cells N2:N100.
4. Use **Circle Invalid Data** to ensure only the correct earning descriptions are being used.
5. Add the missing earning description to the list of values.

Additional Resources	Notes

To contact me directly:

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NOTE: If you are having problems with a spreadsheet, sending me a copy will make it easier for me to help you!

Additional Resources:
To view all classes offered by Professional Development & Training, go to our website http://www.uvm.edu/develop. Here you can view the class schedule by date, read class descriptions, learn about the certificate programs we offer, and find PeopleSoft Mini Manuals.