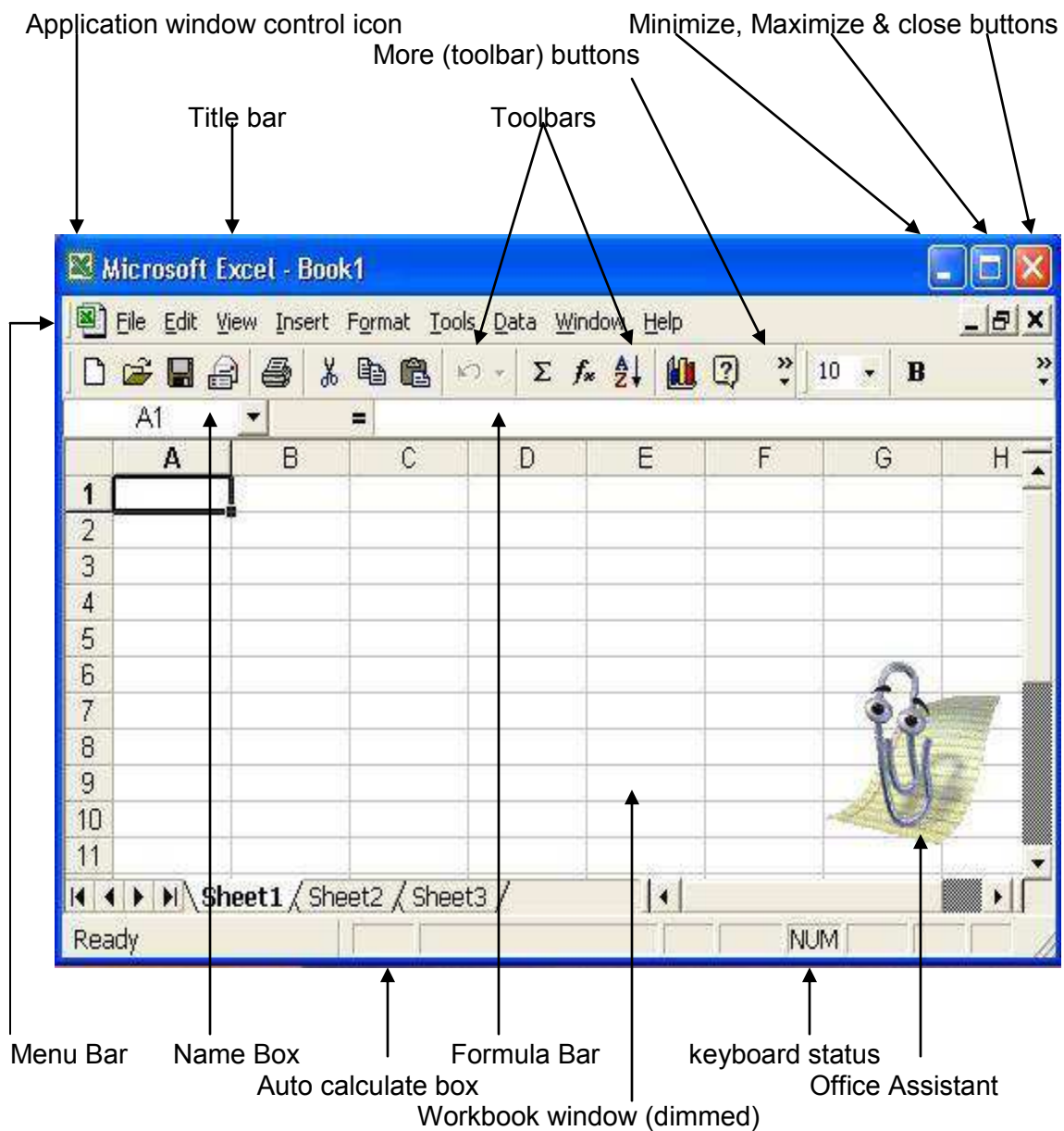


# Excel

[Microsoft Office's spreadsheet application](#) can be used to track and analyze numerical data for display on screen or in printed format. Excel is designed to help you record and calculate data, and present it in a clear and attractive manner. Excel provides you with various chart and layout options to enhance your spreadsheets. For example teachers can enter the marks obtained by students in exams and automatically calculate the grades. A person buying and selling equity can easily calculate the gains/losses of the transactions and maintain an excellent record of his held shares. You can maintain and check your bank account. People planning to take a car or home loan can easily figure out their EMIs (Equal monthly Installments). This e-book will help you to take full advantage of Excel's many abilities. For many free Excel training videos you can visit our website at <http://www.familycomputerclub.com>.

## About the Excel Window

Excel provides an interface (graphical tools and controls) for working with worksheet data. This topic will help you identify the purpose of the tool and indicators that appear in the Excel window.



**TIP:** You can set Windows to show more screen area, thereby showing more Excel workspace and toolbar buttons: Right-click the desktop, click **Properties**, click the **Settings** tab, then adjust the slider to select a resolution appropriate to your vision and monitor size. The screen area in the illustration above is set to 800 by 600 pixels.

**Notes:**

- In the illustration, there are two sets of **Close**, **Maximize** and **Minimize** buttons: One for the Excel application window, and one for the workbook window. The **Maximize** button will appear as a **Restore** button if the window has already been maximized.

### ***The Microsoft Excel Window***

**Application window control icon:** Click to access a drop-down menu of commands that control the position and size of the application window.

**Close, Maximize, and Minimize buttons:** Click buttons to close, maximize, or minimize the Excel window.

**Formula Bar:** Provides a space for typing or editing cell data.

**Microsoft Excel title bar:** Displays the program name (Microsoft Excel), and may also display the file name of an open workbook window, if the workbook is maximized. You can drag the title bar to move the window, or double-click it to maximize the window.

**Menu bar:** Displays menu names which, when clicked, display drop-down menus.

**More buttons:** Click to open a submenu of additional toolbar buttons. By default, Excel will add buttons that you use often to your toolbars, and remove buttons from the toolbar that you do not use.

**Name box:** Displays the cell reference of the active cell.

**Office Assistant:** Appears when you open Excel, and can answer your questions about how to perform a task.

**Toolbars:** Click toolbar buttons to select commands without opening a menu or dialog box.

**Status bar:** Click toolbar buttons to select commands without opening a menu or dialog box.

**Status bar:** Displays information about the current mode, selected command, or option. The right side of the status bar shows the keyboard status. For example, NUM indicates that the numeric keyboard is toggled on (number lock). The middle of the status bar

contains the Auto Calculate box. Which displays the result of a selected Auto Calculate function (such as SUM or AVERAGE) when applied to a selected range of cells.

**Workbook window:** Appears in, and is restricted to, the Excel window. Workbook windows contain the data that you enter in worksheets (purposely muted in this illustration). You can open multiple workbook windows within Excel.

## About Cells

Cells are areas in a worksheet in which you store data. In formulas, you refer to cells by specifying their column and row locations in worksheet. This is called a cell reference. You can enter text, values and formulas in cells.

### About Cell Locations

In the illustration below, cell B2 is the selected cell in Sheet1.

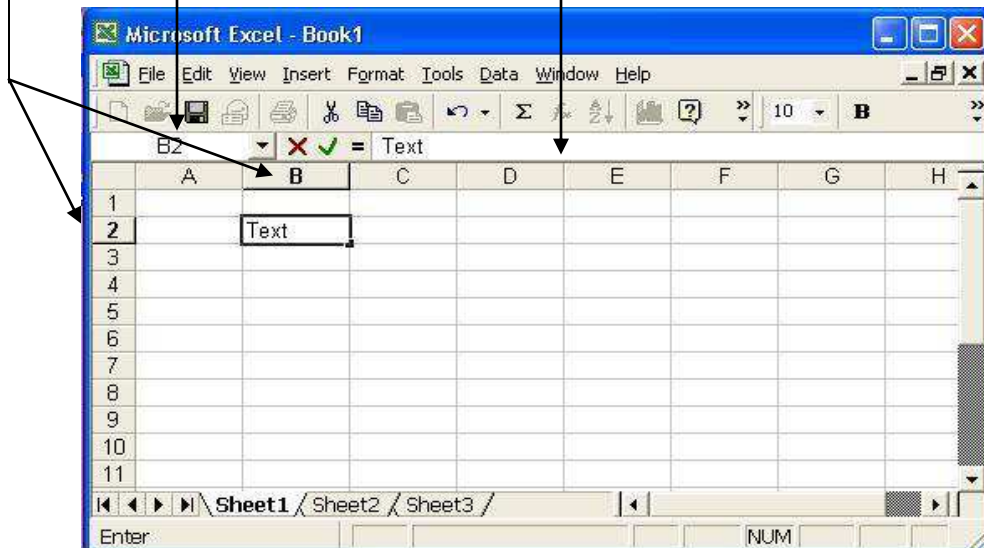
You know this because:

- The reference B2 appears in the name box.
- Excel has outlined the column heading B and the row heading 2.
- Sheet 1 is the active tab in the workbook window.

*NOTE: The contents of the selected cell also appear in the formula bar.*

**Name box**

**Formula bar**



### Notes:

- Each cell is defined by the intersection of a row and a column (e.g.: A3 denotes column A & row 3). The cell's location is called a **cell reference** (or cell address).
- When you open a new workbook, it usually contains multiple worksheets. Each worksheet has 256 columns and 65,536 rows. Therefore, each worksheet contains 16,777,216 cells.
- **Columns** are labeled A through IV; **Rows** are numbered 1 through 65,536.
- Each cell can store up to 32,000 characters.
- To select a cell, click it, or press an arrow key in the direction of the cell you want to select.

## About Cell Properties and Controls

Cells are defined by the intersection of a column and a row. Therefore, the dimensions of a cell are defined by the column width and the row height. All cells have borders and fill properties. Selected cells have darkened borders and a fill handle (controls). These controls let you use a mouse to perform actions on the cell.

**Border control:** You can drag of a selected cell to move its contents.

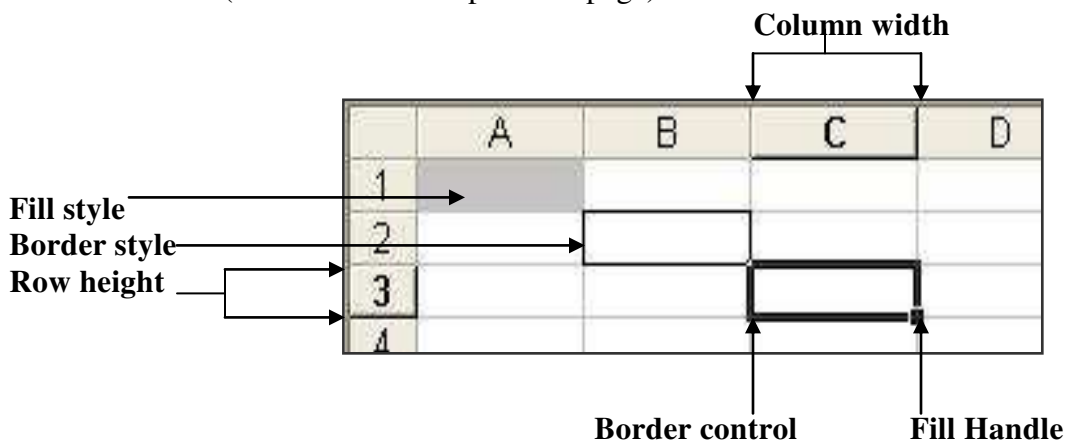
**Border style:** You can apply line styles to one or more of the border of a cell.

**Fill:** You can color or shade a cell to distinguish it from other cells.

**Fill handle:** You can drag the fill handle of selected cells to extend their content as a series, or, for a single cell, to copy its content to adjacent cells.

**Height/width:** You can change the column width and row height to adjust the size of a cell.

**Location:** You can identify the location of the selected cell by reading its cell reference in the name box (see illustration on previous page).



### Notes:

- A **control** is any graphical element that allows you to perform an action or specify a setting.
- Excel changes the shape of the mouse pointer when you rest it on a cell control, such as a cell border or fill handle.
- A **cell reference** indicates a cell's location. Cell references are often used in formulas to calculate values stored in the worksheet.

## Select Cells, Columns and Rows

When working with worksheets, you will need to select a cell or range of cells to complete a variety of tasks. A range may consist of adjacent or nonadjacent cells. You can also name and select named cell ranges. Keyboard shortcuts for selecting cells are listed in Help, on the Contents tab, under the "keyboard Reference" topic.

### Select Adjacent Cell Range

1. Click first cell you want to select.
2. Drag mouse through cells to include in selection.

	A	B	C	D	E
1	Date	Expense	Amount	Vendor	
2	1/3/1991	1/4/1991	1/5/1991	SW Wholesale	
3	1/3/1991	1/4/1991	1/5/1991	SW Wholesale	
4	1/3/1991	1/4/1991	1/5/1991	SW Wholesale	
5	1/3/1991	1/4/1991	1/5/1991	SW Wholesale	
6	10/7/1991	inventory	\$14,900	SW Wholesale	
7	12/5/1991	inventory	\$10,997	SW Wholesale	
8					

#### Notes:

- Excel will scroll the worksheet when you drag the selection beyond the visible area of the worksheet.
- The first cell you select is the active cell (cell A2 in the above illustration).

### Select Nonadjacent Cell Range

1. Click first cell and drag through cells to select.
2. Press and hold **Ctrl**. Then drag through additional ranges to include in your selection.

	A	B	C	D
1	Date	Expenses	Amount	Vendor
2	1/1/1991	Inventory	\$16,000	SW Wholesale
3	1/2/1991	Inventory	20,000	SW Wholesale
4	1/3/1991	Inventory	\$25,000	SW Wholesale
5	1/4/1991	Inventory	\$22,000	SW Wholesale
6	1/5/1991	Inventory	\$18,000	SW Wholesale
7	1/6/1991	Inventory	\$14,900	SW Wholesale
8	1/7/1991	Inventory	\$10,997	SW Wholesale
9				

**Notes:** The first cell in the last range you select is the active cell (cell C10 in the illustration). Selecting non-adjacent cells or cell ranges (multiple selections) is often used to select data to chart.

## Select Entire Column or Row

Click row or column heading to select.

*TIP: You can click this Select All button to select the entire worksheet*

**Column heading**

	A	B	C	D	E
<b>1</b>	Date	Expenses	Amount	Vendor	
<b>2</b>	1/1/1991	Inventory	\$16,000	SW Wholesale	
<b>3</b>	1/2/1991	Inventory	20,000	SW Wholesale	
<b>4</b>	1/3/1991	Inventory	\$25,000	SW Wholesale	
<b>5</b>	1/4/1991	Inventory	\$22,000	SW Wholesale	
<b>6</b>	1/5/1991	Inventory	\$18,000	SW Wholesale	
<b>7</b>	1/6/1991	Inventory	\$14,900	SW Wholesale	
<b>8</b>	1/7/1991	Inventory	\$10,997	SW Wholesale	

**Row Heading**

**Notes:** To select multiple columns and rows, drag through row or column headings, or press **Ctrl** and click nonadjacent headings.

## Name a Range

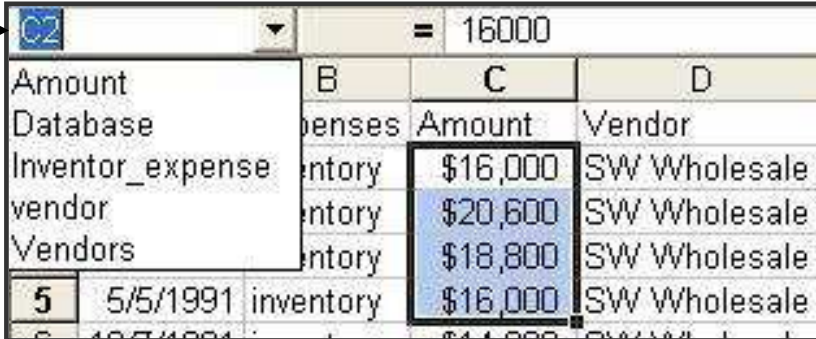
1. Select the range to name.
2. Click in the **name box** and type descriptive name.  
*NOTE: Range names may contain uppercase and lowercase letters, numbers and most punctuation characters. They cannot include spaces. The underscore character is useful for stimulating a space, as in "inventory expenses".*
3. Press **Enter**.

	A	B	C	D
<b>1</b>	Date	Expenses	Amount	Vendor
<b>2</b>	1/6/1991	inventory	\$16,000	SW Wholesale
<b>3</b>	3/5/1991	inventory	\$20,600	SW Wholesale
<b>4</b>	6/4/1991	inventory	\$18,800	SW Wholesale
<b>5</b>	5/5/1991	inventory	\$16,000	SW Wholesale
<b>6</b>	10/7/1991	inventory	\$14,900	SW Wholesale
<b>7</b>	12/6/1991	inventory	\$10,092	SW Wholesale
<b>8</b>	2/4/1991	inventory	\$11,000	SW Wholesale
<b>9</b>	16/5/91	inventory	\$10,590	SW Wholesale
<b>10</b>				



## Select a Named Range

Click in **named box**, then click named to select.



	B	C	D
Amount			
Database	expenses	Amount	Vendor
Inventor_expense	inventory	\$16,000	SW Wholesale
vendor	inventory	\$20,600	SW Wholesale
Vendors	inventory	\$18,800	SW Wholesale
5	5/5/1991	inventory	\$16,000
6	10/5/1991	inventory	\$14,800

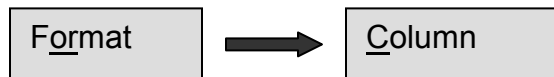
### Notes:

- You can also name nonadjacent ranges, as shown on the previous page.
- You might want to name ranges that you frequently chart or print.
- You can also use the **Go To** command (**Ctrl + G**) to select named ranges.



## Adjust and Hide Columns

Data appears in cells defined, in part, by the column width. You can control the width of columns or hide them. You can also adjust while print previewing your workbook.



### Change Column Width Using the Mouse

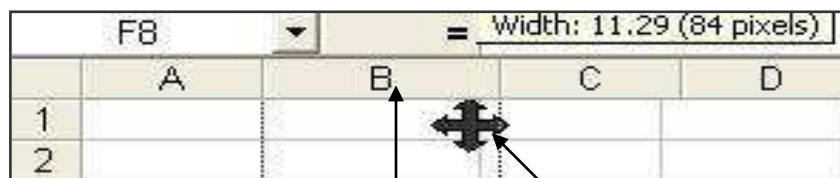
To set width of multiple columns:

1. Drag through column headings of columns to change.  
OR  
Press **Ctrl** and click each column heading to change.
2. Reset pointer on right border of any selected column heading.

Pointer becomes a



3. Drag pointer left or right to decrease or increase the column size. If you have selected non-adjacent column headings, press **Ctrl** while dragging pointer to uniformly change all selected columns. Excel displays width in a pop-up box as you drag.



Column headings    Pointer

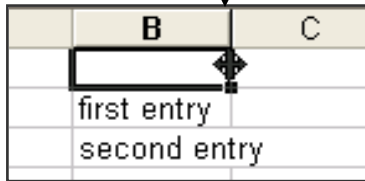
#### Notes:

- In step 2, the pointer's shape indicates when you can perform the action. It must be a cross with left-and right-facing arrows, as shown in the illustration.
- Column width is measured by the number of characters of the standard font.

## Automatically Size Column to Fit Largest Entry

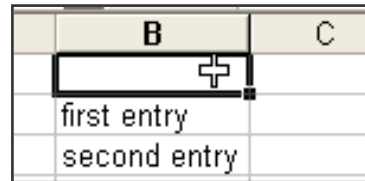
1. Rest pointer on right border of column heading. Pointer becomes a cross with arrows facing left and right.
2. Double-click.

**BEFORE DOUBLE-CLICK**



	B	C
	first entry	
	second entry	

**AFTER**




	B	C
	first entry	
	second entry	

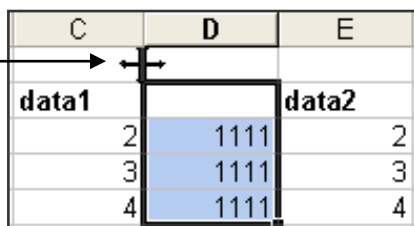
### NOTES:

In step 1, you can select multiple columns.

## Hide Columns by Dragging

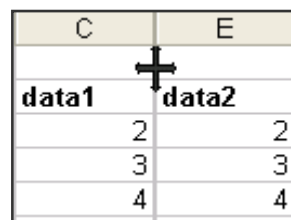
1. Click column heading, and then rest pointer on right border of selected column heading. Pointer becomes a 
2. Drag pointer left beyond its own left border to hide the column.

**BEFORE**



	C	D	E
	data1	data2	
2		1111	2
3		1111	3
4		1111	4

**AFTER**




	C	E
	data1	data2
2		2
3		3
4		4

### Notes:

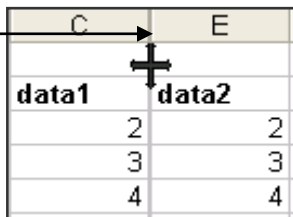
- In step 1, you can drag through column headings to hide multiple columns.
- You can hide columns to prevent others from seeing the data, or to temporarily display columns of data next to each other for charting or other purposes.

## Display Hidden Columns by Dragging

**Notes:** In steps 1, when the pointer is a cross with double vertical line and left- and right-facing arrows. You can perform the action.

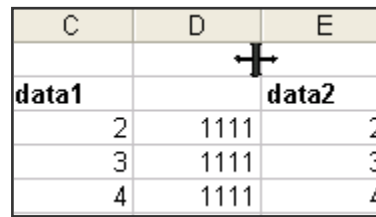
1. Rest pointer just to the right of column heading border. Pointer becomes a 
2. Drag pointer right to display the hidden column.

**BEFORE**



C	E
data1	data2
2	2
3	3
4	4

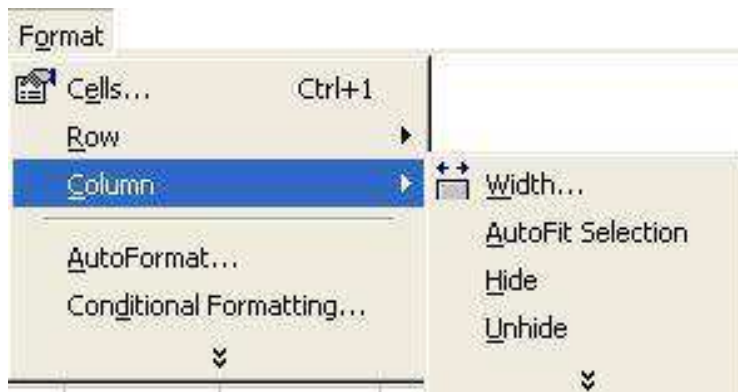
**AFTER**



C	D	E
data1		data2
2	1111	2
3	1111	3
4	1111	4

## Adjust Columns Using the Menu

1. Select column(s) to adjust.
2. Click **Format, Column**.
3. Click desired column command.

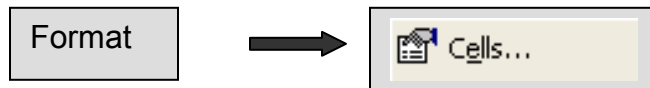


### Notes:

- Use the menu commands when you find it difficult to adjust columns with the mouse.
- In step 1, when using the menu to unhide columns, select the columns to the left and right of the hidden columns.

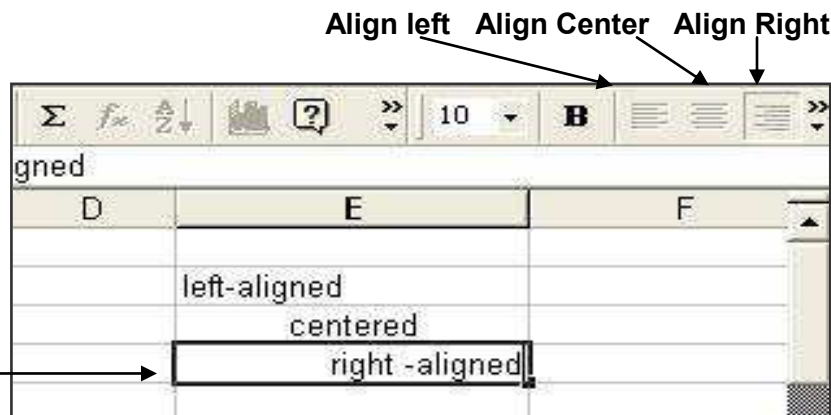
## Align Data in cells

Align cell data horizontally and vertically, apply text controls (wrap text in cells, shrink text to fit, merge cells ): orient text in a variety of angles.




### Align Cell Data Using Toolbar

1. Select cell(s) to align.  
*NOTE: To select cells that are nonadjacent, you can press **Ctrl** and click or drag through cells.*
2. Click desired alignment button on the Formatting toolbar.

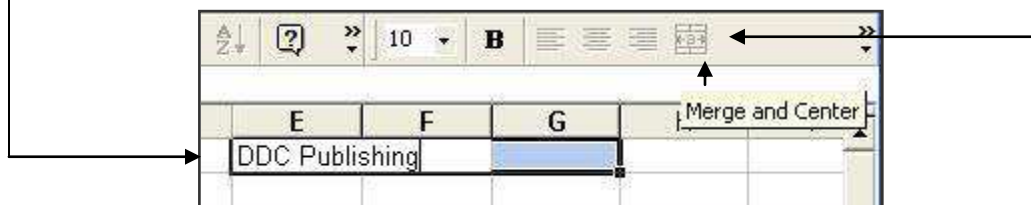


### Notes:

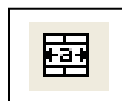
- In step 2, if the desired alignment button is not visible click the **More Buttons** arrow  on the right side of the toolbar to view additional buttons.
- If no alignment is set, Excel applies the General alignment which left-aligns text and right-aligns values.

## Merge and Center

1. Select cell containing data and drag to extend selection to include cells in which data will be centered.




2. Click the **Merge and Center** button



on the Formatting toolbar.

D	E	F	G	H
	DDC Publishing			

### Notes:

- In step 1, if Merge and Center button is not visible, click the More Buttons arrow  to view additional buttons.
- A merged cell is one or more consecutive cells combined into one cell address.
- When you merge cells, only the contents of the upper-left cell are retained. That cell becomes the cell reference.

### Notes:

- Alignment options:  
**Horizontal** and **Vertical**: sets alignment of text in cells.  
**Wrap text**: inserts line breaks when needed and increases row height to fit text.  
**Shrink to fit**: shrinks characters to fit the column width.  
**Merge cells**: joins selected cells. The contents of the upper-left cell are retained. That cell becomes the cell reference.

### Notes:

- Alignment options:

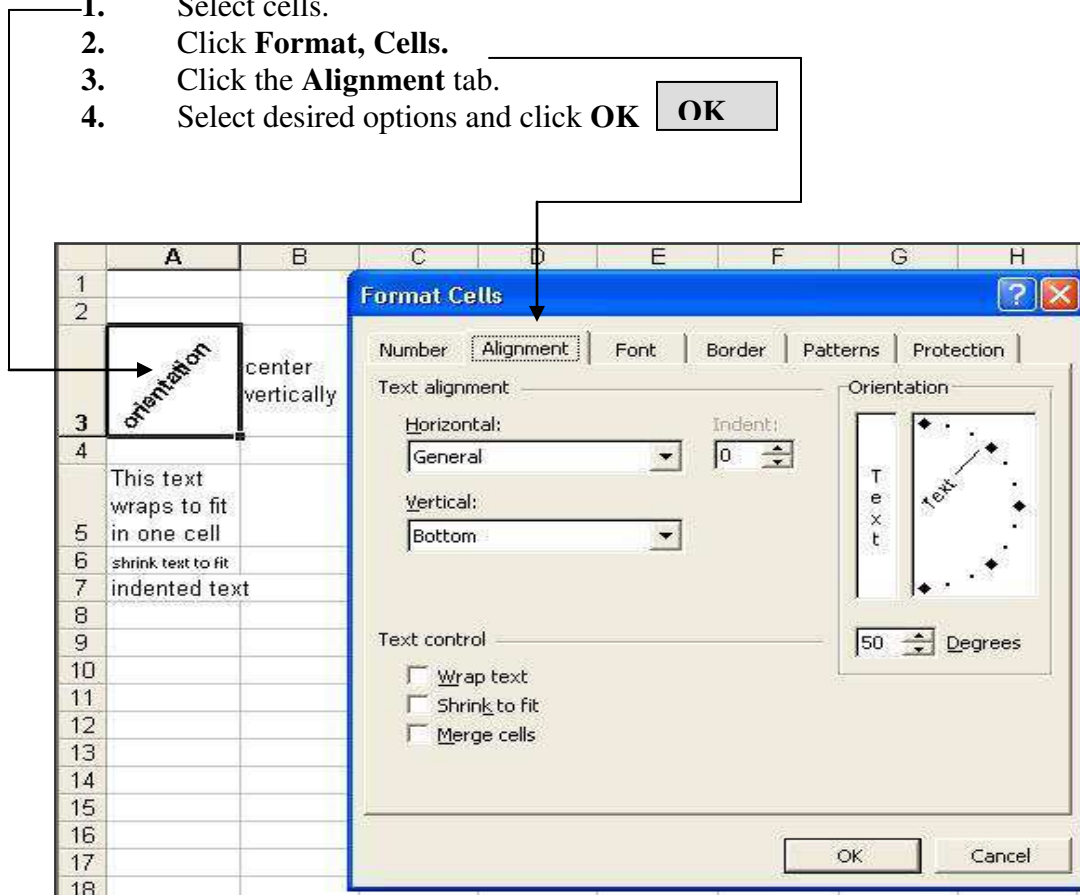
**Indent:** offsets data from left side of cell. Increments are measured in widths of characters.

**Orientation:** sets the rotation of text. Increments are measured in degrees.

## Menu Alignment Options

Set alignment options from a dialog box.

1. Select cells.
2. Click **Format, Cells**.
3. Click the **Alignment** tab.
4. Select desired options and click **OK**



## Clear Cell Contents

Using menu commands, you can clear cell formats, contents, or comments or clear all of these items.



### Clear Cell Contents

Removes the contents (data and formulas) and leaves the cells blank in the worksheet without removing formats or comments.

1. Select cells to clear.  
*NOTE: To select cells that are nonadjacent, you can press **Ctrl** and click or drag through cells to include in the selection.*
2. Press **Delete**.  
OR
  - Right-click any selected cell.
  - Click **Clear contents**.

	A	B	C	D
1	Date	Expense	Amount	
2	2/2/2006	inventory	14,000	
3	3/3/2006	inventory	15,000	
4	4/4/2006	overhead		
5	5/5/2006	overhead		
6	6/6/2006	overhead		
7	6/7/2006	inventory		
8	6/8/2006	inventory		
9	2/9/2006	inventory		
10	2/10/2006	inventory		
11	2/11/2006	overhead		
12	3/12/2006	overhead		
13	3/13/2006	overhead		
14	3/14/2006	overhead		
15	3/15/2006	overhead		
16				
17				

	A	B	C
1	Date	Expense	Amount
2	2/2/2006	inventory	14,000
3	3/3/2006		15,000
4	4/4/2006	overhead	16,000

Cleared cell



### Notes:

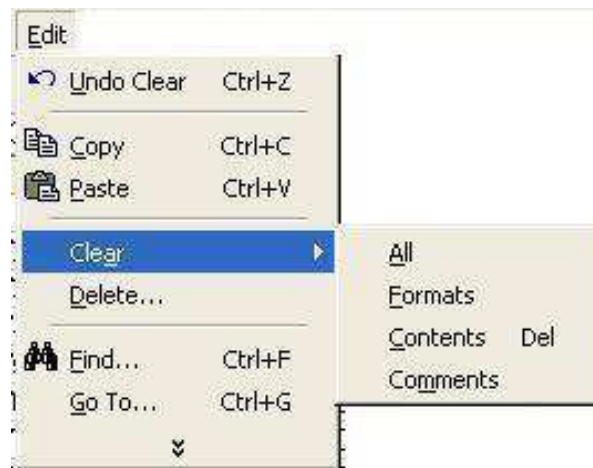
- In step 1, Excel will perform the clear command on all selected cells in one step.
- After you clear cells, you can click Edit menu, then Undo to reverse the operation.
- Notice that after the Clear Contents command has been applied, the surrounding cells do not change position.
- When you clear a cell, the format of the cell, such as bolding or alignment, is retained.

## Clear Cell Options Using Menu

Clear cells formats, contents, comments, or all of these items.

1. Select cells to clear.  
*NOTE: To select cells that are nonadjacent, you can press **Ctrl** and click or drag through cells to include in the selection*
2. Click **Edit, Clear**.
3. Click one of the following:
  - All** To clear formats, contents, and comments.
  - Formats** To clear only formats, such border styles and font attributes.
  - Contents** To clear just the contents of the cell.
  - Comments** To clear just the comment attached to the cell.

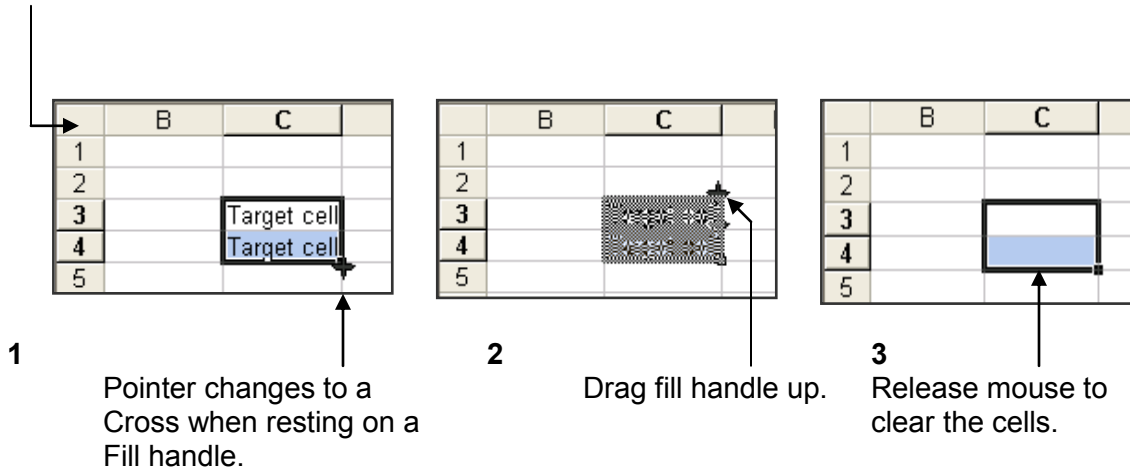
Excel clears the cells as directed by your command



### Notes:

- In step 2, you can point to the **Clear** command on the menu without clicking to open a submenu.
- **Comments** are notes inserted into a cell. Excel displays comments when you rest the pointer on a cell containing a comment. A red triangle in the upper-right corner of a cell indicates the cell contains a comment.

**TIP: You can also clear cell contents by dragging the fill handle in a selection over the selected cells.**



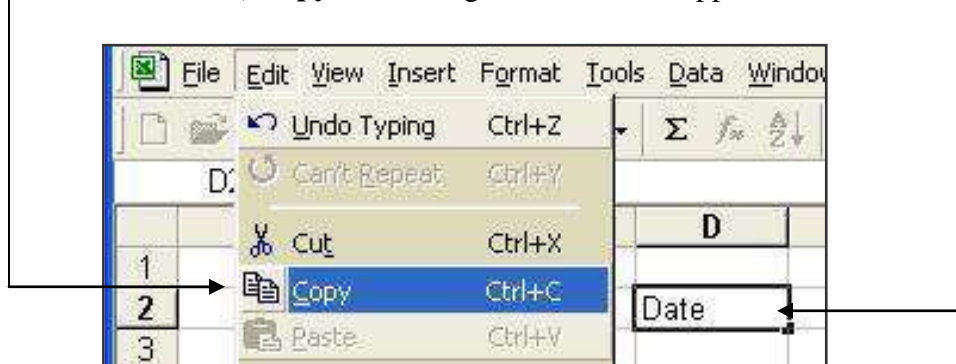
## Copy Cell Contents

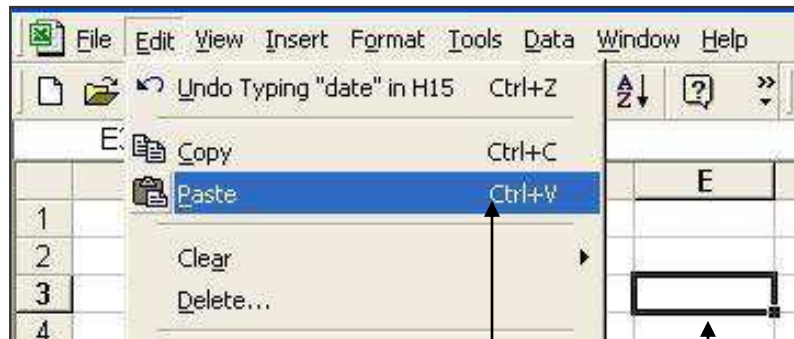
You can copy data from one cell to another cell in a variety of ways. The method you choose often depends upon the location of the source and the destination.



### Copy Cell Data Using Menu Command

1. Select cells to copy.
2. Click **Edit, Copy**. A flashing dashed outline appears around cells.





3. Select destination cell.
4. Click **Edit, Paste**.
5. Repeat steps 3 and 4 to repeat paste operation.
6. Press **Esc** to end the paste procedure.

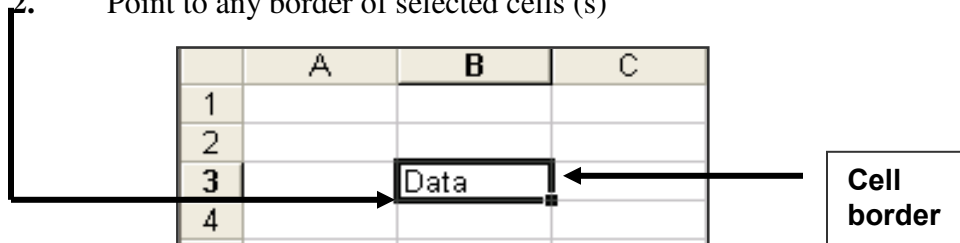
*TIP: If you intend to paste the data only once, you can by pass steps 4-6 and just press **Enter**.*

### Notes:

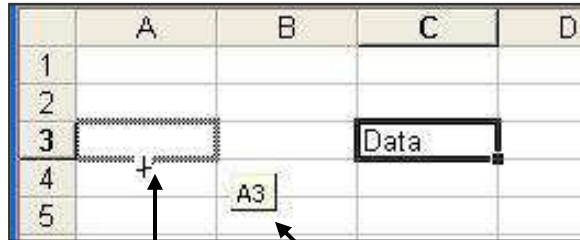
- Using menu commands to copy cells is most useful when both the source and destination cells are not in the same viewing area.
- In step 2, the flashing dashed outline remains until you press **Esc**, press **Enter** or add input to another cell. The flashing outline indicates you can repeat the paste operation.
- In step 2 and step 4, you can also right click the selected cells to access the **Copy** and **Paste** commands from a shortcut menu.
- **Caution:** when you paste data, existing data in the destination cells will be replaced. Click **Edit** menu, then **Undo** to reverse the paste operation.
- In step 4, to avoid overwriting data, click **Insert** menu, then click **Copied Cells**. The Insert Paste dialog box appears from which you can choose a direction to shift the existing cells.

### Copy Cell Contents by Dragging Cell Border

1. Select cell(s) to copy
2. Point to any border of selected cell(s)



3. Press **Ctrl** and drag border outline to new location.
4. Release mouse button.



A plus sign indicates data will be copied (not moved).

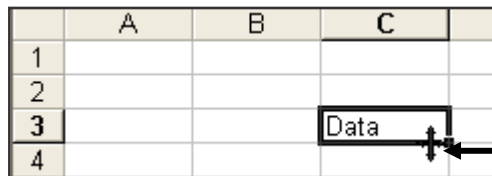
Excel displays destination Cell reference

**Notes:**

- The drag cell border method is best when the source and destination cells are near each other.
- In step 3, press Ctrl and Shift to copy data and insert it between destination cells. Otherwise data in the destination cells will be overwritten.

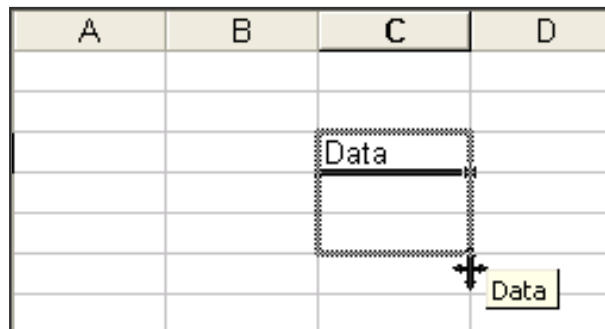
**Copy Cell Contents by Dragging Fill Handle**

1. Select cell(s) to copy, then point to fill handle. A crosshair appears.



Crosshair appears when pointer rests on fill handle.

2. Drag crosshair to extend border over adjacent cells to fill.



3. Release mouse button. Excel copies data into all cells within extended.

	A	B	C	
1				
2				
3			Data	
4			Data	
5			Data	
6				

**Notes:**

- The drag fill handle method can only be used to copy and fill adjacent cells.
- In step 1, if you select more than one cell, press Ctrl while dragging to suppress creating a series – a set of related numbers or text.


## Delete Cells, Columns, or Rows

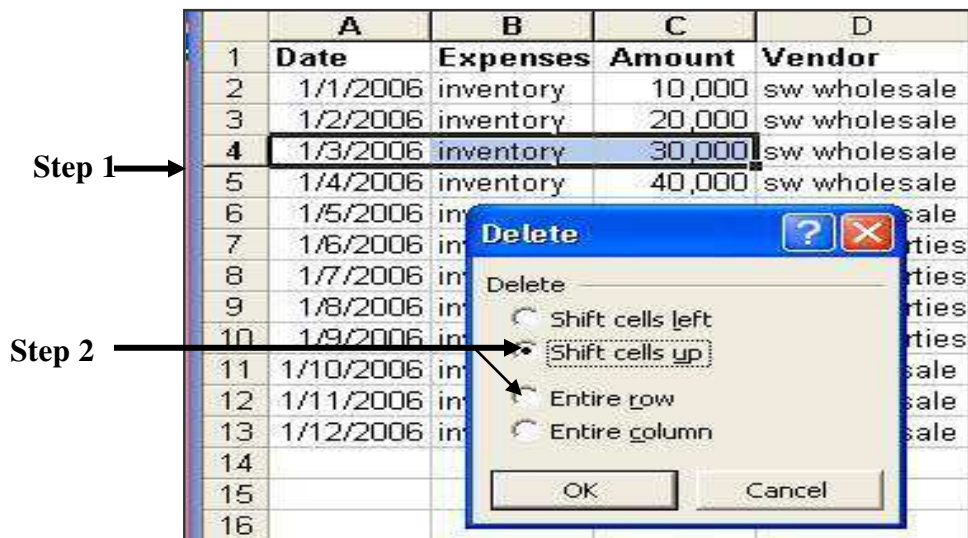
You can delete cells, rows or entire columns, from a worksheet. Existing cells adjust to take the place of the removed cells.



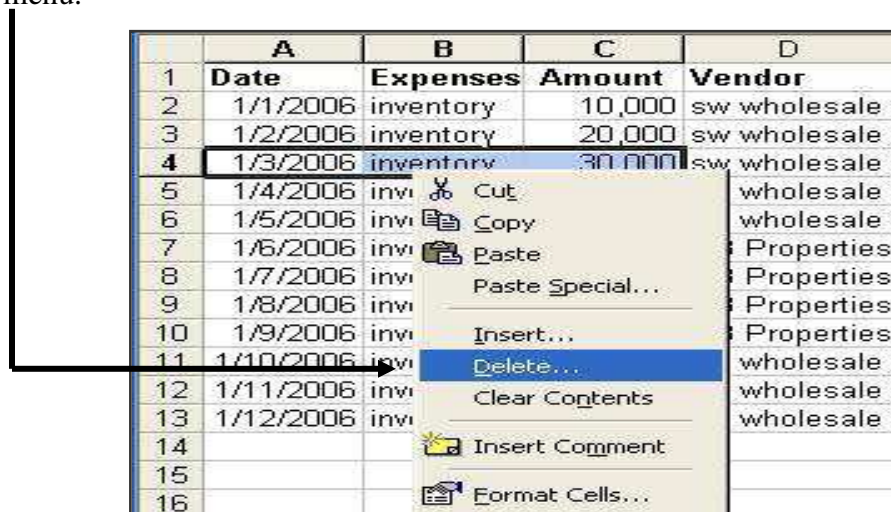
1. Select cells to delete.
2. Click **Edit, Delete.**

**If the Delete dialog box appears:**

- Select the direction you want existing cells to shift.
- Click **OK** 



**TIP:** In step 2, you can also right-click any selected cell, and then click **Delete** from the shortcut menu.



### Notes:

- In step 1, to select nonadjacent cells, you can press **Ctrl** and click or drag through cells to include in the selection.
- If deleted cells are used in formulas, the formulas will display **#Ref!** Error messages. If there are references to adjusted cells in formulas. Excel adjusts the formulas, even absolute references.
- **Caution:** You can lose data with the delete action. However, you can click **Edit** menu then **Undo** to reverse the action.
- **Do not confuse Delete with Clear.** Clearing cells removes only the data, while deleting cells removes the cells from the worksheet.

## Delete Entire Column or Row

1. Click row or column heading to select.
2. Click **Edit, Delete**.

Row headings                      Selected column heading

	A	B	C	D
1	<b>Date</b>	<b>Category</b>	<b>Description</b>	<b>Amount</b>
2	4-Jan	Travel	Trip to Florida	\$1,000
3	5-Jan		Trip to Florida	\$1,000
4	6-Jan	Travel	Trip to Florida	\$1,000
5	7-Jan	Travel	Trip to Florida	\$1,000
6	8-Jan	Travel	Trip to Florida	\$1,000
7	9-Jan	Travel	Trip to Florida	\$1,000

### Notes:

- To select multiple columns or rows to be deleted, drag through row or column headings, or press **Ctrl** and click nonadjacent headings to select. You cannot delete columns and rows at the same time, however.

**TIP:** You can also delete cells by pressing **Shift** and dragging the fill handle in selection over the selected cells.

	A	B	C
1	Good data	Good data	Good data
2	Good data	XX	Good data
3	Good data	XX	Good data
4	Good data	XX	Good data
5	Good data	Good data	Good data
6	Good data	Good data	Good data
7		Good data	

- 1 Pointer changes to a cross when you rest it on fill handle.

	A	B	C
1	Good data	Good data	Good data
2	Good data	XX	Good data
3	Good data	XX	Good data
4	Good data	XX	Good data
5	Good data	Good data	Good data
6	Good data	Good data	Good data
7		Good data	

- 2 Drag fill handle up over cells while Holding the Shift key.

	A	B	C
1	Good data	Good data	Good data
2	Good data	Good data	Good data
3	Good data	Good data	Good data
4	Good data	Good data	Good data
5	Good data	Good data	Good data
6	Good data	Good data	Good data
7		Good data	

- 3 Cells are deleted and cells shifts up in this example.



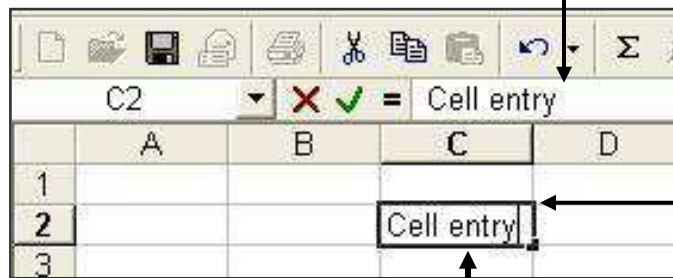
## Edit Cell Data

A cell entry can be changed (edited) with a variety of techniques. When cell editing is enabled, the formula bar gains extra controls (buttons) and displays the cell contents both in the cell and in the formula bar.



### Edit a Cell Entry by Double-Clicking

1. Double-click cell containing data to edit. Excel displays a flashing insertion pointer in the entry and extra controls next to the formula bar.



Insertion pointer

2. Click in the entry to place the insertion pointer.  
OR  
Drag through characters to select (the next action will replace or delete your selection).



3. Edit the entry as needed:
  - Type characters to insert.
  - Press Del to delete characters to the right of insertion pointer or to delete the selection.
  - Press Backspace to delete character to the left of the insertion pointer or to delete the selection.
4. Press Enter.

OR Click the Enter button  on formula bar.

**Notes:**

**There are three ways to edit a cell entry:**

- Double-click the cell.
- Click the cell, and then click in the formula bar.
- Click the cell, and then press **F2**.

**When editing:**

- Excel displays a flashing cursor where new input will be inserted.
- You can press the **Ins** key to toggle between insert and overwrite mode.
- The formula bar changes to include **Cancel, Enter** and **Edit** Formula buttons.
- When editing a cell, you can insert text stored from the Clipboard by pressing **Ctrl + V**

**Replace a Cell Entry**

1. Select cell containing data to replace.
2. Type new data
3. Press Enter.

OR Click the Enter button  on formula bar.

**Notes:**

Replacing cell data by typing over it is best when little or none of the original cell data will be retained.

**Cancel Changes to a Cell Entry**

Prior to entering the change:

- Press Esc.
- OR


Click the Cancel button  on formula bar.

**Notes:**

- Use **Esc** to undo your changes prior to completing.
- If you have already entered the change, you can click the **Edit** menu, then **Undo**.

## ***Formula Bar and Related Controls***

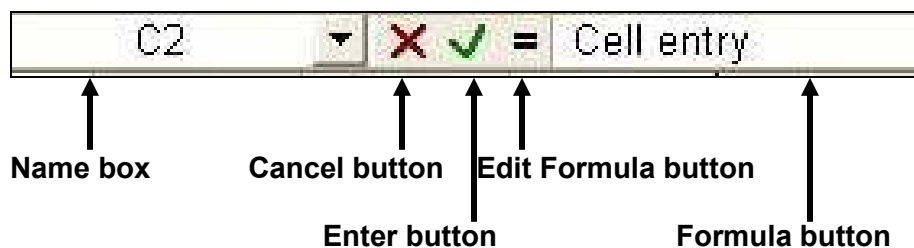
**Name Box** : Displays cell reference of the data you are editing.

**Cancel button**  : Lets you cancel a revision before completing it.

**Enter button**  : Lets you complete the revision.

**Edit Formula button**  : Provides help when editing formulas.

**Formula bar** : Lets you edit the cell content.



### ***Notes:***

- By default, Excel lets you edit cell contents directly in the cell. To set this option, click **Tools** menu, then **Options:** select the **Edit** tab: then select **Edit directly in cell.**

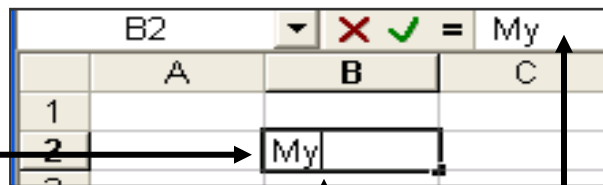
## Enter Cell Data

Entering data is very straightforward. There are, however many techniques for entering data of different types, such as dates, fractions, percents, and formulas.



### Enter Text or Whole Numbers

1. Select cell to receive entry.
2. Type the text or whole number. A flashing insertion pointer appears after the data you type. The formula bar also displays your entry.

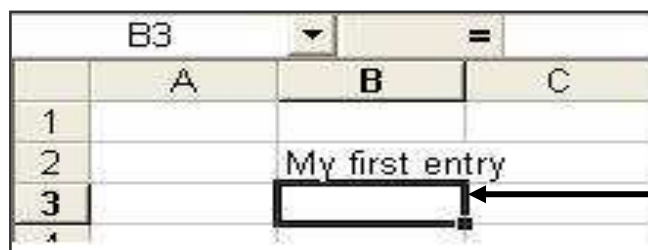


Insertion pointer      Formula bar


3. Press Enter. OR

Click the Enter button  on formula bar.

Excel completes the entry and selects the cell below it.



### To cancel the entry before completing it:

- Press **Esc**. OR Click the **Cancel** button  on formula bar.

**TIP:** To enter identical data in multiple cells, select cells, type data, and then press

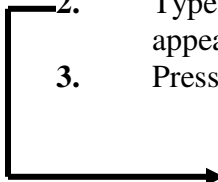
**Ctrl + Enter.**

**Notes:**

- In step 2, to wrap text within the cell, press Alt + Enter.
- In step 2, if what you type matches a previous entry in the current column. Excel's Auto-Complete feature fills in the text of the previous entry as you type.
- In step 3, you can also press an arrow key in the direction of the next cell you want to select, or click any other cell.
- In step 3, if what you enter matches and abbreviation in the Auto correct feature. Excel replaces the abbreviation with the specified replacement text.
- If no alignment is chose, Excel applies the General alignment which automatically left-aligns text and right-aligns values (including dates and times).
- If your entry does not fit in the column, it overlaps into the next column, unless the next column cell also contains data.

**Enter Special Kinds of Data**

1. Select cell to receive entry.
2. Type the data as shown in the table below. A flashing insertion pointer appears after the data you type. The formula bar also displays your entry.
3. Press Enter.



Category:	Example of what to type:
Currency	\$25,000.25
Date	6/24/97
	24-June
	24-June-97
	June-97
Date and time	6/24/97 10AM
Fraction	21/2
Label	Text
Mixed number	21/2
Number	25
Number as label	= "25"
Percent	25%
Time	10AM
Formula (simple)	=A1+B1

**TIP:** To enter today's date, press **Ctrl +;** (semicolon)

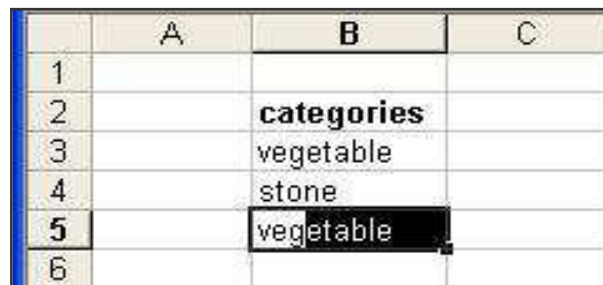
**Notes:**

- Excel automatically applies special number formats when you enter a value in a specific order, or when you enter a value with special characters, such as a comma. For example, if you, type a zero, a space, and a fraction, Excel will automatically apply the fraction format and display the value as a fraction.
- Dates and times may be displayed as a combination of text and numbers. However, Excel stores dates and times as serial values

### How AutoComplete Works

The AutoComplete feature assists you when entering repeating text in a column.

1. Select cell to receive text.
2. Type beginning of text. Excel automatically completes the entry (see highlighted text in illustration below) based on data previously entered in the column.



	A	B	C
1			
2		<b>categories</b>	
3		vegetable	
4		stone	
5		vegetable	
6			

NOTE: *Type over the highlighted text to change it.*

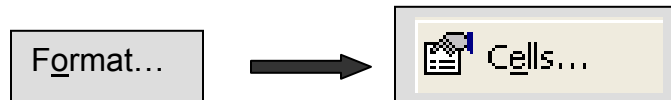
3. Press **Enter**.

**Notes:**

- AutoComplete will not assist in entering numbers.
- Another way to use AutoComplete is to right-click the cell to receive the data, click **Pick from List**, then select the data you want to enter. This method lets you input data using only the mouse.

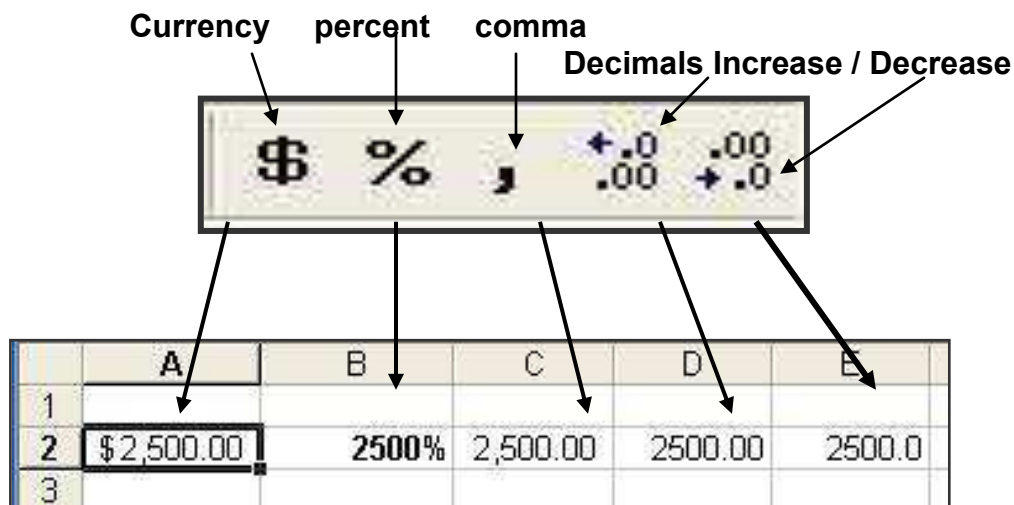
## Format Numbers

When you enter a value, Excel applies the format it thinks appropriate to your entry. You can also apply common number formats from the Formatting toolbar, such as Currency and Percentage; or you can select specific number formats using menu commands and the Format Cells dialog box.



### Format Numbers Using Toolbar

1. Select cell(s) containing values to format.  
NOTE: To select cells that are nonadjacent, press **Ctrl** and click or drag through cells to include.
2. Click desired number format button on the Formatting toolbar:




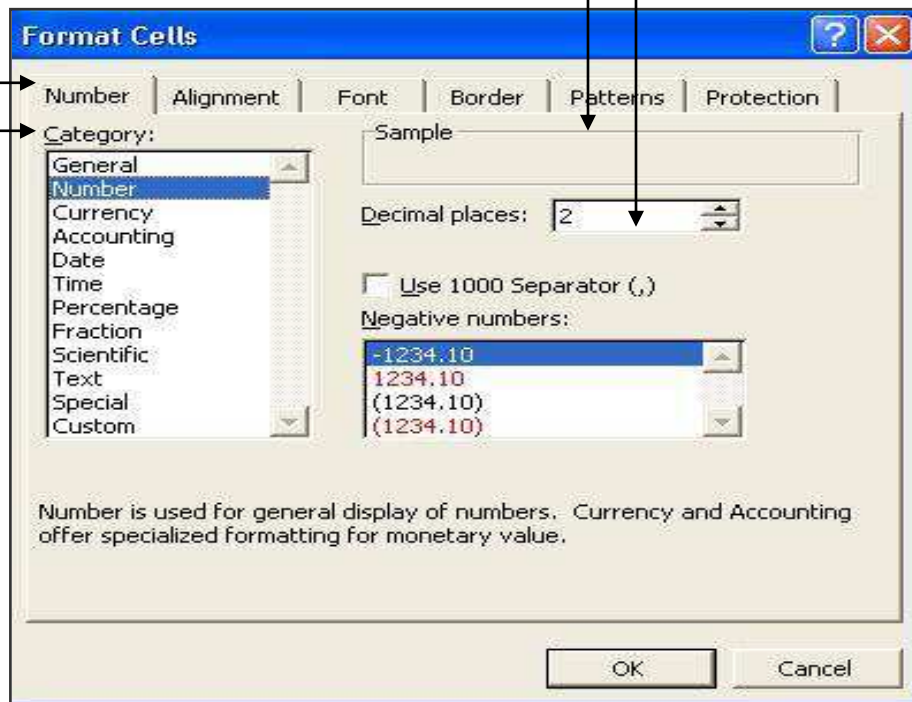
#### **Notes:**

- In step 2, if the desired number format button is not visible, click the More Buttons arrow >> on the right side of the toolbar to view additional buttons.
- When you change a number format, Excel does not change the value.
- If the number does not fit in the cell after you change the number format, Excel displays #####(pound signs) in the cell. To fix this problem, increase the column width, or select the Shrink to fit option.
- You can format a number when you enter it by typing specific symbols, such as a \$ or %.



## Format Numbers Using Menu Commands

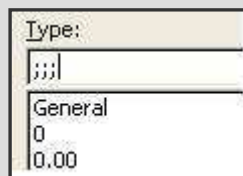
1. Select cell(s) containing values to format.  
NOTE: To select cells that is nonadjacent, **Ctrl** and click or drag through cells to include.
2. Click **Format, Cells**.
3. Click the **Number** tab.
4. Select category of number format in **Category** list. Excel displays options for the selected category.
5. Select options for the category you have selected. Excel displays sample in **Sample** box.
6. Click **OK**  when done.



Category	Value	Comment
General	1.5	
Number	1.50	
Currency	\$1.50	
Accounting	\$1.50	
Date	January1, 1990	<i>First day of century</i>
Time	1/1/00 12.00 PM	<i>First day and a half of century</i>
Percentage	150.00%	<i>You can set decimal places</i>
Fraction	11/2	
Scientific	1.50E+00	
Text	1.5	
Special	00002	<i>Zip code</i>
	(718) 980-0999	<i>Phone number</i>
	000-00-0002	<i>Social security number</i>
Custom	1/1/1900 12.00PM	<i>Customized date and time</i>

### Notes:

- In most cases, Excel applies the General number Format, unless you include special characters.
- In step 4, the selected category indicates the current number format of the selected cell. If more than one cell is selected, and they have different number formats, no category will be displayed.
- The **Custom** category contains templates for all the number formats. Select the format that is closest to the desired format, and then modify it as needed. In the sample below, the custom format (date and time) shows the full year 1900.
- You can hide data in a cell by applying a custom number format. To create the format: Select **Custom** in **Category** box, then type three semicolons (;;;) in the **Type** box that appears.



- Excel displays descriptions of the selected category near the bottom of the dialog box.

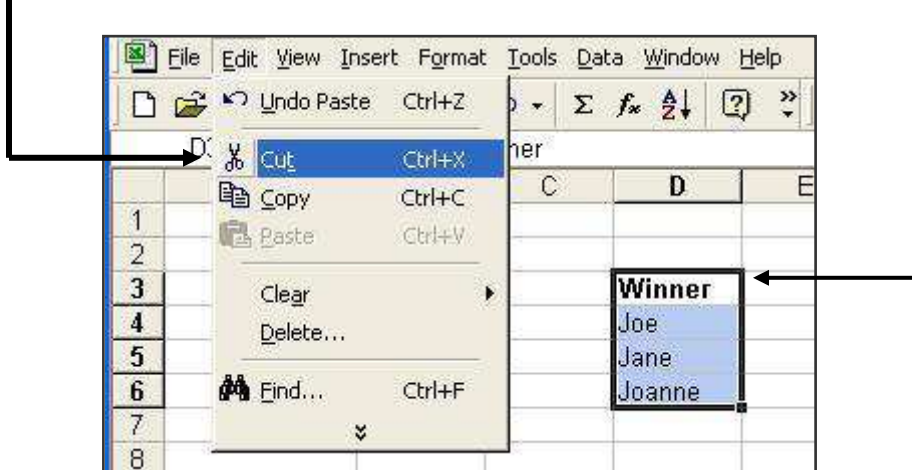
## Move Cell Contents

You can move data from one cell to other cell in a variety of ways. The best method to choose depends upon the location of the source data and its destination.

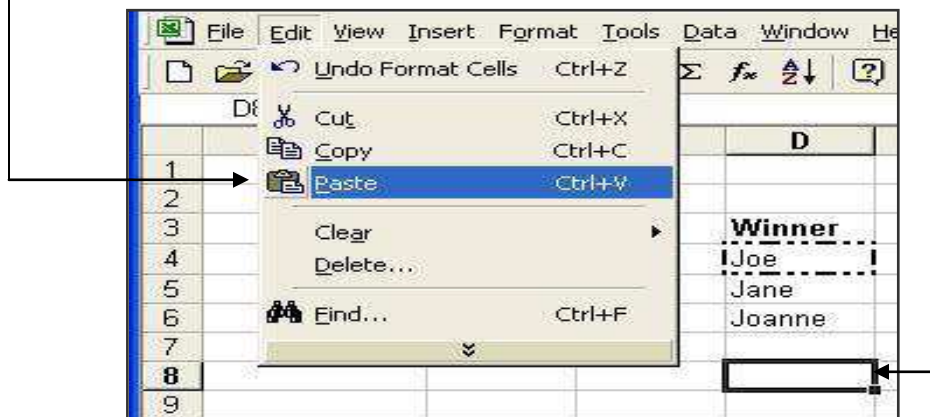


### Move Cell Contents using Menu Commands

1. Select cell(s) to move.
2. Click Edit, Cut. A flashing dashed outline appears around selected cell(s).



3. Select destination cells(s).
4. Click the **Edit** menu, and then click **Paste**.  
**OR**  
Press **Enter**.

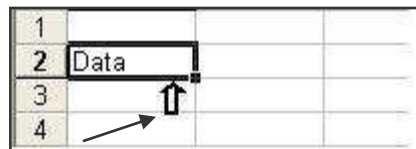


### Notes:

- Using menu to move cells is best when the source and destination cells are not in the same viewing area.
- In step 2 and step 4, you can also right-click the selection to select the **Cut** and **Paste** commands from a shortcut menu.
- **Caution:** when you paste data, existing data in the destination cells will be replaced. Click the **Edit** menu, and then **Undo** to reverse the paste operation.
- In step 4, to avoid overwriting data, you can click the **Insert** menu, and then **Cut** cells. The Insert Paste dialog box will appear, from which you can choose the direction to shift the existing cells.
- You may have to click the button at the bottom of the menu to view the **Cut Cells** command.

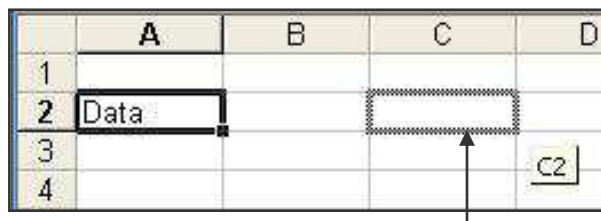
### Move Cell Contents by Dragging Cell Border

1. Select cells(s) containing data to move.
2. Point to any border of selected cells (s).



Pointer becomes a solid arrow

3. Drag border outline to new location.
4. Release mouse button.



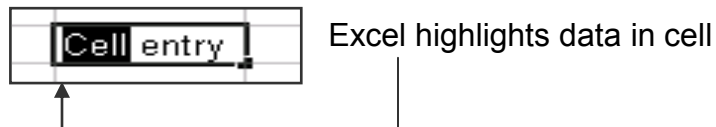
Excel displays reference of destination cell.

**Notes:**

- The drag border method is best when the source and destination cells are near each other.
- In step 3, “drag” means to press and hold the left mouse button while moving the mouse.
- In step 3, to avoid overwriting data in destination cells, press **Ctrl + Shift** while dragging cell border. Existing cells will shift to accommodate new data.

**Move Part of a Cell's Contents into Another Cell**

1. Double-click cell containing data to move. A flashing insertion pointer appears.
2. Drag through data to select it.



3. Press **Ctrl + X** (Cut).
4. Double-click destination cell and click where data will be inserted.

OR

Select cell to be overwritten by data.

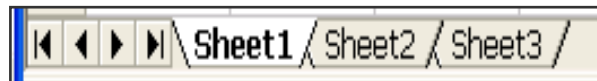
5. Press **Ctrl + V** (Paste).

**Notes:**

- You can also use menu commands (**Edit, Cut and Edit, Paste**) to move a cell's content.
- If you make a mistake, you can click the **Edit** menu, then click **Undo**. Excel lets you undo multiple actions, not just the most recent.

## Sheet Tabs

Sheet tabs let you work with multiple worksheets within a single workbook file. You can select, group, insert, rename, delete, move, and copy sheet tabs.



### Group and Ungroup Sheet Tabs

When you group sheets, data and formatting changes made to the active sheet are repeated in the grouped sheets.

1. Click first sheet tab in group.
2. Press **Ctrl** and click each sheet tab to add to group.



3. Click any grouped sheet tab to make it active.

#### To ungroup sheet tabs:

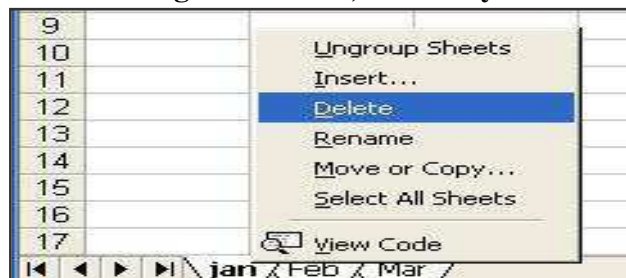
- Right-click any grouped sheet tab, then click **Ungroup Sheets** on the Shortcut menu.

### Delete Sheet Tabs

1. Right-click sheet tab to delete, then click **Delete** on the shortcut menu.

2. Click OK  To confirm the action.

**Caution: Be careful when deleting worksheets, because you cannot undo action**



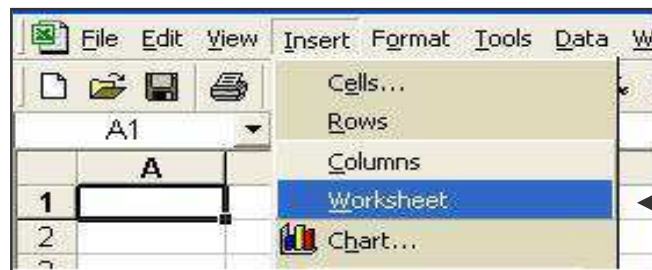
this

**Notes:**

- In step 2, you can also press Shift and click to select consecutive sheets.
- Grouped sheets appear highlighted (white), while ungrouped sheets appear gray. When sheets are grouped, “(Group)” appears after the workbook name on the title bar.
- You can also ungroup sheets by clicking any sheet tab that is not currently grouped.

**Insert a New Sheet**

1. Right-click any sheet tab, and then click Insert on the shortcut menu. The Insert dialog box appears.
2. Click Worksheet icon, then click **OK**
3. Move and rename sheet tab as desired.



**Notes:**

- In step 1, you can insert multiple worksheets by first selecting (grouping) the number of sheets you want to insert, then right clicking on that group.
- In step 2, you can also insert special items, such as chart and macro sheets.
- From the **Spreadsheet Solutions** tab, you can select a custom template to insert.

## Rename a Sheet

1. Double-click sheet tab to rename. Excel highlights the sheet tab name.



2. Type new name, then click anywhere in the worksheet.

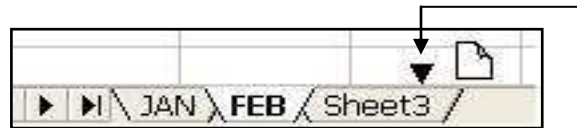


### Notes:

- In step 1, you can also right-click the tab to rename, then click **Rename** from the shortcut menu.
- Worksheet names may contain spaces and punctuation.

## Move and Copy Sheets

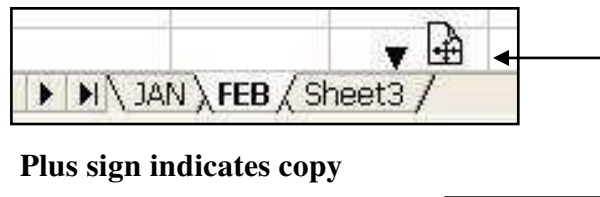
1. Select sheets(s) to move or copy. Excel highlights sheet tab names.
2. To move sheets, drag selection to desired location.



Triangle marks insertion point.

OR

To copy sheets, press Ctrl and drag selection to desired location.



Plus sign indicates copy

### Notes:

When you copy a sheet. Excel renames the new sheet by adding a number to it. For example, a copy of Sheet 1 may be named Sheet 1 (2). You can, of course rename the sheet.



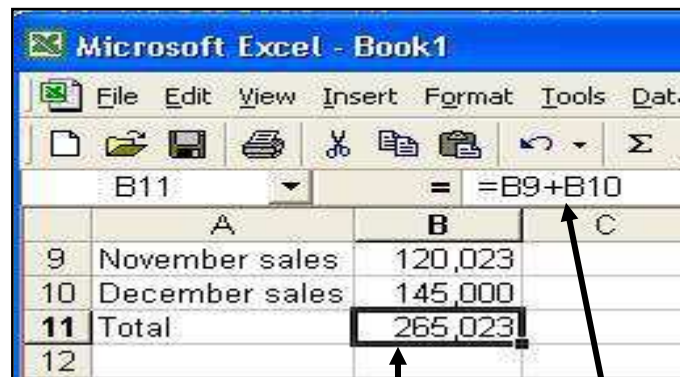
## About Formulas

You will use formulas to calculate values stored in your worksheet. This topic explains basic information about formulas - formula location, formula parts, controlling the order of operation, and formula examples.



### Formula Location

Enter a formula in the cell where the result should appear. As you type the formula, it will appear in the cell and in the formula bar. After you enter a formula, the result is displayed in the cell, and the formula is displayed in the formula bar.

A screenshot of the Microsoft Excel interface. The title bar reads 'Microsoft Excel - Book1'. The menu bar includes 'File', 'Edit', 'View', 'Insert', 'Format', 'Tools', and 'Data'. The toolbar contains icons for file operations and editing. The formula bar shows 'B11' and '=B9+B10'. The worksheet grid has columns A, B, and C, and rows 9 through 12. Row 9: November sales, 120,023. Row 10: December sales, 145,000. Row 11: Total, 265,023. Row 12 is empty. Arrows point from the labels 'Formula result' and 'Formula' to the cell B11 and the formula bar respectively.

Formula result

Formula

### Notes:

- A formula is an instruction to calculate numbers.
- You can display formulas in cells by pressing Ctrl +~(tilde). Press the key again to return worksheet to normal.

## **Formula Parts**

Formulas always begin with an equal sign (=) and often contain elements such as those shown in bold type in the following sample formulas:

<b>Numbers</b>	=A1+25
<b>Cell references</b>	=A1-25
<b>Reference names</b>	=A1*Salary
<b>Functions</b>	=Sum (A1:A10) + Salary
<b>Operators</b>	=A1/2+25*22-3
<b>Parentheses</b>	=(24+A1)/2%

### **Notes:**

- Cell references and reference names indicate the location of cells in a worksheet.
- Functions are predefined formulas.
- Operators tell Excel the kind of calculation to perform.
- Parentheses – affect the order of operations. They must be used in pairs.

## **Control the Order of Operations in Formulas**

It is important to consider the order of mathematical operations when preparing formulas. Excel will perform the operation in your formulas in the following order:

- Operations enclosed in parentheses( )
- Percentage %
- Exponential ^
- Multiplication and division \* /
- Addition and subtraction + -
- Concatenation (connection of text strings) &
- Comparisons =< > <=> = < >

### **Notes:**

- When a formula contains both a multiplication and division operator, Excel performs the operations from left to right.
- When a formula contains both an addition and subtraction operator, Excel performs the operations from left to right.

## Formula Examples

This is a list of common formulas with a brief explanation:

**=A1+25** adds the contents of cell A1 to the constant 25.

**=A1-25** subtracts 25 from the content of cell A1.

**=A1\*TotalSalary** multiplies the content of cell A1 by the content of the cell named Total Salary.

**=Sum (A1:A10)+TotalSalary** adds the content of the cell named TotalSalary to the sum of cells A1 through A10.

**=A10+(25\*TotalSalary)** multiplies the content of the cell named TotalSalary by 25, then adds that result to the content of cell A10.

**=A10^3** multiplies the content of A10 by itself 3 times (exponentially).

**=(Min (Salary)+Max (Salary))/2** adds the minimum value in the range of cells named Salary to the maximum value in that range, and divides the result by 2.

**=A10& " " & A11** combines the text in cells A10 and A11 with a space between them. If A10 contains HELLO and A11 contains THERE, the result would be HELLO THERE.

**=IF (A1<>0, A1\*B10," ")** If the value in cell A1 is not zero, multiplies A1 by the value in B10, otherwise displays blank text.

### **Notes:**

Some of the examples contain named ranges. You must name a range before you can refer to it in formula. However, Excel will let you use names when labels exist next to numbers in your worksheet.

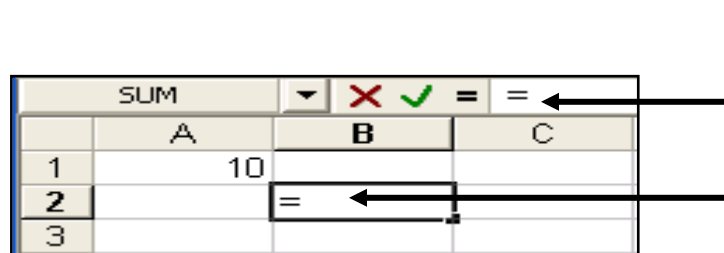
## Create Formulas (Simple)

Enter and build formulas to calculate values stored in your worksheet. This section includes basic information about building formulas, pasting names into a formula, and inserting references in formulas.

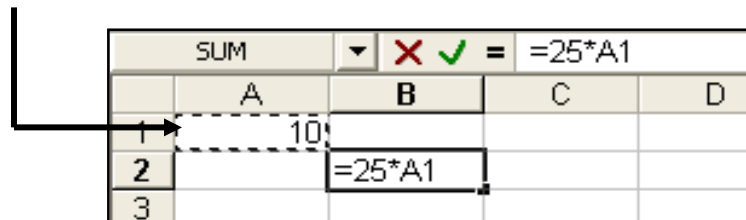



### Build Formula (Add References)

1. Select cell to receive formula.
2. Type an equal sign (=). The equal sign displays in the cell and in the formula bar.



3. Type the formula.  
**To insert a reference in formula by pointing with the mouse:**
  - Click cell to reference. A dashed line appears around the cell, and Excel inserts the cell reference in your formula.



4. Type next part of formula. If formula is complete, go to step 5, below. Excel removes dashed outline, and your entry appears in cell and formula bar.
5. Press Enter.  
OR  
Click the Enter button  on formula bar.  
Excel calculates the formula and displays the result in the cell.

**Notes:**

- In step1, select a cell in which you want to enter the result of the calculation.
- In step2, when you type the equal sign, controls appear on the formula bar.
- In the illustration, the simple formula =25\*A1 multiplies the value in A1 by 25.
- You can insert references until all the cells you want to calculate are included in the formula.
- In you decide to cancel the entry, press **Esc**.

**Paste a Named Range into a Formula**

1. Place insertion point in formula.
2. Click Insert, Name.
3. Click Paste on the submenu.
4. Click name to paste in formula, then click **OK**

**OK**



**Notes:**

In step 2, you can also type the name of a range, instead of pasting it.

## Create Formula, Insert Cell References, and Change Reference Type

1. Type the data in a new worksheet, as shown in the illustration following. Then create the formula in C7 to calculate the commission ( $=\$B\$2*C5$ )

	A	B	C	D
1	SALES COMMISSION			
2	COM.RATE	4%		
3				
4		ELMHURST CADDY	WUILLS	
5	SALES	640000	340000	540000
6	BONUS	2000	1000	2000
7	COMMISSION	25600		
8	TOTAL COMP	27600		
9				

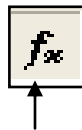
2. Select cell to receive formula (C7).
3. Type = to start the formula.
4. Click cell for reference in formula (B2).
  - **To change the inserted reference to absolute:**  
Press **F4**. Reference changes to absolute (B2 becomes \$B\$2).
5. Type desired operator (\*).
6. Click next cell for reference in formula (C5).
7. Press **Enter** to complete the formula.

### Notes:

- This procedure explains the steps needed to build a typical formula. References to the illustration appear in parentheses.
- When creating a formula, each time you point to a cell, Excel inserts it in the formula and outlines the cell.
- In step 4, each time you press **F4**, and Excel changes the reference type.
- **Illustration result:**  
Formula in C7 should display 1360.

## Create Functions

Functions are predefined formulas that perform specific calculations, such as finding an average or future value. Functions require arguments – the data to be calculated. To make it easy to create a function, Excel provides the Paste Function Wizard.



Paste Function button

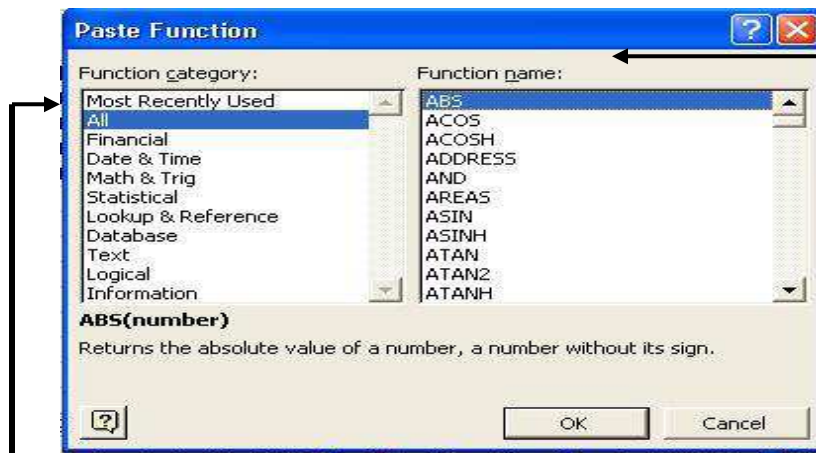


Functions list on formula bar

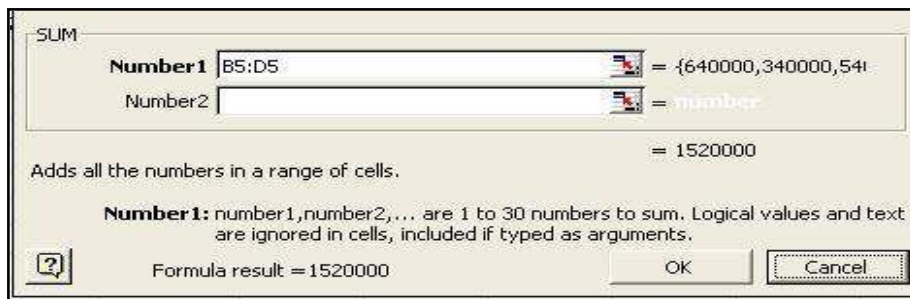
### Insert a Function Using Function Wizard


1. Select cell in which to create the function.

2. Click the Paste Function button  on Standard toolbar. The Paste Function dialog box appears.



3. Select desired category in **Function category** list.
4. Select desired function in **Function name** list, then click **OK**. A dialog box for the function you selected appears.




5. Insert cell references or value in Number boxes.  
NOTE: You can click the Collapse Dialog button on the right side of the Number box, then select cells directly from the worksheet.
6. Click **OK**  When done.

### Notes:

- In step 2, you can also click the **Insert** menu, and then click **Function**.
- You can also click the **Paste Function** button when you want to insert a function in a formula you have already started to create.
- When creating a formula, you can click the **Function list** on the formula bar to insert frequently used functions and access the **Paste Function Wizard**.
- The **Paste Function Wizard** may insert a suggested range in a **Number Box**. Delete this range if it is not appropriate.
- As you click in a **Number** box, the Paste Function Wizard may add more boxes.

### Edit a Function




1. Select cell containing the function to edit.  
NOTE: Do not double-click the cell.
2. Click the Paste Function button  on Standard toolbar.
3. Change arguments in Number boxes, then click **OK**.

### Notes:

- In step 1, if you double-click the cell, then click the **Paste Function** button; you will insert a new function.
- In step 3, refer to illustration given at beginning of the page.




## Combine (Nest) Functions

1. Double-click cell containing function(s).
2. Place insertion point where new function will appear, or select argument to replace with a function.
3. Click the Paste Function button  on Standard toolbar.
4. Select desired category in Function category.
5. Select desired function in Function name list, then click 
6. Insert cell references or values in Number boxes.
7. Click OK when done. 

=AVERAGE(SUM(E2:E6),SUM(B6:D6))

## Use AutoSum Function

1. Click cell in which function will be entered.
2. Click the **AutoSum** button  on the Standard toolbar. Excel surrounds suggested cells to add with dashed outline.
3. To change the range, drag through desired cells.
4. Press **Enter** when done.

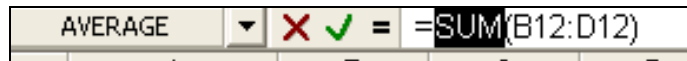
11		Dept.1	Dept2	Dept.3	Total sales
12	Sales	1000	2000	1500	=SUM(B12:D12)
13					

### Notes:

- If Excel detects subtotals within a range of values, it may suggest to add just those totals to obtain a grand total. When this occurs, Excel applies dashed outlines only to cells containing subtotals in the immediate column or row.

## Edit Formulas




You will sometimes need to change a formula – perhaps replace an operator, add a set of parentheses, or change the cell or range to which the formula refers



### Edit Formulas

1. Double-click the cell containing the formula to change. Excel displays a flashing insertion pointer in the formula. Cell references in the formula are colored. Cell outlines indicate locations of references in worksheet.

	A	B	C	D	E	F
1		Sales				
2	1990	1000				
3	1991	4000				
4	1992	5000				
5	1993	5500				
6	1994	5600				
7						
8	Total:	=AVERAGE(B2+B3+B4+B5+B6)				
9						

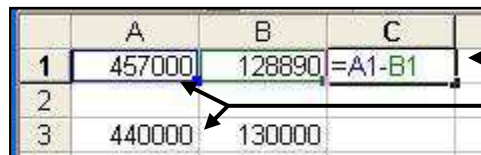
2. Click in the entry to position the insertion pointer.  
OR  
Drag through characters to select.  

3. Edit the entry as needed:
  - Type characters to insert.
  - Press **Del** to delete characters to the right of insertion pointer or to delete the selection.
  - Press **Backspace** to delete characters to the left of the insertion pointer or to delete the selection.
  - Follow steps described on the next page to change reference or extended a cell range.
4. Press **Enter** or click the **Enter** button  on formula bar. **OR**  
**To cancel the change:**  
Press **Esc**, or click the **Cancel** button  on formula bar.

**Notes:**

- After you double-click the cell, Excel displays the formula in the cell and on the formula bar.
- To insert a function, click desired location in formula, then click the **Functions** button to the right of the formula bar (it shows the last function selected). Follow the prompts to insert the function
- In step 2, if you drag through characters, your next action, such as typing, will replace the selection.
- If the edited formula displays an incorrect result, click the **Edit** menu, then **Undo Typing** to undo your change.

**Change Reference in Formula**

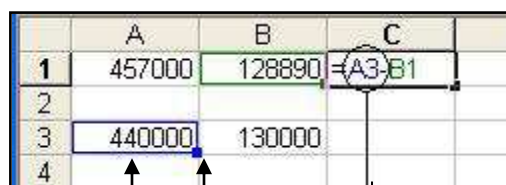
1. Double-click the formula to edit. Excel outlines references in worksheet with colored borders.
2. Point to border of outlined reference in worksheet. Pointer becomes an arrow when positioned on border.
3. Drag border to desired cell or range.



A screenshot of an Excel worksheet with columns A, B, and C and rows 1, 2, and 3. Cell C1 contains the formula =A1-B1. The cells A1 and B1 are outlined with a green border. A mouse cursor is positioned over the right border of cell B1, and a small arrow is visible, indicating that the border is being dragged.

**Action: Drag border to cell containing new value to calculate.**

**Result:**



A screenshot of the same Excel worksheet. The formula in cell C1 is now =A3-B1. The cells A3 and B1 are outlined with a green border. A mouse cursor is positioned over the bottom border of cell A3, and a small arrow is visible, indicating that the border is being dragged.

Reference change

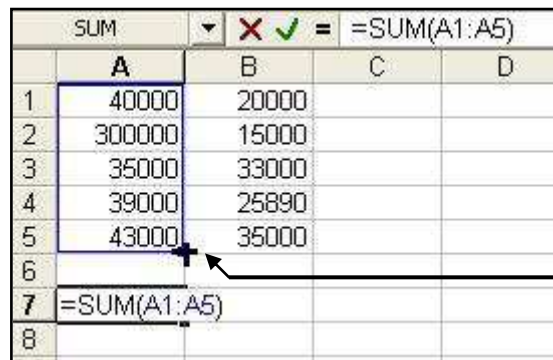
**Border   Fill handle   Reference change**

**Notes:**

- Excel assigns a difference color to each border and reference to help you identify them.
- In step2, the fill handle is a small square in the lower-right corner of the outlined reference.

## Extend Cell Range in Formula

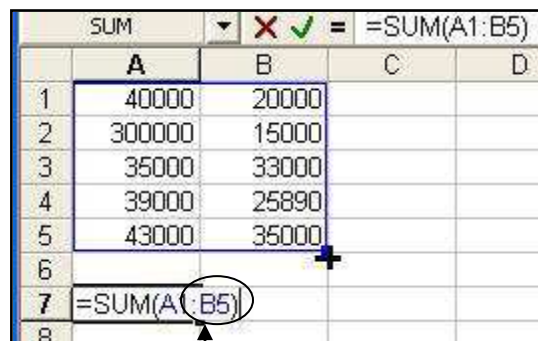
1. Double-click the formula to edit. Excel outlines references in worksheet with colored borders.
2. Point to fill handle of outlined reference in worksheet. Pointer becomes a **+** when positioned on fill handle.



The screenshot shows an Excel worksheet with a formula bar containing `=SUM(A1:A5)`. The formula bar also displays a dropdown menu with 'SUM', a red 'X' icon, a green checkmark, and an equals sign. The worksheet grid shows columns A, B, C, and D, and rows 1 through 8. The range A1:A5 is highlighted with a blue border. A black arrow points from the text in step 2 to the fill handle (a small black square with a white cross) located at the bottom-right corner of the highlighted range (cell B5).

	A	B	C	D
1	40000	20000		
2	300000	15000		
3	35000	33000		
4	39000	25890		
5	43000	35000		
6				
7	=SUM(A1:A5)			
8				

3. Drag fill handle in direction to extend the range.



The screenshot shows the same Excel worksheet as the previous one, but the range A1:B5 is now highlighted with a blue border. The formula bar now displays `=SUM(A1:B5)`. A black arrow points from the text below to the formula bar. The fill handle is now positioned at the bottom-right corner of the extended range (cell B5).

	A	B	C	D
1	40000	20000		
2	300000	15000		
3	35000	33000		
4	39000	25890		
5	43000	35000		
6				
7	=SUM(A1:B5)			
8				

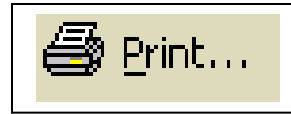
Reference change A1: A5 becomes A1:B5

## Print Workbook Data

The Print feature lets you print the current worksheet, a selection in a worksheet, or an entire workbook. Additionally, you can specify which pages to print, collate printed pages, print multiple copies, and print to a file.



**Print Button**



## Settings that Affect Print Results

Before printing a worksheet or workbook, consider this checklist of settings that will affect print results.

**Headers and footers:** Prints repeating information at the top and bottom of each page.

**Page breaks:** Determines locations in worksheet where printed pages end and new pages begin.

**Margins:** Determines locations in worksheet where printed pages end and new pages begin.

**Orientation:** Determines whether the page prints in portrait or landscape orientation.

**Print area:** Prints a specified area of the worksheet.

**Repeating print titles:** Prints column titles at the top of left side of each new printed page.


**Scale:** Determines the size of the worksheet information will be when printed.

**Sheet options:** Sets print options: such as gridlines, page order, draft quality, and black and white printing.


### **Notes:**

Consider using **Print Preview** to check how the worksheet will print prior to printing it.

### **Notes:**

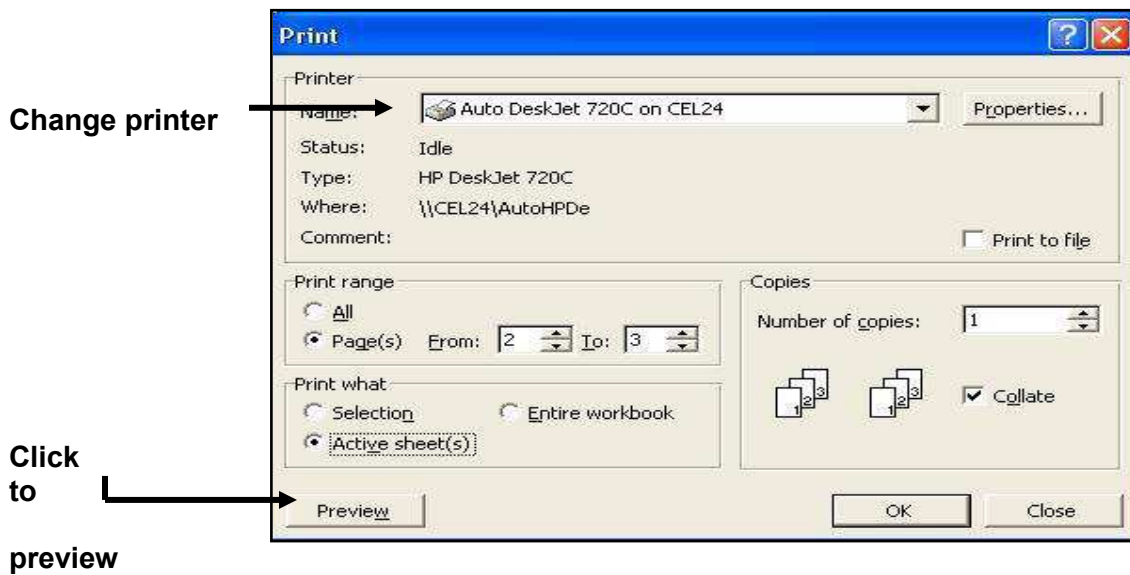
If necessary, to show additional buttons on a toolbar, click More Buttons  on the right side of the toolbar.

## Print Using Toolbar

1. Select worksheets, worksheet cells, or chart object to print.  
OR  
Select any cell to print current worksheet.
2. Click the Print button  on the Standard toolbar.

## Print Using Menu

1. Select worksheets, worksheet cells, or chart object to print.  
OR  
Select any cell to print current worksheet.
2. Click File, Print. The Print dialog box appears.



### To indicate what to print:

- Select Selection, Entire workbook or Active sheet (s).

### To specify pages to print:

- Select All, or select pages to print in **From** and **To** boxes.

### To disable collating of printed pages:

- Deselect Collate.

### To print multiple copies:

- Select number of copies in **Number of copies** box.

### To print to a file:

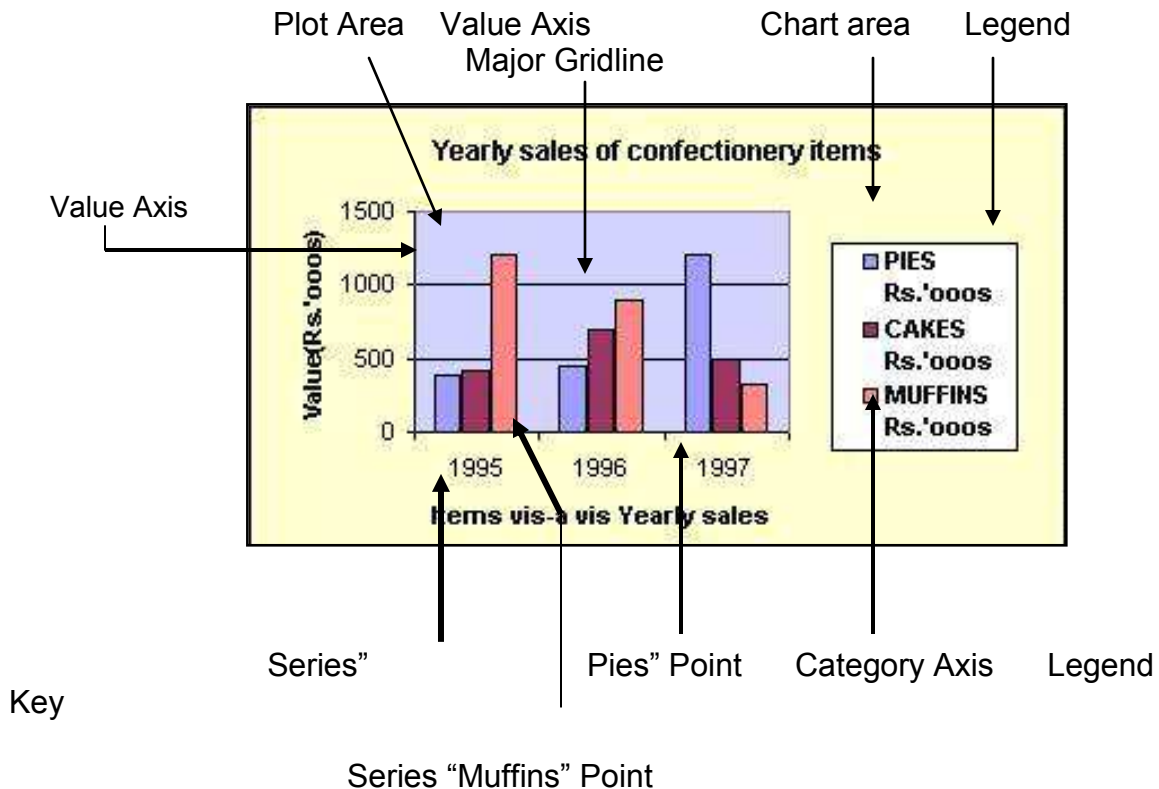
- Select Print to file.

3. Click OK



## About Chart Items

While you create and modify charts, you will be presented with many choices and settings. Understanding the items in a chart and their properties will make it easier for you to design your own.



### Notes:

When you rest the pointer on any chart item, Excel displays a pop-up label identifying the name of the item.

## Identify Chart Items

The default Clustered Column chart type shown above includes the following items. Item properties are also described.

**Category Axis (X Axis)** – the horizontal line on which categories of data are usually plotted. Properties include the format and alignment of category names and the scale of names and tick marks.

**Chart Area** – the space inside the chart. It includes the base properties of the chart, such as font style for chart text, background color, and how the chart moves or sizes when cells around it change.

**Legend** – a box containing a label and legend key for each series in the chart. Properties include its border, font, and placement.

**Legend Key** – a graphic in the legend whose color or pattern corresponds to a series in the chart. Legend key properties include border, color, shadow, and fill effects.

**Plot Area** – the area within which the chart axes and series data is drawn. The properties include its border, area color, and fill effects.

**Series** – a group of data markers or series points that visually describe the values plotted. For example, the Series “Muffins” describes the number of muffins sold in each category (1995,1996, 1997).

**Series Point** – a single item in a data series that visually describes the value for one category. For example, Series “Pies” Point indicates a value of 345 for the category 1995. The properties for series points include border and pattern, data labels, and options such as overlap and gap width.

**Value Axis (Y Axis)** – the vertical line that describes the values of series points in the chart. Properties include line and tick marks, scale of major and minor values, font for displayed values, number style of values, and text alignment.

**Value Axis Major Gridlines** – a set of lines that visually define values across the plot area. These gridlines help determine the value of a given series point in the chart. Properties include color, style, pattern, and units of values.

**Notes:**

- To review the properties of any chart items, rest the pointer on the item. When Excel displays the item name, double-click to display the Format dialog box for the item.
- Charts of different types have items or properties particular to their type. For example, pie charts have properties for a series that describe the angle of the first slice, while line charts have properties such as drop lines and up-down bars.

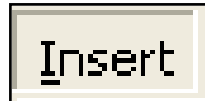


## Create a Chart


Chart Wizard provides prompts and options for selecting the chart type, the source data, chart options, and chart location.



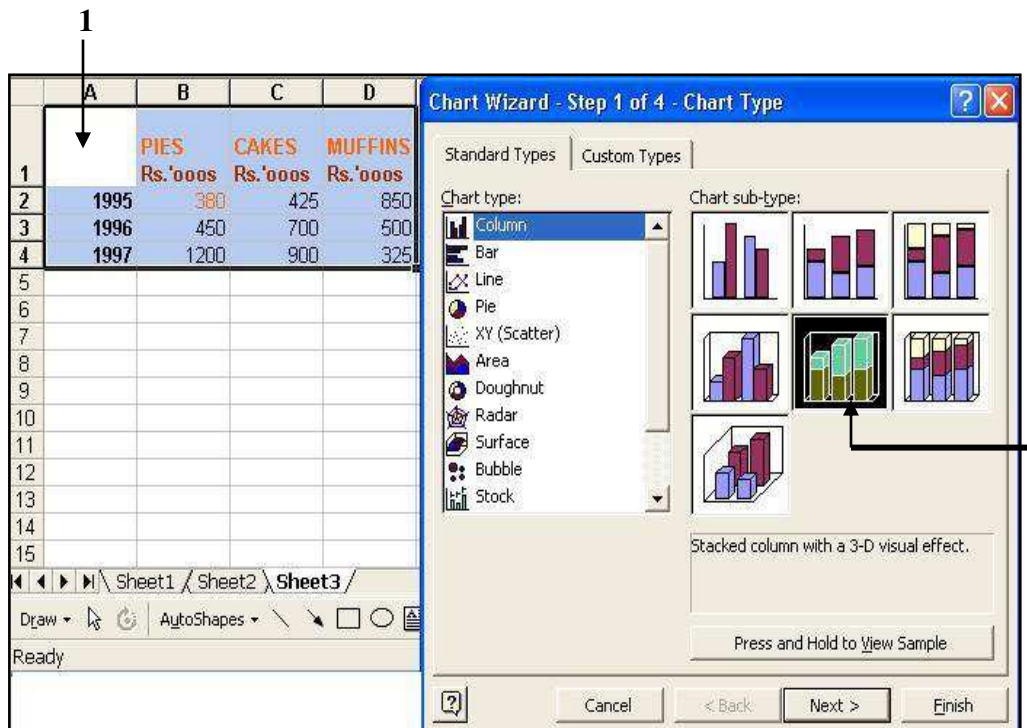
Chart Wizard button



### Create a Chart

1. Select cells containing labels and values to chart.  
*NOTE: You can change this selection as you proceed if you discover that you require different data.*
2. Click **Chart Wizard** button  on Standard toolbar.  
**From Chart Wizard – Step 1 of 4 – Chart Type:**

1



	A	B	C	D
1		PIES Rs.'000s	CAKES Rs.'000s	MUFFINS Rs.'000s
2	1995	380	425	850
3	1996	450	700	500
4	1997	1200	900	325
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Chart Wizard - Step 1 of 4 - Chart Type

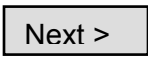
Standard Types | Custom Types

Chart type: Column

Chart sub-type: Stacked column with a 3-D visual effect.

Press and Hold to View Sample

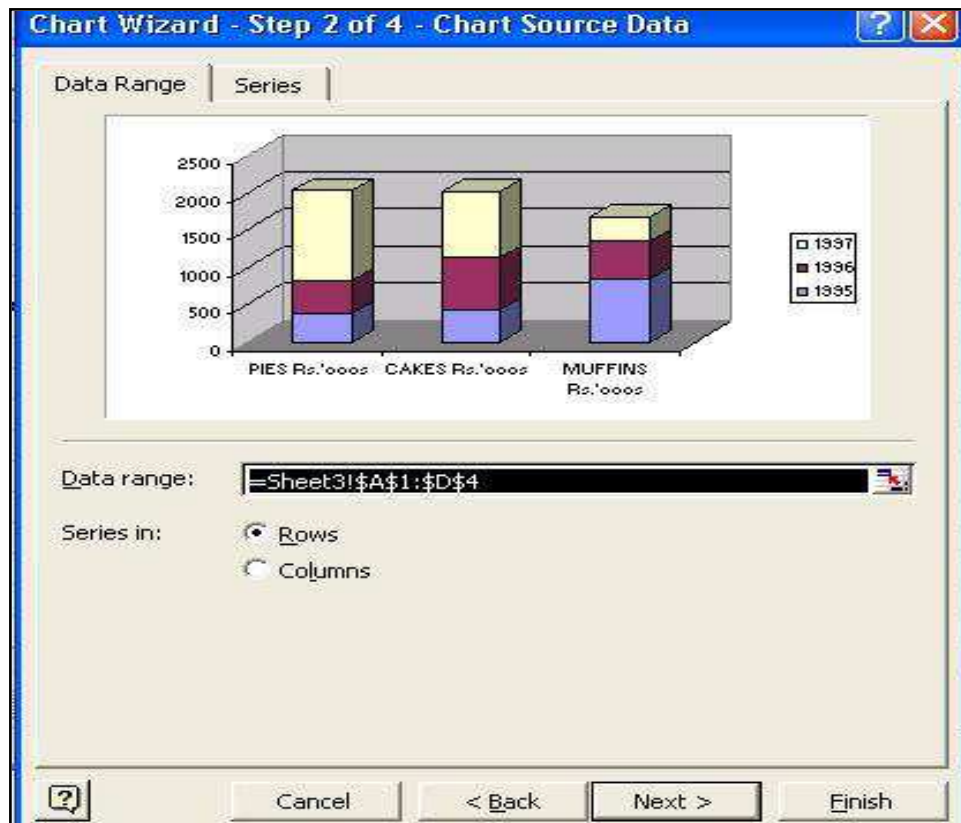
Cancel < Back Next > Finish


- a. Select chart type and subtype (see Select Chart type).
- b. Click the **Next** button 

**Notes:**

- Your selection will determine the orientation of the series in your chart. You can change this orientation in **Chart Wizard – Step 2 of 4** on the **Data Range tab**.
- Avoid blank rows and columns when selecting data to chart. Use the Ctrl key and drag through ranges to create a multiple selection and omit blank cells.
- You can hide rows and columns that do not pertain to data to be charted.
- In **Chart Wizard**, you can click **Next >** or **<Back** to move forwards or backwards to any step.
- **Chart Wizard – Step 1 of 4:** Select the chart type, then the subtype, Click and hold the **Press and hold to view sample** button to preview how the selected chart type will plot your chart.

**From Chart Wizard – Step 2 of 4 – Chart Source Data:**



- a. Select **Data Range** and **Series** option (see Set Source of Chart Data).
- b. Click the **Next** button 

**Notes:**

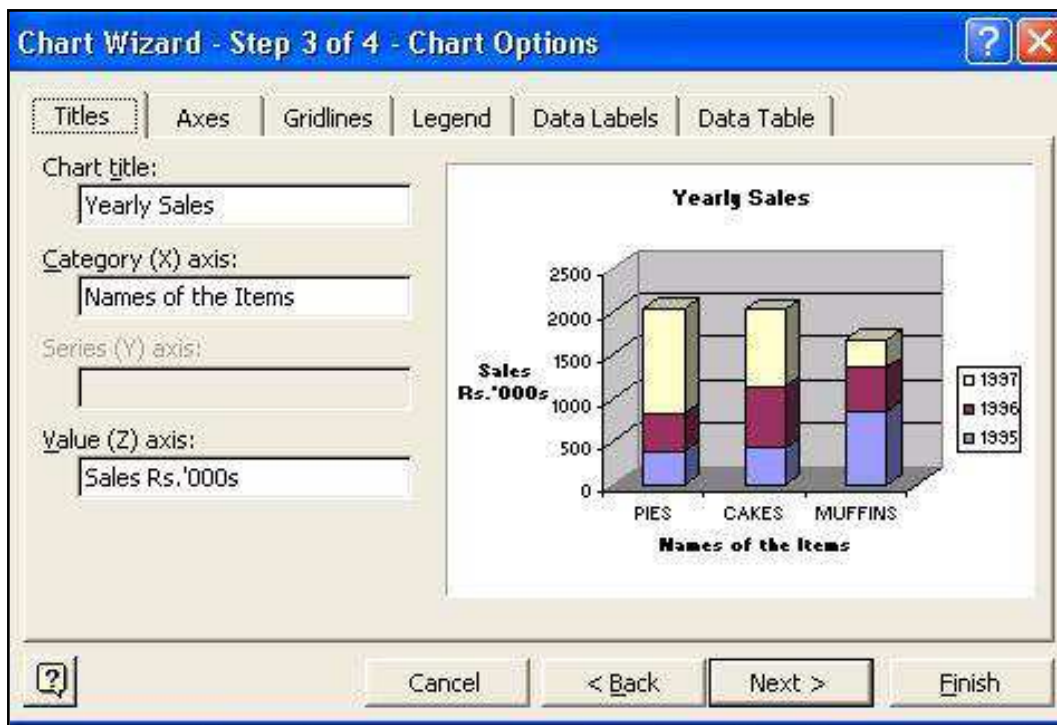
**Chart Wizard – Step 2 of 4:**

- From the **Data Range** tab, you can change the range of data to plot, or change the orientation of the data series to columns or rows.
- From the **Series** tab, you can add and remove series and change references to series names, data ranges, and the category (X) axis labels.

**Chart Wizard – step 3 of 4:**

- From the **Chart Options** dialog box, you can set options for chart titles, axes, gridlines, legend, data labels, and the data table. You can return to this dialog box after the chart is created.

**From Chart Wizard – Step 3 of 4 – Chart Options:**



a. Select desired Chart options (see Set Chart Options).

b. Click the Next Button **Next >**

**Notes:**

**Chart Wizard – Step 4 of 4:**

- From the **Chart Location** dialog box, you can change the proposed destination sheet, or the proposed chart sheet name.
- You can click **Finish** from any **Chart Wizard** step to create the chart with default options.

**From Chart Wizard – Step 4 of 4 – Chart Location:**



a. Select **As new sheet** or **As object in** (see Set Location of Chart).

b. Click the **Finish** button 