

# Microsoft Excel 2007

Excel is Microsoft's Spreadsheet program. Spreadsheets are often used as a method of displaying and manipulating groups of data in an effective manner. It was originally created for accounting.

Excel is useful when you have a very large set of data and need to perform the same operation on each Series / Set of it. It is well suited to tasks such as sorting, alphabetizing, adding 2 columns together, and performing more complex mathematical functions on data.

## Things to Note - Data types and Formula syntax

**General Tip** - Do not worry about having to start from Cell A1. You can start wherever you like as long as your data is in a solid block of adjacent cells. When you print, you can select a specific set of cells so that empty cells are not printed.

**Data Types** - There are four different types of data that can be entered into a cell; they are: text, numbers, formulas and functions. These data are entered using the Formula Bar at the top of the screen but you'll notice that what you enter into the Formula Bar and what shows up in the Cell may be two different things - especially when it comes to formulas and functions.

\*\* If the Formula Bar is not visible, turn it on by going under View >> Formula Bar

**Formula Syntax** - It is very important to make sure that, when working with formulas, you have the correct syntax. Excel has its own mathematical syntax and, if this is used improperly, you will not get the correct results from you functions and formulas. Excel will only check for logic errors.

Different versions of Excel and different installations on computers may have all kinds of shortcuts added, or even removed. For consistency's sake, we'll use the **Ribbon Tabs** to explain how to complete various tasks.

## Microsoft Interactive Online Demos

Microsoft has developed a series of online demo programs to assist people with the transition to Office 2007.

- **Start the Guide** for a program by clicking on that phrase on the webpage listed below
- A new window will open in your web browser showing Office 2003
- Use the familiar Toolbar from Office 2003 to find a Tool
- A second window will appear to show you how to use the same Tool in Office 2007

The web address for the Excel Guide is:

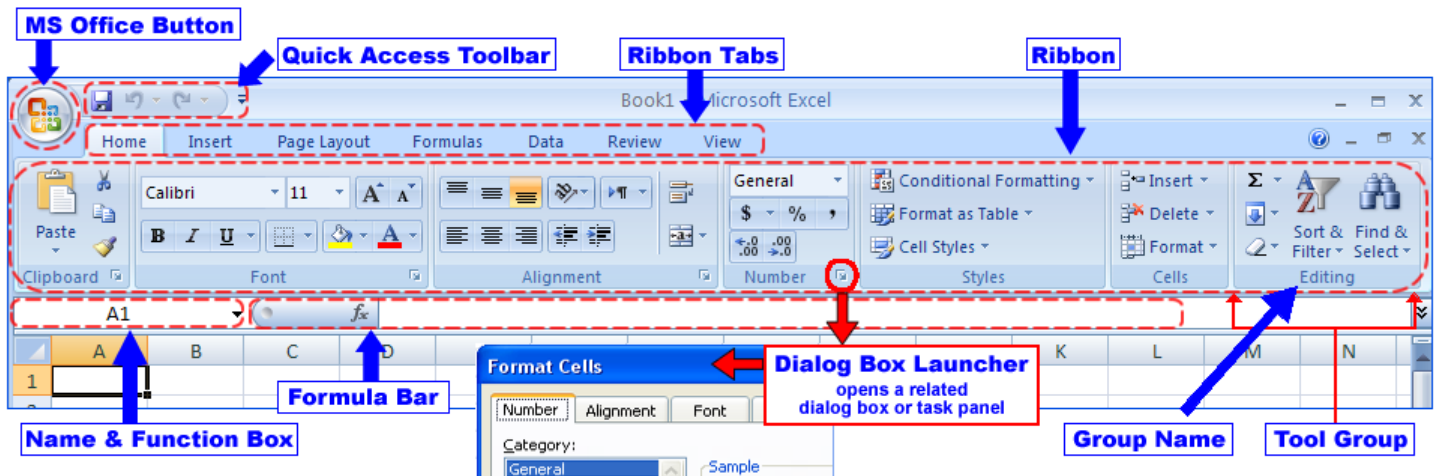
- <http://office.microsoft.com/en-us/excel/HA101491511033.aspx>

## MS EXCEL 2007 - New Interface

When you open Excel 2007, you will notice that it looks quite different from Excel 2000 and Excel 2003. The same tools are all there, but they are arranged very differently and new features have been added.

If you are already familiar with Excel 2000 or 2003, it may take you a while to adjust to this new arrangement of tools. This tutorial uses Excel 2007 and you can use it as a quick reference guide for most of the common tools.

### Arrangement of Tools in Excel 2007



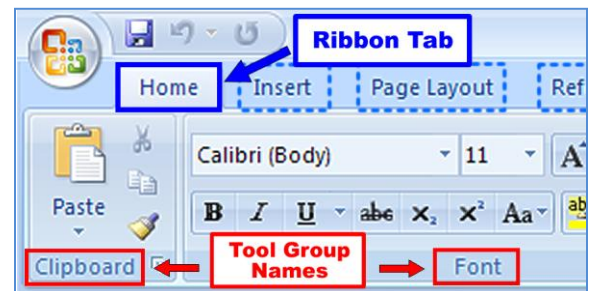
The **MS Office Button** contains the main file functions

- New, Open, Save, Save as, Print, Print Preview, etc.

The **Quick Access Toolbar** contains shortcuts to **Save, Undo, and Repeat**

Each **Ribbon Tab** displays a **Ribbon** that provides a set of **Tool Groups**.

- The **Ribbon Tab** and the **Tool Groups in the Ribbon** correspond to the **Menu and Toolbar** in Word 2000 and 2003
- The **Name** of each **Tool Group** is listed at the bottom of the Group
  - **Example** - In the **Home Tab**, the second **Tool Group** is named **Font**
  - The name "**Font**" is under the **Font Tool Group**



To change the **Tool Groups** being displayed in the **Ribbon**

- Click on the appropriate **Ribbon Tab**
- **Example** - The **Home Tab** contains **Tool Groups** for the most commonly used Tools
  - Clipboard, Font, Paragraph, and Style tools in Word

Some **Tool Group** boxes have a **small arrow in the bottom right-hand corner**.



- If you click on this arrow, Word will open a **Dialog Box** which offers more options and settings related to that **Tool Group**



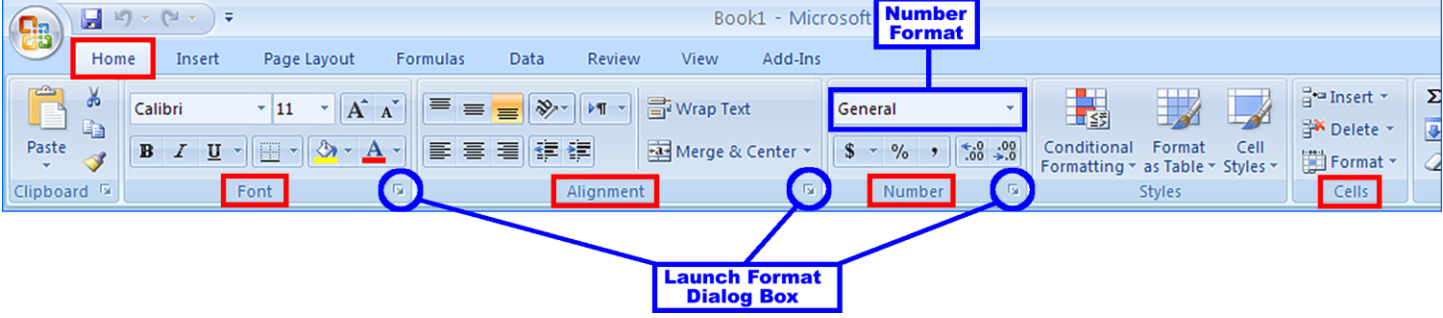
In Excel 2007, tools with similar uses are organized so that they are usually found within the same Tool Group or at least within one Ribbon. If you do not find a tool in the Ribbon you think it should be in, try exploring the other Ribbon Tabs.

In this tutorial, we will not use the control keys as these function differently on different computers. For the sake of consistency, all instructions in this tutorial refer to the **Ribbon Tabs** and **Tool Groups** in each **Ribbon**.

## Getting Started

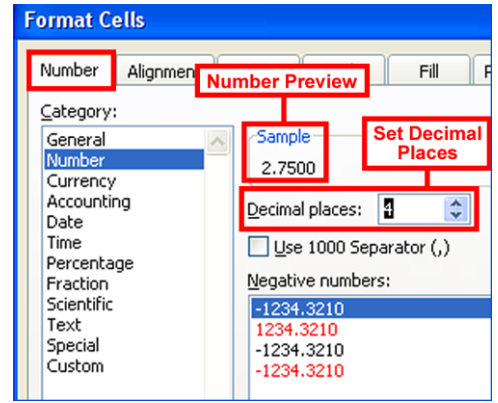
<p>Start a new Workbook</p>	<p><b>MS Office Button &gt;&gt; New</b></p> <p>When you open Excel for the first time, a new, blank Workbook appears. If you are already in Excel and want a new Workbook</p> <ul style="list-style-type: none"> <li>• Click on <b>MS Office Button</b> and choose <b>New</b></li> </ul> <p><b>NOTE:</b> In Excel, a <b>Workbook</b> is the basic document</p> <ul style="list-style-type: none"> <li>• Each <b>Workbook</b> contains several <b>Sheets</b> on which different sets of Data can be entered</li> <li>• The Sheets are listed at the <b>bottom of the Excel window</b></li> <li>• Sheets can be given individual names</li> <li>• Click on the name of a each sheet to switch between them</li> </ul>	
<p>Open an existing Workbook</p>	<p><b>MS Office Button &gt;&gt; Open</b></p> <ul style="list-style-type: none"> <li>• Browse to an Excel Workbook document and Open it</li> </ul>	
<p>Open a file from a different version or format</p>	<p>Excel 2007 will automatically convert a document from a compatible version of Excel</p> <ul style="list-style-type: none"> <li>• Your document will open in <b>Compatibility Mode</b></li> <li>• This will prevent you from using certain tools in Office 2007 which are not compatible with Office 2000 or 2003</li> <li>• When you finish editing a document, be <b>VERY CAREFUL</b> to save any converted documents in their original format</li> <li>• Please read the <b>Important Notes</b> below regarding saving in Office 2007!</li> </ul>	
<p><b><u>IMPORTANT NOTES: Saving Documents in Excel 2007</u></b></p> <ol style="list-style-type: none"> <li>1. In the Computing Facilities, files on the <b>Desktop</b> are <b>NOT SAVED</b> when you log off. <ul style="list-style-type: none"> <li>• <b>ALWAYS</b> use <b>Save As...</b> to save your file to a USB Flash Drive, or personal drive (H:\)</li> <li>• You can also save a file to the Desktop and then email it to yourself as an attachment</li> </ul> </li> <li>2. If you are <b>NOT</b> running Office 2007 at home and you save a document as Excel 2007 (*.xlsx), <b>YOU WILL NOT BE ABLE TO OPEN IT AT HOME!</b> (see step 3 below)</li> <li>3. If you have <b>Office 2000 or 2003</b> or you use a <b>Mac</b> at home or on an administration machine. <ul style="list-style-type: none"> <li>• You will have to save your document as an older version</li> <li>• Go to <b>MS Office Button &gt;&gt; Save As</b> <ul style="list-style-type: none"> <li>○ At the bottom, there is a bar that asks you to "Save as Type:"</li> <li>○ <b>Choose Excel 97-2003 Workbook (*.xls)</b></li> </ul> </li> <li>• <b>DO NOT CHOOSE</b> "Excel Workbook (*.xlsx)"</li> </ul> </li> <li>4. If you are using a PC at home running <b>Office 2000 or 2003</b> <ul style="list-style-type: none"> <li>• You can download the <b>MS Office 2007 to Office 2003 Compatibility Pack</b> from Microsoft's website <ul style="list-style-type: none"> <li>○ <a href="http://www.microsoft.com/downloads/">http://www.microsoft.com/downloads/</a></li> <li>○ Under <b>New Downloads</b>, choose "<b>Microsoft Office Compatibility Pack for Word...</b>"</li> </ul> </li> <li>• Even with the Compatibility Pack, you might <b>lose data / formatting</b> when you save as an older version</li> <li>• There is no Compatibility Pack available for <b>Mac</b> yet.</li> </ul> </li> </ol>		
<p>Save the current Workbook OR Save the Workbook as a different name, version, or format</p>	<p><b>MS Office Button &gt;&gt; Save or Save As...</b></p> <ul style="list-style-type: none"> <li>• Please read the <b>Important Notes</b> above regarding saving in Office 2007!</li> <li>• In the bars at the bottom of the <b>Save As... Window</b></li> <li>• Give your document a new name in "<b>File Name:</b>"</li> <li>• Select the version and format from "<b>Save as type:</b>"</li> </ul>	

## Formatting Data

<p>Insert Data into a cell</p>	<p><b>Select</b> a Cell by <b>placing the cursor</b> in the Cell</p> <ul style="list-style-type: none"> <li>Type data into the <b>Formula Bar</b> at the top of the Excel Window</li> <li>OR into the Cell directly</li> <li>Data can be - Number, Text, Formula, or Function</li> </ul>
<p><b>Home Tab - Font, Alignment, Number &amp; Cell Groups</b></p> 	
<p>Insert more Cells into a Sheet</p>	<p><b>Home Tab &gt;&gt; Cells Group</b></p> <ul style="list-style-type: none"> <li>Place the cursor where you want the Cells to be added or deleted</li> <li>Choose the <b>Insert</b> or <b>Delete Tool</b> in the <b>Cells Group</b></li> <li>You can add <b>Cells, Rows, Columns</b>, or a whole new <b>Sheet</b> for Data</li> </ul>
<p>Change the <b>Type of Data</b> within a Cell or cells (Ex: increase decimal places)</p>	<p><b>Home Tab &gt;&gt; Number Group</b></p> <p><b>Select</b> the cell(s) you wish to format</p> <ul style="list-style-type: none"> <li>Click on the pull-down menu at the top of the <b>Number Group</b> <ul style="list-style-type: none"> <li>If you move the mouse over this menu, it says <b>Number Format</b></li> </ul> </li> <li>Assign a Data Type to the Cell(s)</li> <li>"General" is the Default Data Type</li> </ul>
<p>Change the Font of the Data in a Cell</p>	<p><b>Home Tab &gt;&gt; Font Group</b></p> <ul style="list-style-type: none"> <li><b>Select</b> the cell(s) you wish to format</li> <li>In the <b>Font Group</b> there are several Tools for altering the <b>Font, Size, Colour</b>, and <b>Style</b> of the Data in the Cell</li> </ul>
<p>Change the Alignment of the Data in a Cell</p>	<p><b>Home Tab &gt;&gt; Alignment Group</b></p> <ul style="list-style-type: none"> <li><b>Select</b> the cell(s) you wish to format</li> <li>In the Alignment Group there are Tools for <ul style="list-style-type: none"> <li><b>Centring</b> Data in Cells Horizontally and Vertically</li> <li><b>Merging</b> and Un-Merging Cells</li> <li><b>Wrapping</b> Data so that it continues to the next line within one Cell</li> </ul> </li> </ul>

**Format Cells Dialog Box** - (has not changed from Word 2000, 2003)

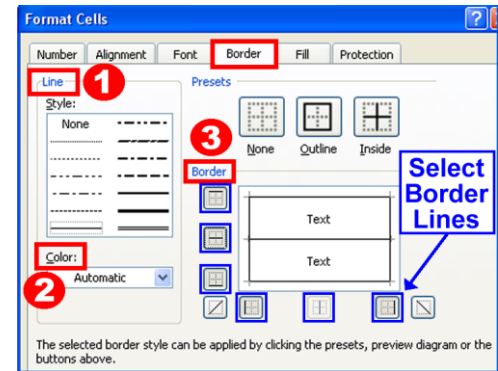
- Allows you to change several properties of a Cell within one Dialog Box.
  - **Type of Data**
  - **Alignment/Position** of Data in a Cell
  - **Font** of the Data
  - **Cell Borders and Fill**
- Offers more options than the **Tool Groups** in the Ribbon
- It is especially useful for altering **Cell Borders**
- To Open or Launch the **Format Cells Box**
  - **Select** the cells you wish to format
  - Click on the **Dialog Box Launcher** arrow at the right bottom corner of the **Font, Alignment, or Number Groups**



**Format the Borders of Cells**

**Home Tab >> Launch Format Dialog Box** (small arrow at bottom right of Groups)

- Select** the Cell(s) you wish to format
- Click on the **Dialog Box Launcher** arrow at the right bottom corner of the
  - **Font, Alignment, or Number Groups**
  - This will launch the **Format Cells Dialog Box**
  - Click on the **Border Tab** at the top of this Box
    1. Choose a **Style** of Line
    2. Choose a **Colour** for the Line
    3. Choose which **Border Lines** you want to see around the Cell(s)

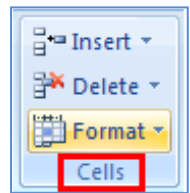


**Format the Column Width or Row Height of Cells**

**Home Tab >> Cells Group >> Format**

**Select** the Cell(s) for which you want to change the **Row Height** or **Column Width**

- Click on the **Format** button in the **Cells Group**
  - Choose to adjust the **Column Width** or **Row Height**
- OR**
- Select **Autofit** to adjust the Cell to the size of the Data



**Move a cell(s)**

- **Select** the Cell(s) you want to move
- Position the mouse over a border of the selection
- The cursor will change from a **thick white plus sign** into **thin crossed arrows**
- **Click-drag** the cells to their destination.

**Merge Cells**

Combine several Cells into 1

**NOTE:**

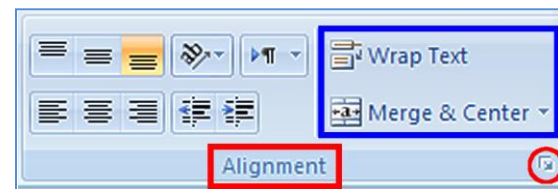
This process **ONLY** retains Data from the **top left Cell**

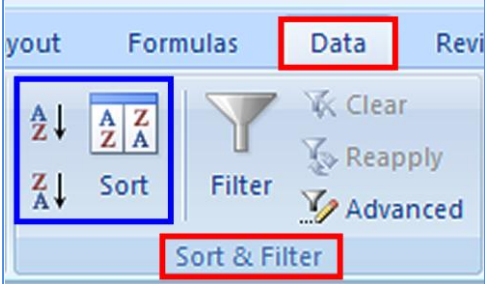
**Home Tab >> Alignment Group >> Merge & Center**

- Select** the Cell(s) to be Merged
- Click on the **Merge & Center Tool**
  - Select **Merge Cells** from the pull-down menu

**OR**

- Launch the **Format Dialog Box** using the arrow at the bottom right corner of the **Alignment Group**
- Check the **Merge Cells** box under **Text Control**.



<p><b>Automatically fill Data Cells</b></p>	<p>Excel can automatically continue a list if you provide the first 2 or 3 items in it. This is very useful for basic sequences such as:</p> <ul style="list-style-type: none"> <li>• Days of the week</li> <li>• List of numbers</li> </ul> <p><b>Input data</b> into a Cell or across two consecutive cells to get an incremental list</p> <ul style="list-style-type: none"> <li>• <b>Select</b> the cell(s)</li> <li>• Position the mouse in <b>bottom right corner</b> of the selection</li> <li>• The pointer will change to a thin black cross</li> <li>• <b>Click-drag downwards or to the right across the neighbouring empty cells</b> to apply the Auto-fill to all desired cells</li> </ul>
<p><b>Sorting Data</b></p>	<p><b>Data Tab &gt;&gt; Sort &amp; Filter Group &gt;&gt; Sort</b></p> <p><b>Select</b> the Data in a Row or Column</p> <ul style="list-style-type: none"> <li>• Click on the <b>Sort</b> button to open the <b>Sort</b> window</li> </ul> <p><b>Home Tab &gt;&gt; Editing &gt;&gt; Sort &amp; Filter</b></p> <p>For simple Sorting, use the Sort &amp; Filter Tool in the Editing Group of the Home Tab</p> 

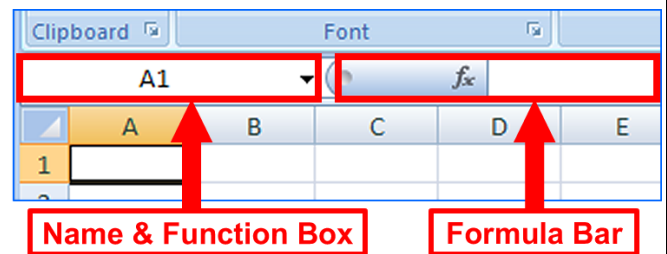
## Formulas - The Formula Bar & Functions

**Formulas** are entered in the **Formula Bar** under the Ribbon.

Formulas are composed of one or more **Functions**.

### Formulas:

- Require an equals sign to begin '='
- Follow the rules of **BEDMAS** (see below)
- Will be checked for **Notation** errors, **not Logic** errors
- Rely on column/row numbering (A1, Z39)
- Are most easily tackled by using the online help feature

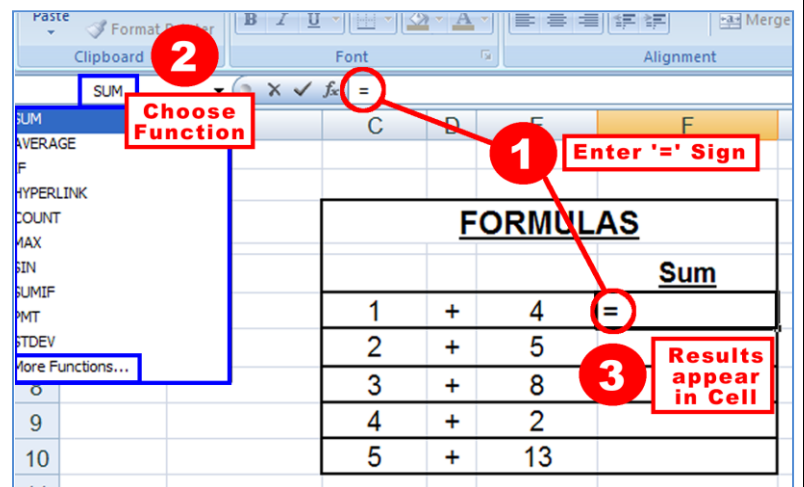


### To begin a Formula:

**Select** the Cell where you want the result to appear

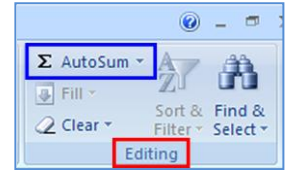
- This Cell does not have to be adjacent to the Data used by the Formula

1. **Type an equals sign '='** into either
  - The **Formula Bar**
  - The Cell where you want the Result to appear
2. Choose a **Function** from the **Function List** to the left of the **Formula Bar**
  - This list contains commonly used Functions such as Add or Sum
  - For more functions, choose More Functions...
  - The **Insert Function** Dialog Box will open
3. The **Result** of the Function will appear in the Cell you chose in Step 1

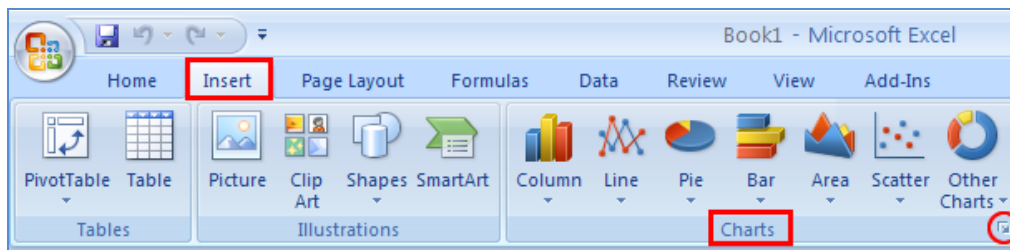


<p><b>Functions &amp; Operators</b> for Formulas</p>	<p>Operations follow the order of <b>BEDMAS</b>:</p> <ul style="list-style-type: none"> <li>• <b>B</b>rackets, <b>E</b>xponents, <b>D</b>ivide, <b>M</b>ultiply, <b>A</b>dd, <b>S</b>ubtract</li> </ul> <p><b>Formula Notation</b> for common mathematical functions</p> <p>Addition:       +                    Multiplication:   *</p> <p>Subtraction:   -                    Brackets:       ( )</p> <p>Division:       \                     Range:         ... [i.e. A1...A70]</p>
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<p><b>AutoSum</b></p> <p>Automatically Sum your Data</p>	<p><b>Home Tab &gt;&gt; Editing Group &gt;&gt; AutoSum</b></p> <p>Excel can automatically, quickly, <b>Add</b> a row or column of numbers for you:</p> <ul style="list-style-type: none"> <li>• <b>Select</b> the Cells you want to sum</li> <li>• Include an <b>empty Cell</b> as the last Cell in the selection</li> <li>• This is where your summation result will be entered</li> <li>• Click on the <b>AutoSum Tool</b> in the <b>Editing Group</b></li> <li>• Choose <b>Sum</b> from the list</li> </ul> <p>Several other <b>commonly used Functions</b> are available here such as:</p> <ul style="list-style-type: none"> <li>• <b>Average, Count, Min, Max</b></li> </ul> <p>To automatically apply the same Function to a Set of Cells</p> <ul style="list-style-type: none"> <li>• Follow instructions to <b>Automatically Fill Data Cells</b> on page 6 above</li> </ul>
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## Creating and Formatting Charts

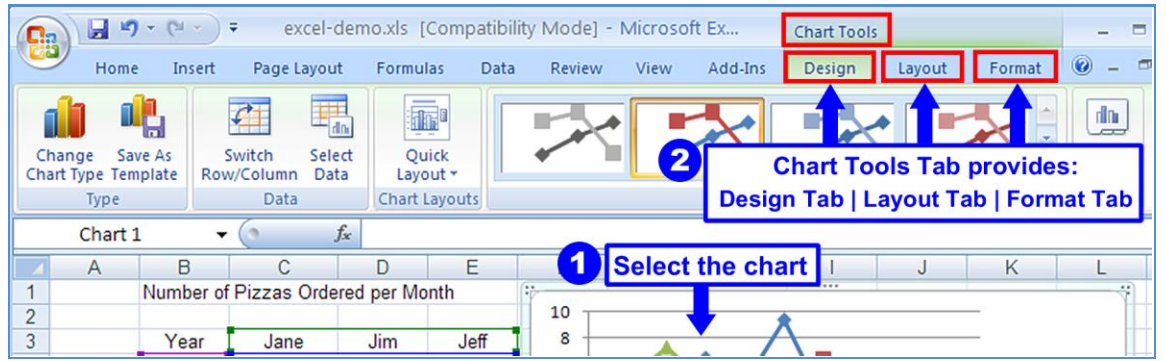


<p><b>Inserting a Chart from Data</b></p>	<p><b>Insert Tab &gt;&gt; Charts Group</b></p> <ul style="list-style-type: none"> <li>• Select a set of Data <ul style="list-style-type: none"> <li>○ The Data should all be adjacent and arranged in Columns</li> <li>○ The <b>leftmost Column</b> is <b>Data for the X-axis</b></li> <li>○ Each other Column represents a different <b>Series of Data</b> or Set of Y-Values</li> </ul> </li> <li>• Choose a <b>Chart Type</b> (Column, Pie, Scatter, etc.) from the <b>Charts Group</b></li> <li>• Or click on <b>Dialog Box Launcher</b> arrow at the right bottom corner of <b>Chart Group</b> to launch <b>Insert Chart</b> window</li> <li>• Select the type of chart you want</li> </ul> <p><b>Choose the type of Chart you want.</b></p> <ul style="list-style-type: none"> <li>• <b>XY (Scatter)</b> is one of the more popular Chart Types for representing data because it allows you to <b>alter both the X-axis and the Y-axis</b></li> <li>• There are several other types of charts and each has different options for laying out data. See which one works best for your data set</li> </ul> <p><b>NOTE :</b> Excel 2007 has removed the <b>Chart Wizard</b>. You must use the <b>Chart Tools Ribbon Tabs</b> to format and alter the appearance and Data of your Chart. See instructions below.</p>
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**Chart Tools Tab:**

- Design Tab
- Layout Tab
- Format Tab

You need to use **Chart Tools Tabs** to Format any part of the Chart



1. To Format a Chart, always **Select the Chart** first by clicking on it.
2. **Chart Tools Tab** appears providing the **Design Tab**, **Layout Tab** and **Format Tab** for Formatting the selected Chart

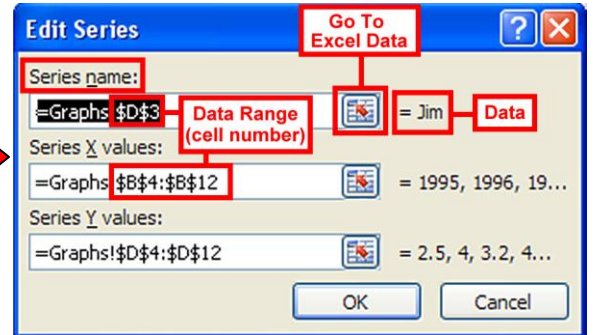
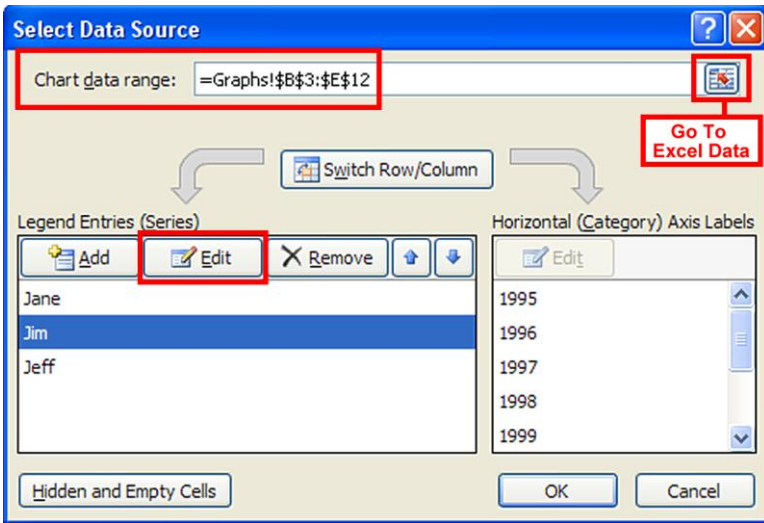
**Creating a Chart Step 1**

Choose / Change a Chart Design

**Chart Tools - Design Tab >> Type Group >> Change Chart Type**

- Click on **Change Chart Type** Tool to change the type of chart
- Choose the type of Chart you want.**
- **XY (Scatter)** is one of the more popular Chart Types for representing data because it allows you to **alter both the X-axis and the Y-axis**
  - There are several other types of charts and each has different options for laying out data. See which one works best for your data set

**Formatting a Chart - Step 2 - Changing the Data Range for a Series**



**Creating a Chart Step 2**

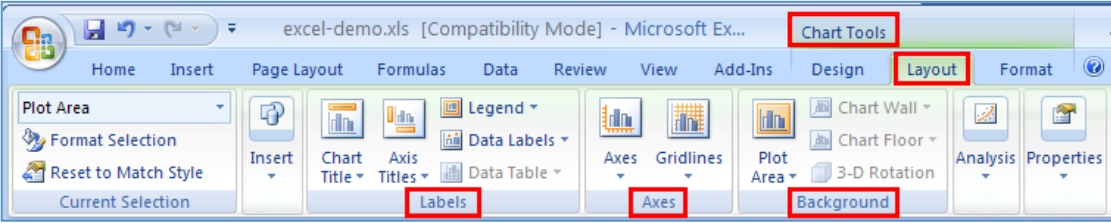
- Choose a Data Range
- Add or Delete a Series

**Series** - a single Column of Data

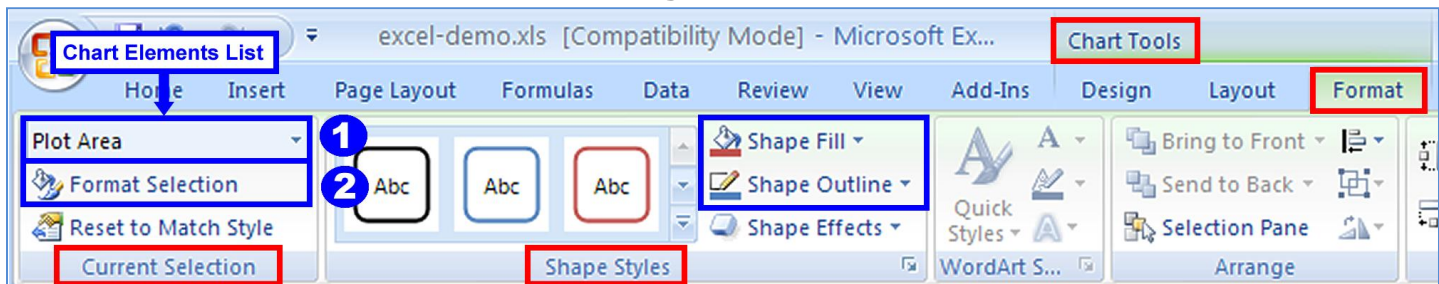
**Chart Tools - Design Tab >> Data Group >> Select Data**

**NOTE:** You only need to use the **Select Data Tool** if the Chart is **NOT** displaying the correct Data for each Series.

- Click on **Select Data** button to change the **Data Range of each Series** of the Chart
- The **Select Data Source** window will appear
- Select a Data Series in the box on the left (Ex. "Jim")
- Click on **Edit** button to change the Data in the Series
  - The **Edit Series** window will appear
  - To choose Data straight off the Excel Sheet, click on the **Graph Symbol** next to the **Series Name, X-Values, or Y-Values**
- Click **Delete** in the **Data Source** window to Delete a Data Series

<p><b>Creating a Chart Step 3</b> Edit Chart Titles, Labels, Axis and Background</p>	<p style="text-align: center;"><b><u>Chart Tools - Layout Tab &gt;&gt; Labels, Axes, &amp; Background Groups</u></b></p>  <p><b>Labels Group:</b></p> <ul style="list-style-type: none"> <li>• <b>Chart Title / Axis Titles Tools</b> <ul style="list-style-type: none"> <li>○ Add, remove and position the titles of the chart and axis</li> <li>○ To change the Font for a Title, highlight the text and go to the <b>Font Group</b> in the <b>Home Tab</b></li> </ul> </li> <li>• <b>Legend Tool</b> <ul style="list-style-type: none"> <li>○ Add, remove and position the <b>Chart Legend</b></li> <li>○ The Legend assigns a separate colour to each Data Series</li> </ul> </li> <li>• <b>Data Labels Tool</b> <ul style="list-style-type: none"> <li>○ <b>Data Labels</b> are the X or Y values for each Data Point in a Series</li> <li>○ They will appear next to each Data Point Marker in a Series Line</li> <li>○ Add, remove and position the <b>Data Labels</b></li> </ul> </li> <li>• <b>Data Table Tool</b> <ul style="list-style-type: none"> <li>○ Add the Data Table to the chart</li> </ul> </li> </ul> <p><b>Axes Group:</b></p> <ul style="list-style-type: none"> <li>• <b>Axes Tool</b> - Change the formatting and layout of each axis</li> <li>• <b>Gridlines Tool</b> - Turn Major and Minor Gridlines on or off</li> </ul> <p><b>Background Group:</b> Edit the Background color and style of the chart.</p> <p>There are <b>more options</b> for all of these Groups.</p> <ul style="list-style-type: none"> <li>• Choose "<b>More options</b>" when you click on a Tool</li> <li>• A Format Dialog Box will open for that Tool</li> <li>• As you select each option, the <b>Chart Preview</b> will change. If you are unsure of what an option will do to your Chart, try clicking on it. You can always turn it off again.</li> </ul>
<p><b>Creating a Chart Step 4</b> Chart Location</p>	<p><b>Chart Tools - Design Tab &gt;&gt; Location Group &gt;&gt; Move Chart</b></p> <ul style="list-style-type: none"> <li>• This Tool is located on the far right of the Chart Tools Design Tab</li> <li>• Choose whether you want the Chart to appear as an object on the <b>same sheet</b> as your data (more common) or on <b>its own sheet</b></li> </ul>
<p><b>Stretching the Chart</b></p>	<p>If the <b>Axis Labels</b> are positioned too close together, or the Chart is not the shape you want it to be, you can stretch the chart.</p> <ul style="list-style-type: none"> <li>• Click in the blank background of the Chart near the Title. You should see a box appear around the entire Chart.</li> <li>• Click and drag the "handles" of the box to make the Chart bigger</li> </ul>

## Formatting Parts of a Chart



There are **two methods** you can use to **Format** any part of your Chart  
Format the

- Font, Colour, Shape, Fill, Outline or Style of the
- Chart Area (background of whole chart), X or Y Axes, Legend, Plot Area, Gridlines, Titles, Data Series Lines, or Plot Points

### Method 1

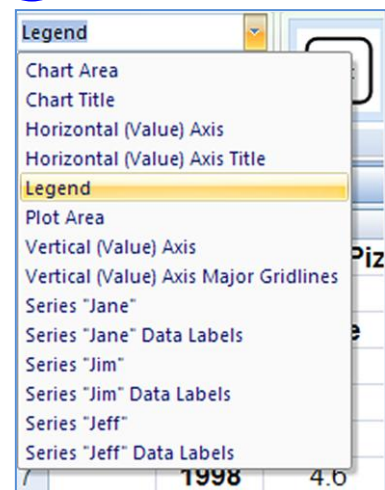
- **Right-click** on that specific part of the Chart and choose **Format** \_\_\_\_\_ ...

### Method 2

#### Chart Tools - Format Tab >> Current Selection Group

1. Click on the **Chart Elements List**.
  - A pull-down menu will list all the elements of your Chart
  - Select the part of the chart that you want to format
2. Click on the **Format Selection** button
  - A **Format Dialog Box** will appear for that element of the chart

### 1 Chart Elements List



Some parts in the chart (i.e. Lines and Plot Points) are easier to select by Method 2 than by right-clicking.

**Note:** In the sections below, we mainly use the **Right-click** Method to select an area of the chart.

### Formatting Axes

Change the Pattern, Scale, Font, Number Type, and Angle of the X and Y Axes.

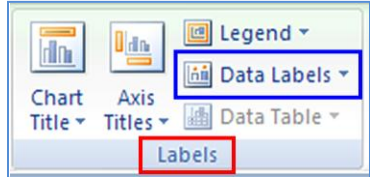
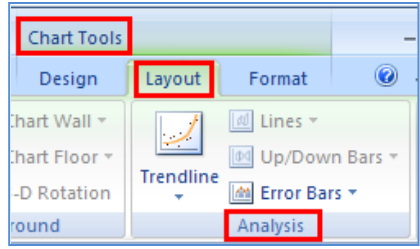
Of these, the most important is the **Scale** of the Axes.

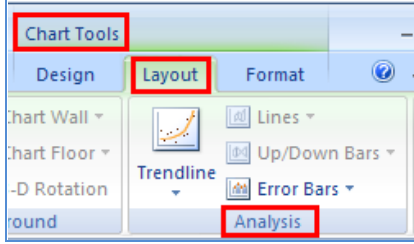
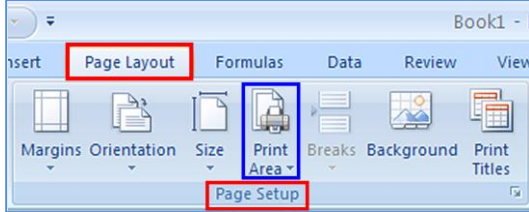
**Right-click** on the X or Y axis in your Chart and choose **Format Axis...**

- The **Format Axis Dialog Box** will open

#### Set the Axis options:

- **Axis Options - These greatly affect how your data is displayed!**  
When the Chart is created, the major values (tick marks) of the axes are set automatically, but you might want them to be very different.  
**Axis Options** allows you to set:
  - **Minimum and Maximum** value for each axis
  - **Major Unit** - The increment between major values (tick marks) on the axis
  - **Minor Unit** - The increment between minor values (smaller tick marks) on the axis
  - To change any of these options, click on the **Fixed**, not Auto setting
- **Number** - Change the **Type of Data** for the axis values (date, time, text...)
- **Fill, Line Colour, Line Style** - Change the background color, Axis colour, or Axis Line style for the X or Y axis
- **Alignment** - Change the direction of the text for the Axis Values

<p><b>Formatting a Series of Data</b> Change the appearance of a Data Series Line and its Markers</p>	<p><b>Right-click</b> on the <b>Series Line</b> and choose <b>Format Data Series...</b></p> <ul style="list-style-type: none"> <li>The <b>Format Data Series</b> Dialog Box will open</li> </ul> <p><b>Set the Data Series options:</b></p> <ul style="list-style-type: none"> <li><b>Series Options</b> - decide whether to place a series on a Primary or Secondary Axis</li> <li><b>Marker Options and Fill</b> - Change the Marker Shape, Colour, and Size</li> <li><b>Marker Line Color &amp; Style</b> - Change the Color and Style of the Marker Outline</li> <li><b>Line Color &amp; Line Style</b> - Change the Colour and Style of the Series Line</li> </ul>
<p><b>Display and Format Data Labels</b> Show the Data Values</p> <p><b>Data Labels</b> The X or Y values can be displayed next to each Data Marker in a Series Line</p>	<p><b>Chart Tools - Layout Tab &gt;&gt; Labels Groups &gt;&gt; Data Labels</b></p> <p><b>To create Data Labels:</b></p> <ul style="list-style-type: none"> <li><b>Select</b> a Series Line</li> <li>Click on the <b>Data Labels Tool</b> in the <b>Labels Group</b></li> <li>Choose a position for the Data Labels <b>relative to their Marker</b></li> </ul>  <p><b>To show the Format Data Labels Dialog Box:</b></p> <ul style="list-style-type: none"> <li><b>Right-click</b> on a <b>Series Line</b> that has <b>Data Labels</b> and choose <b>Format Data Labels...</b></li> <li>The <b>Format Data Labels</b> Dialog Box will open</li> </ul> <p><b>Set the Data Labels options:</b></p> <ul style="list-style-type: none"> <li><b>Label Options</b> - Choose which X or Y Value you want the Label to display and where you want the Label to be positioned <b>relative to the Series Markers</b></li> <li><b>Number</b> - Change the <b>Type of Data</b> for the axis values (date, time, text...)</li> <li><b>Fill, Border Colour, Border Style</b> - Change the appearance of the Data Label</li> <li><b>Alignment</b> - Change the direction of the text in the Data Label</li> </ul>
<p><b>Adding Error Bars to a Series of Data</b></p> <p><b>Error Bar</b> A small line extending from each Data Marker that represents the potential error of your data.</p>	<p><b>Chart Tools - Layout Tab &gt;&gt; Analysis Group &gt;&gt; Error Bars</b></p> <p><b>To create Error Bars:</b></p> <ul style="list-style-type: none"> <li><b>Select</b> a Series Line</li> <li>Click on the <b>Error Bars Tool</b> in the <b>Analysis Group</b></li> <li>Select the <b>Type of Error Bars</b> you want <ul style="list-style-type: none"> <li>Standard, Percentage, or Standard Deviation</li> </ul> </li> <li><b>Horizontal and Vertical Error Bars</b> will appear on all the Data Markers in that Series Line</li> <li>To <b>Delete</b> Horizontal or Vertical Error Bars, select one or the other and hit the Delete Key</li> </ul>  <p><b>To show the Format Error Bars Dialog Box:</b></p> <ul style="list-style-type: none"> <li>Select the <b>Error Bars</b> for a Series Line that has them</li> <li><b>Right-click</b> on an Error Bar and choose <b>Format Error Bars...</b></li> <li>The <b>Format Error Bars</b> Dialog Box will open</li> </ul> <p><b>Set the Error Bars options:</b></p> <ul style="list-style-type: none"> <li><b>Vertical / Horizontal Error Bars</b> <ul style="list-style-type: none"> <li>Show the Plus, Minus, or Both Error Bars</li> <li><b>Amount of Error</b> - Fixed, Percentage, Standard Deviation, Standard Error</li> </ul> </li> <li><b>Line Colour, Style</b> - Change the appearance of the Error Bars</li> </ul>

<p><b>Creating Trend Lines and their Equations</b></p> <p><b>Trendline</b> The line that best represents the average of your data points.</p> <p>Excel can <b>provide an equation</b> for the Trendline</p>	<p><b>Chart Tools - Layout Tab &gt;&gt; Analysis Group &gt;&gt; Trendline</b></p> <p><b>To create a Trendline:</b></p> <ul style="list-style-type: none"> <li>• <b>Select</b> a Series Line</li> <li>• Click on the <b>Trendline Tool</b> in the <b>Analysis Group</b></li> <li>• Select the type of Trendline you want <ul style="list-style-type: none"> <li>○ Linear, Exponential, Linear Forecast</li> </ul> </li> <li>• A Trend Line will appear on your Chart and be added to the Legend</li> </ul>  <p><b>To show the Format Trend Line Dialog Box:</b></p> <ul style="list-style-type: none"> <li>• Select a Trend Line and <b>Right-click</b> on it (or use the <b>Chart Elements List</b>)</li> <li>• Choose <b>Format Trendline...</b> and the <b>Format Trendline</b> Dialog Box will open</li> </ul> <p><b>Set the Trendline options:</b></p> <ul style="list-style-type: none"> <li>• <b>Trendline Options</b> <ul style="list-style-type: none"> <li>○ <b>Type</b> - Exponential, Linear, Logarithmic, Polynomial, Power,</li> <li>○ <b>Name</b> - Change the Name of the Trendline in the Legend</li> <li>○ Check <b>Display Equation on Chart</b> to show the Equation of the Trendline <ul style="list-style-type: none"> <li>• <b>This is one of the most useful features of Excel!</b></li> </ul> </li> </ul> </li> <li>• <b>Line Color, Style</b> - Change the appearance of the Trendline</li> </ul>
<h2>Printing</h2>	
<p>Set the <b>Print Area</b> of a spreadsheet</p>	<p><b>Page Layout Tab &gt;&gt; Page Setup Group &gt;&gt; Print Area</b></p> <p>To print ONLY selected data</p> <ul style="list-style-type: none"> <li>• <b>Select</b> an area of Data in the Data Sheet you want to print</li> <li>• Click on the <b>Print Area Tool</b> in the <b>Page Setup Group</b></li> <li>• Choose <b>Set Print Area</b></li> </ul>  <p><b>MS Office Button &gt;&gt; Print</b></p> <ul style="list-style-type: none"> <li>• Click on OK to print the Print Area</li> </ul>
<p><b>Preview</b> the print-out</p>	<p><b>MS Office Button &gt;&gt; Print</b></p> <ul style="list-style-type: none"> <li>• Place the mouse over <b>Print</b> to see more options</li> <li>• Choose <b>Preview</b> from the list in the right side of the MS Office Box</li> </ul> <p><b>NOTE:</b> You may find that you need to set the <b>Page Orientation</b> to <b>Landscape</b> (Horizontal) to make your Data Sheet fit properly. Printing that spans several pages is available for larger spreadsheets.</p>

This tutorial covers the basic features of Excel. This handout can be used as a general reference tool.