

Microsoft



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EXCEL

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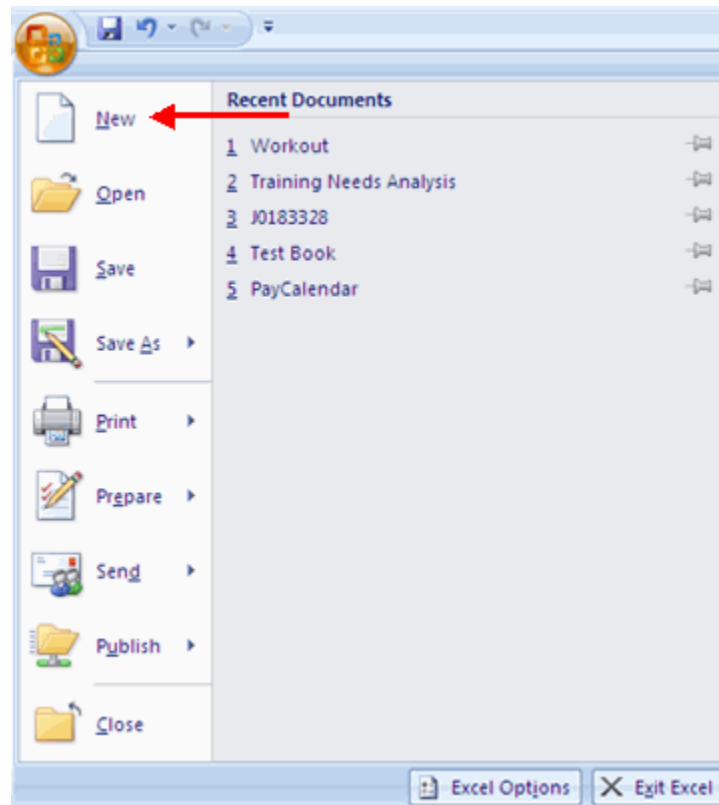
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WORKING WITH A WORKBOOK

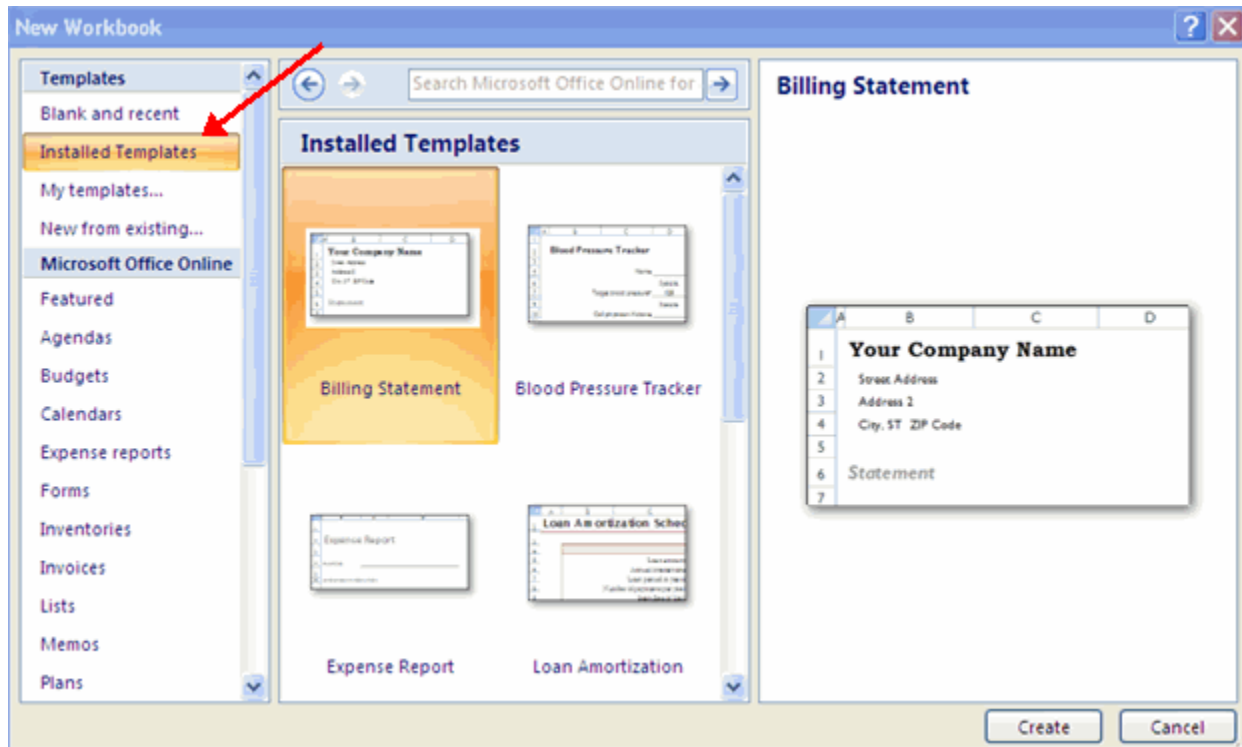
Create a Workbook

To create a new Workbook:

- Click the **Microsoft Office Toolbar**
- Click **New**
- Choose **Blank Document**



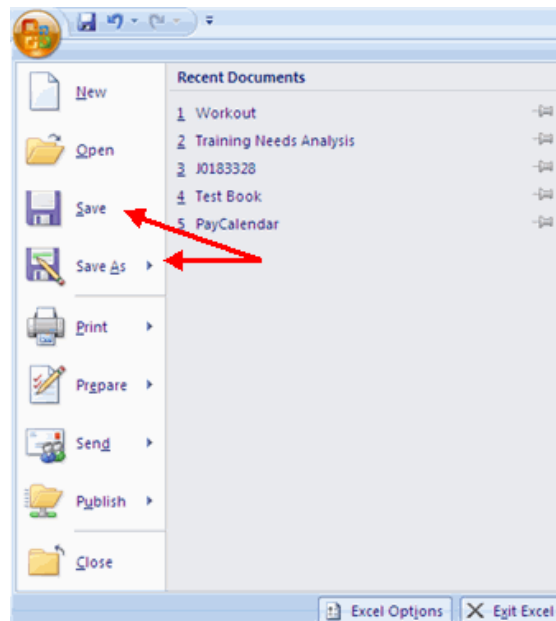
If you want to create a new document from a template, explore the templates and choose one that fits your needs.



Save a Workbook

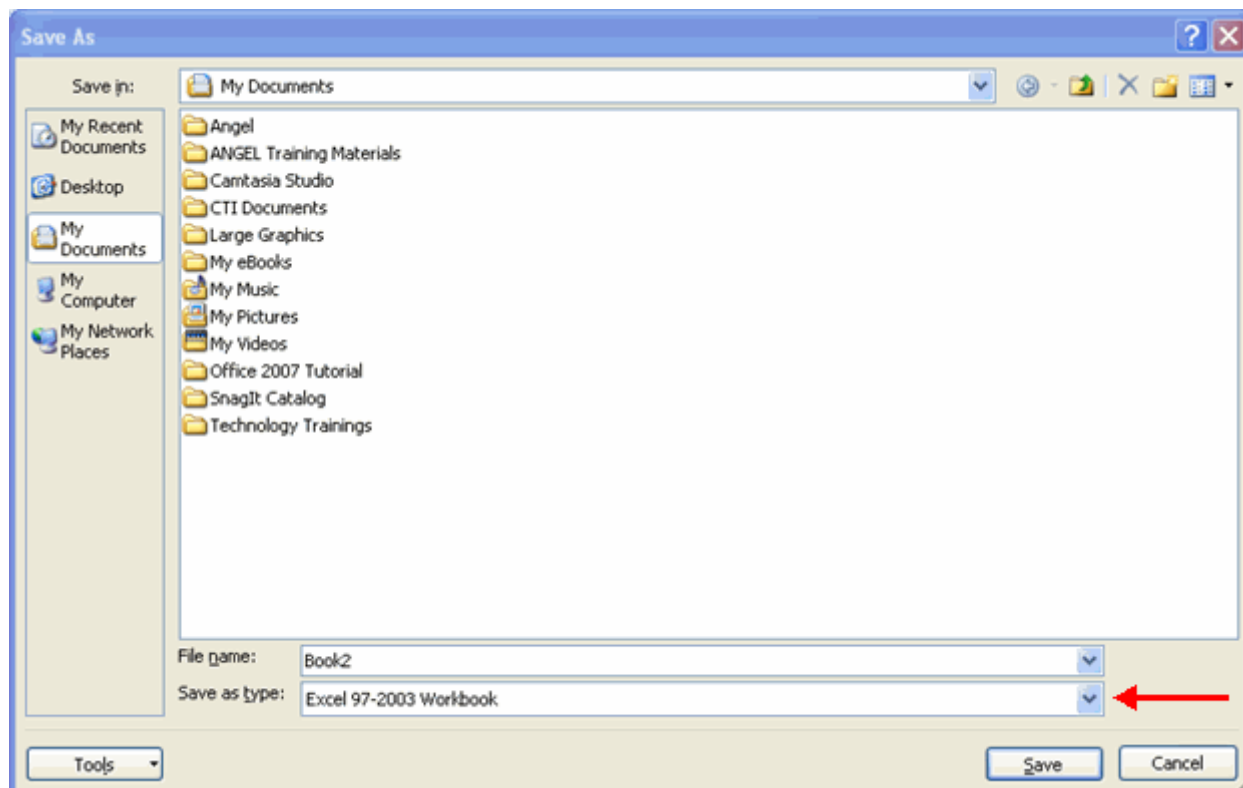
When you save a workbook, you have two choices: **Save** or **Save As**.
To save a document:

- Click the **Microsoft Office Button**
- Click **Save**



You may need to use the **Save As** feature when you need to save a workbook under a different name or to save it for earlier versions of Excel. Remember that older versions of Excel will not be able to open an Excel 2007 worksheet unless you save it as an Excel 97-2003 Format. To use the **Save As** feature:

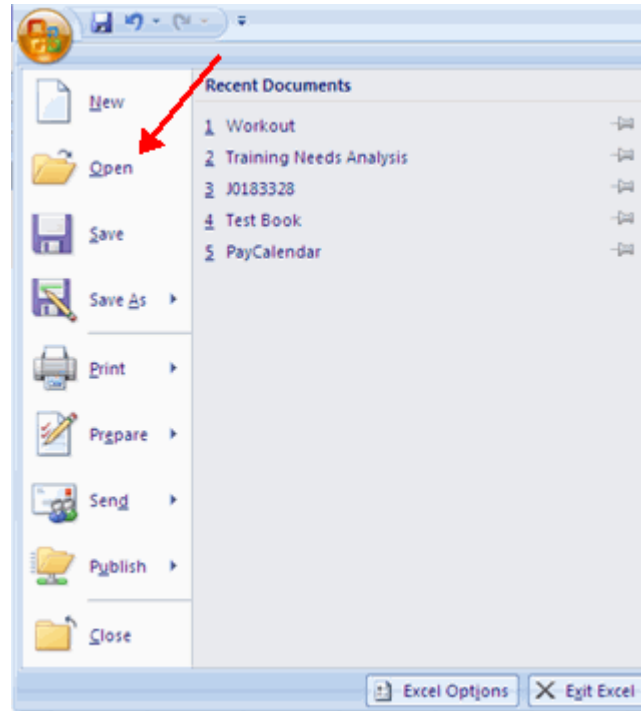
- Click the **Microsoft Office Button**
- Click **Save As**
- Type in the name for the Workbook
- In the **Save as Type** box, choose **Excel 97-2003 Workbook**



Open a Workbook

To open an existing workbook:

- Click the **Microsoft Office Button**
- Click **Open**
- Browse to the workbook
- Click the title of the workbook
- Click **Open**



Entering Data

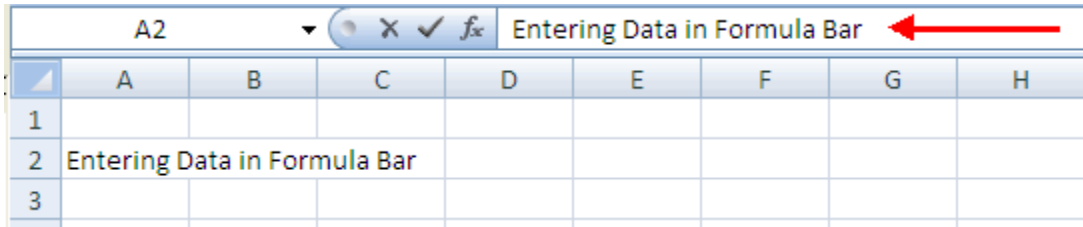
There are different ways to enter data in Excel: in an active cell or in the formula bar. To enter data in an active cell:

- Click in the **cell** where you want the data
- Begin typing

	A	B	C	D
1				
2	Cell A2 data			
3				
4				
5				
6				

To enter data into the **formula bar**

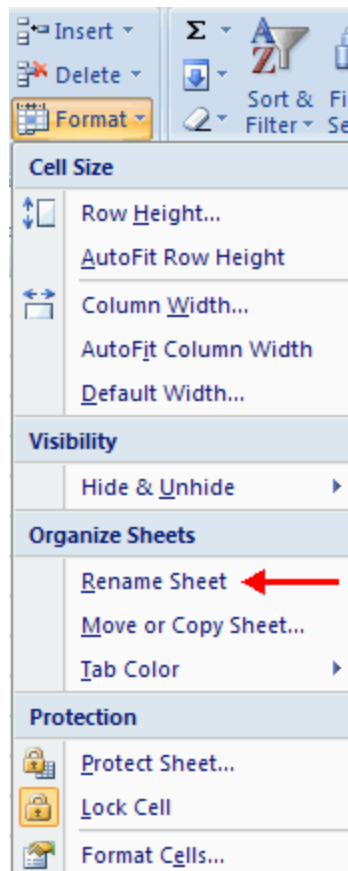
- Click the cell where you would like the data
- Place the cursor in the **Formula Bar**
- Type in the data



Format Worksheet Tab

You can rename a worksheet or change the color of the tabs to meet your needs. To rename a worksheet:

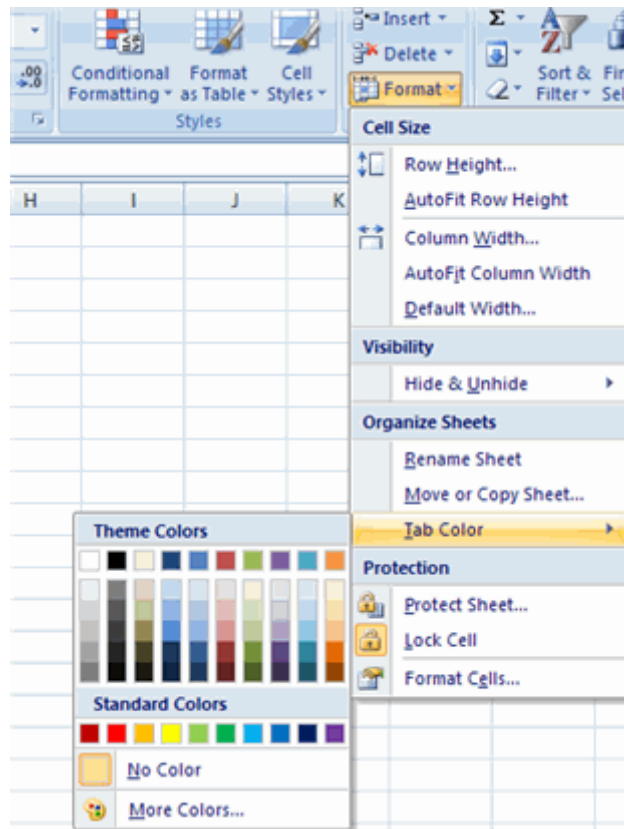
- Open the sheet to be renamed
- Click the **Format** button on the **Home** tab
- Click **Rename** sheet
- Type in a new name
- Press **Enter**



To change the color of a worksheet tab:

- Open the sheet to be renamed
- Click the **Format** button on the **Home** tab

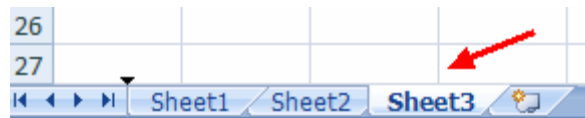
- Click **Tab** Color
- Click the color



Reposition Worksheets in a Workbook

To move worksheets in a workbook:

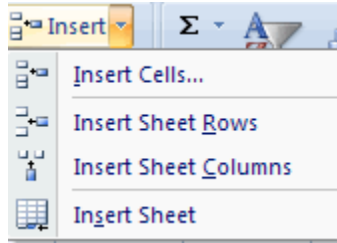
- Open the workbook that contains the sheets you want to rearrange
- **Click and hold** the worksheet tab that will be moved until an arrow appears in the left corner of the sheet
- **Drag** the worksheet to the desired location



Insert and Delete Worksheets

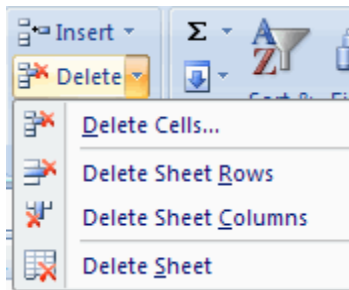
To insert a worksheet

- Open the workbook
- Click the **Insert** button on the **Cells** group of the **Home** tab
- Click **Insert Sheet**



To delete a worksheet

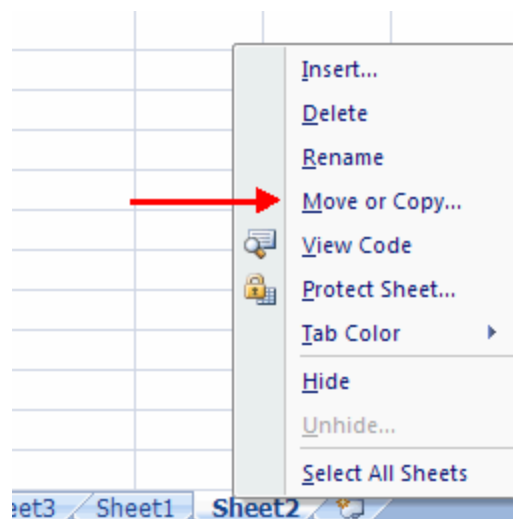
- Open the workbook
- Click the **Delete** button on the **Cells** group of the **Home** tab
- Click **Delete Sheet**



Copy and Paste Worksheets:

To copy and paste a worksheet:

- Click the tab of the worksheet to be copied
- **Right click** and choose **Move** or **Copy**
- Choose the desired position of the sheet
- Click the check box next to **Create a Copy**
- Click **OK**



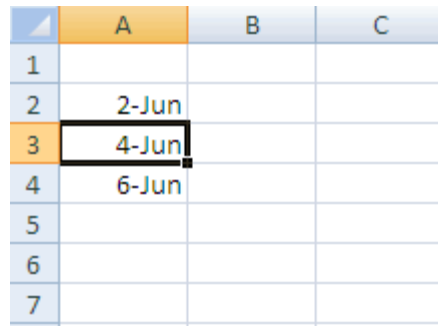
WORKING WITH DATA

Excel allows you to move, copy, and paste cells and cell content through cutting and pasting and copying and pasting.

Select Data

To select a cell or data to be copied or cut:

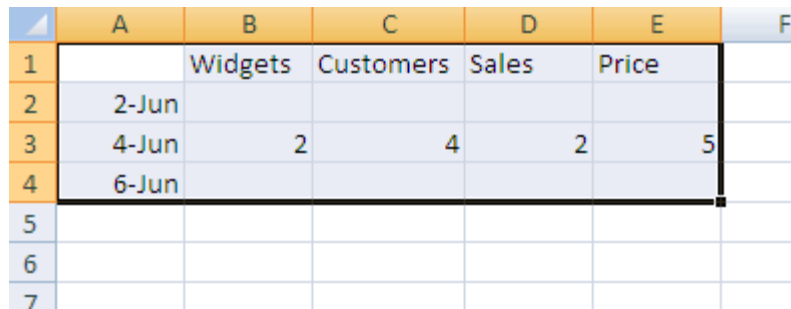
- Click the **cell**



An Excel spreadsheet with columns A, B, and C, and rows 1 through 7. The cell containing '4-Jun' in row 3, column A is selected, indicated by a thick black border and a small black square in the bottom-right corner of the cell.

	A	B	C
1			
2	2-Jun		
3	4-Jun		
4	6-Jun		
5			
6			
7			

- Click and drag the cursor to select many cells in a range

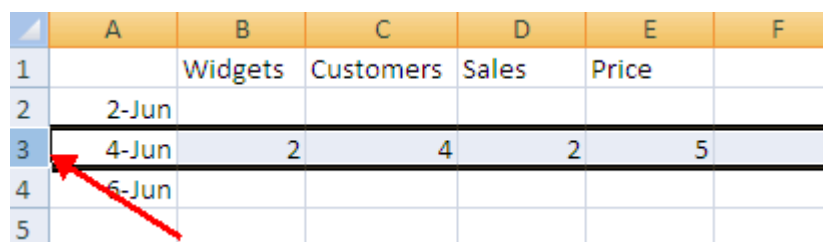


An Excel spreadsheet with columns A through F, and rows 1 through 7. A range of cells from row 2 to row 4, column A to column E is selected, indicated by a thick black border around the entire range.

	A	B	C	D	E	F
1		Widgets	Customers	Sales	Price	
2	2-Jun					
3	4-Jun	2	4	2	5	
4	6-Jun					
5						
6						
7						

Select a Row or Column

To select a row or column click on the **row** or **column header**.



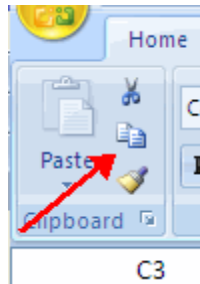
An Excel spreadsheet with columns A through F, and rows 1 through 5. Row 3 is selected, indicated by a thick black border around the entire row. A red arrow points to the row header '3' in column A.

	A	B	C	D	E	F
1		Widgets	Customers	Sales	Price	
2	2-Jun					
3	4-Jun	2	4	2	5	
4	6-Jun					
5						

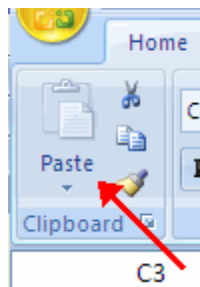
Copy and Paste

To copy and paste data:

- Select the cell(s) that you wish to copy
- On the **Clipboard** group of the **Home** tab, click **Copy**



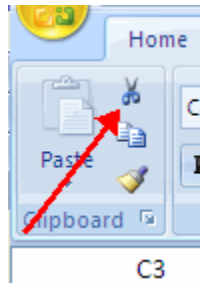
- Select the cell(s) where you would like to copy the data
- On the **Clipboard** group of the **Home** tab, click **Paste**



Cut and Paste

To cut and paste data:

- Select the cell(s) that you wish to copy
- On the **Clipboard** group of the **Home** tab, click **Cut**

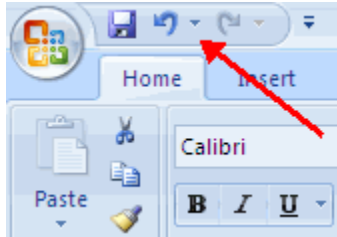


- Select the cell(s) where you would like to copy the data
- On the **Clipboard** group of the **Home** tab, click **Paste**

Undo and Redo

To undo or redo your most recent actions:

- On the **Quick Access Toolbar**
- Click **Undo** or **Redo**



Auto Fill

The Auto Fill feature fills cell data or series of data in a worksheet into a selected range of cells. If you want the same data copied into the other cells, you only need to complete one cell. If you want to have a series of data (for example, days of the week) fill in the first two cells in the series and then use the auto fill feature. To use the Auto Fill feature:

- Click the **Fill Handle**
- Drag the **Fill Handle** to complete the cells

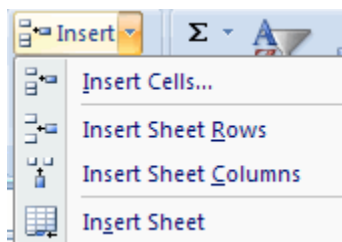
	A	B	C	D
1		Widgets	Customers	Sales
2	2-Jun			
3	4-Jun	2	4	
4	6-Jun			
5				

Modifying the Worksheet

Insert Cells, Rows, and Columns

To insert cells, rows, and columns in Excel:

- Place the cursor in the row below where you want the new row, or in the column to the left of where you want the new column
- Click the **Insert** button on the **Cells** group of the **Home** tab
- Click the appropriate choice: **Cell, Row, or Column**

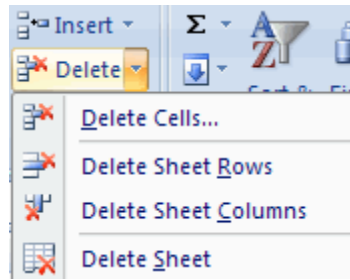


Delete Cells, Rows and Columns

To delete cells, rows, and columns:

- Place the cursor in the cell, row, or column that you want to delete

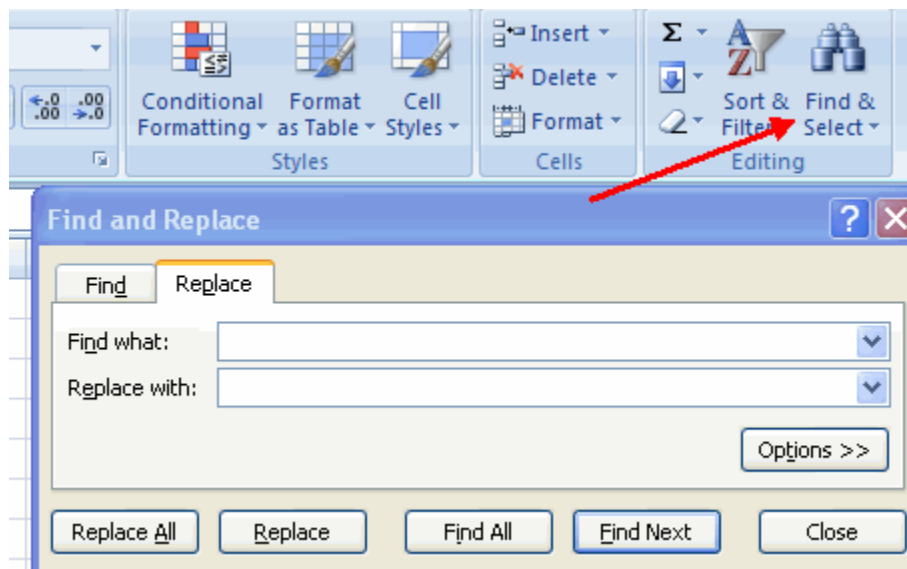
- Click the **Delete** button on the **Cells** group of the **Home** tab
- Click the appropriate choice: **Cell, Row, or Column**



Find and Replace

To find data or find and replace data:

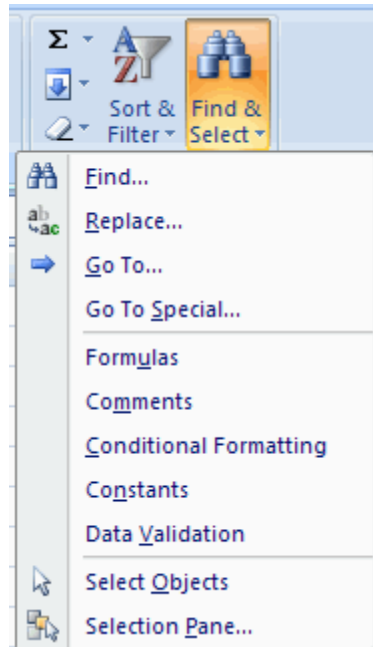
- Click the **Find & Select** button on the **Editing** group of the **Home** tab
- Choose **Find** or **Replace**
- Complete the **Find What** text box
- Click on **Options** for more search options



Go To Command

The Go To command takes you to a specific cell either by cell reference (the Column Letter and the Row Number) or cell name.

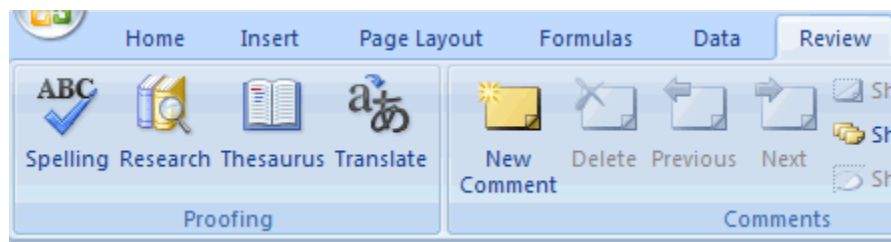
- Click the **Find & Select** button on the **Editing** group of the **Home** tab
- Click **Go To**



Spell Check

To check the spelling:

- On the **Review** tab click the **Spelling** button



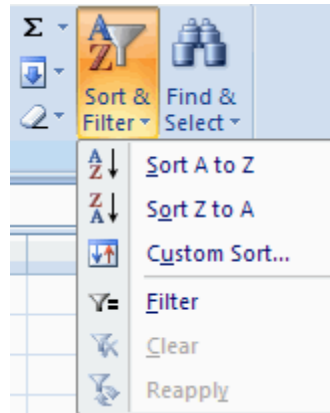
SORT AND FILTER

Sorting and Filtering allow you to manipulate data in a worksheet based on given set of criteria.

Basic Sorts

To execute a basic descending or ascending sort based on one column:

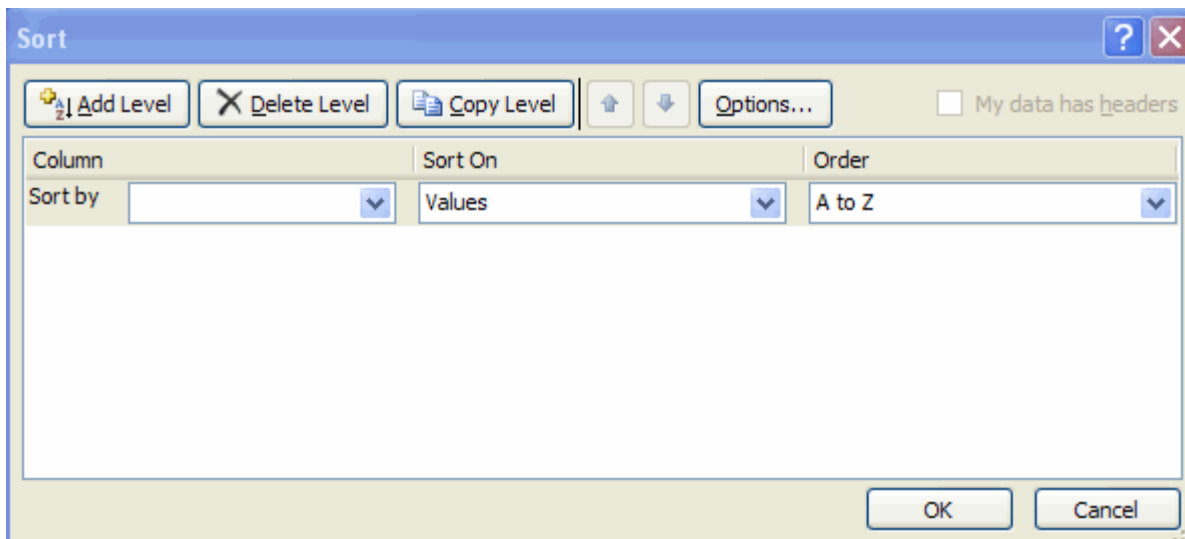
- Highlight the cells that will be sorted
- Click the **Sort & Filter** button on the **Home** tab
- Click the **Sort Ascending** (A-Z) button or **Sort Descending** (Z-A) button



Custom Sorts

To sort on the basis of more than one column:

- Click the **Sort & Filter** button on the **Home** tab
- Choose which column you want to sort by first
- Click **Add Level**
- Choose the next column you want to sort
- Click **OK**

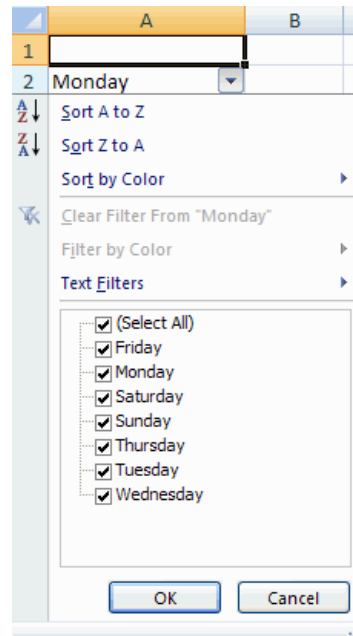
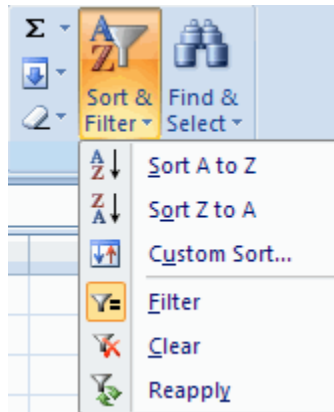


Filtering

Filtering allows you to display only data that meets certain criteria. To filter:

- Click the column or columns that contain the data you wish to filter
- On the **Home** tab, click on **Sort & Filter**
- Click **Filter** button
- Click the **Arrow** at the bottom of the first cell Click the **Text Filter**
- Click the **Words** you wish to Filter To clear the filter click the **Sort & Filter** button

- Click **Clear**

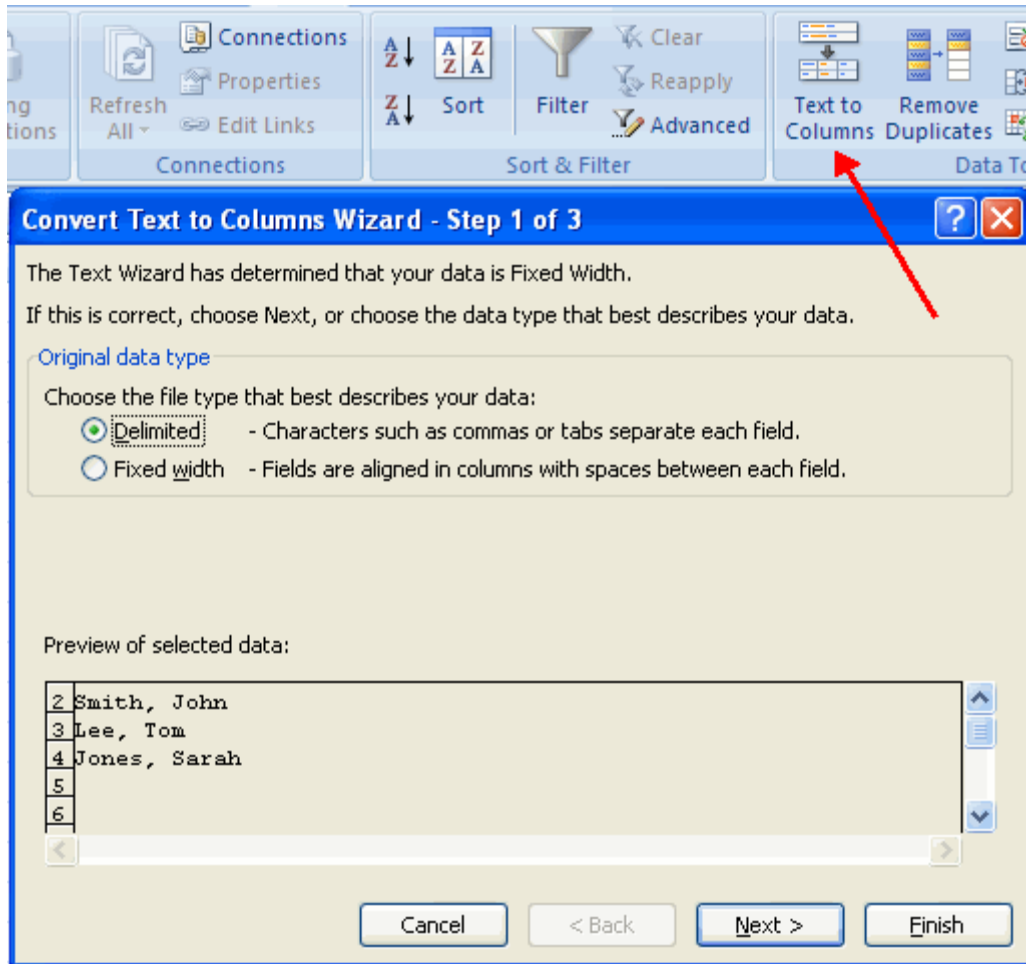


FORMATTING WORKSHEET

Convert Text to Columns

Sometimes you will want to split data in one cell into two or more cells. You can do this easily by utilizing the Convert Text to Columns Wizard.

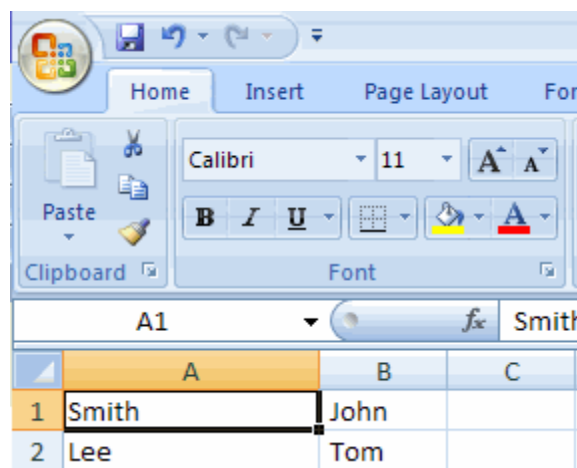
- Highlight the column in which you wish to split the data
- Click the **Text to Columns** button on the **Data** tab
- Click **Delimited** if you have a comma or tab separating the data, or click fixed widths to set the data separation at a specific size.



Modify Fonts

Modifying fonts in Excel will allow you to emphasize titles and headings. To modify a font:

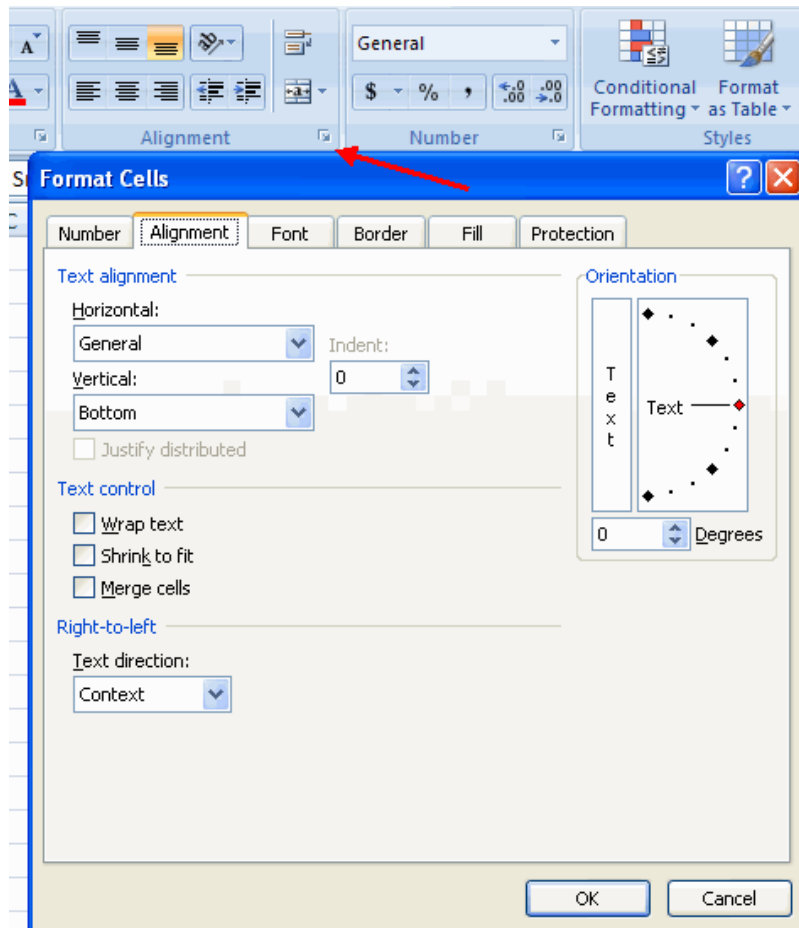
- Select the cell or cells that you would like the font applied
- On the **Font** group on the **Home** tab, choose the font type, size, bold, italics, underline, or color



Format Cells Dialog Box

In Excel, you can also apply specific formatting to a cell. To apply formatting to a cell or group of cells:

- Select the cell or cells that will have the formatting
- Click the **Dialog Box** arrow on the **Alignment** group of the **Home** tab



There are several tabs on this dialog box that allow you to modify properties of the cell or cells.

Number: Allows for the display of different number types and decimal places

Alignment: Allows for the horizontal and vertical alignment of text, wrap text, shrink text, merge cells and the direction of the text.

Font: Allows for control of font, font style, size, color, and additional features

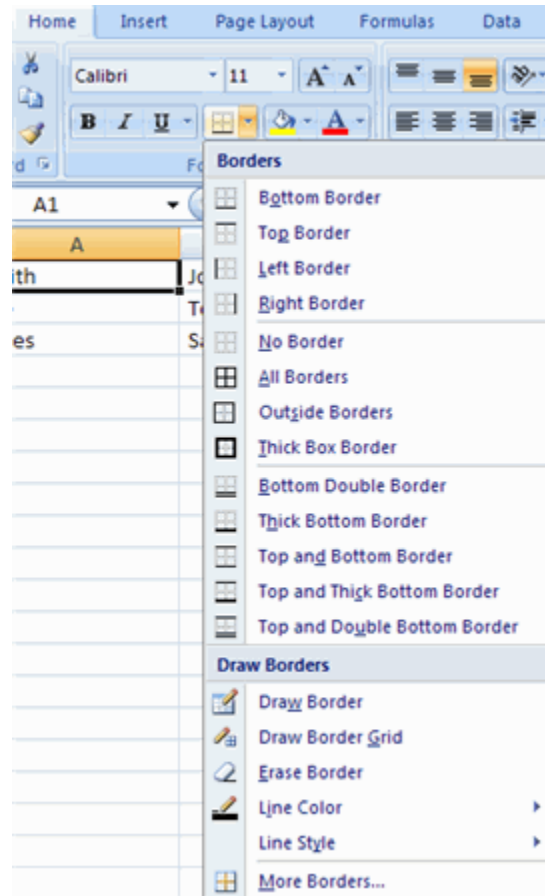
Border: Border styles and colors

Fill: Cell fill colors and styles

Add Borders and Colors to Cells

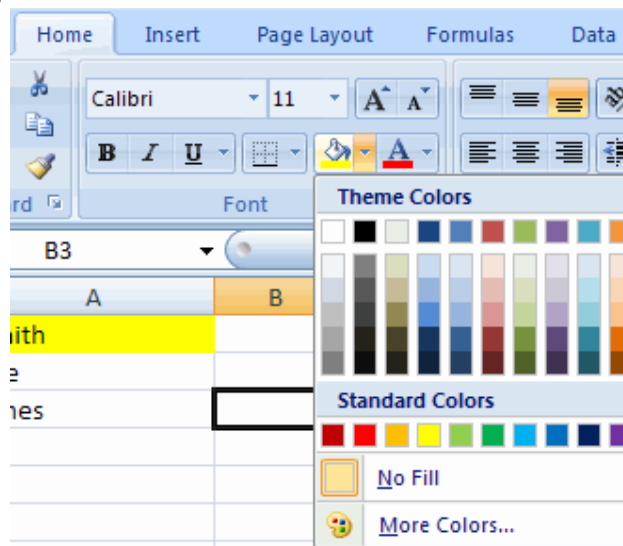
Borders and colors can be added to cells manually or through the use of styles. To add borders manually:

- Click the **Borders** drop down menu on the **Font** group of the **Home** tab
- Choose the appropriate border



To apply colors manually:

- Click the **Fill** drop down menu on the **Font** group of the **Home** tab
- Choose the appropriate color



To apply borders and colors using styles:

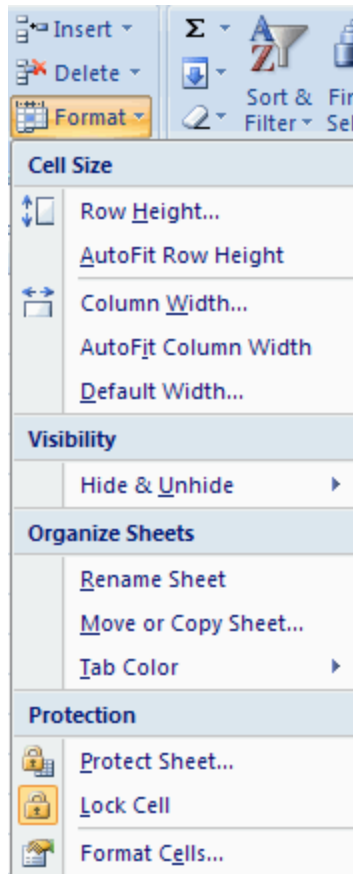
- Click **Cell Styles** on the **Home** tab
- Choose a style or click **New Cell Style**



Change Column Width and Row Height

To change the width of a column or the height of a row:

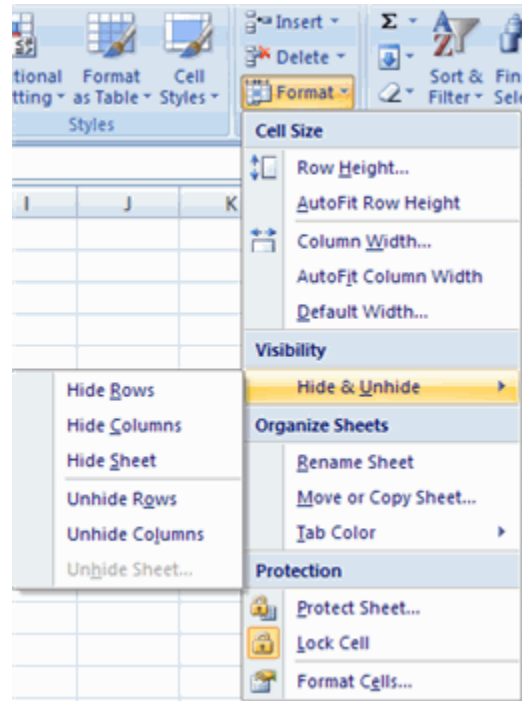
- Click the **Format** button on the **Cells** group of the **Home** tab
- Manually adjust the height and width by clicking **Row Height** or **Column Width**
- To use **AutoFit** click **AutoFit Row Height** or **AutoFit Column Width**



Hide or Unhide Rows or Columns

To hide or unhide rows or columns:

- Select the row or column you wish to hide or unhide
- Click the **Format** button on the **Cells** group of the **Home** tab
- Click **Hide & Unhide**



Merge Cells

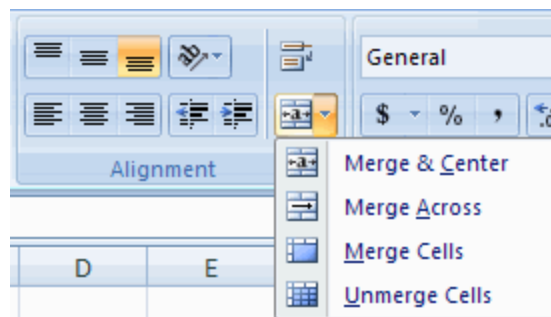
To merge cells select the cells you want to merge and click the **Merge & Center** button on the **Alignment** group of the **Home** tab. The four choices for merging cells are:

Merge & Center: Combines the cells and centers the contents in the new, larger cell

Merge Across: Combines the cells across columns without centering data

Merge Cells: Combines the cells in a range without centering

Unmerge Cells: Splits the cell that has been merged



Align Cell Contents

To align cell contents, click the cell or cells you want to align and click on the options within the **Alignment** group on the **Home** tab. There are several options for alignment of cell contents:

Top Align: Aligns text to the top of the cell

Middle Align: Aligns text between the top and bottom of the cell

Bottom Align: Aligns text to the bottom of the cell

Align Text Left: Aligns text to the left of the cell

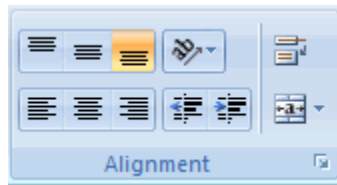
Center: Centers the text from left to right in the cell

Align Text Right: Aligns text to the right of the cell

Decrease Indent: Decreases the indent between the left border and the text

Increase Indent: Increase the indent between the left border and the text

Orientation: Rotate the text diagonally or vertically

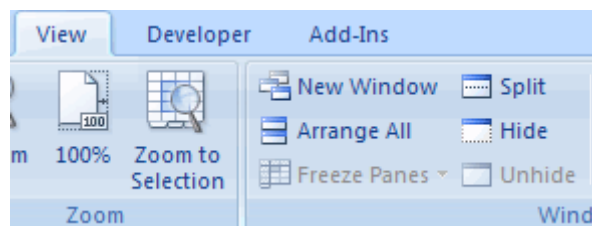


CUSTOMIZE PAGE LAYOUT

Split a Worksheet

You can split a worksheet into multiple resizable panes for easier viewing of parts of a worksheet. To split a worksheet:

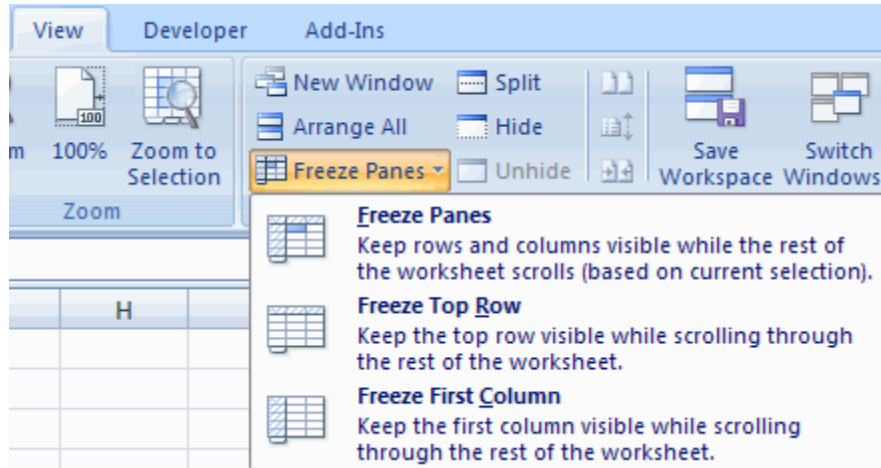
- Select any cell in center of the worksheet you want to split
- Click the **Split** button on the **View** tab
- Notice the split in the screen, you can manipulate each part separately



Freeze Rows and Columns

You can select a particular portion of a worksheet to stay static while you work on other parts of the sheet. This is accomplished through the Freeze Rows and Columns Function. To Freeze a row or column:

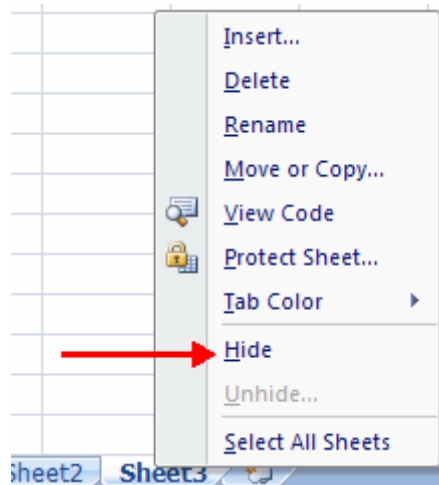
- Click the **Freeze Panes** button on the **View** tab
- Either select a section to be frozen or click the defaults of top row or left column
- To unfreeze, click the **Freeze Panes** button
- Click **Unfreeze**



Hide Worksheets

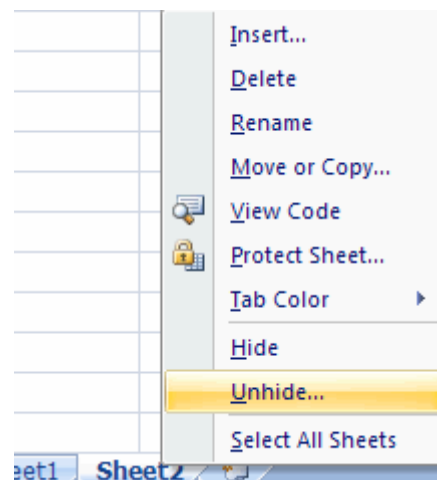
To hide a worksheet:

- Select the tab of the sheet you wish to hide
- **Right-click** on the tab
- Click **Hide**



To unhide a worksheet:

- **Right-click** on any worksheet tab
- Click **Unhide**
- Choose the worksheet to unhide

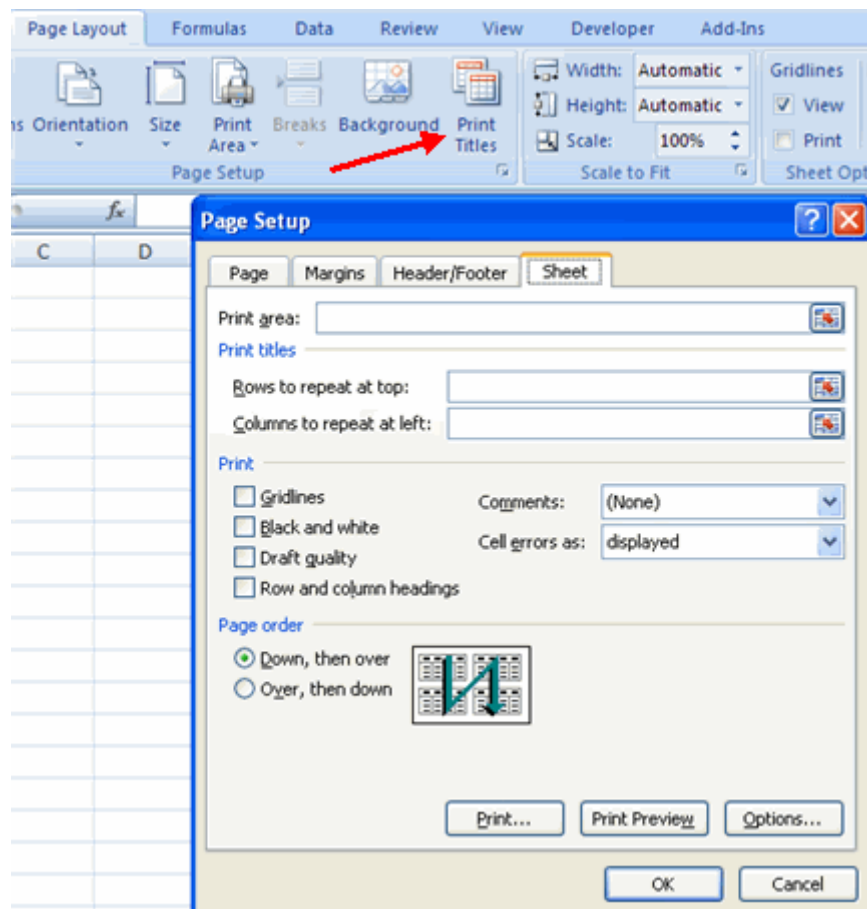


PAGE PROPERTIES AND PRINTING

Set Print Titles

The print titles function allows you to repeat the column and row headings at the beginning of each new page to make reading a multiple page sheet easier to read when printed. To Print Titles:

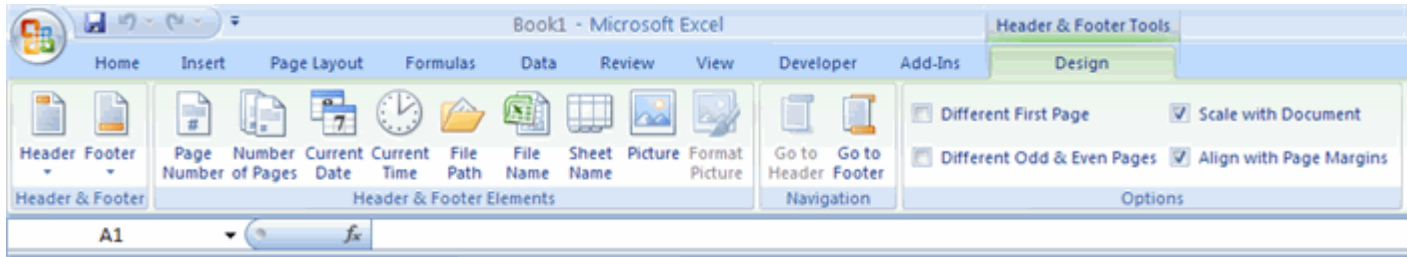
- Click the **Page Layout** tab on the Ribbon
- Click the **Print Titles** button
- In the **Print Titles** section, click the box to select the rows/columns to be repeated
- Select the row or column
- Click the **Select Row/Column Button**
- Click OK



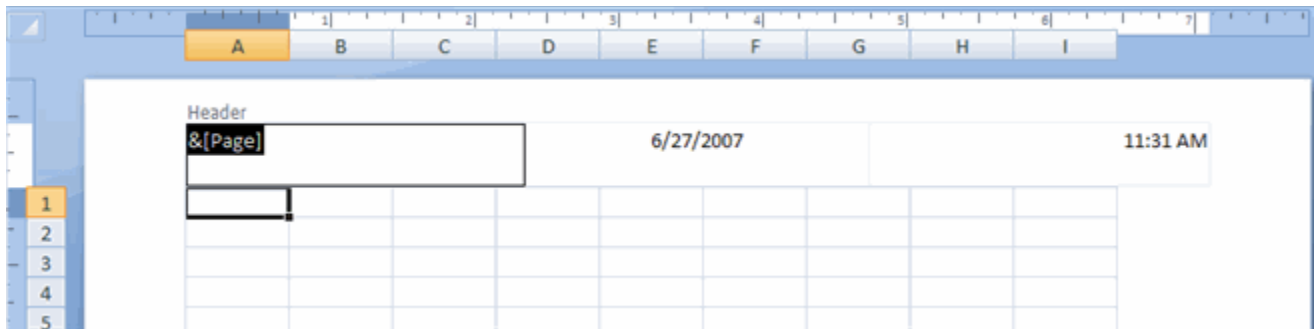
Create a Header or Footer

To create a header or footer:

- Click the **Header & Footer** button on the **Insert** tab
- This will display the **Header & Footer Design Tools Tab**
- To switch between the Header and Footer, click the **Go to Header** or **Go to Footer** button



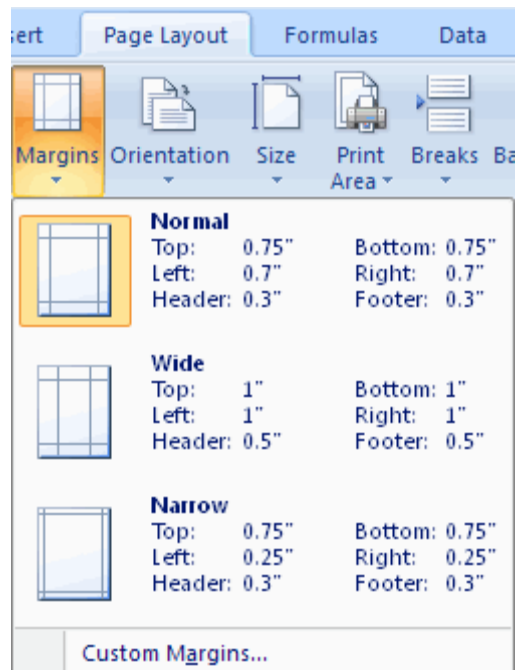
- To insert text, enter the text in the header or footer
- To enter preprogrammed data such as page numbers, date, time, file name or sheet name, click the appropriate button
- To change the location of data, click the desired cell



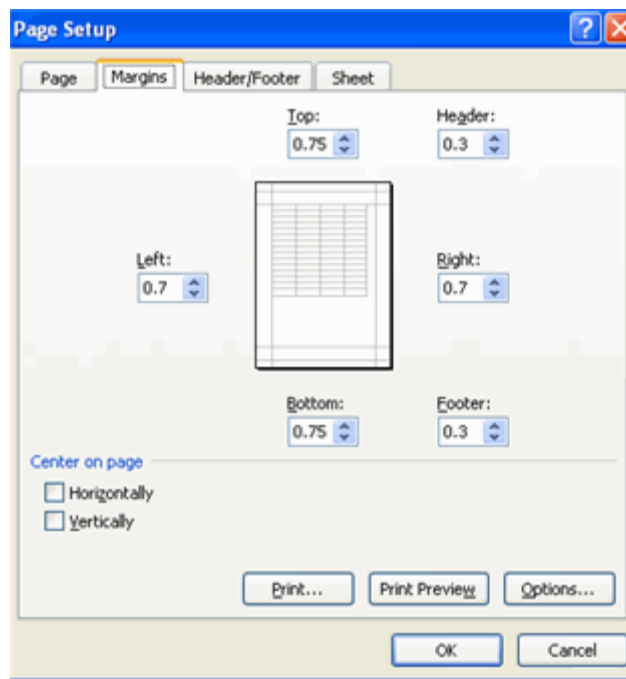
Set Page Margins

To set the page margins:

- Click the **Margins** button on the **Page Layout** tab
- Select one of the give choices, or



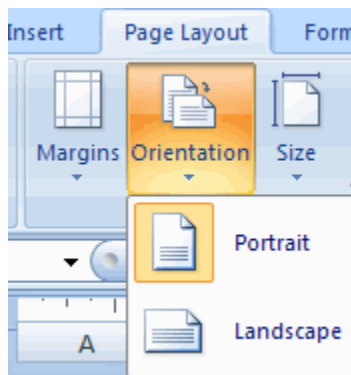
- Click **Custom Margins**
- Complete the boxes to set margins
- Click **Ok**



Change Page Orientation

To change the page orientation from portrait to landscape:

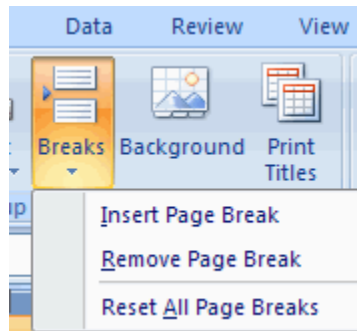
- Click the **Orientation** button on the **Page Layout** tab
- Choose **Portrait** or **Landscape**



Set Page Breaks

You can manually set up page breaks in a worksheet for ease of reading when the sheet is printed. To set a page break:

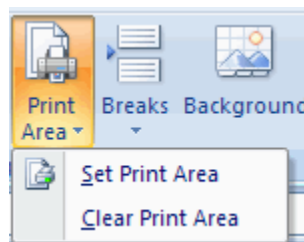
- Click the **Breaks** button on the **Page Layout** tab
- Click **Insert Page Break**



Print a Range

There may be times when you only want to print a portion of a worksheet. This is easily done through the Print Range function. To print a range:

- Select the area to be printed
- Click the **Print Area** button on the **Page Layout** tab
- Click **Select Print Area**



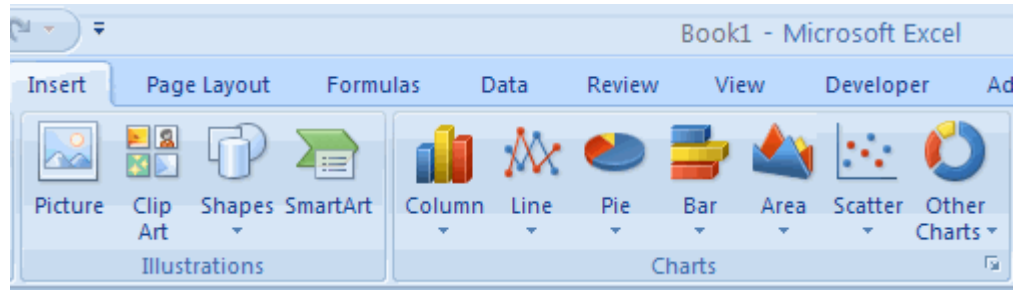
CHARTS

Charts allow you to present information contained in the worksheet in a graphic format. Excel offers many types of charts including: Column, Line, Pie, Bar, Area, Scatter and more. To view the charts available click the Insert Tab on the Ribbon.

Create a Chart

To create a chart:

- Select the **cells** that contain the data you want to use in the chart
- Click the **Insert** tab on the Ribbon
- Click the type of **Chart** you want to create

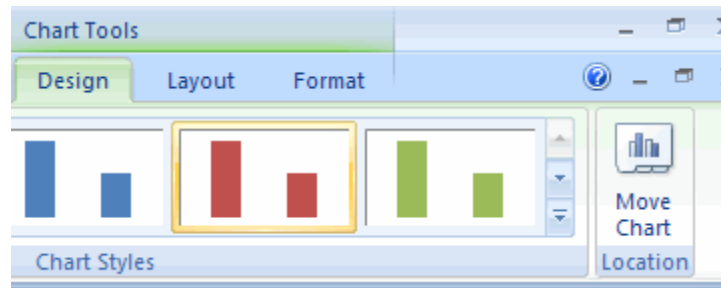


Modify a Chart

Once you have created a chart you can do several things to modify the chart.

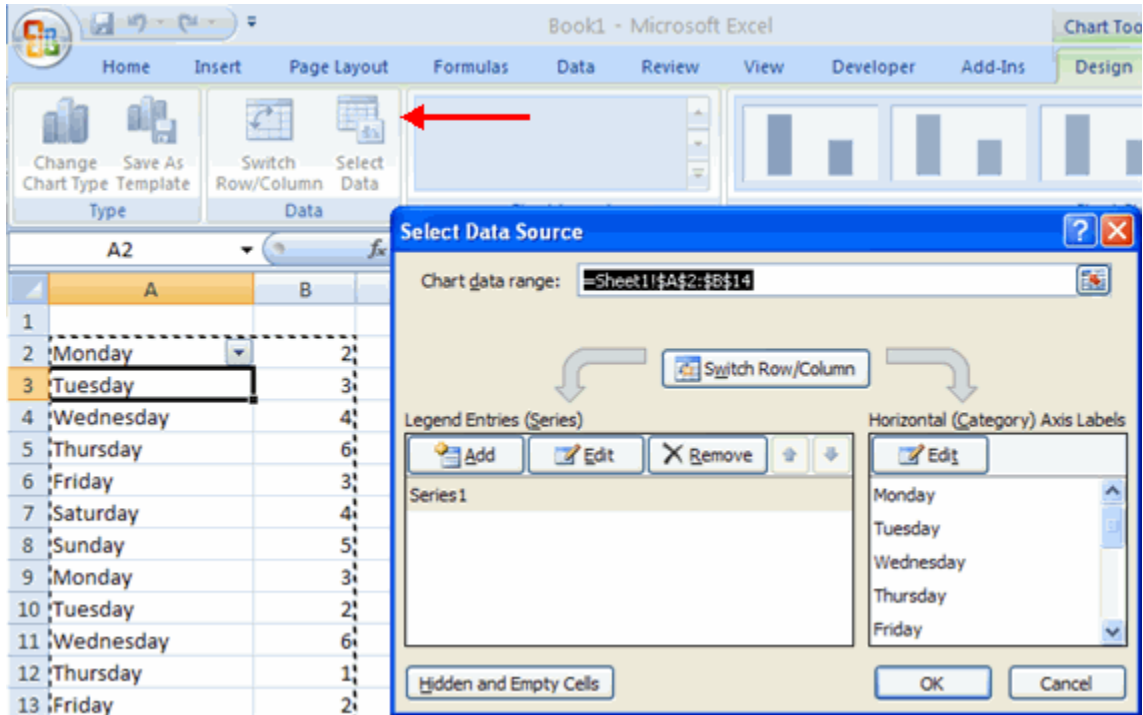
To move the chart:

- Click the **Chart** and **Drag** it another location on the same worksheet, or
- Click the **Move Chart** button on the **Design** tab
- Choose the desired location (either a new sheet or a current sheet in the workbook)



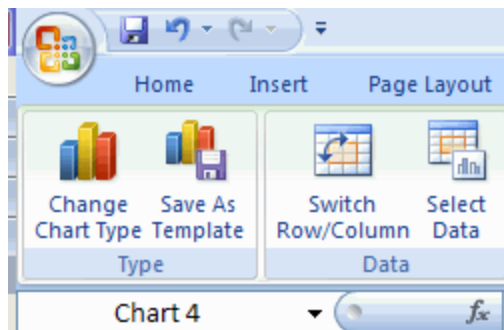
To change the data included in the chart:

- Click the **Chart**
- Click the **Select Data** button on the **Design** tab



To reverse which data are displayed in the rows and columns:

- Click the **Chart**
- Click the **Switch Row/Column** button on the **Design** tab



To modify the labels and titles:

- Click the **Chart**
- On the **Layout** tab, click the **Chart Title** or the **Data Labels** button
- Change the **Title** and click **Enter**

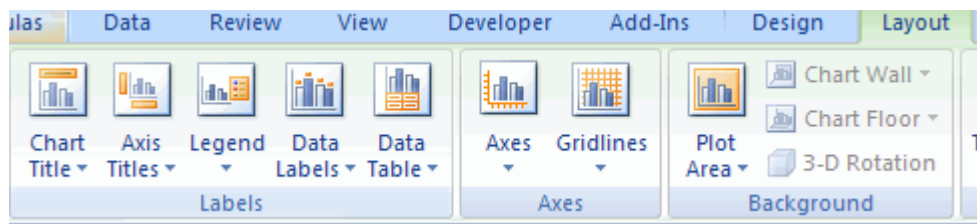
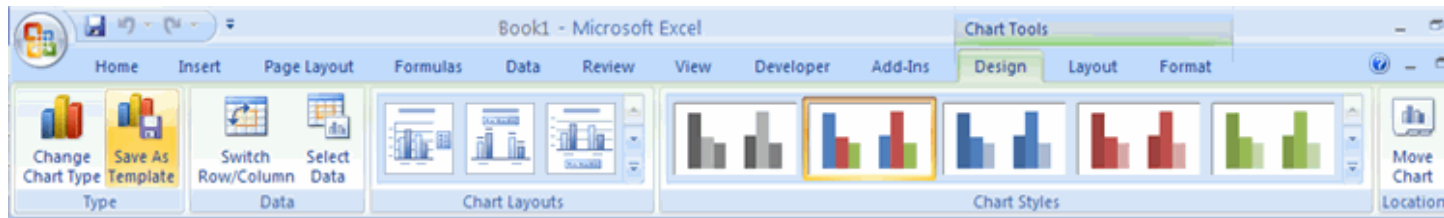


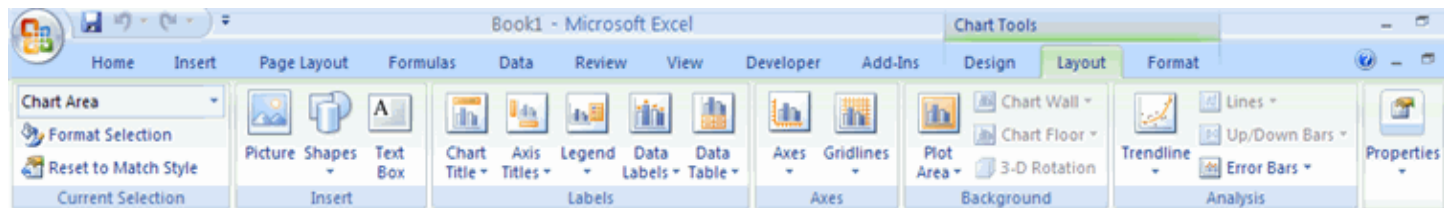
Chart Tools

The Chart Tools appear on the Ribbon when you click on the chart. The tools are located on three tabs: Design, Layout, and Format.

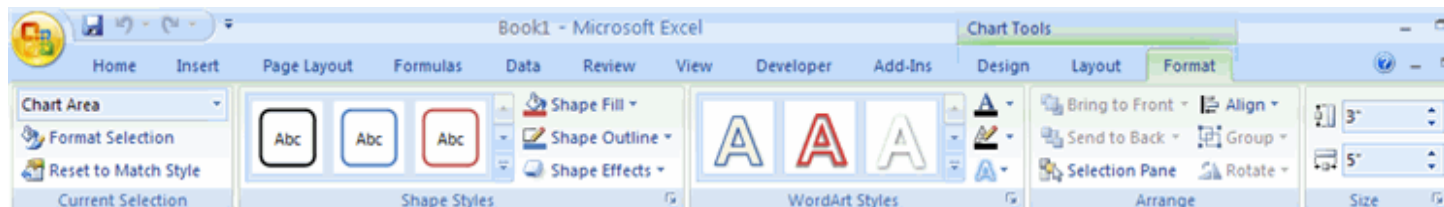
Within the **Design** tab you can control the chart type, layout, styles, and location.



Within the **Layout** tab you can control inserting pictures, shapes and text boxes, labels, axes, background, and analysis.

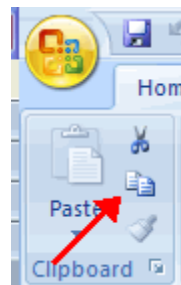


Within the **Format** tab you can modify shape styles, word styles and size of the chart.



Copy a Chart to Word

- Select the **chart**
- Click **Copy** on the **Home** tab
- Go to the **Word** document where you want the chart located
- Click **Paste** on the **Home** tab

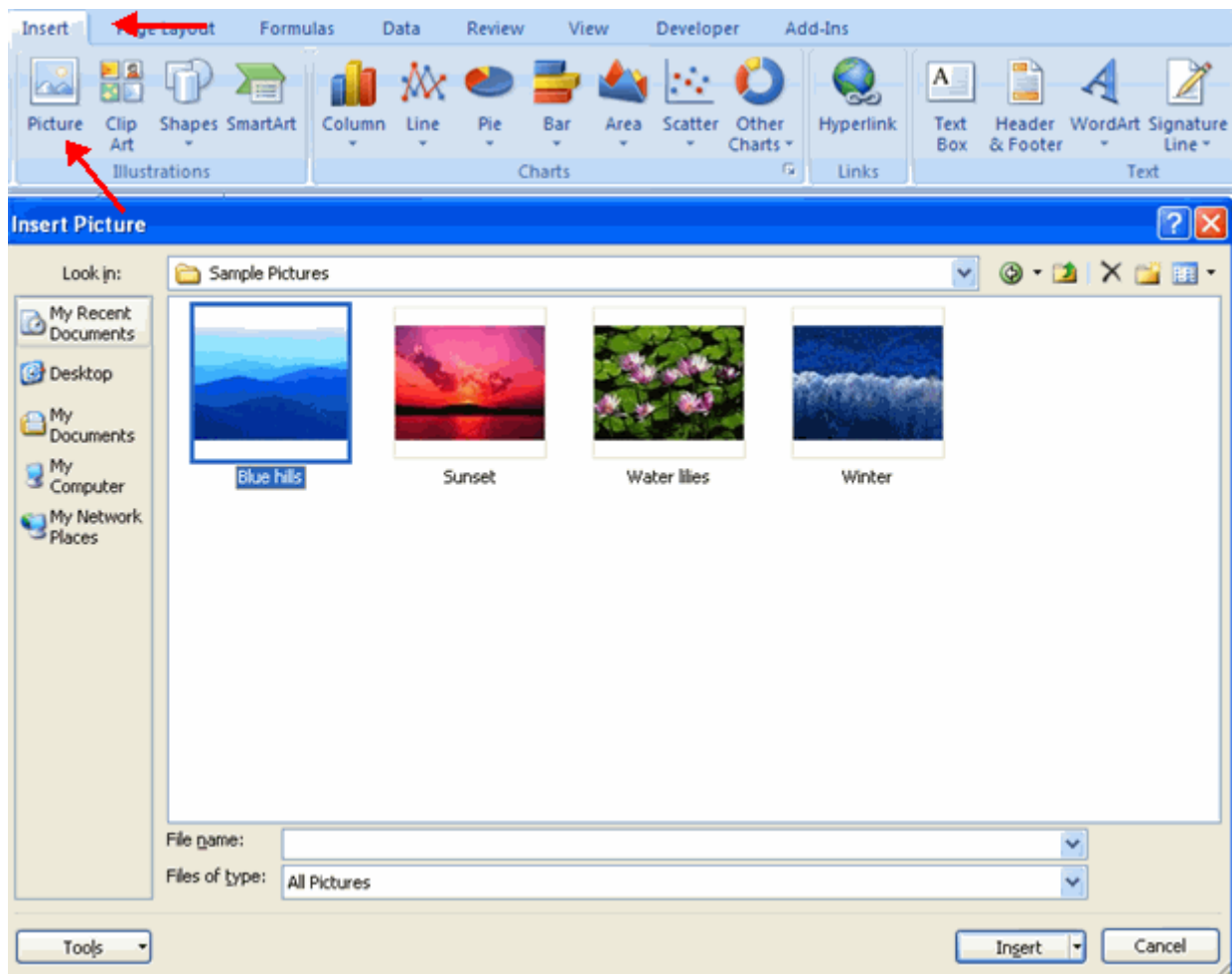


GRAPHICS

Adding a Picture

To add a picture:

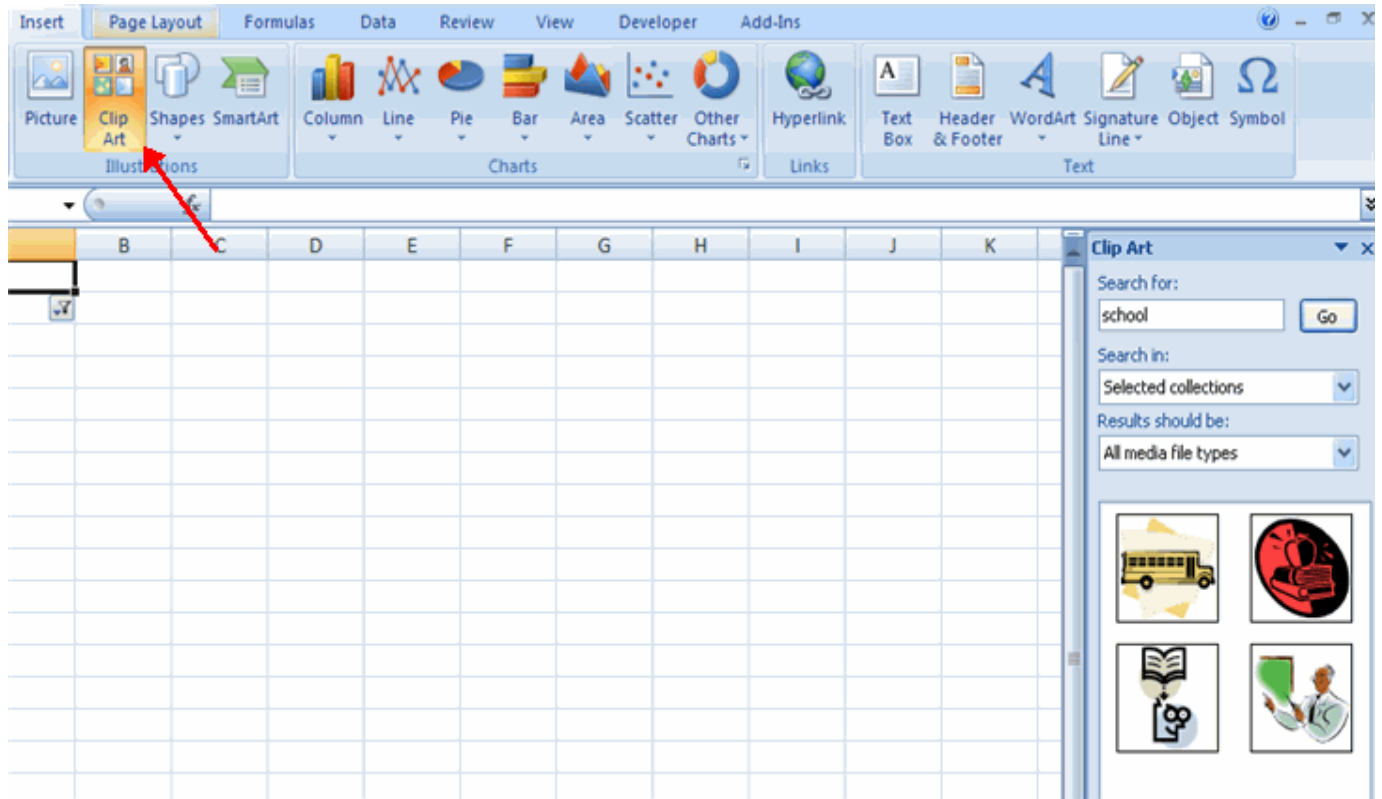
- Click the **Insert** tab
- Click the **Picture** button
- Browse to the picture from your files
- Click the **name** of the picture
- Click **Insert**
- To move the graphic, click it and drag it to where you want it



Adding Clip Art

To add Clip Art:

- Click the **Insert** tab
- Click the **Clip Art** button
- Search for the clip art using the search **Clip Art** dialog box
- Click the **clip art**
- To move the graphic, click it and drag it to where you want it



Editing Pictures and Clip Art

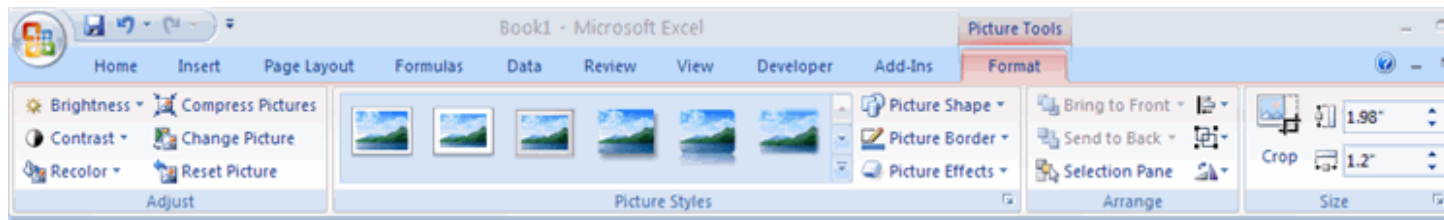
When you add a graphic to the worksheet, an additional tab appears on the Ribbon. The Format tab allows you to format the pictures and graphics. This tab has four groups:

Adjust: Controls the picture brightness, contrast, and colors

Picture Style: Allows you to place a frame or border around the picture and add effects

Arrange: Controls the alignment and rotation of the picture

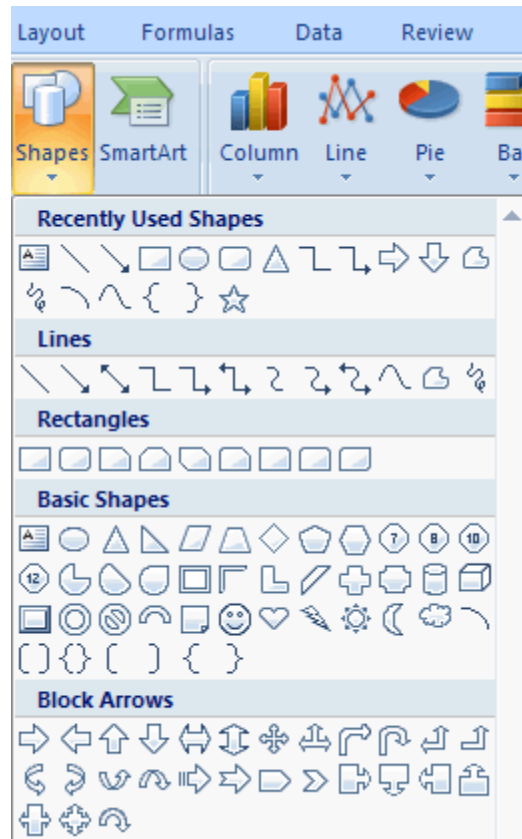
Size: Cropping and size of graphic



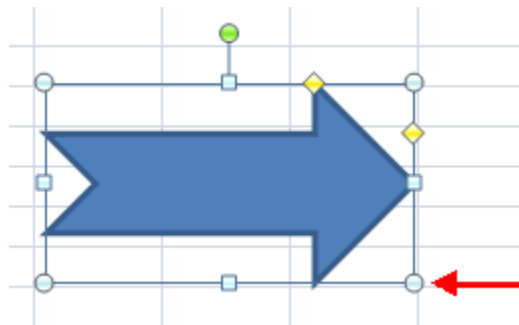
Adding Shapes

To add Shape:

- Click the **Insert** tab
- Click the **Shapes** button
- Click the shape you choose

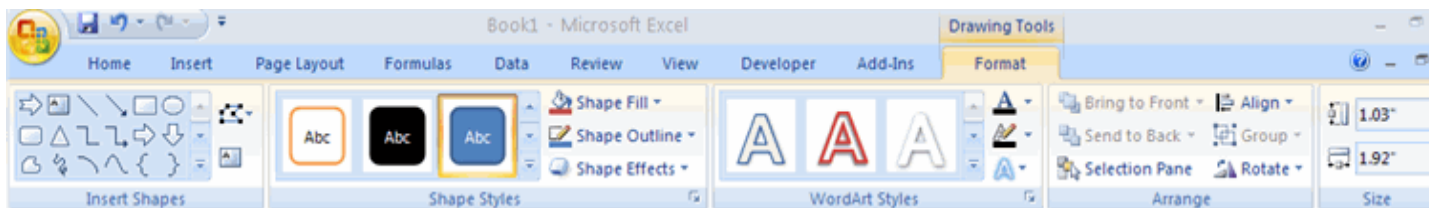


- Click the **Worksheet**
- Drag the cursor to expand the Shape



To format the shapes:

- Click the **Shape**
- Click the **Format** tab



Adding SmartArt

SmartArt is a feature in Office 2007 that allows you to choose from a variety of graphics, including flow charts, lists, cycles, and processes. To add SmartArt:

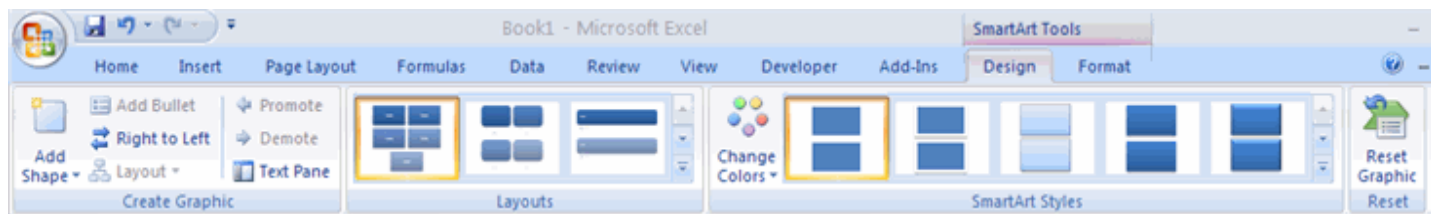
- Click the **Insert** tab
- Click the **SmartArt** button
- Click the **SmartArt** you choose



- Select the **Smart Art**
- Drag it to the desired location in the worksheet

To format the SmartArt:

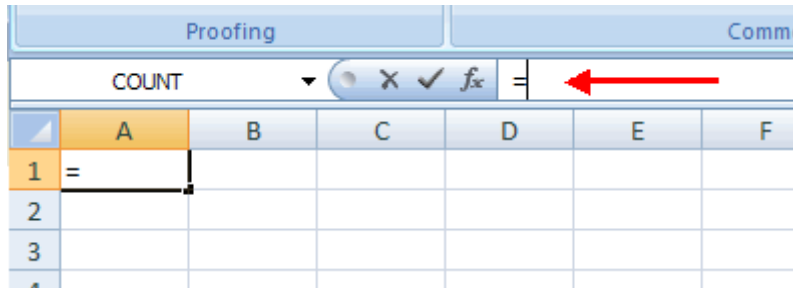
- Select the **SmartArt**
- Click either the **Design** or the **Format** tab
- Click the **SmartArt** to add text and pictures.



CALCULATIONS

Excel Formulas

A formula is a set of mathematical instructions that can be used in Excel to perform calculations. Formals are started in the formula box with an = sign.



There are many elements to and excel formula.

References: The cell or range of cells that you want to use in your calculation

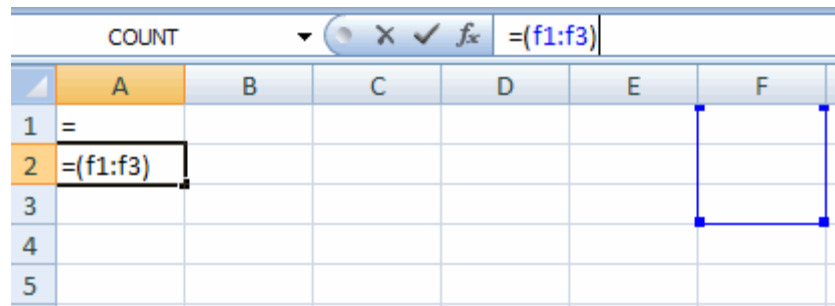
Operators: Symbols (+, -, *, /, etc.) that specify the calculation to be performed

Constants: Numbers or text values that do not change

Functions: Predefined formulas in Excel

To create a basic formula in Excel:

- Select the **cell** for the formula
- Type = (the equal sign) and the **formula**
- Click **Enter**



Calculate with Functions

A function is a built in formula in Excel. A function has a name and arguments (the mathematical function) in parentheses. Common functions in Excel:

Sum: Adds all cells in the argument

Average: Calculates the average of the cells in the argument

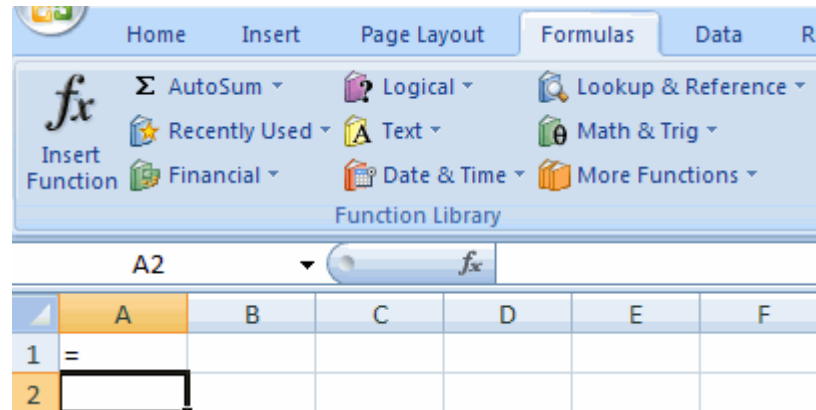
Min: Finds the minimum value

Max: Finds the maximum value

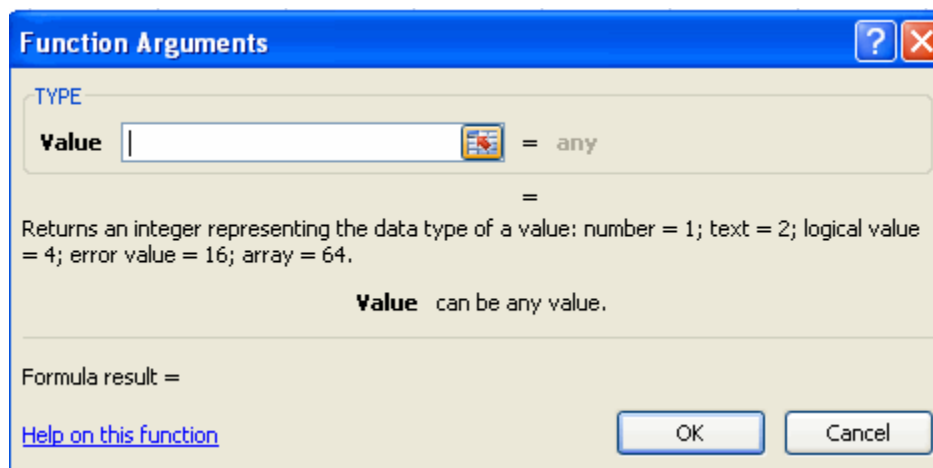
Count: Finds the number of cells that contain a numerical value within a range of the argument

To calculate a function:

- Click the **cell** where you want the function applied
- Click the **Insert Function** button
- Choose the function
- Click **OK**



- Complete the Number 1 box with the first cell in the range that you want calculated
- Complete the Number 2 box with the last cell in the range that you want calculated



Function Library

The function library is a large group of functions on the Formula Tab of the Ribbon. These functions include:

AutoSum: Easily calculates the sum of a range

Recently Used: All recently used functions

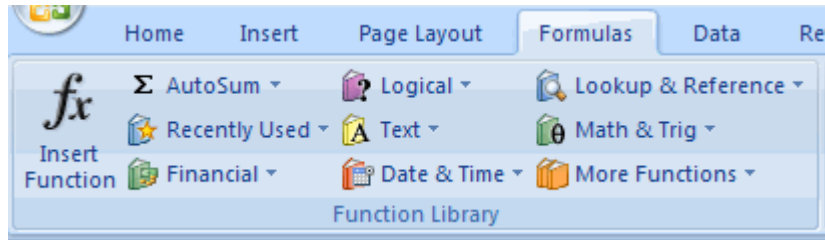
Financial: Accrued interest, cash flow return rates and additional financial functions

Logical: And, If, True, False, etc.

Text: Text based functions

Date & Time: Functions calculated on date and time

Math & Trig: Mathematical Functions



Relative, Absolute and Mixed References

Calling cells by just their column and row labels (such as "A1") is called **relative referencing**. When a formula contains relative referencing and it is copied from one cell to another, Excel does not create an exact copy of the formula. It will change cell addresses relative to the row and column they are moved to. For example, if a simple addition formula in cell C1 " $=A1+B1$ " is copied to cell C2, the formula would change to " $=A2+B2$ " to reflect the new row. To prevent this change, cells must be called by **absolute referencing** and this is accomplished by placing dollar signs "\$" within the cell addresses in the formula. Continuing the previous example, the formula in cell C1 would read " $=\$A\$1+\$B\1 " if the value of cell C2 should be the sum of cells A1 and B1. Both the column and row of both cells are absolute and will not change when copied. **Mixed referencing** can also be used where only the row OR column fixed. For example, in the formula " $=A\$1+\$B2$ ", the row of cell A1 is fixed and the column of cell B2 is fixed.

Linking Worksheets

You may want to use the value from a cell in another worksheet within the same workbook in a formula. For example, the value of cell A1 in the current worksheet and cell A2 in the second worksheet can be added using the format "sheetname!celladdress". The formula for this example would be " $=A1+Sheet2!A2$ " where the value of cell A1 in the current worksheet is added to the value of cell A2 in the worksheet named "Sheet2".