

# **MICROSOFT EXCEL**



# Topics for Discussion

---

- Spreadsheet Basics
- Modifying A Worksheet
- Formatting Cells
- Formulas and Functions
- Sorting and Filling
- Charts
- Page Properties and Printing

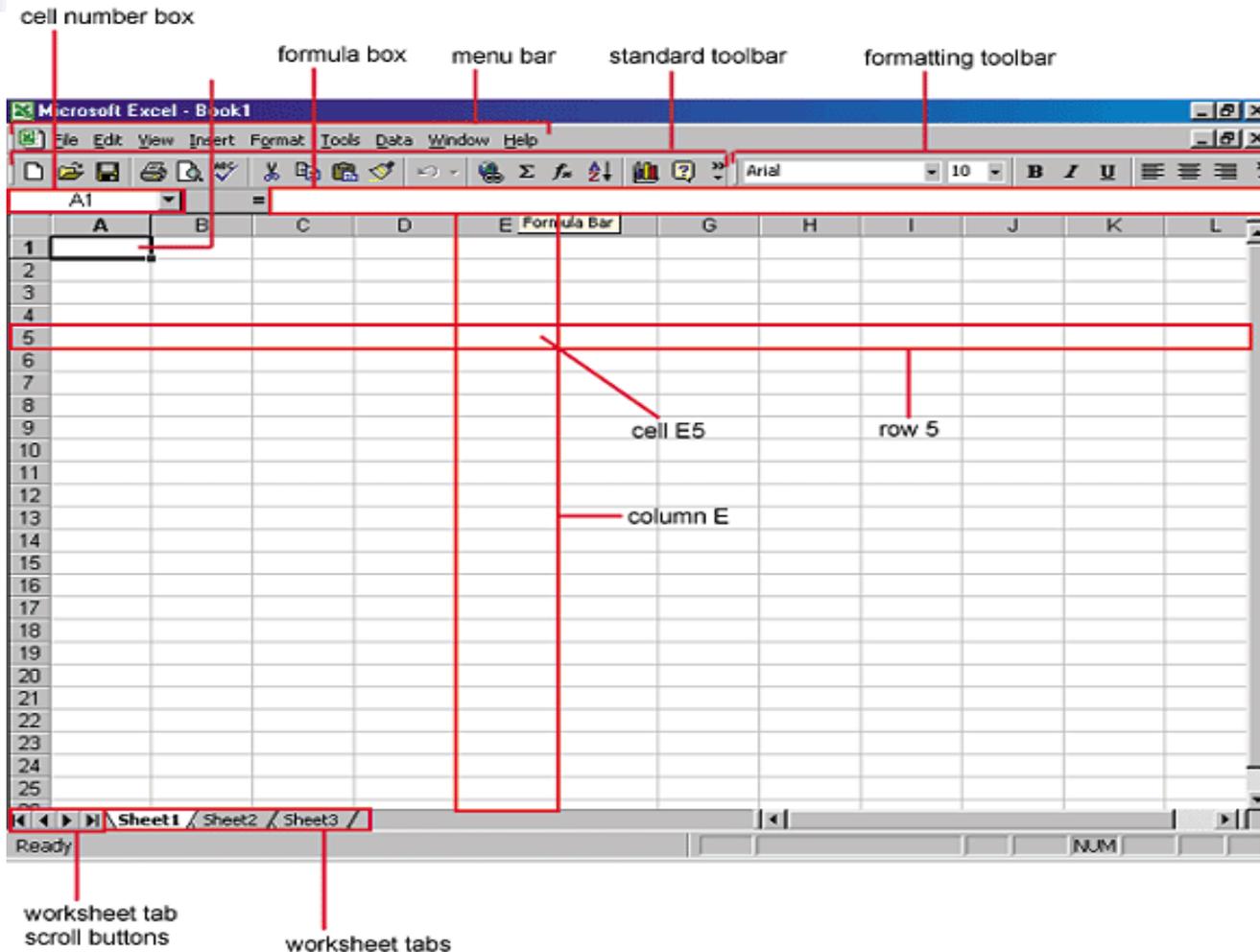


# Spreadsheet Basics

---

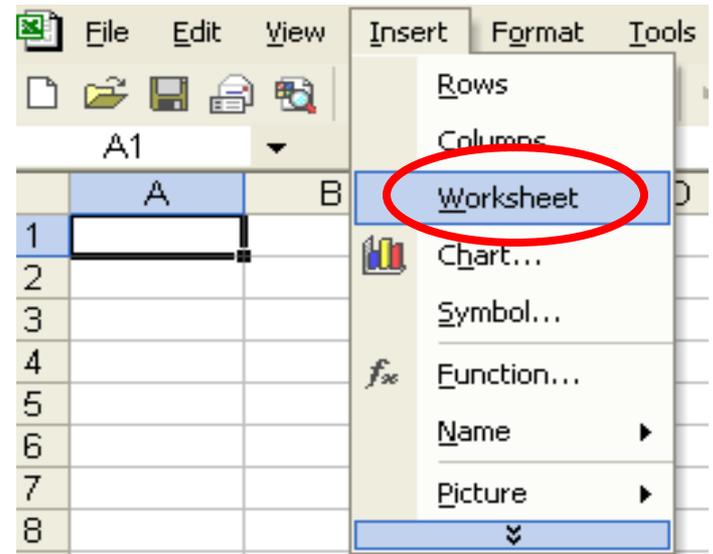
- Excel allows you to create spreadsheets much like paper ledgers that can perform automatic calculations.
- Each Excel file is a **workbook** that can hold many **worksheets**.
- The worksheet is a grid of **columns** (designated by letters) and **rows** (designated by numbers).
- The letters and numbers of the columns and rows (called **labels**) are displayed in gray buttons across the top and left side of the worksheet.
- The intersection of a column and a row is called a **cell**.
- Each cell on the spreadsheet has a **cell address** that is the column letter and the row number.
- Cells can contain either text, numbers, or mathematical formulas.

# Screen Elements



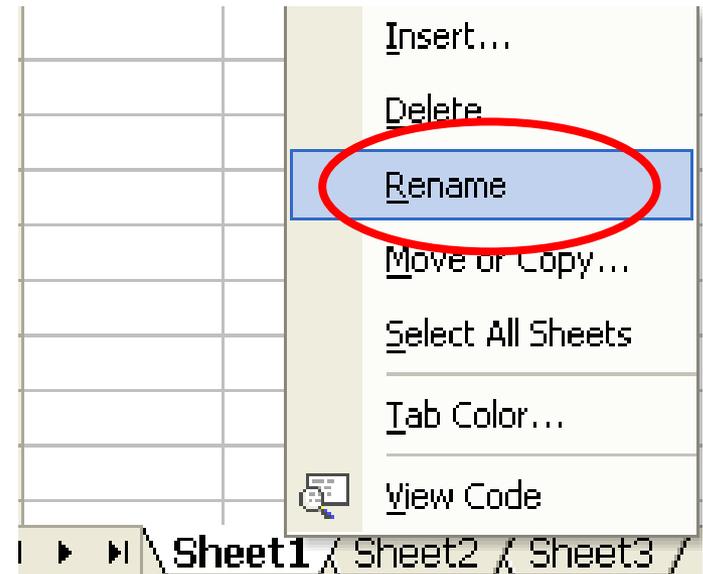
# Adding Worksheets

- The worksheets in a workbook are accessible by clicking the worksheet tabs.
- By default, three worksheets are included in each workbook.
- To add a sheet, select **Insert | Worksheet** from the menu bar .



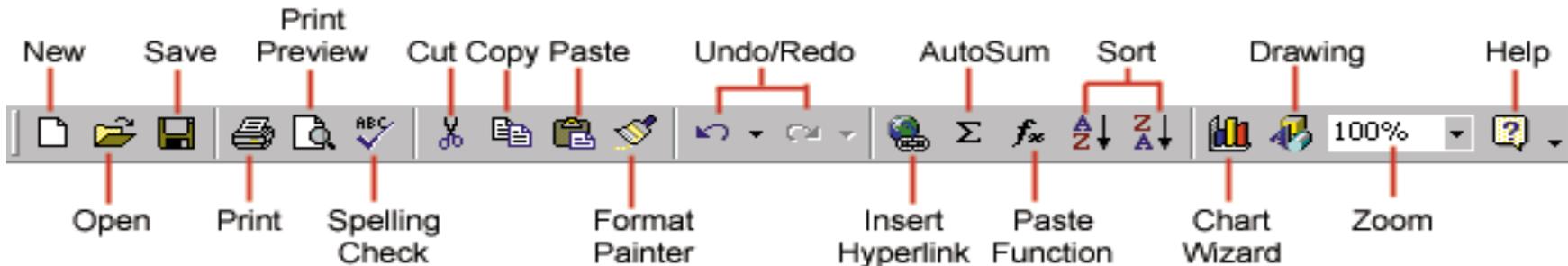
# Renaming Worksheets

- To rename the worksheet tab, right-click on the tab with the mouse and select **Rename** from the shortcut menu.
- Type the new name and press the **ENTER** key.



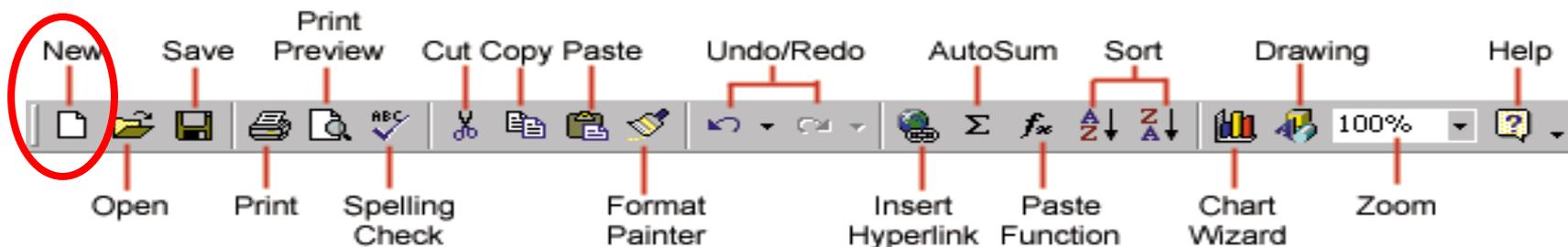
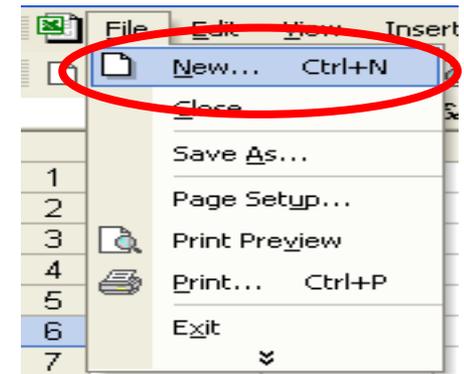
# The Standard Toolbar

- Located just below the menu bar at the top of the screen and allows you to quickly access basic Excel commands.



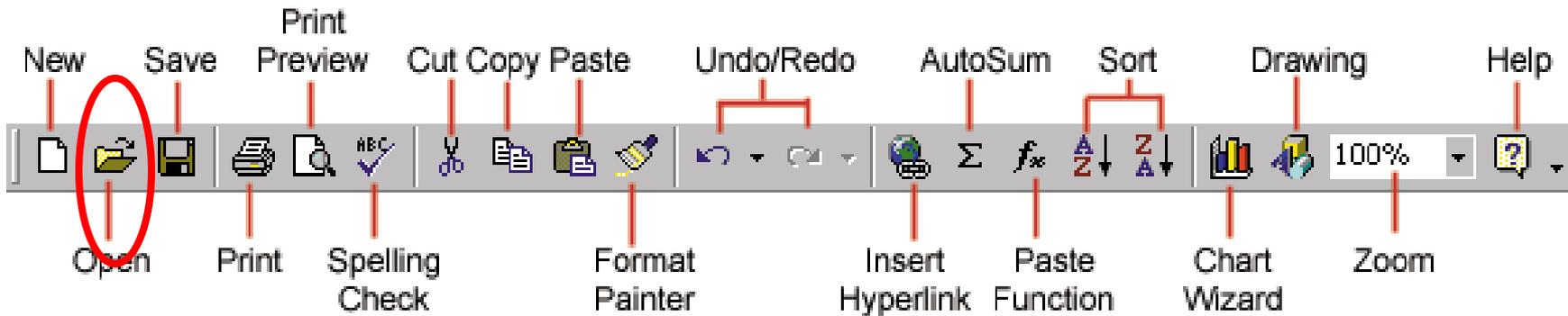
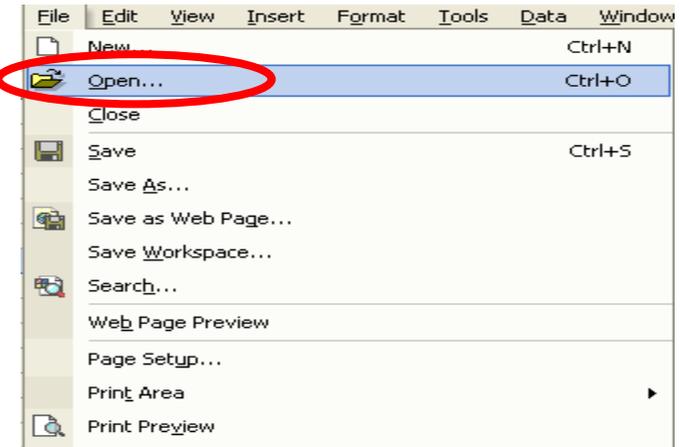
# Creating a new Workbook

- Select **File | New** from the menu bar, press **CTRL+N**, or click the **New** button to create a new workbook.



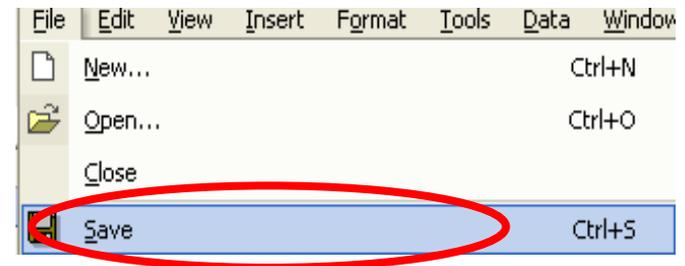
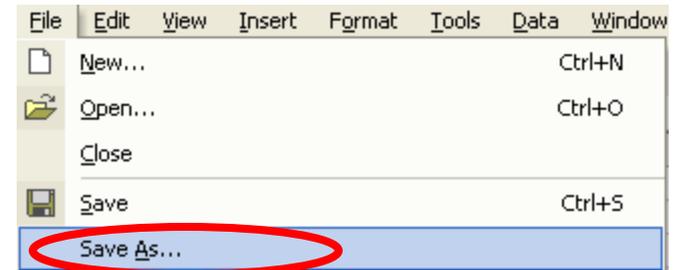
# Opening a Workbook

- Click **File | Open** from the menu bar, press **CTRL+O**, or click the **Open** folder button to open an existing workbook.



# Saving a Workbook

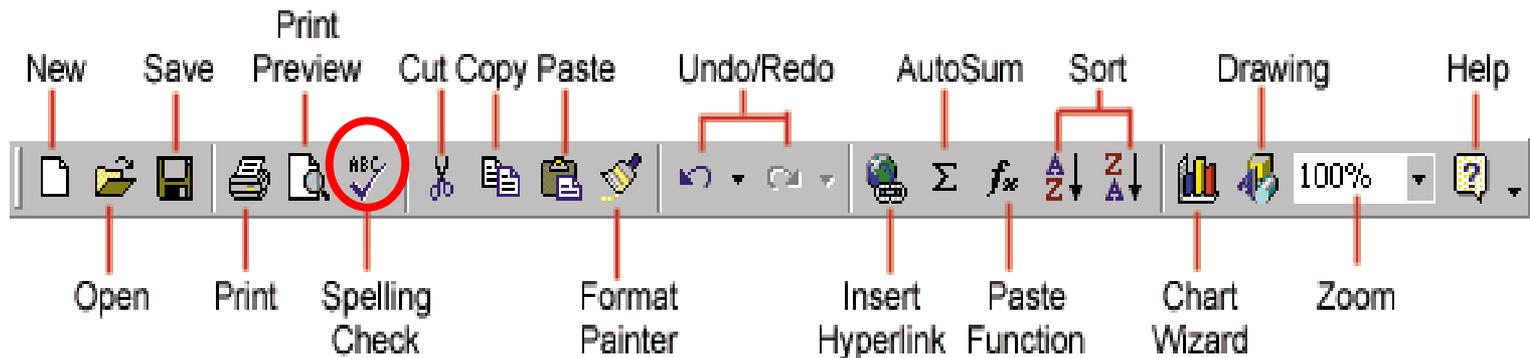
- The first time you save a workbook, select **File | Save As** and name the file.
- After the file is named click **File | Save, CTRL+S**, or the Save button on the standard toolbar.



**Save**

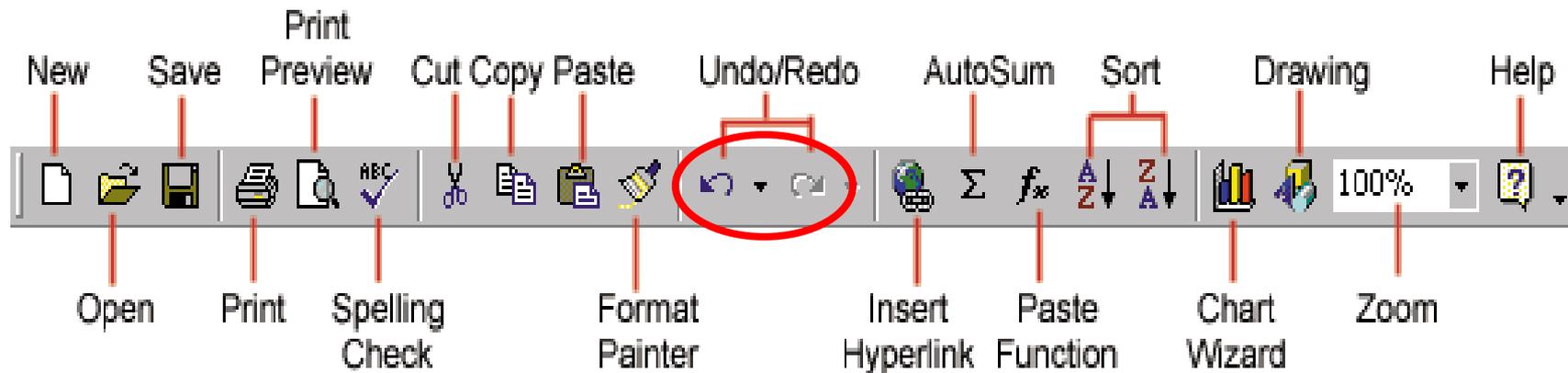
# Spell Check

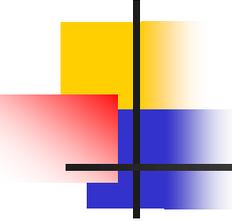
- Use the spell checker to correct spelling errors on the worksheet.



# Undo and Redo Actions

- Click the backward **Undo** arrow to cancel the last action you performed, whether it be entering data into a cell, formatting a cell, entering a function, etc.
- Click the forward **Redo** arrow to cancel the undo action.





# Modifying a Worksheet

---

- Moving Through Cells
- Adding Worksheets, Rows, and Columns
- Resizing Rows and Columns
- Selecting Cells
- Moving and Copying Cells



# Moving Through Cells

---

- Use the mouse to select a cell you want to begin adding data to and use the keyboard strokes listed in the table below to move through the cells of a worksheet.



# Moving Through Cells

---

<b>Movement</b>	<b>Keystroke</b>
One cell up	up arrow key
One cell down	down arrow key or ENTER
One cell left	left arrow key
One cell right	right arrow key or TAB
Top of the worksheet (cell A1)	CTRL+HOME
End of the worksheet (last cell containing data)	CTRL+END
End of the row	CTRL+right arrow key
End of the column	CTRL+down arrow key

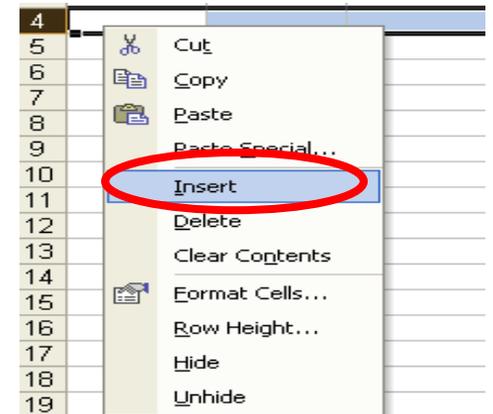
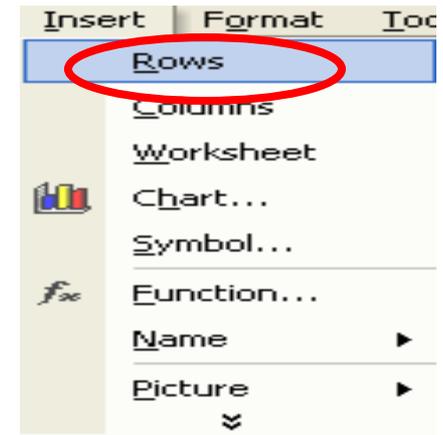
# Adding Worksheet

- Add a worksheet to a workbook by selecting **Insert | Worksheet** from the menu bar.



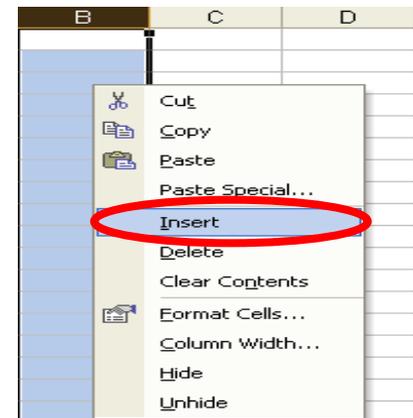
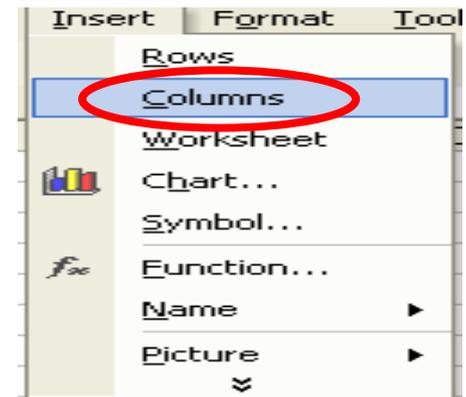
# Adding Rows

- To add a row to a worksheet, select **Insert | Rows** from the menu bar
- -OR -
- Highlight the row by clicking on the row label, right-click with the mouse, and choose **Insert**.



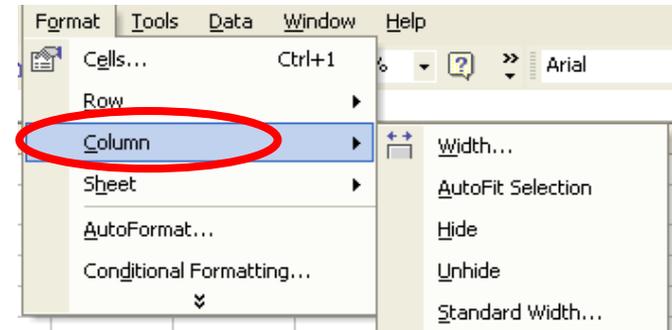
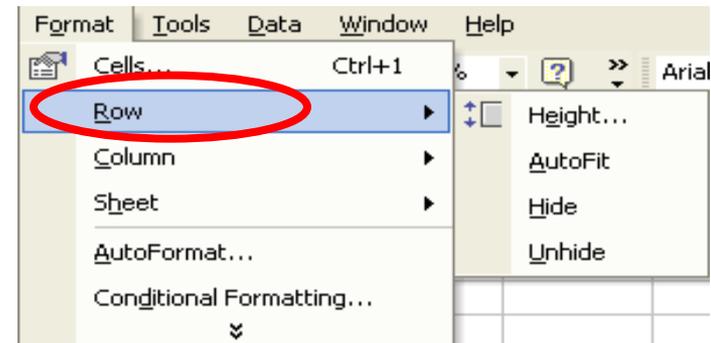
# Adding Columns

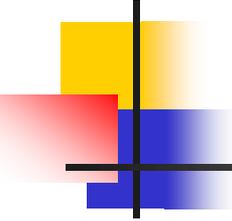
- Add a column by selecting **Insert | Columns** from the menu bar,
- - OR -
- Highlight the column by click on the column label, right-click with the mouse, and choose **Insert**.



# Resizing Rows and Columns

- **Resize a row** by dragging the line below the label of the row you would like to resize. **Resize a column** in a similar manner by dragging the line to the right of the label corresponding to the column you want to resize.
- - OR -
- Click the row or column label and select **Format | Row | Height** or **Format | Column | Width** from the menu bar to enter a numerical value for the height of the row or width of the column.

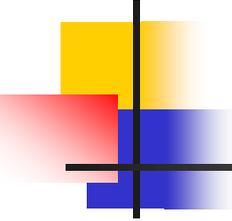




# Selecting Cells

---

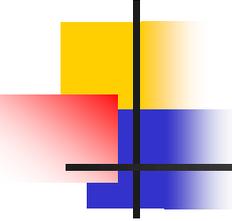
- Before a cell can be modified or formatted, it must first be selected (highlighted).
- Click on an individual cell, Column header letter, Row header number to select a an individual Cell, Entire Column and entire row of a worksheet.
- To activate the contents of a cell, double-click on the cell or click once and press **F2**.



# Selecting an Individual Cell

---

	A	B	C	D	E	F
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						



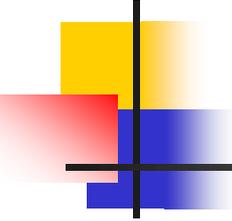
# Selecting an Entire Row

---

**Select Row** →



	A	B	C	D	E	F
1						
2						
3						
4						
5						
6						



# Selecting an Entire Column

**Select Column**



	A	B	C	D	E
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

# Select an Entire Worksheet

- Click the Select All cell at the top left corner of the worksheet to select the entire worksheet.

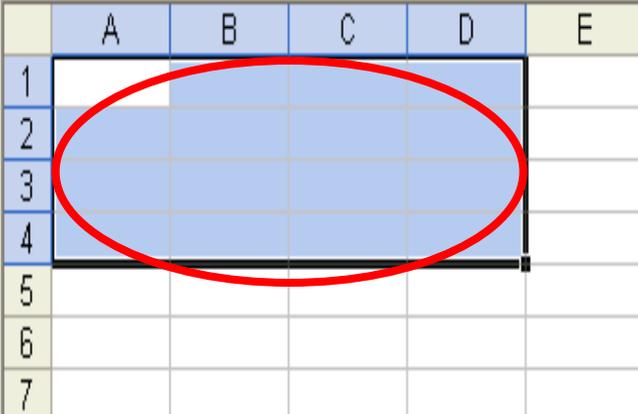
**Select worksheet**



	A	B	C	D	E
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

# Select a range of Cells

- Click on the first cell in the range and drag over the cells you want in the range.
- -OR-
- Click on the first cell in the range move the mouse to the opposing cell in the range , hold down the Shift key and click on the opposing cell. The following is the example of selecting a range from cells A1 to D4.

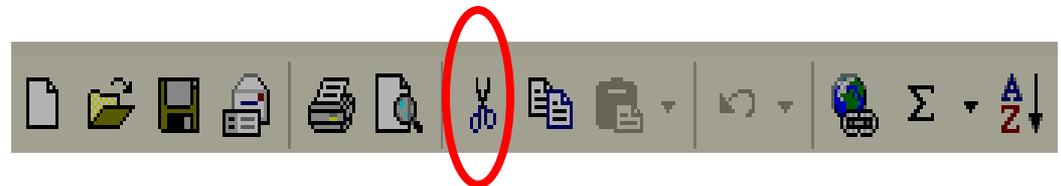
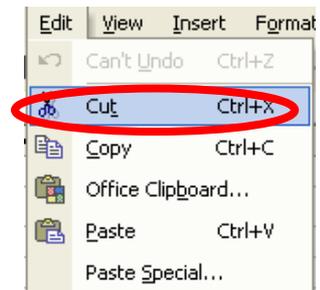


The image shows a portion of an Excel spreadsheet. The columns are labeled A, B, C, D, and E. The rows are numbered 1 through 7. A range of cells from A1 to D4 is highlighted in light blue. A red oval is drawn around this selected range.

	A	B	C	D	E
1					
2					
3					
4					
5					
6					
7					

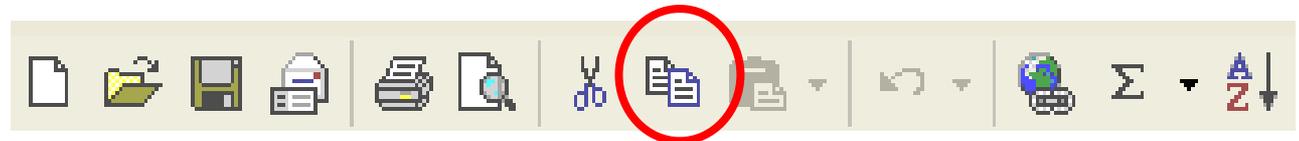
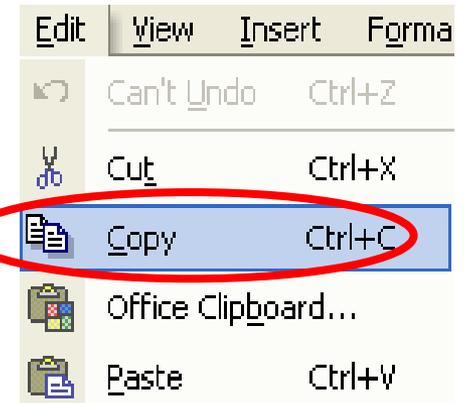
# Moving Cells

- To move the contents of one cell to another cell select **Edit | Cut** from the menu bar or click the **Cut** button on the standard toolbar.



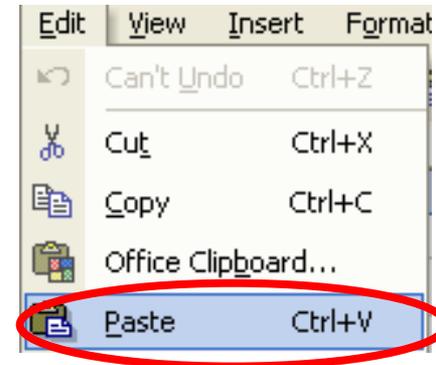
# Copying Cells

- To copy the cell contents, select **Edit | Copy** from the menu bar
- -OR-
- Click the **Copy** button on the standard toolbar.



# Pasting Cut and Copied Cells

- Highlight the cell you want to paste the cut or copied content into and select **Edit | Paste** from the menu bar
- -OR-
- Click the **Paste** button on the standard toolbar.



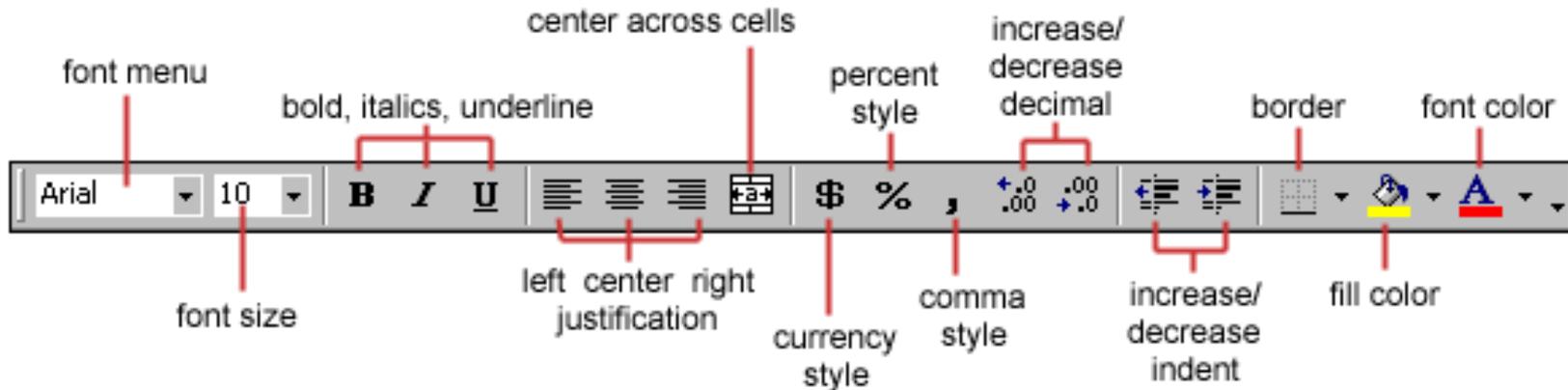
# Freeze Panes

- If you have a large worksheet with column and row headings, those headings will disappear as the worksheet is scrolled. By using the Freeze Panes feature, the headings can be visible at all times.
- Click the label of the row below the row that should remain frozen at the top of the worksheet.
- Select **Window | Freeze Panes** from the menu bar.
- To remove the frozen panes, select **Window | Unfreeze Panes**.



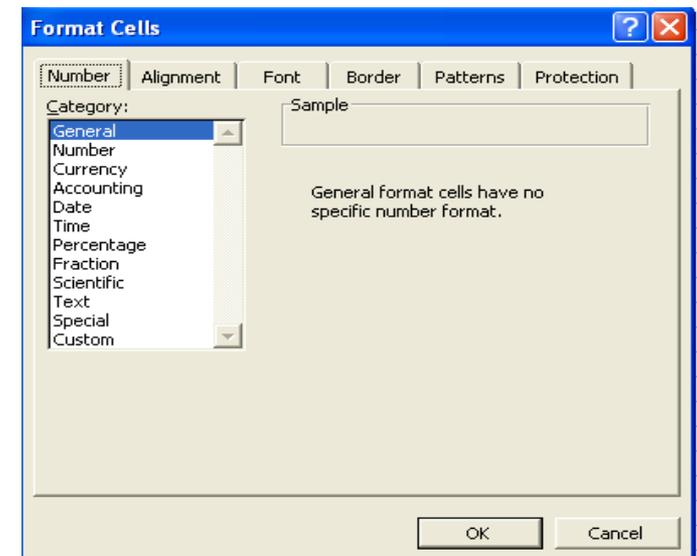
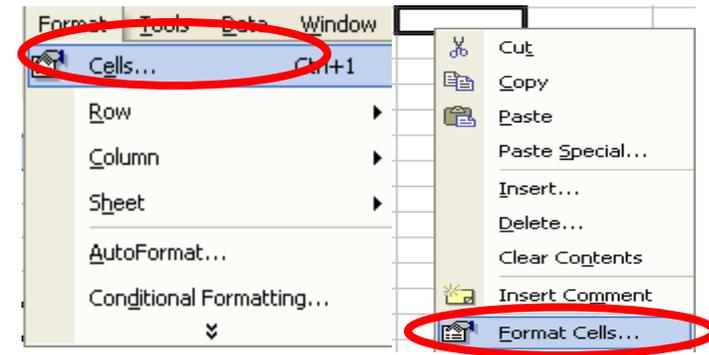
# Formatting Cells

- The contents of a highlighted cell can be formatted in many ways.
- Font and cell attributes can be added from shortcut buttons on the formatting bar.
- If this toolbar is not already visible on the screen, select **View | Toolbars | Formatting** from the menu bar.



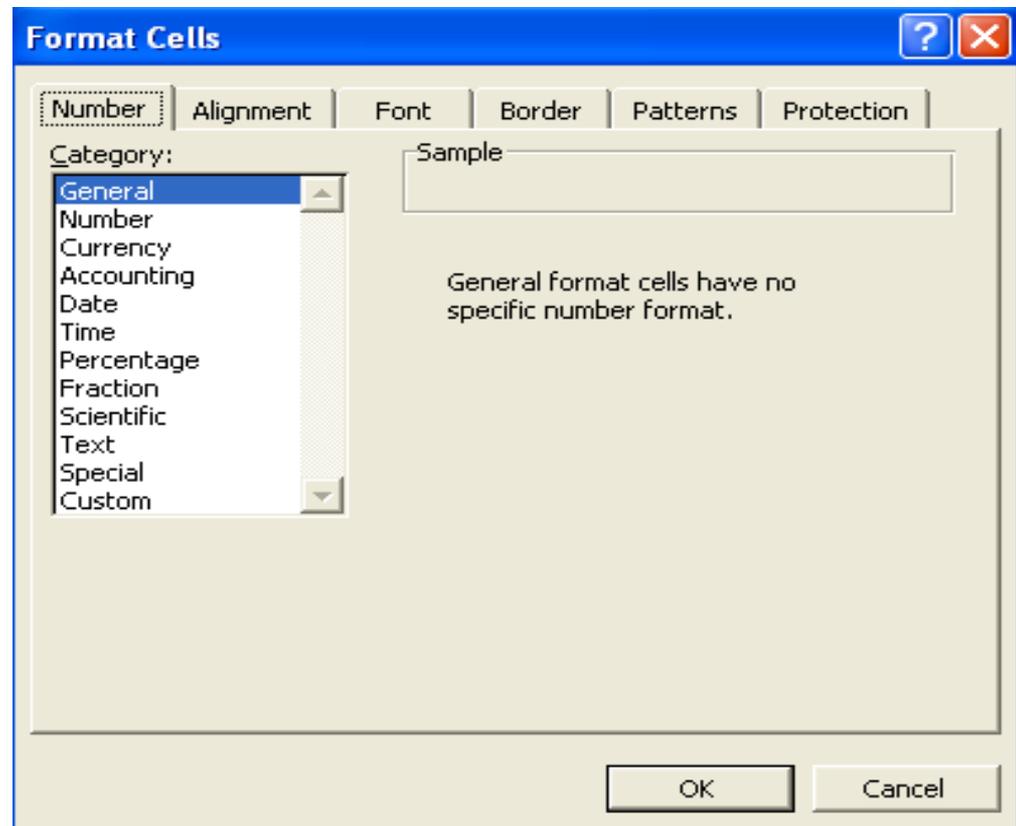
# Format Cells Dialog Box

- For a complete list of formatting options, right-click on the highlighted cells and choose **Format Cells** from the shortcut menu
- -OR-
- Select **Format | Cells** from the menu bar.



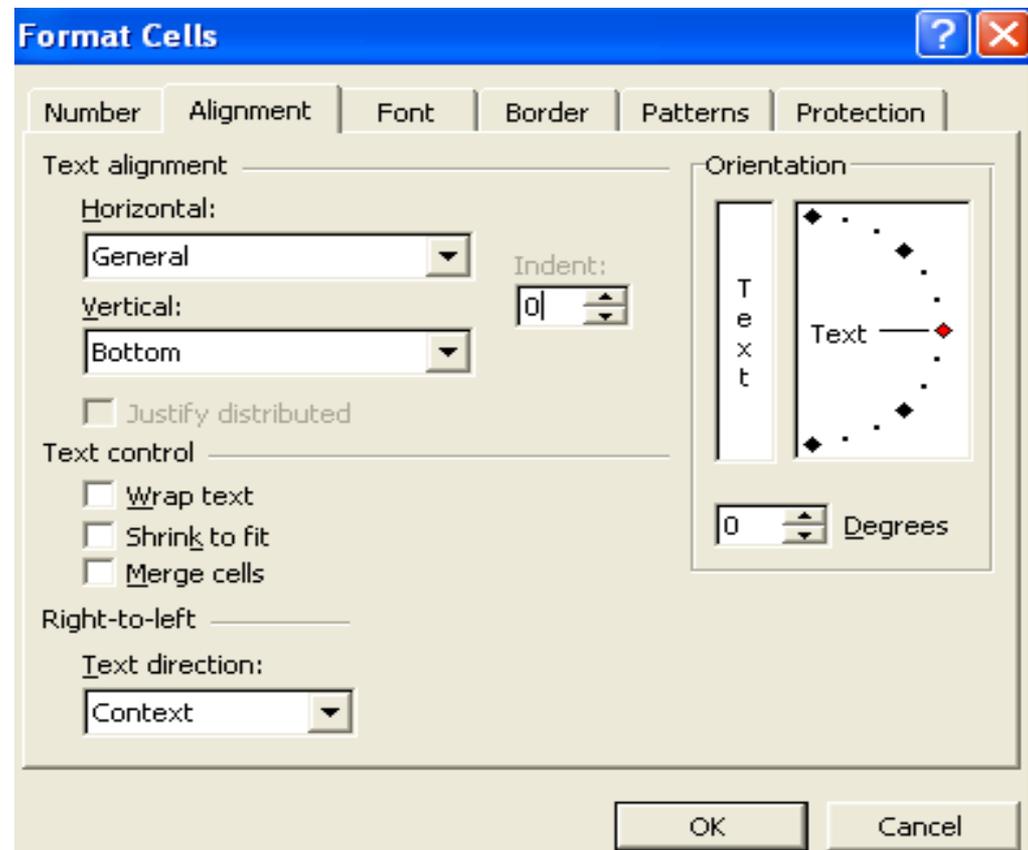
# Format Cells Dialog Box

- **Number tab** - The data type can be selected from the options on this tab.
- Select **General** if the cell contains text and number, or another numerical category if the cell is a number that will be included in functions or formulas.



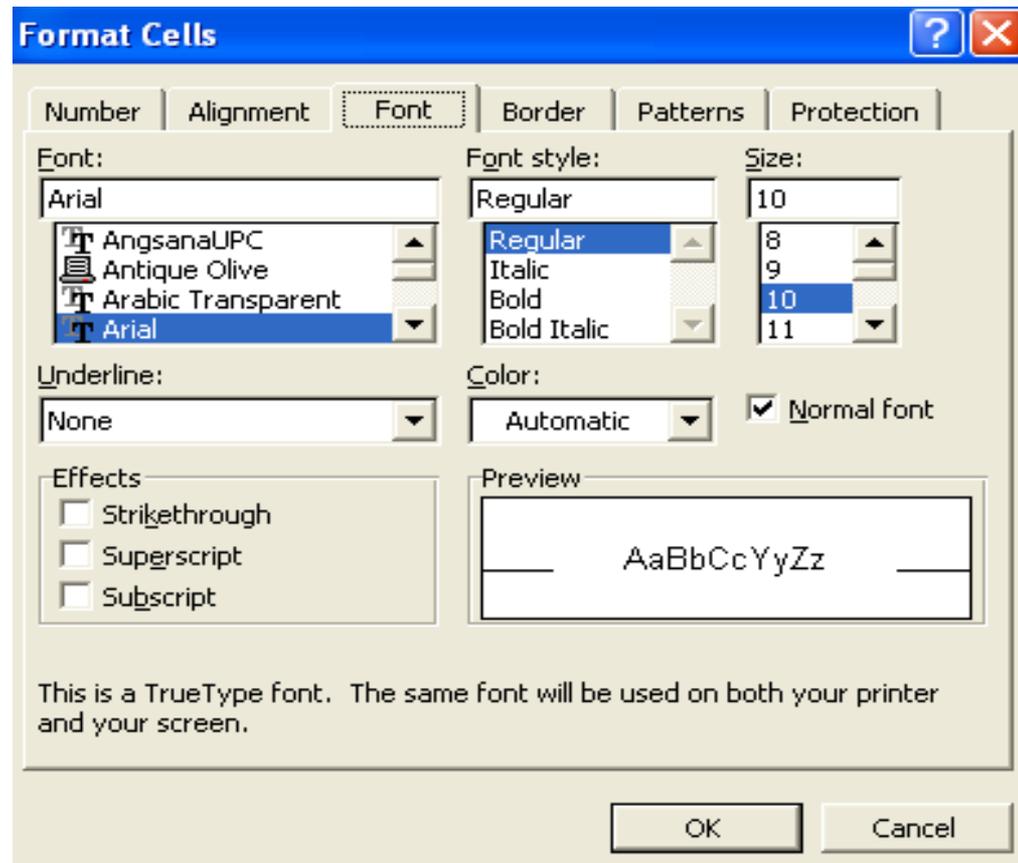
# Format Cells Dialog Box Cont...

- **Alignment tab** - These options allow you to change the position and alignment of the data within the cell



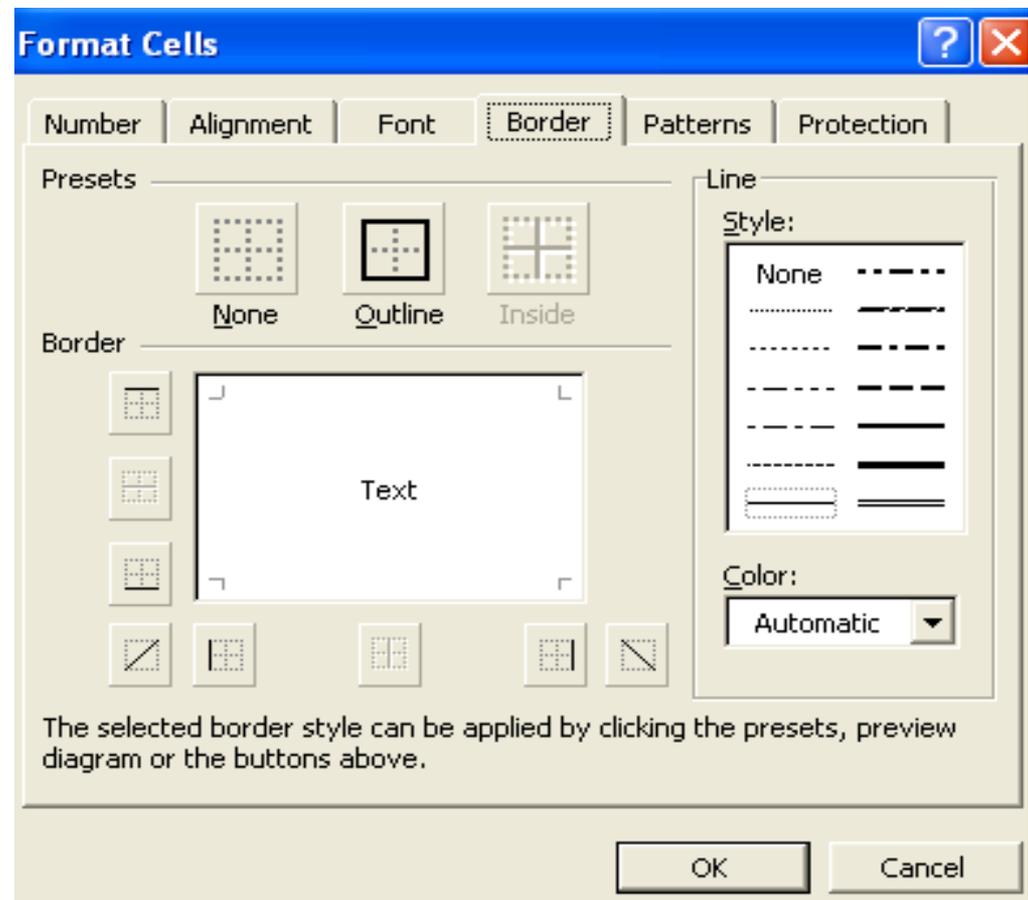
# Format Cells Dialog Box Cont...

- **Font tab** - All of the font attributes are displayed in this tab including font face, size, style, and effects.



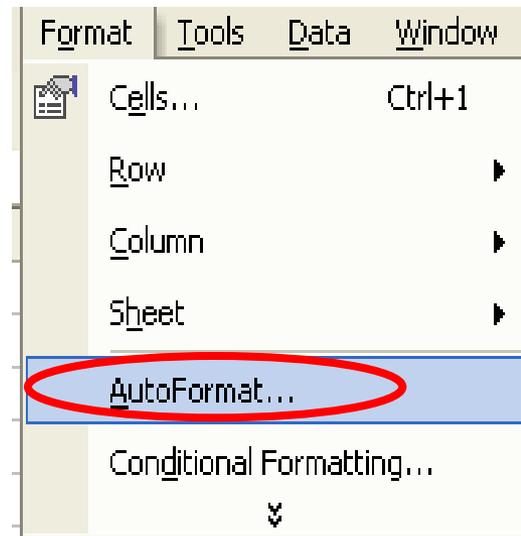
# Format Cells Dialog Box Cont...

- **Border and Pattern tabs** - These tabs allow you to add borders, shading, and background colors to a cell.



# AutoFormat

- Highlight the cells that will be formatted.
- Select **Format | AutoFormat** from the menu bar.



# AutoFormat Cont...

- On the AutoFormat dialog box, select the format you want to apply to the table by clicking on it with the mouse. Use the scroll bar to view all of the formats available.
- Click the **Options...** button to select the elements that the formatting will apply to.
- Click **OK** when finished.

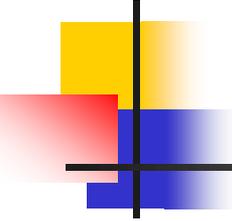
The screenshot shows the AutoFormat dialog box with six different table formatting options. Each option is a preview of a table with the following data:

	Jan	Feb	Mar	Total
East	7	7	5	19
West	6	4	7	17
South	8	7	9	24
<b>Total</b>	<b>21</b>	<b>18</b>	<b>21</b>	<b>60</b>

The options shown are:

- Simple:** A plain table with black borders and no colors.
- Classic 1:** A table with a thin border and italicized headers.
- Classic 2:** A table with a thin border and colored headers (purple for East, West, South; blue for Total).
- Classic 3:** A table with a thin border and bold headers.
- Accounting 1:** A table with a thin border and dollar signs in the data cells.
- Accounting 2:** A table with a thin border, dollar signs, and bold headers.

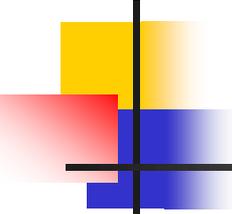
On the right side of the dialog box, there are three buttons: **OK**, **Cancel**, and **Options...**. A scroll bar is visible on the left side of the preview area.



# Formulas and Functions

---

- The distinguishing feature of Excel is that it allows you to create mathematical formulas and execute functions. Otherwise, it is not much more than a large table for displaying text.
- This section will show you how to perform these calculations.



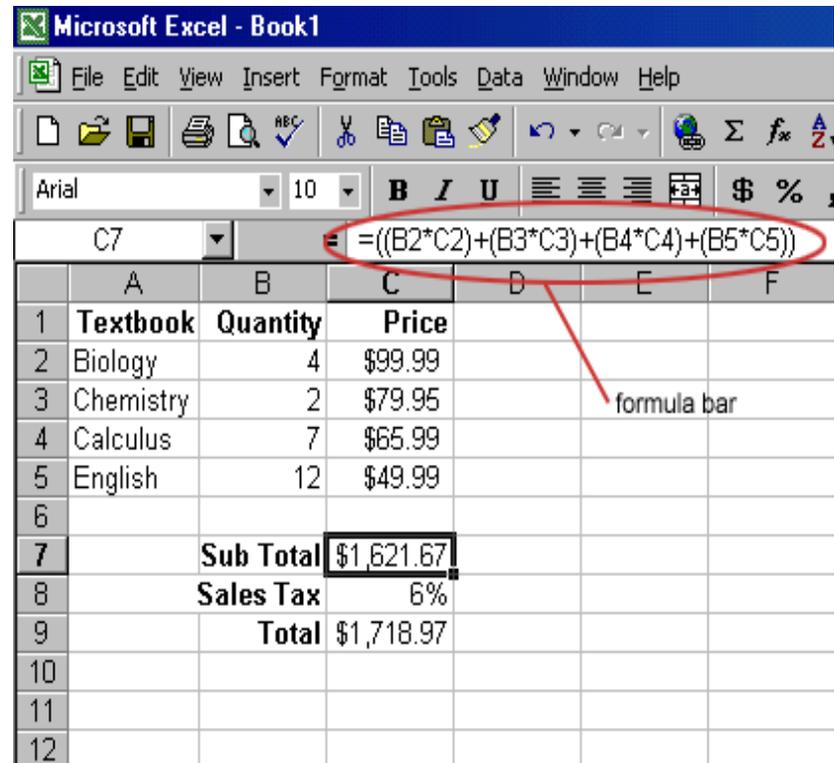
# Formulas

---

- Formulas are entered in the worksheet cell and must begin with an equal sign "=",
- The formula then includes the addresses of the cells whose values will be manipulated with appropriate operands placed in between.
- After the formula is typed into the cell, the calculation executes immediately and the formula itself is visible in the formula bar.

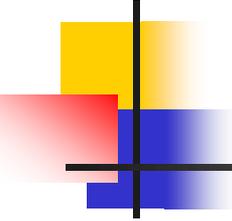
# Formulas Example

- See the example to view the formula for calculating the sub total for a number of textbooks.
- The formula multiplies the quantity and price of each textbook and adds the subtotal for each book.



The screenshot shows the Microsoft Excel interface. The title bar reads "Microsoft Excel - Book1". The menu bar includes "File", "Edit", "View", "Insert", "Format", "Tools", "Data", "Window", and "Help". The toolbar contains various icons for file operations and editing. The font settings are set to "Arial" and "10". The formula bar shows the formula  $=((B2*C2)+(B3*C3)+(B4*C4)+(B5*C5))$  in cell C7. A red circle highlights the formula bar, and a red arrow points to it with the label "formula bar". The spreadsheet data is as follows:

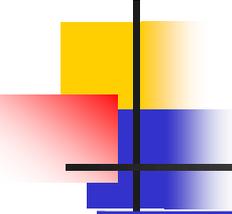
	A	B	C	D	E	F
1	<b>Textbook</b>	<b>Quantity</b>	<b>Price</b>			
2	Biology	4	\$99.99			
3	Chemistry	2	\$79.95			
4	Calculus	7	\$65.99			
5	English	12	\$49.99			
6						
7		<b>Sub Total</b>	\$1,621.67			
8		<b>Sales Tax</b>	6%			
9		<b>Total</b>	\$1,718.97			
10						
11						
12						



# Functions

---

- Functions can be a more efficient way of performing mathematical operations than formulas.
- For example, if you wanted to add the values of cells D1 through D10, you would type the formula "`=D1+D2+D3+D4+D5+D6+D7+D8+D9+D10`".
- A shorter way would be to use the SUM function and simply type "`=SUM(D1:D10)`".
- Several other functions and examples are given in the table below

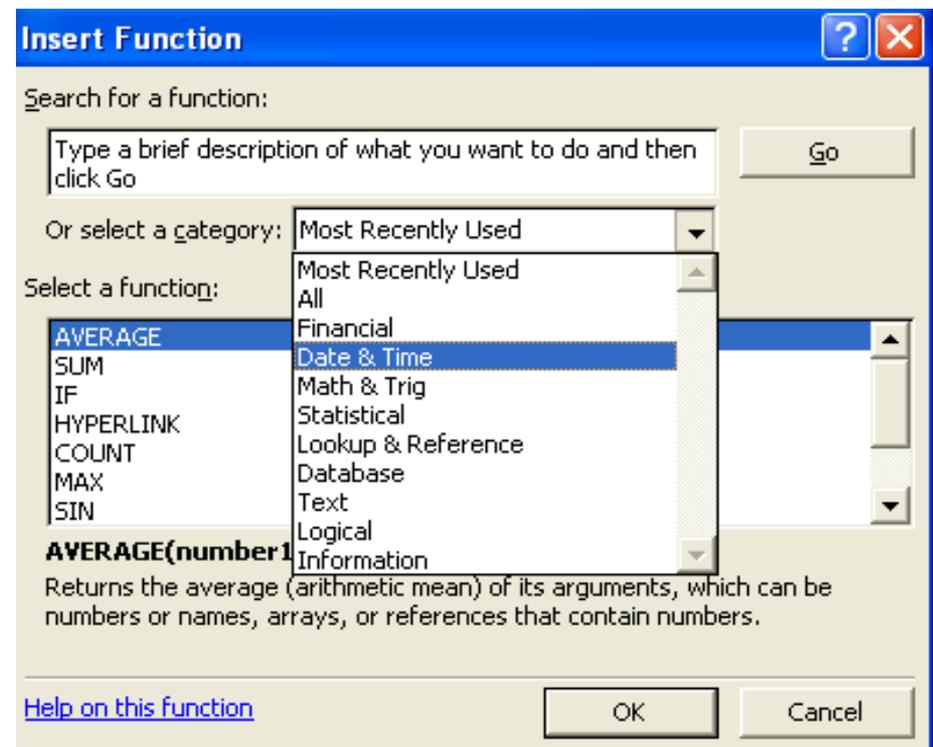


# Basic Function Table

<b>Function</b>	<b>Example</b>	<b>Description</b>
SUM	=SUM(A1:A10)	finds the sum of cells A1 through A10
AVERAGE	=AVERAGE(B1:B10)	finds the average of cells B1 through B10
MAX	=MAX(C1:C10)	returns the highest number from cells C1 through C10
MIN	=MIN(D1:D10)	returns the lowest number from cells D1 through D10
SQRT	=SQRT(D10)	finds the square root of the value in cell D10
TODAY	=TODAY()	returns the current date

# Function Wizard

- View all functions available in Excel by using the Function Wizard.

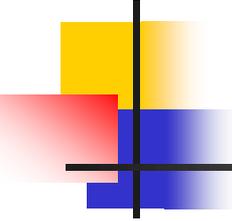


# Sorting and Filling

---

- To execute a basic descending or ascending sort based on one column, highlight the cells that will be sorted and click the **Sort Ascending** (A-Z) button or **Sort Descending** (Z-A) button on the standard toolbar.

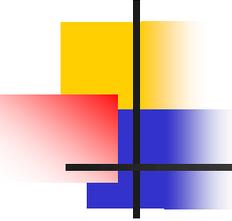




# AutoFill

---

- The Autofill feature allows you to quickly fill cells with repetitive or sequential data such as chronological dates or numbers, and repeated text.
- Type the beginning number or date of an incrementing series or the text that will be repeated into a cell.
- Select the handle at the bottom, right corner of the cell with the left mouse button and drag it down as many cells as you want to fill.
- Release the mouse button.



# AutoFiling Functions

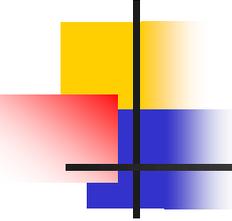
---

- Autofill can also be used to copy functions.
- In the example below, column A and column B each contain lists of numbers and column C contains the sums of columns A and B for each row.
- The function in cell C2 would be "`=SUM(A2:B2)`".
- This function can then be copied to the remaining cells of column C by activating cell C2 and dragging the handle down to fill in the remaining cells. The autofill feature will automatically update the row numbers as shown below if the cells are reference relatively.

# AutoFilling Function Cont...

	A	B	C	D
1	<b>number 1</b>	<b>number 2</b>	<b>sum</b>	
2	87	49	136	
3	54	30		
4	34	10		
5	43	8		
6	24	23		
7	93	97		
8	40	32		
9	59	30		
10	82	87		
11	39	57		
12				

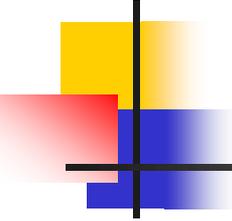
	A	B	C	D
1	<b>number 1</b>	<b>number 2</b>	<b>sum</b>	
2	87	49	136	
3	54	30	84	
4	34	10	44	
5	43	8	51	
6	24	23	47	
7	93	97	190	
8	40	32	72	
9	59	30	89	
10	82	87	169	
11	39	57	96	
12				



# Charts

---

- Charts allow you to present data entered into the worksheet in a visual format using a variety of graph types.
- Before you can make a chart you must first enter data into a worksheet.
- This section explains how you can create simple charts from the data.



# Chart Wizard

---

- The Chart Wizard brings you through the process of creating a chart by displaying a series of dialog boxes.
- Enter the data into the worksheet and highlight all the cells that will be included in the chart including headers.

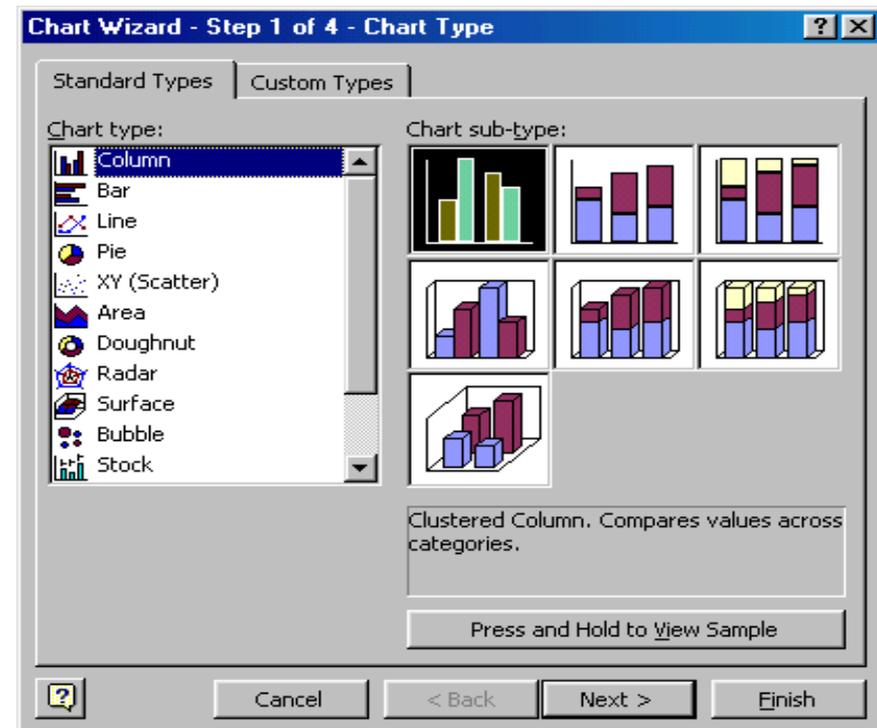
	A	B	C
1		Students	
2	English	34	
3	Biology	32	
4	Calculus	26	
5	Physics	28	
6	History	39	
7			

# Chart Wizard Cont...

- Click the Chart Wizard button on the standard toolbar to view the first **Chart Wizard** dialog box.

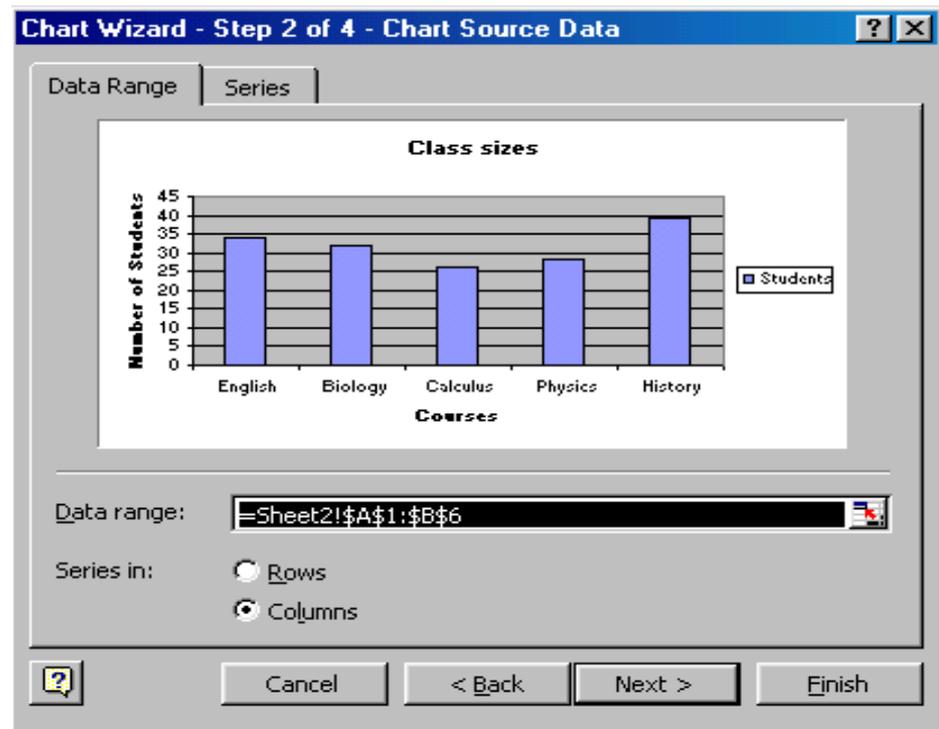


- Choose the **Chart type** and the **Chart subtype** if necessary. Click **Next**.



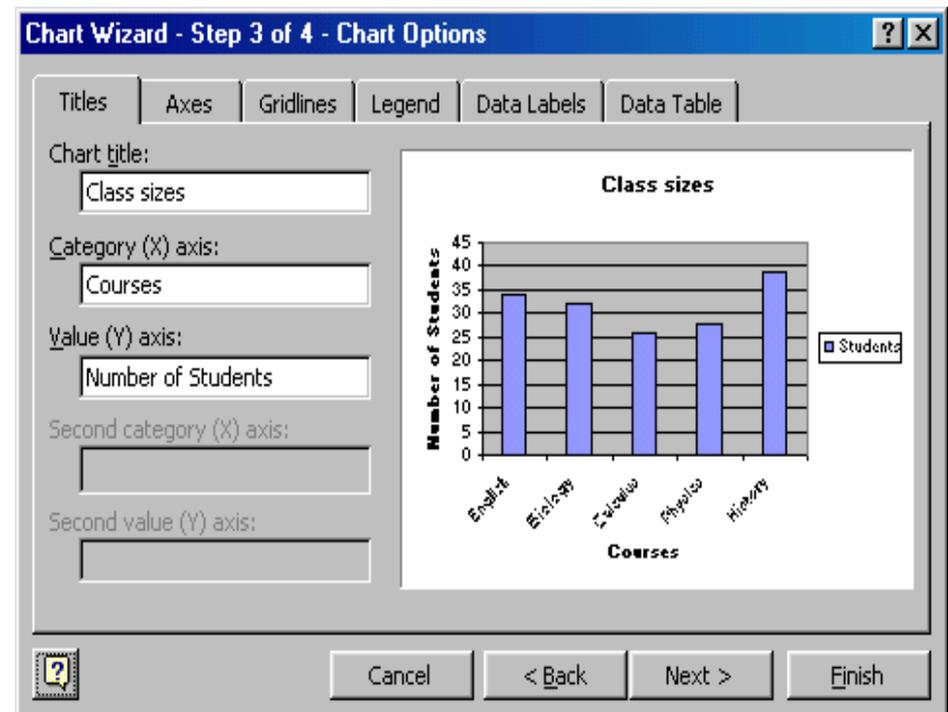
# Chart Wizard Cont...

- **Chart Source Data:**
  - Select the data range (if different from the area highlighted in step 1) and click **Next**.



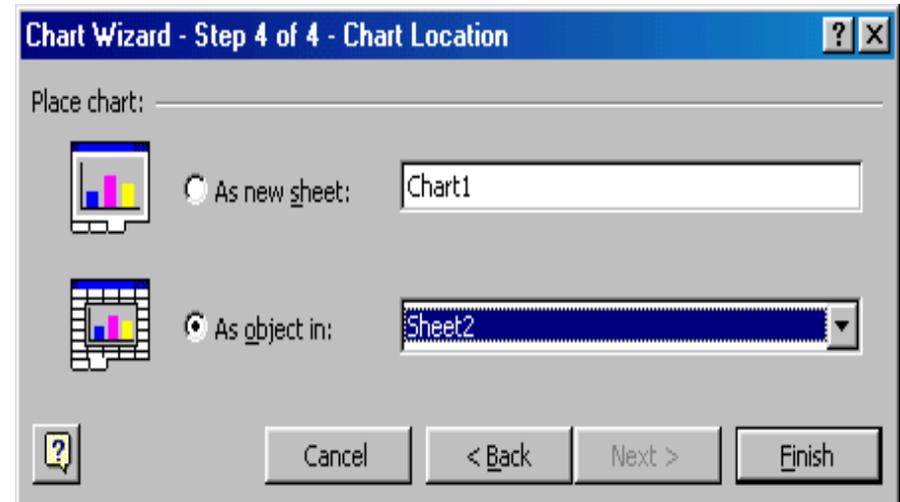
# Chart Wizard Cont...

- **Chart Options:**
  - Enter the name of the chart and titles for the X- and Y-axes. Press **Next** to move to the next set of options.



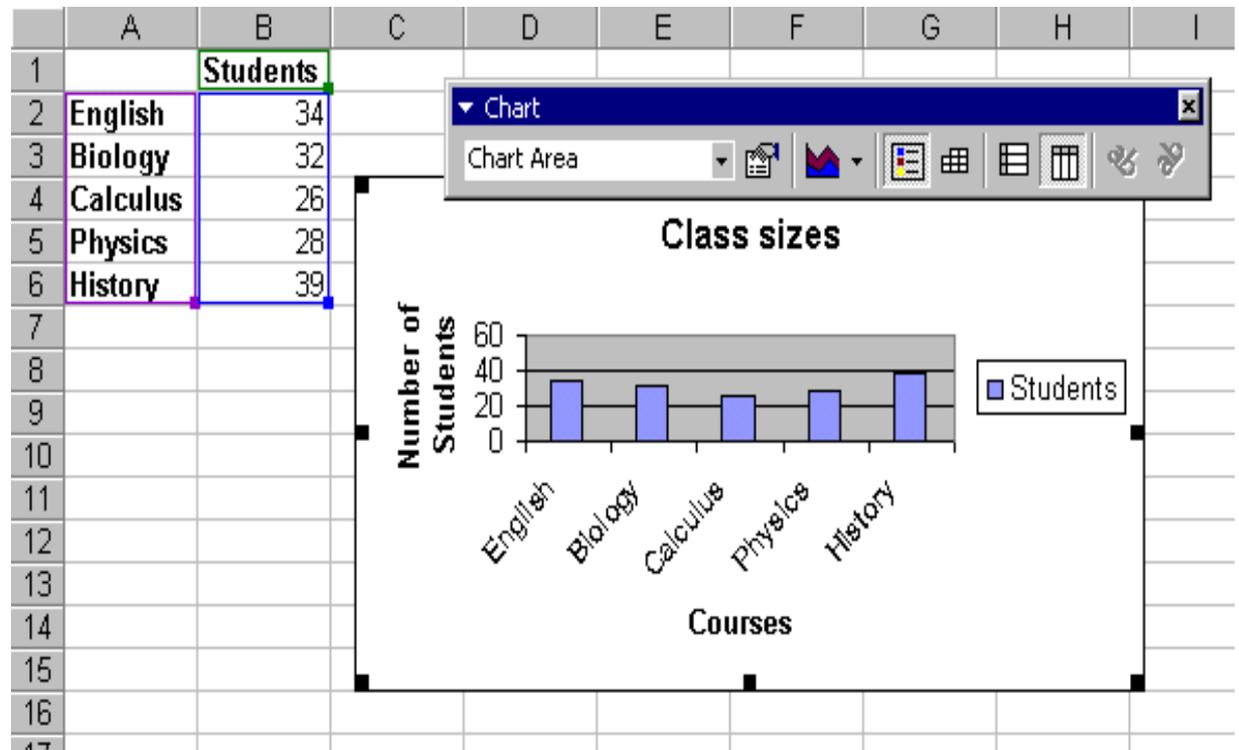
# Chart Wizard Cont...

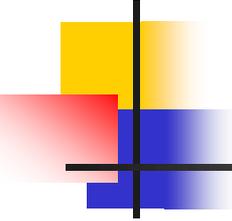
- **Chart Location :**
  - Click **As new sheet** if the chart should be placed on a new, blank worksheet or select **As object in** if the chart should be embedded in an existing sheet and select the worksheet from the drop-down menu.



# Chart Wizard Cont...

- Click **Finish** to create the chart.





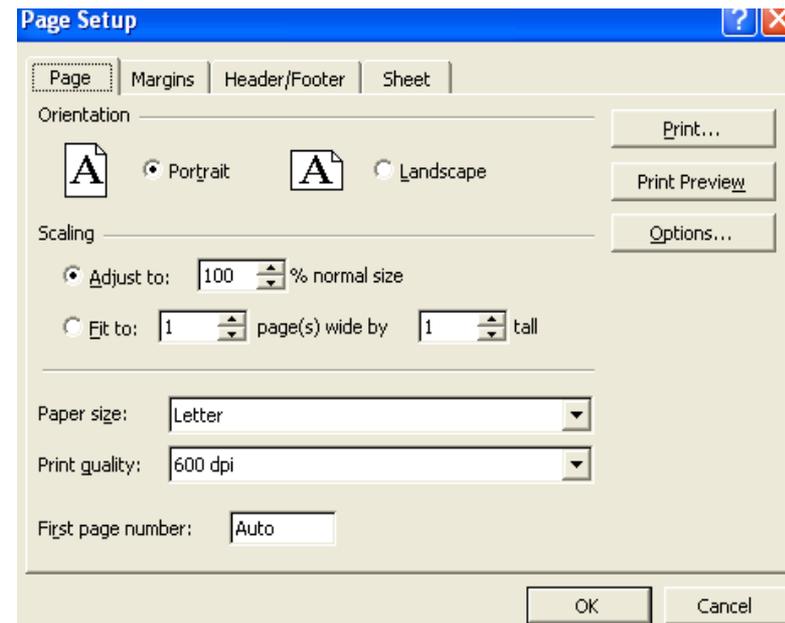
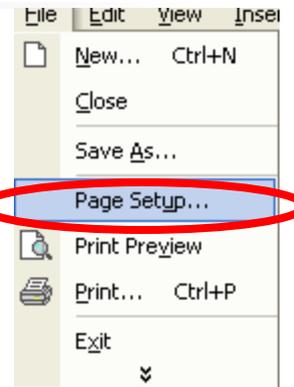
# Page Properties and Printing

---

- Page Setup
- Print Preview
- Print

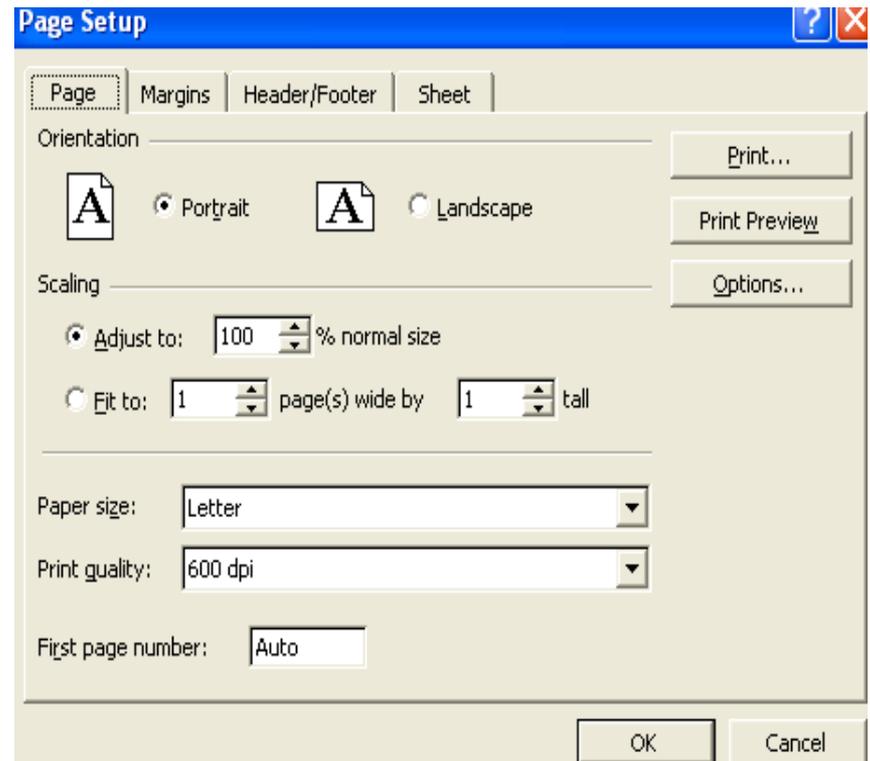
# Page Setup

- Select **File | Page Setup** from the menu bar to format the page, set margins, and add headers and footers.



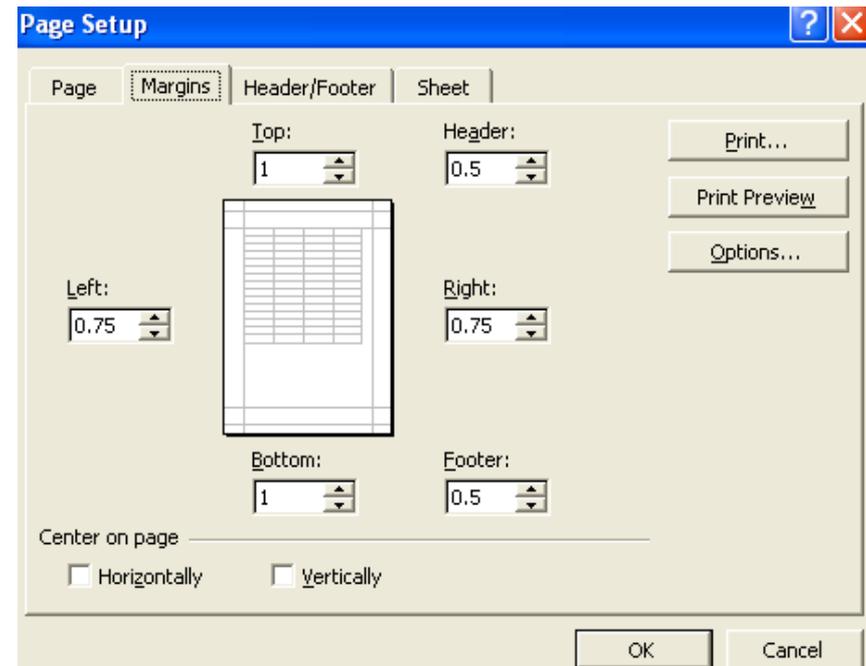
# Format Page

- Select the **Orientation** under the **Page** tab in the Page Setup window to make the page Landscape or Portrait.
- The size of the worksheet on the page can also be formatting under **Scaling**.
- To force a worksheet to print only one page wide so all the columns appear on the same page, select **Fit to 1 page(s) wide**.



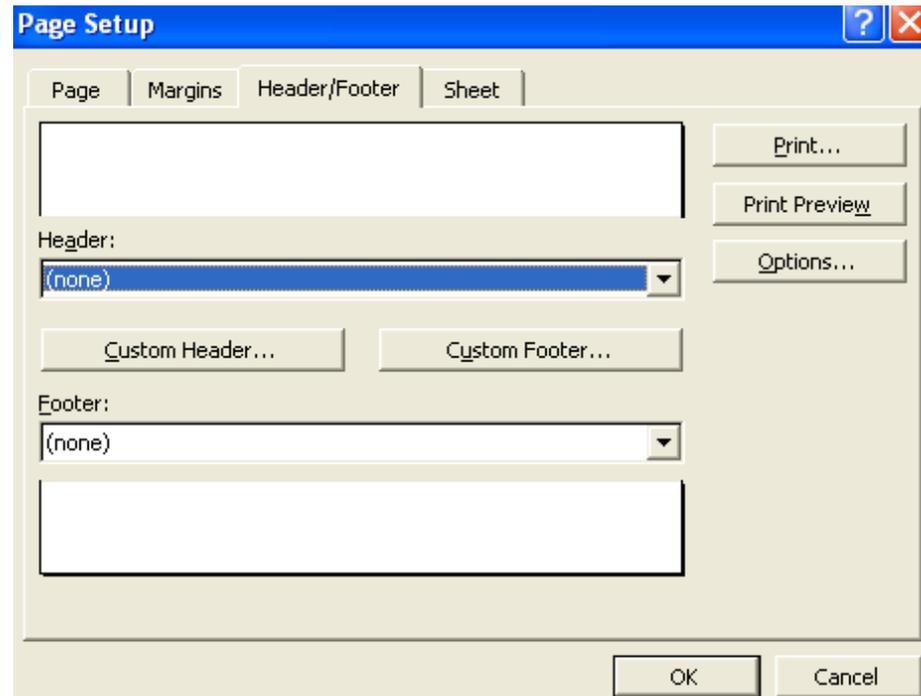
# Margins

- Change the top, bottom, left, and right margins under the **Margins** tab.
- Enter values in the header and footer fields to indicate how far from the edge of the page this text should appear.
- Check the boxes for centering horizontally or vertically on the page.



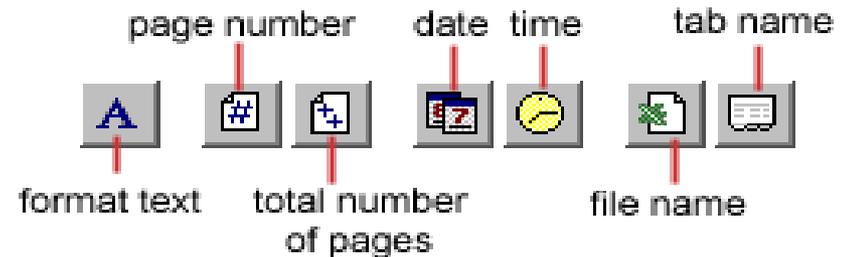
# Headers and Footers

- Add preset headers and footers to the page by clicking the drop-down menus under the Header/Footer tab.
- To modify a preset header or footer, or to make your own, click the **Custom Header** and **Custom Footer** buttons.
- A new window will open allowing you to enter text in the left, center, or right on the page.



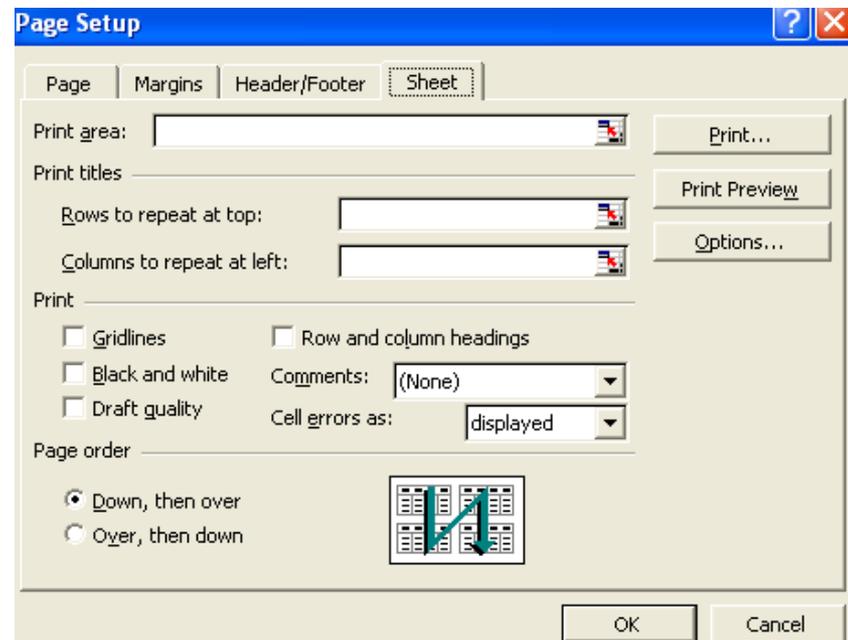
# Headers and Footers Cont..

- **Format Text** - Click this button after highlighting the text to change the font, size, and style.
- **Page Number** - Insert the page number of each page.
- **Total Number of Pages** - Use this feature along with the page number to create strings such as "page 1 of 15".
- **Date** - Add the current date.
- **Time** - Add the current time.
- **File Name** - Add the name of the workbook file.
- **Tab Name** - Add the name of the worksheet's tab.



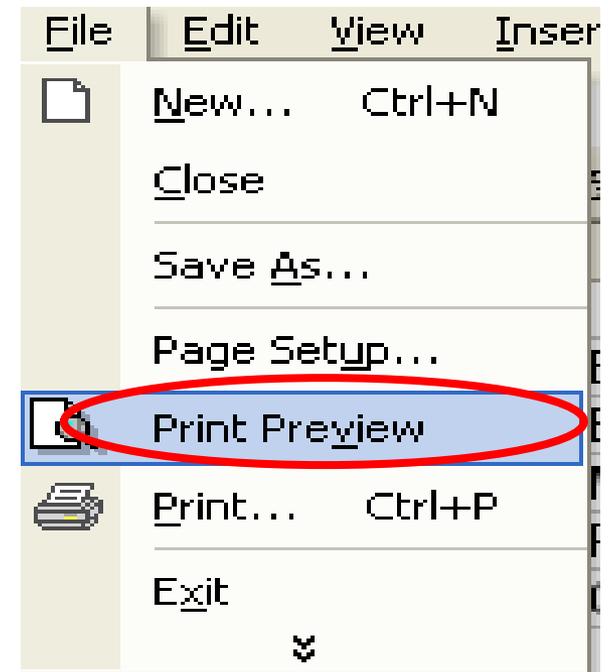
# Sheet

- Check **Gridlines** if you want the gridlines dividing the cells to be printed on the page.
- If the worksheet is several pages long and only the first page includes titles for the columns, select **Rows to repeat at top** to choose a title row that will be printed at the top of each page.



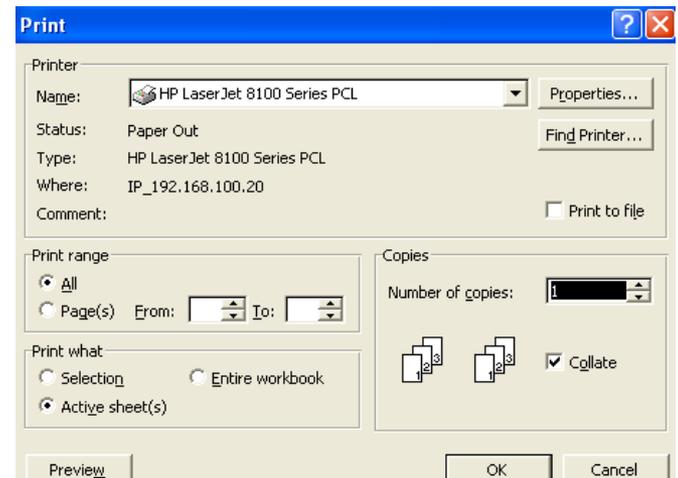
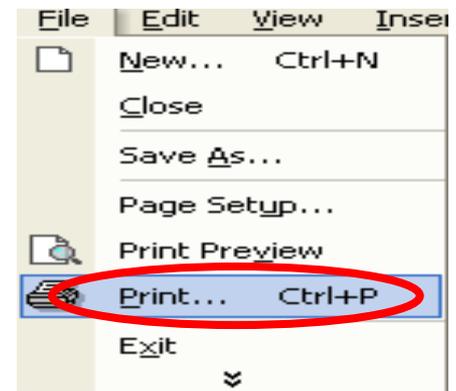
# Print Preview

- Select **File | Print Preview** from the menu bar to view how the worksheet will print.



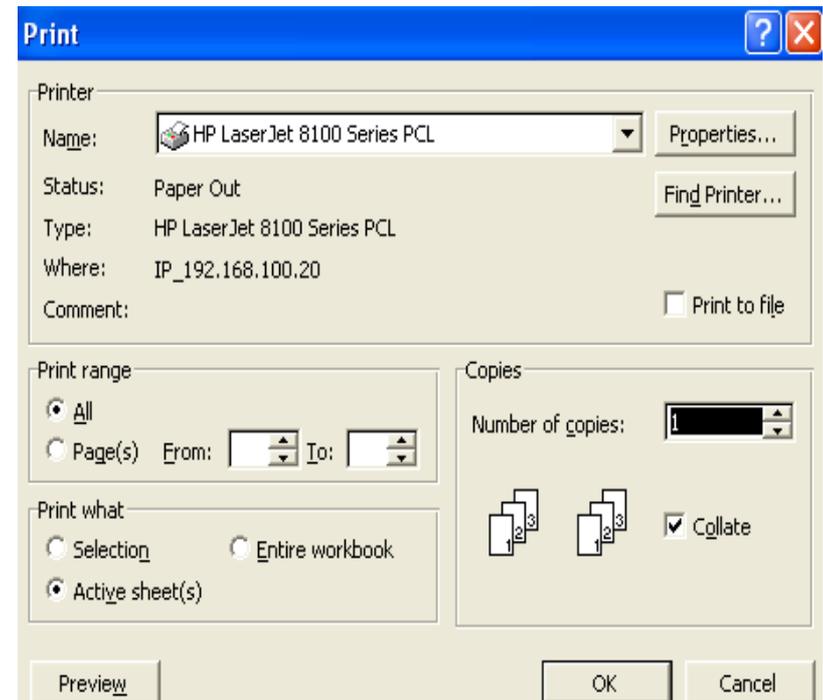
# Print

- To print the worksheet, select **File | Print** from the menu bar.
- **Print Range** - Select either all pages or a range of pages to print.
- **Print What** - Select selection of cells highlighted on the worksheet, the active worksheet, or all the worksheets in the entire workbook.



# Print Cont...

- **Copies** - Choose the number of copies that should be printed. Check the **Collate** box if the pages should remain in order.
- Click OK to Print the Worksheet.
- **Note:** Excel files have an extension of .XLS.



**Thanks**