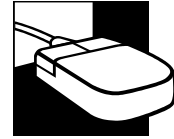


Ohio University
Computer Services Center
July, 2004



Microsoft Excel 2003 Reference Guide

What is Excel 2003

Excel is a spreadsheet and analysis program. It has the tools to manage data and perform mathematical functions. It can do many simple database functions and simple to complex mathematical formulas.

Excel Workbooks, Worksheets, and Cells

An Excel file is called a workbook. A workbook can contain one or more worksheets. For organizational purposes, it is helpful to separate different sets of data by using different worksheets. A worksheet consists of 256 columns and 65,536 rows, for a total of 16,777,216 cells per worksheet.

Identifying Parts of the Worksheet

Column – A vertical group of cells in a worksheet. A letter ranging from A to IV identifies each column.

Column Headings – Sequential letters at the top of the worksheet.

Row – A horizontal group of cells in a worksheet. The row number identifies each row.

Row Headings – Sequential numbers along the left side of the worksheet.

Cell – Intersection of a column and row. Referred to by the column letter and then the row number.
Example: A2

Label – Identifies information on the spreadsheet. For example a column might be labeled expenses.

Value – The raw data in a spreadsheet.

Opening a Workbook from the A: Drive

1. On the **File** Menu, click **Open**.
2. Click the down arrow next to the **Look in:** field.
3. Click **3½ Floppy (A:)** to select the A: drive. This will open a list of files on the floppy diskette.
4. Click on the workbook that you would like to open.
5. Click the **Open** button.

Saving a Workbook

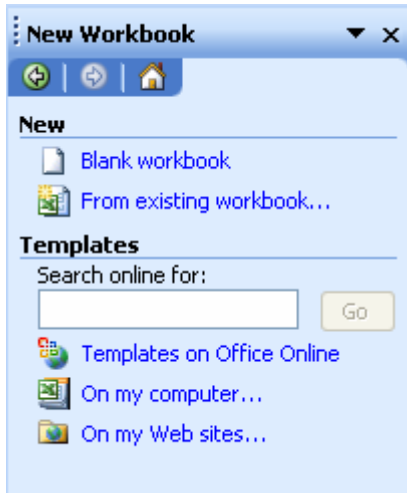
1. On the **File** menu, click **Save**.
2. Click the down arrow next to the **Save in:** field and navigate to the folder on the hard drive where you would like to save your document or click **3 ½ Floppy (A:)** if you would like to save the document to diskette.
3. In the **File name:** field, type a name for your document (up to 255 characters).
4. Click **Save**.

*Use **Save As** if you want to save the workbook under a new name or store it in a different folder or to disk while also keeping the original version.*

Opening a New Blank Workbook

1. On the **File** Menu, click **New**.
2. The task Pane will now open.

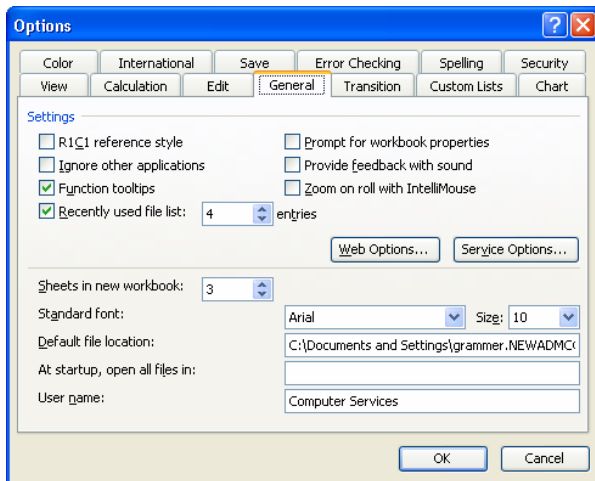




3. On the **task pane** Click **Blank Workbook**.
4. A new blank workbook should appear on the screen.

Changing Options

1. On the **Tool** menu, click **Options**.

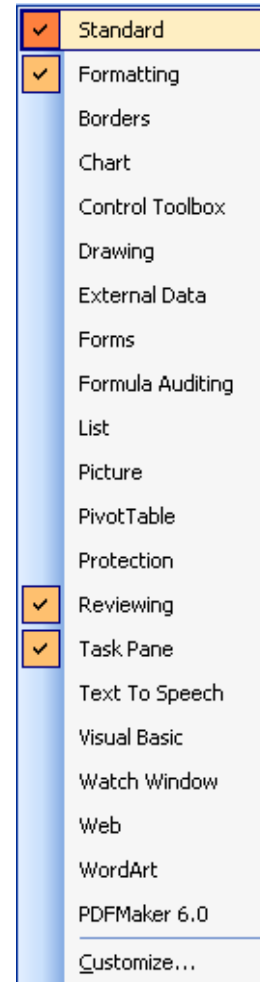


2. Select and change the options you want.

Displaying toolbars

Sometimes the standard toolbars may not appear or you may want to use a special toolbar.

1. On the **View** menu, trace to **Toolbars**.
2. The **Toolbar** selection window appears, from which you can choose the **Toolbars** you wish to see.
3. Or uncheck the ones you want to hide.






4. Right clicking on the **Toolbar** will also bring up the **Toolbar**

Undo and Redo

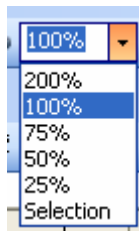
Excel provides an easy way to undo or reverse many of the actions you take when entering or editing formulas or values in a spreadsheet. It also provides an easy way to redo an action or actions that have been recently undone.

Do one or more of the following:

1. To undo recent actions one at a time, click **Undo** .
2. To undo several actions at once, click the arrow next to Undo and select from the list . Microsoft Excel reverses the selected action and all actions above it.
3. To cancel an entry in a cell or the formula bar before you press ENTER, press ESC.
4. If you change your mind, click Redo or click the arrow next to Redo and select from the list .

Changing Screen Magnification

1. On the tool bar click the **Zoom** drop down arrow as seen below.





2. Choose to zoom in or out based on the percentage you choose.

Entering and Editing Cell Data

There are two possible ways to enter data onto the worksheet:

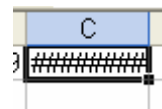
1. Click to select the desired cell and then type the new information directly into the cell.
2. OR you may click the desired cell and then click in the **Formula Bar** at the top of the screen.



3. When the blinking insertion point (cursor) appears, type the new information in the formula bar.
4. To confirm an entry, press either the Enter, Tab, Green check mark  (located on the formula bar), or any of the arrow keys.
5. To cancel an entry, press the Red X mark  (located on the formula bar).

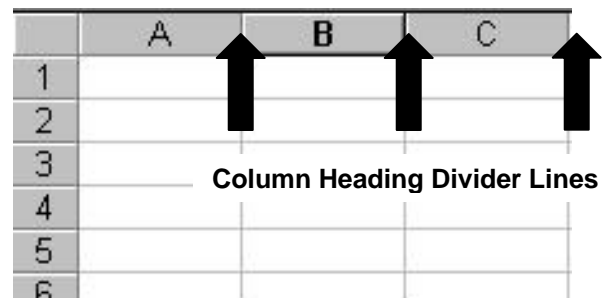
Controlling Column Width

Often the standard column width is not wide enough to display the complete contents of a cell. When the contents exceed the column width it will appear as shown below:



To change column width:

1. Place the mouse pointer on the column-heading divider line that divides the column that you want to change from its neighbor to the right.



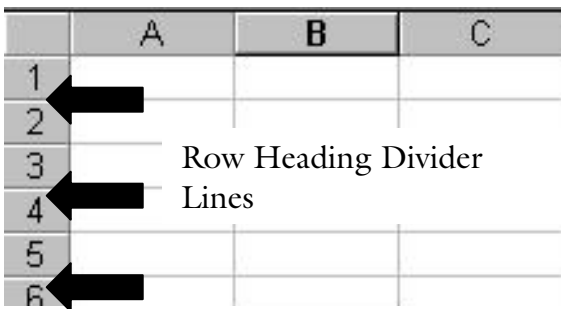
2. When your mouse pointer changes to a two-way arrow, click, hold, and drag the column divider line to the right or left.
3. To change the width of multiple columns, click, hold, and drag through the column headings that you want to change (select non-adjacent columns by pressing and

holding the **CTRL** as you click). Then click, hold, and drag any divider line.

- To automatically adjust a column to its widest entry: in the column headings area, double-click the divider line between columns. The column size will adjust to the width of the widest entry.

Controlling Row Height

- In the row heading area, place the mouse pointer on the divider line under the row you want to change.

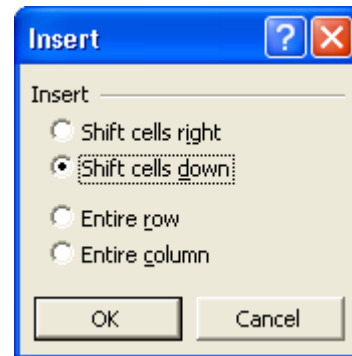


- When your mouse pointer changes to a two-way arrow, click, hold, and drag the row heading divider line up or down.
- To change the height of multiple rows, click hold, and drag through the row headings that you want to change (select non-adjacent rows by pressing and holding the **CTRL** key as you click). Then click, hold, and drag any divider line.
- To automatically adjust row height to the height of the tallest entry: in the row-headings area, double-click the divider line between rows. The row will adjust to the height of the tallest entry.

Inserting Cells

- Click where you want to insert the cell or select a range of cells that you want to insert.

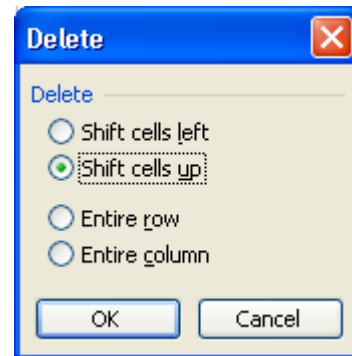
- Right-click** on the selected cell(s) and choose **Insert**. The Insert dialog box should appear.



- Make a choice for how you want the cells to shift and click okay.

Deleting Cells

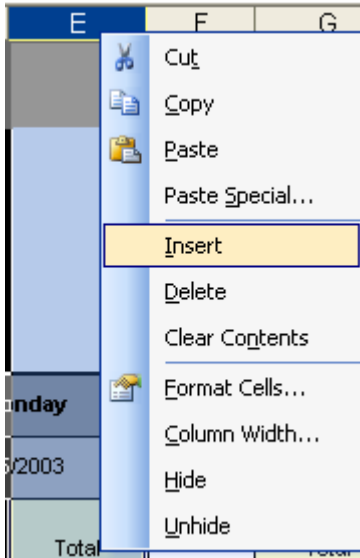
- To delete a cell, select and highlight the cell you wish to delete.
- Right click** on it and choose **Delete**.
- The Delete dialog box should appear.



- Make a choice for how you want the cells to shift and click okay.

Inserting a Column

- In the column heading area, click the column heading to the right of where you want to insert the new column.
- On the **Insert** menu, click **Columns**.

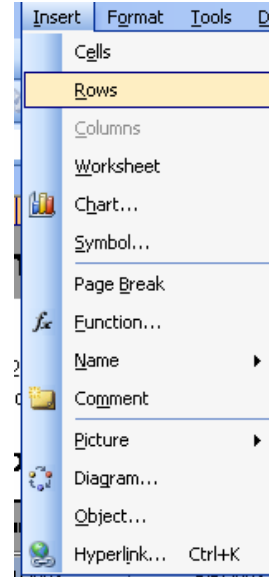


Deleting a Column

1. To delete a column, in the column heading area, click the column heading that you want to delete.
2. On the **Edit** menu, click **Delete**.

Inserting a Row

1. In the row heading area, click the row heading under the row where you want to insert a new row.
2. On the **Insert** menu, click **Rows**.
3. Or just right click the row heading below where you want to insert a new row and click **Insert** from the shortcut menu box.



Deleting a Row

1. To delete a row, in the row heading area, click the row heading that you want to delete.
2. On the **Edit** menu, click **Delete**.
3. Or just right click the row heading of the row you want to delete and click **Delete** from the shortcut menu.

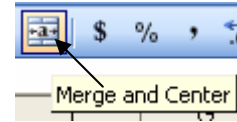
Selecting with the SHIFT key

The shift key is used to select all the cells in a row column or range from one point to another.

1. Select the starting cell.
2. Hold the **SHIFT** key.
3. Click the ending cell of the selection.

Marcel Dekker	reprints for lopez
Federal Express	letter to gartside
OU Printing	Undergraduate Flier
Phone Bill	March
Phone Long Distance	March
University Printing Resources	paulos teaser
Academic Press	jain reprints
Computer Services	Eudora Manual
Communication Network Services	April
Communication Network Services	April long dist
Communication Network Services	May
Communication Network Services	May Long Dist
<i>Projected Phone Bill</i>	<i>June</i>
<i>Projected Phone Long Distance</i>	<i>June</i>
Metered Mail Charges	March
Projected Metered Mail Charges	April
Projected Metered Mail Charges	May
Projected Metered Mail Charges	June
University Printing Resources	Certificates

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



- Type the title.

Selecting a Range Of Cells

To select a range (two or more cells) of cells (adjacent or non-adjacent) on a worksheet:

Selecting with the CTRL key

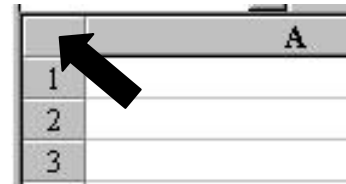
The control key lets you select non-contiguous cells. This simply means cells that are not adjacent to one another.

- Select a cell.
- Hold the **CTRL** key select another cell.
- Continue holding **CTRL** and selecting cells until all the cells you want selected are.

Phone Bill	March
Phone Long Distance	March
University Printing Resources	paulos teaser
Academic Press	jain reprints
Computer Services	Eudora Manual
Communication Network Services	April
Communication Network Services	April long dist
Communication Network Services	May
Communication Network Services	May Long Dist
<i>Projected Phone Bill</i>	<i>June</i>
<i>Projected Phone Long Distance</i>	<i>June</i>
Metered Mail Charges	March
Projected Metered Mail Charges	April
Projected Metered Mail Charges	May
Projected Metered Mail Charges	June
University Printing Resources	Certificates
MillerUpton Wallbaum	photos
Alden Library	binding theses

To select a range of cells: Click the first cell of the range, and then drag to the last cell.

To select all cells on a worksheet: Click the **Select All** button.




To select nonadjacent cells or cell ranges: Select the first cell or range of cells, and then press and hold the **CTRL** key while you select other cells or ranges.


Merge and Center Cells

To create a title for an Excel worksheet you often merge cells and center the titles text.

- Select the cells you want to merge.

Moving Cells through Cutting

 Cutting cell contents means that the data will be moved to another cell.

- Select the cell or cells you want to cut.
- On the **Edit** menu, select **Cut**.
- Or click the  Cut button on the standard toolbar.
- Select the location to move the data to and on the **Edit** menu click **Paste**.
- The short cut key for cutting is **Ctrl+X**.



Moving Cells Drag and Drop

If you are moving the cell contents only a short distance, the drag-and-drop method may be more efficient.

1. Simply click and hold the highlighted border, of the selected cell.
2. Drag it to the destination cell with the mouse.
3. Release the mouse button and the selected data moves.

Moving Cells using Copy and Paste

When you want the same data to be present at several locations, it is best to copy this data rather than type it at each location. You can copy data within a worksheet, across worksheets, across workbooks, and even to and from other applications.

1. Select the cells you wish to copy.
2. Click the **Copy** button .
3. Select the location where you would like the copied cells to appear.
4. Click the **Paste** button .
5. The shortcut keys copying and pasting are **Ctrl+C** to Copy and **Ctrl+V** to Paste.

Pasting Linked Data

When you paste data from one cell to another you can link the data so if is changed in the original cell it will change in any copied cell.

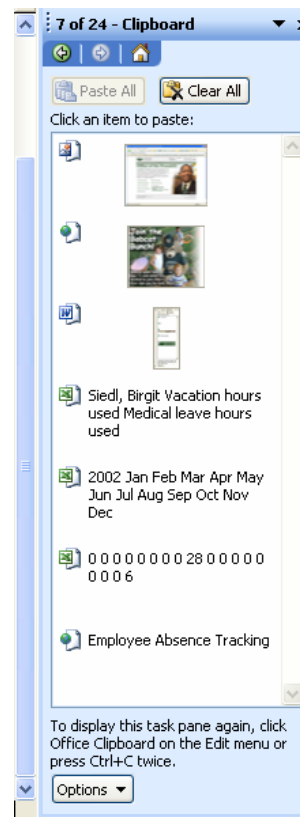
1. Highlight the data you want to copy.
2. Right click and choose **Copy**.
3. Go to the cells you wish to copy to.
4. Right click and click **Paste Special**.



5. Click the **Paste Link** Button.

The Office Clipboard

In addition to the standard Windows Clipboard, Office Clipboard task pane.

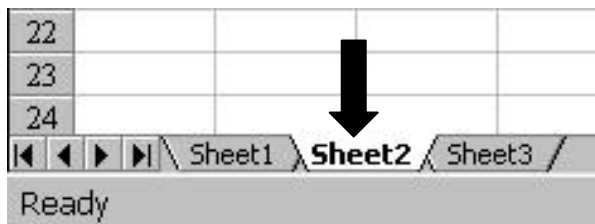


This Clipboard is integrated across all office applications and holds up to 24 copied items instead of a single item. You can use information from existing files in Word, PowerPoint, Internet explorer, and other applications by using the Clipboard task pane. It can be opened in the following manner.

1. On the **Edit** menu, click **Office Clipboard**.

Use Another Sheet in the Workbook

An Excel workbook by default contains three worksheets. To navigate to a new worksheet, click on the desired sheet tab (bottom left corner of the screen).




To insert a new single worksheet:

1. From the **Insert** menu, click **Worksheet**.

Rename a Worksheet

1. Double-click the sheet tab that you would like to rename.
2. Type a new name over the current name and press **Enter**.

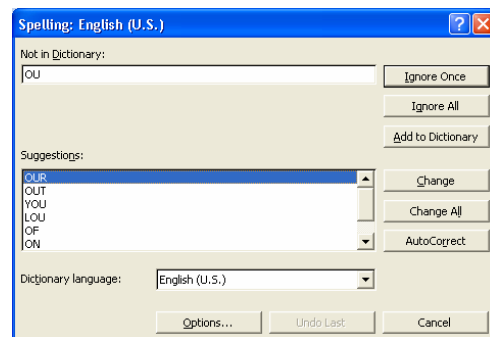
Moving a Worksheet

1. Click and hold the mouse button on the sheet tab that you would like to move.
2. Drag the sheet to its new location, a small black insertion arrow shows where the worksheet will be inserted .

Checking Spelling

You can use the spelling checker to find and correct spelling errors. You can check an entire worksheet by selecting a single cell or check a range of cells by selecting the range. When you check an entire worksheet, the spelling checker looks at all the elements of the worksheet, including cells, comments, graphics, and headers and footers. The spelling checker begins searching from the selected cell and will prompt you to continue from the beginning when it reaches the end of the worksheet.

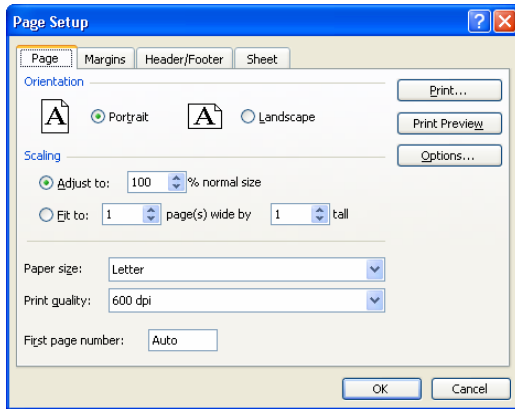
1. On the **Tools** menu click **Spelling**
2. Or use the F7 key as a shortcut to begin the Excel spell checker.
3. It will first check any highlighted cell and then ask if you want the whole worksheet spell checked.



Page Setup Options

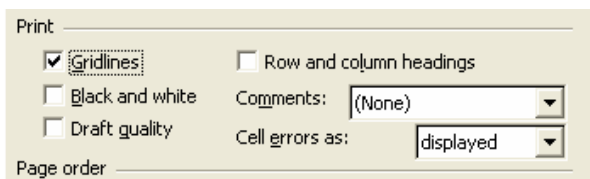
You have control over many aspects of how your worksheets will print, For the most part, you use the Page Setup dialog box for this purpose.

1. On the **File** menu click on **Page Setup**
2. A setup box like the one below will appear.
3. From here you can select the page orientation (Portrait or Landscape and other printing options.)



For example:

1. To print gridlines select the sheet tab.
2. Then put a check in the print grid lines selection box.



3. Click **OK**.

Print Preview

Print preview is a way to see what the printout would look like without performing an actual print. This is a good way to see if the data is going to look as you expect it to.

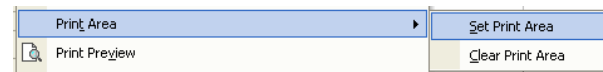
1. On the **File** menu, click **Print Preview**.
2. Click the **Close** button to go back to the Normal view.

Printing

1. On the **File** menu, select **Print**.
2. Specify the desired *Page Range* and *Number of Copies*.
3. Click **OK**.

Selecting a Print Area


1. Highlight the cells on worksheet you want to print.
2. On the **File** menu, click **Print Area**.
3. Select **Set Print Area**.

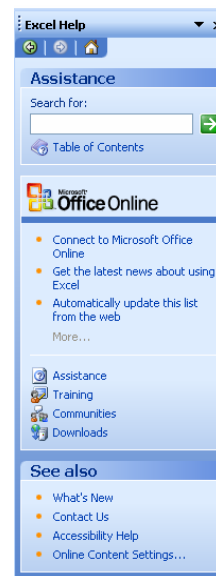


4. To remove the set print area select **Clear Print Area**.

Use Help

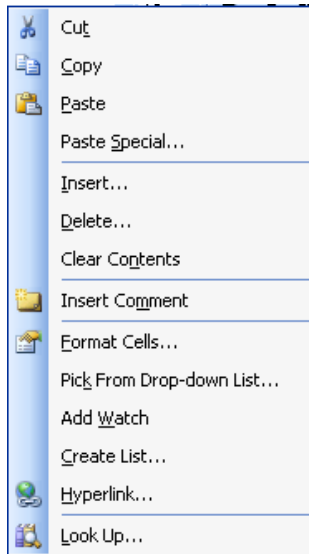
1. On the **Help** menu, click **Microsoft Excel Help**.
2. Type your question.
3. Click **Search**.
4. When the bulleted list of suggestions appears, click on the blue button next to the desired help topic.

After reading the help suggestion, close the on-line help by clicking the Close  button in the top right corner of the Help window.



Short Cut Menu

When you right click on something it brings up the shortcut menu. Editing a comment is even simpler when you right click on the cell with the comment and choose edit comment!

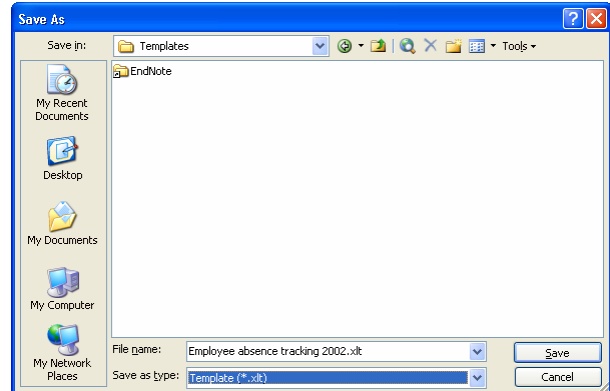


This shortcut menu can save you time try right clicking on different areas of the spread sheet and learn what you can do.

Templates

If you develop a workbook for a monthly budget a good way to recreate that same work book from month to month is to create a template. You can save any Excel workbook you create as an Excel template.

1. On the **File** menu select **Save as**.
2. Click the arrow in the **Save as type** box.
3. Select **Template** notice it will have an .xlt extension instead of the normal Excel .xls extension.



Microsoft has developed a web based site that includes many templates for the Microsoft office suite.


1. On the **Help** menu click **Office Online**.
2. A web browser will open up to the Microsoft website.



3. Then select Templates.
4. In the search for box at the top type in **Excel** and click **Go**.
5. You will be presented with a list of Excel templates you can use to build upon or learn how certain forms could be created.


AutoFill

Fills are a good way to save time when entering data. AutoFill allows you to fill a row or column of adjacent cells with a series based on the information in a single cell. You can do this with dates, time, months, years, numbers, and even formulas.

1. Select the cell with data that you would like to begin your series with.
2. Place your mouse pointer in the lower right corner of the active cell.
3. The mouse pointer will change to a fill pointer . Click, hold, and drag the fill pointer into a row or column of adjacent cells.

AutoFill by Example

Excel also allows you to create a new series by entering the first two or three values in a series to establish a pattern for Excel to follow.

1. Select the series of cells with the data pattern that you would like to fill the series with.
2. Place your mouse pointer in the lower right corner of the active cell.
3. The mouse pointer will change to a fill pointer . Click, hold, and drag the fill pointer into a row or column of adjacent cells

Understanding Cell References

A *cell reference* identifies a cell or a range of cells on a worksheet and tells Microsoft Excel where to look for the values that you want to use in a formula. With references, you can use data contained in different parts of a worksheet in one formula. You can also refer to cells on other sheets in the same workbook or to other workbooks.


Excel uses cell references which refer to columns with letters (A through IV, for a total of 256 columns) and rows with numbers (1 through 65,536). To refer to a cell, enter the column letter followed by the row number. Examples of references include:

To refer to	Use
The cell in column A and row 10	A10
The range of cells in column A and rows 10 through 20	A10:A20
The range of cells in row 15 and columns B through E	B15:E15
All cells in row 5	5:5
All cells in rows 5 through 10	5:10
All cells in column H	H:H
All cells in columns H through J	H:J
The range of cells in columns A through E and rows 10 through 20	A10:E20

AutoSum

AutoSum creates a *SUM* function that automatically selects a range of cells and calculates the total of that range.

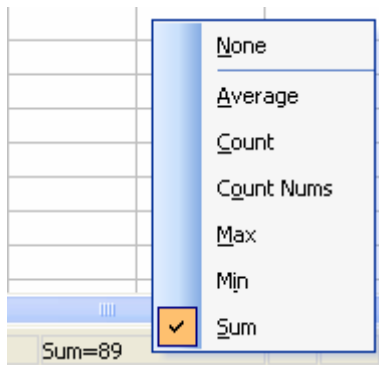
Select the cells you would like to Sum or select the cell where you would like the Sum to appear.

1. Click the **AutoSum** button. .
2. Confirm that the selected cells are the ones you want to Sum.
3. Press **Enter**.



Auto Calculate

When two or more cells are selected, and at least one of them contains a value, Excel displays the total in the status bar. This is called the *AutoCalculate* feature. The autocalculate area normally displays the sum of the selected values, however, if you right-click the autocalculate area, you will see a menu where you can select an average of the selected values (Average); a count of the number of non blank cells (Count); a count of selected cells that contain only numbers (Count Nums); or the maximum (Max) or minimum (Min) values in the selection.



1. Select the cell or range of cells.
2. Look in the AutoCalculate area of the status bar to view the *Sum* of the selected cells.
3. To select a different AutoCalculate option, **right-click** on the **AutoCalculate** area, and select the desired option.

Creating a Formula

A formula is an equation that performs operations on worksheet data. Formulas can perform mathematical operations, such as addition (+), subtraction (-), multiplication (*), and division (/). Formulas can refer to other cells on the same worksheet, cells on other sheets in the same workbook, or cells on sheets in other workbooks.

The structure or order of the elements in a formula determines the final result of the calculation. Formulas in Microsoft Excel follow a specific order that includes an equal sign (=) followed by the elements to be calculated.

Example: =A1+A2

Excel performs the operations from left to right. You can control the order of calculation by using parentheses to group operations that must be performed first. Excel follows these rules:

Expressions within parentheses are processed first. Multiplication and division are performed before addition and subtraction. Calculations are performed from left to right. This is called the order of operations. An easy way to remember is the mnemonic.

Please Excuse My Dear Aunt Sally

P	E	M	D	A	S
a	x	u	i	d	u
r	p	l	v	d	b
e	o	t	i	i	t
n	n	i	s	t	r
t	e	p	i	i	a
h	n	l	o	o	c
e	t	i	n	n	t
s	s	c			i
i		a			o
s		t			n
		i			
		o			
		n			

Entering a Formula Manually

1. Click the cell in which you want to enter a formula.
2. Type = key. The equal sign tells Excel that the succeeding characters constitute a formula.
3. Enter the formula. *Example:* =A1+A2

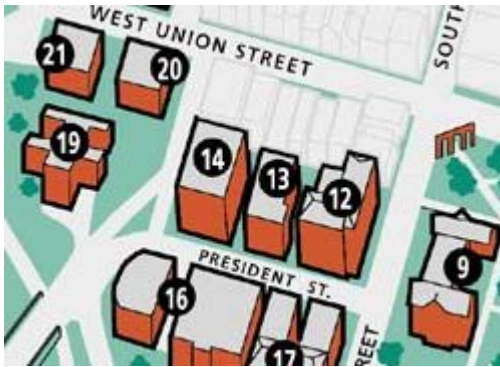


4. Press **Enter**.

Entering a Formula with mouse clicks

1. Another way to enter a formula is to click the cell in which you want the formula.
2. Type the = Key.
3. Click the cell that you want to perform a calculation on.
4. Then type your operator (+, -, *, /).
5. Click on the 2nd cell you want to add, subtract, multiply, or divide by.
6. Continue in this manner until your formula is complete.
7. Press **Enter**.

Relative, Absolute, and Mixed References



For example if I am in building 12 I might say building 13 (Computer Service Center) is next door. This is an accurate relative location. If I am anywhere on campus and say the CSC building is at 3 President Street then I have given an absolute location for the building.

Relative references refer to cells by their position in relation to the cell that contains the formula. The following is a relative reference to cell A1:
=A1

Absolute references refer to cells by their fixed position in the worksheet. The following is an absolute reference to cell A1:
=\$A\$1


A *Mixed* reference contains a relative reference and an absolute reference. The following is a mixed reference:

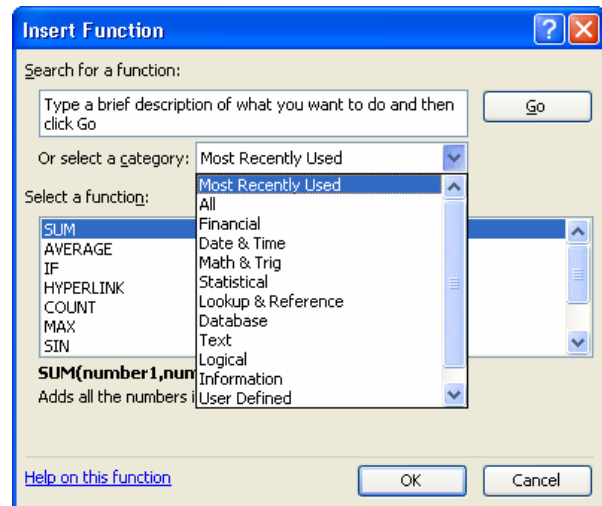
Note: The dollar sign (\$) precedes the absolute coordinate.
=\$A1 (column A is absolute; row 1 is relative)
=A\$1 (column A is relative; row 1 is absolute)

Absolute and mixed references are important when you begin copying formulas from one location to another in your worksheet.

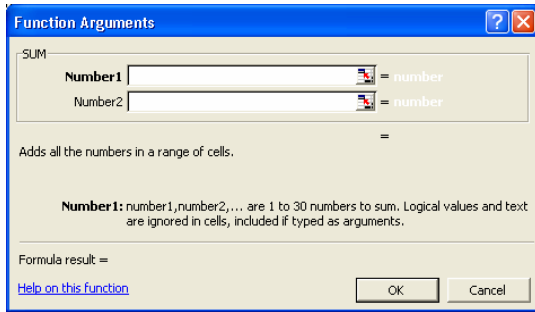
Function

A *function* is a predefined formula that operates on values and returns a value. All functions consist of a function name followed by a set of *arguments* enclosed in parentheses. To use a pre-defined function:

1. Select the cell where you want the formula to calculate.
2. Click the **Paste Function** button 



- Click to select the desired *Function Category* (Most Recently Used, All, Financial.).
- Click to select the desired *Function Name* (Average, Sum, If, etc.).
- Click **OK**. The **Functions Argument** box will appear.



- In the formula palette, verify that the cells referenced are correct for the function. If the cells referenced are incorrect, specify the desired cells to be referenced.
- Click **OK**.

More Functions

Excel provides over 200 functions that can calculate everything from a sum to a Weibull distribution. Four functions that are very useful, and that the MOS certification expects you to be able to use are AVERAGE, MIN, MAX, and COUNT.

Using AVERAGE

This function is used to calculate the average of a list of values.

F106	A	B	C	D	E	F
78		1/30/1998		Communication Network Services	Telephone Hardware	\$ 160.75
79		2/28/1998		Communication Network Services	February Long dist	\$ 236.61
80		2/28/1998		Communication Network Services	GTE Billing	\$ 19.30
81		2/1/1998		Metered Mail Charges	February	\$ 192.47
82		2/27/1998		Key Shop Charges		\$ 30.00
83		3/18/1998		Marcel Dekker	reprints for lopez	\$ 5.00
84	273363	4/2/1998		Federal Express	letter to gartside	\$ 27.62
85		3/1/1998	x	OU Printing	Undergraduate Flier	\$ 478.00
86		2/1/1998		Phone Bill	March	\$ 573.40
87		2/1/1998		Phone Long Distance	March	\$ 298.86
88		4/2/1998		University Printing Resources	paulos teaser	\$ 84.50
89	273365	4/13/1998		Academic Press	jain reprints	\$ 50.00
90	g100150	4/30/1998	x	Computer Services	Eudora Manual	\$ 26.00
91		2/1/1998		Communication Network Services	April	\$ 573.40
92		2/1/1998		Communication Network Services	April long dist	\$ 328.31
93		2/1/1998		Communication Network Services	May	\$ 573.40
94		2/1/1998		Communication Network Services	May Long Dist	\$ 392.28
95		2/1/1998		Projected Phone Bill	June	\$ 575.00
96		2/1/1998		Projected Phone Long Distance	June	\$ 250.00
97		2/1/1998	x	Metered Mail Charges	March	\$ 256.93
98		2/1/1998	x	Projected Metered Mail Charges	April	\$ 249.04
99		2/1/1998		Projected Metered Mail Charges	May	\$ 360.00
100		2/1/1998		Projected Metered Mail Charges	June	\$ 360.00
101		5/30/1998		University Printing Resources	Certificates	\$ 2.25
102		6/8/1998		MillerUpton Wallbaum	photos	\$ 24.00
103	g110240	5/26/1998		Alden Library	binding theses	\$ 150.00
104	03518JA0E	6/12/1998		Federal Express	dr. jain	\$ 6.75
105						
106						\$ 250.73

- Select a cell.
- Type = **Average**.
- Select range to average (B10:B40).
- Type) and press **Enter**.

Using MIN

The MIN function returns the smallest number from a list of values.

- Select a cell.
- Type = **MIN**.
- Select range to average (D15:D40).
- Type) and press **Enter**.

Using MAX

The MAX function returns the largest number from a list of values.

- Select a cell.
- Type = **MAX**.
- Select range to average (E5:E40).
- Type) and press **Enter**.

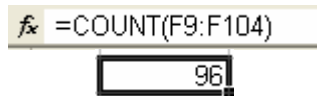
Using COUNT

Counts the number of cells that contain numbers and also numbers within the list of





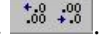
arguments. Use COUNT to get the number of entries in a number field that's in a range or array of numbers.

1. Select a cell.
2. Type = **COUNT**.
3. Select range to average (C5:C20).
4. Type) and press **Enter**.



Applying and Modifying Cell Formats Currency, Percents, and Decimals

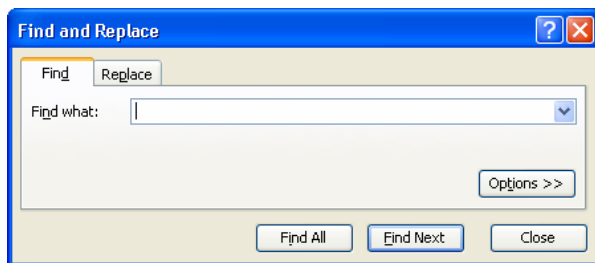
1. Select the cell or range of cells.
2. On the **Format** menu, click **Cells**, and select the **Number** tab.
3. Select the desired **Category**.
4. Click **OK**.

You may also click **Currency Style** , **Percent Style** , or **Increase/Decrease Decimal** .

Find

Excel provides an easy way to search for values and text through the find command.

1. On the **Edit** menu select **Find**.

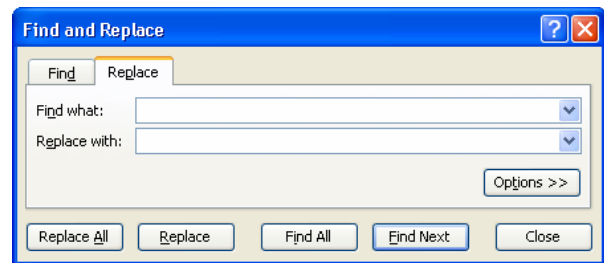


2. Type in what you want to locate.
3. Now click **Find Next** or **Find All**.

Replace

Excel provides an easy way to search for and replace values and text through the find command and replace command.

1. On the **Edit** menu select **Replace**.



2. Enter the information you want to replace in the **Find what** field
3. What you we want to replace it with should be in the **Replace with** field.
4. You can then click the button **Replace All** or **Replace** (one at a time).

Filtering and Sorting Data

Excel has excellent filtering and sorting tools to help you organize and examine your data.

1. Place your cursor in the column you wish to filter.
2. On the **Data** menu, trace to **Filter** and select Autofilter.
3. You will see drop down arrows next to your column headers like the following.

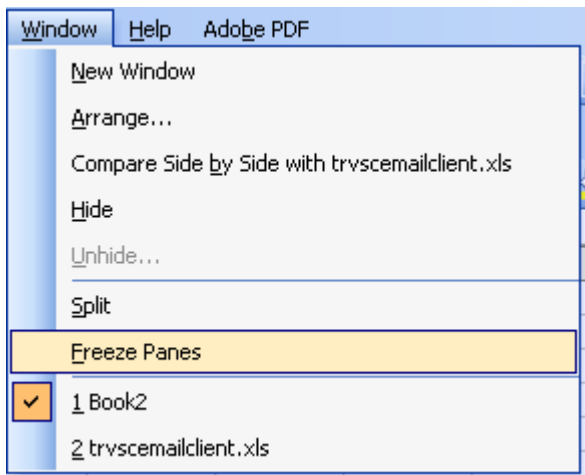
	A	B	
1	DIVISIO ▾	REPRE ▾	SA
2	east	Carolyn	1
3	south	Mortimer	4
4	south	Kimmy	

By selecting these arrows you can filter out by the data contained in the column. You can even produce custom filters based on certain criteria.

Example: I could select south from the list and then have a list of the people in the south division OR I could do a custom filter that includes both south and west and have a list that includes those two groups.

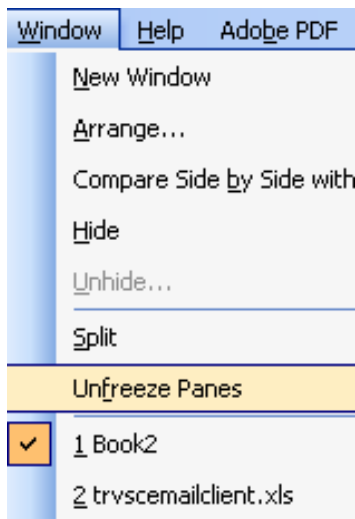
Freezing Columns and Rows

1. Select the row below where you want to freeze to occur or the column to the right.
2. On the **Window** menu, click **Freeze Panes**.



Unfreezing Columns and Rows

1. On the **Window** menu, **Unfreeze Panes**.



Hiding Columns and Rows

You might have some data in your worksheet that you do not want to use or view all the time. For example, you might want to view total sales without seeing monthly details. In such cases, you can hide rows and columns of data you do not need.

1. Select the rows or columns you want to hide.
2. On the **Format** menu, point to **Row** or **Column**, and then click **Hide**.

	A	B
1		
2		
3	Client:	Project:
4	West, Jennifer Esq.	Entertainment law
5	VanNatter Imports	New location
24	Catanzarite's Gym	Membership discount
25	Camp, James & Assoc.	Tax law changes
26	Callahan Brothers	Carpet sale
27	Beckert & Kinsev	Strategic Internet Services

Un-hiding Columns and Rows

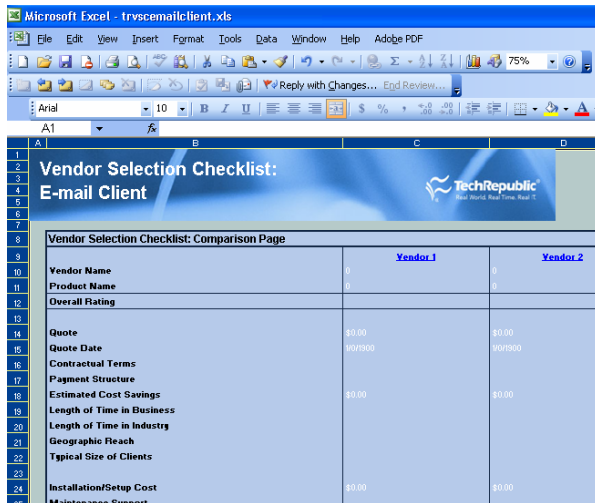
1. Select a row or column on each side of the hidden rows or columns you want to display.
2. On the **Format** menu, point to **Row** or **Column**, and then click **Unhide**.

Note:

Sometimes un-hiding is a bit tricky and this almost always works.

1. Click the select all sheet square.



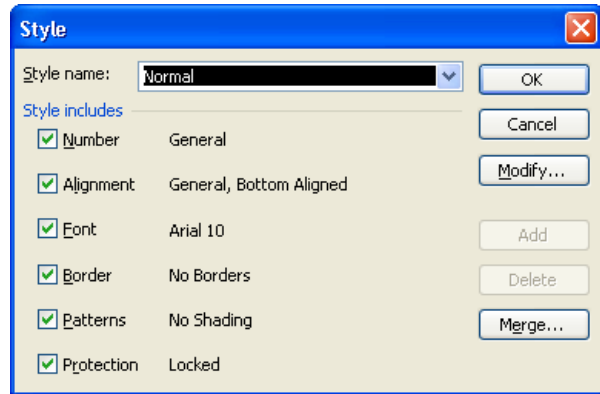


2. On the **Format** menu, point to **Row** or **Column**, and then click **Hide**.

Defining Styles

You can save time using styles. A style is a defined set of formatting that can be applied to data in an excel spreadsheet. For example: If you want to Bold, change the font size, change the font, and highlight key text throughout a sheet. It would take multiple steps after selecting the key text to normally accomplish this. With a defined style you could just choose the style and apply it and save time.

1. Select a cell that has the combination of formats you want to include in the new style.
2. On the **Format** menu, click **Style**.
3. In the Style name box, type a name for the new style.
4. To define and apply the style to the selected cells, click **OK**.
5. To define the style without applying it, click **Add**, and then click **Close**.



Using Styles

1. Select the required cell(s).
2. On the **Format** menu, select **Cells** and click the *Font* tab.
3. Choose the desired font, size, style, etc.
4. Click **OK**.

Emphasizing Cells Using Borders and Shading

Borders and shading can be used to emphasize information in an excel spreadsheet.

1. Select the required cell(s).
2. On the **Format** menu, select **Cells** and click the relevant tab (Border/Pattern).
3. Select the desired border/shading pattern.
4. Click **OK**.

dr. jain	\$	6.75
Total:		\$29,070.26

Changing the Alignment of Cells



Text is automatically aligned to the left and numbers to the right of a cell. To change the alignment or center a title, do the following.

1. Select the cell(s).
2. On the **Format** menu, click **Cells** and choose the *Alignment* tab.

3. Select the desired Horizontal/Vertical alignment.
4. Click **OK**.

Sorting

To *Sort* rows in ascending (A to Z) order based on the contents of one column:

1. Click a cell in the column you would like to sort by.
2. Click the **Sort Ascending** button .
3. The **Sort Descending** button  sorts from (Z to A).

To Sort columns based on the contents of rows:

1. Click a cell in the list that you would like to Sort.
2. On the **Data** menu, click **Sort**.
3. Click **Options**.
4. Under **Orientation**, click **Sort left to right**, and then click **OK**.
5. In the **Sort by** and **Then by** boxes, click the rows that you would like to sort.

Subtotals

Subtotals mode automatically calculates subtotal and grand total values, inserts and labels the total rows, and outlines the list for you.

1. Select a non-empty cell.
2. On the **Data** menu click **Subtotals**.
3. Click the **At Each Change In** arrow and select a column.
4. Click the **Use Function** arrow, then trace to and select **SUM**.
5. Click the **Add subtotal** arrow and then scroll to and place a check mark next to the desired column name.
6. Place check marks beside **Replace current subtotals** and **Summary below data**.

Chart Wizard

In Excel you can create charts from your worksheet data. A wide range of standard, business, and technical charts are available. It is important to accurately represent your data using the appropriate chart.


There are three types of basic charts:

Bar charts: illustrate individual values at a specific point at time.

Line charts: illustrate changes in a large number of values over a long period of time.

Pie charts: show the relationship of each part to the whole.

To create a chart:

1. Select a cell in the data to be plotted.
2. Click the **Chart Wizard** button .

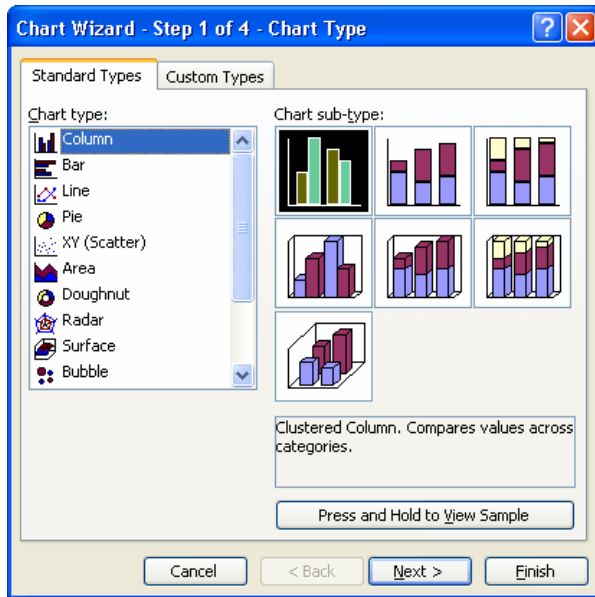
Step 1:

Choose Chart Type

1. Select chart type.
2. Select sub-type.
3. View your chart

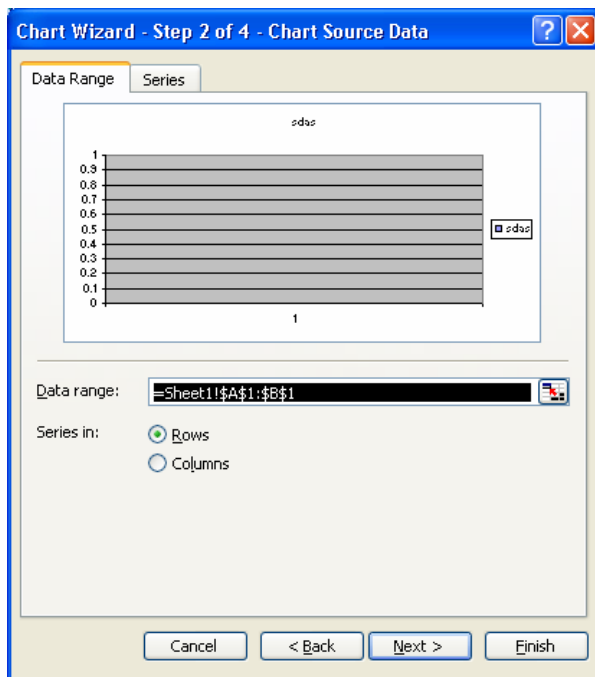
Press and Hold to View Sample

4. Click **Next**.



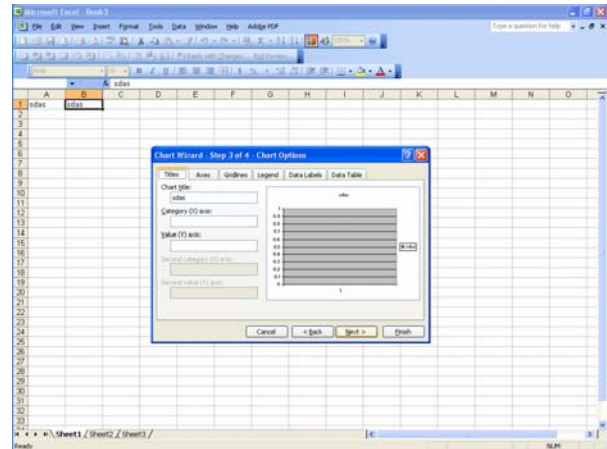
Step 2:
Specify the Data to Plot

1. Confirm that the Data Range is correct. If it is incorrect, select the data that you want to plot.
2. Click **Next**.



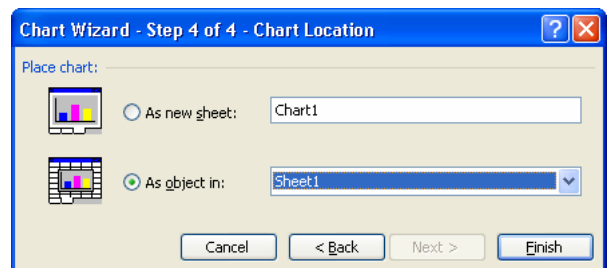
Step 3:
Choose Chart Options

1. Type in a title.
2. Define the X (axis).
3. Define the Y (axis).
4. Click **Next**.



Step 4:
Select Chart Location

1. Ensure that **As object in:** *Sheet 1* is selected.
2. Click **Finish**.



Quick Chart View

Using the quick chart view is a good way to see data visually but often it requires more tweaking and editing to create a useful chart.

1. Click a cell in the worksheet
2. Press the F11 key




Text Wrap in Cells

	A	B	C
1	The default action for text		
2	Text wrap in action		

1. Select the cells you want to format.
2. On the **Format** menu, click **Cells**, and then click the **Alignment** tab.
3. Under **Text control**, select the **Wrap text** check box.

Inserting a Picture in a Worksheet

You may want to change the appearance of a worksheet by adding a picture. For example, you may want to include the Ohio University

logo on the worksheet.  In addition, pictures are sometimes added to illustrate data contained in a worksheet. For instance, you might want to insert a smile in a worksheet that indicates good financial results.

You may insert a picture from the Clip Art Gallery in the Office software or from a file that contains a picture.

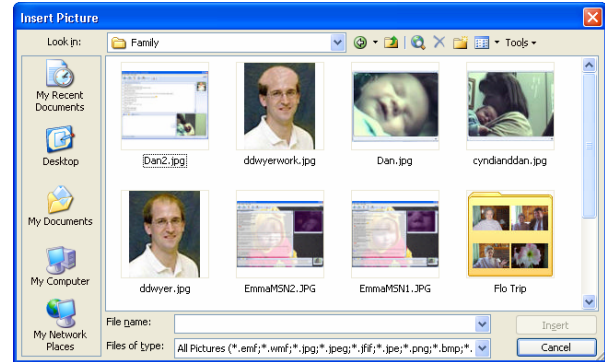
Clip Art Gallery

1. Select where you want to insert the graphic.
2. On the **Insert** menu click **Picture**.
3. Then select **Clip Art**.
4. The Insert ClipArt task pane opens.
5. A selection can be made by searching using a key word.

Insert a picture from a file

1. Select where you want to insert the graphic.
2. On the **Insert** menu click **Picture**.
3. Then select **From File**.

4. Now the **Insert Picture** window opens.

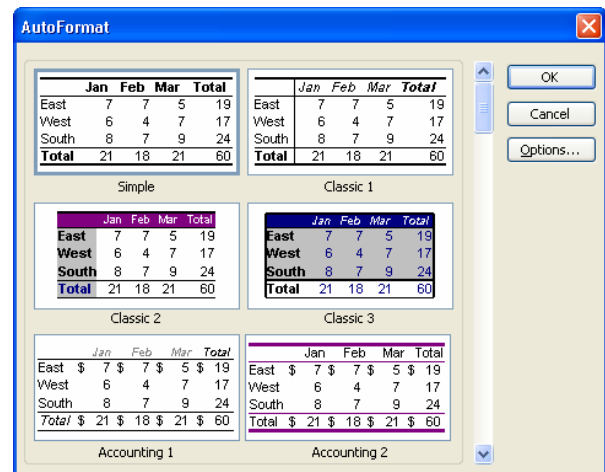


5. Navigate to where the picture is located on your computer or a disk and select it.
6. Click **Insert**.

Using Auto Format


The AutoFormat feature performs many predefined formatting combinations automatically for you.

1. Put your cursor anywhere in the table
2. From the **Format** menu, select **AutoFormat**.
3. Select the desired format and click **OK**.



Painting Formats

Format painting allows you to copy the format of a worksheet cell without copying the contents of the cell. For example, after formatting one cell for a percentage, you may format other cells for a percentage by painting the format.

1. To paint a format, begin by highlighting a cell that has the format you prefer.
2. Click the **format Painter** button  on the toolbar.
3. Next highlight the range of cells or cell that you would like to format.
4. The new format should be applied once you release the mouse button.

Changing Headers and footers

1. On the **View** menu, click **Header and Footer**.
2. Click **Custom Header** or **Custom Footer**.
3. Select the text in the Left section, Center section, or Right section box, and then click **Font**.
4. Select the options you want.

3-D References

Think of the collections of worksheets in a workbook as a third dimension. You know that you can reference rows and columns in a worksheet. You can also reference worksheets. You can, therefore, have a reference in a worksheet that pertains to a cell in another worksheet. The reference Sheet3!A5 is a reference to cell A5 on Sheet3. You can place the reference in any cell on any worksheet within the workbook.

In a workbook, you often have several worksheets that represent the same kind of data but for different entities. It may be beneficial

for you to summarize the data onto one worksheet, or consolidate the data. When you consolidate, each worksheet must have the same format and structure.

You can easily copy the contents and/or formats of a worksheet to a whole group of worksheets with the “Fill Across Worksheets” dialog box. On the sheet you intend to use to summarize the data of the worksheets, you can use 3-D Cell References to calculate totals across the worksheets involved in the summary.

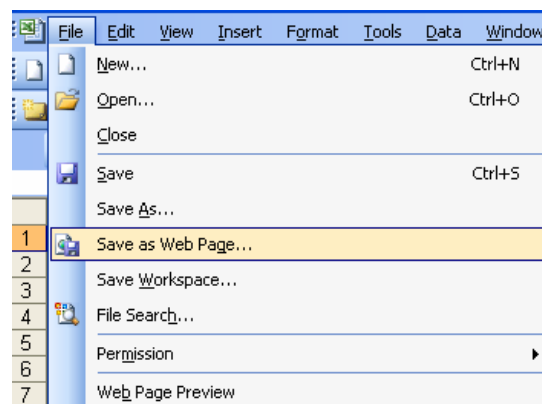
In addition 3d references can be made between workbooks as well. The reference will take the form of:

=[workbookname.xls]Worksheetname!\$AC\$6
Notice these references are automatically absolute cell references. Since they refer to another workbook the work books should be in the same directory or on the same disk.

Saving Spreadsheets as WebPages

If you save your Excel workbooks, worksheets, and charts as Web pages, you can make them available to anyone who has a browser and access to the Internet. Some Excel functionality can even be used and other users can update and manipulate data through their browsers.

1. On the **File** menu, click **Save as a Web Page**.



- Then choose where to save it and what to call it.

Data Analysis

Microsoft Excel provides a set of data analysis tools — called the Analysis ToolPak — that you can use to develop complex statistical or engineering analyses. You provide the data and parameters for each analysis; the tool uses the appropriate statistical or engineering functions and then displays the results in an output table.

This feature can be used for Regression, Correlations, t-tests, z-tests, and Descriptive Statistics.

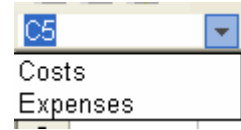
To use Data Analysis:

- On the **Tools** Menu, select **Data Analysis**.
- If this option does not appear, go to **Add Ins**, select **Analysis Toolpak** and click **OK**.

Naming a Range of Data

Ranges may be referred to by a word instead of cell addresses. If you work frequently with a range of data, it may be easier to remember a range name rather than cell references separated by a colon. For example, a range of expenses contained in B4:B28 might be named “expenses.” To determine the sum of items in this range, the function formula =SUM(expenses) would display the same amount as the function formula =SUM(B4:B28).

- A range is named by first selecting the range.
- Then entering a name in the Name box located to the left of the Formula bar.
- Finally press **Enter**.
- Whenever the range is selected, the range name appears in the Name box.



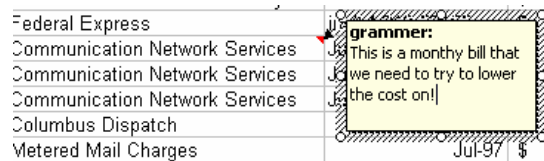
- A named range can be easily reselected by clicking the drop down arrow of the name box and choosing the appropriate name.

Using Comments

A comment is a brief explanatory note attached to a cell explaining its contents. They are often used when reviewing and for tracking changes to cells.

Inserting a Comment

- Click on the cell where you want to comment.
- From the **Insert** menu, choose **Comment**.
- Type your comment.
- When done, click on another cell.
- You will see a small red triangle in the cell indicating a comment.



Viewing Comments

- To see a comment, hold the mouse on the cell containing a comment. You do not need to click unless you want to edit the comment.
- To display comments at all times, On the **View** menu, choose **Comments**. You may want to press and drag the comment boxes so they do not overlap.
- To turn off a display of comments, from the **View** menu, choose **Comments**.

Editing a Comment


1. Click the cell with the comment you want to edit.
2. On the **Insert** menu, click **Edit Comment**.
3. When you finish editing, click outside the comment box.

Printing Comments

1. On the **File** menu, choose **Page Setup**.
2. Click on the **Sheet** tab.
3. Under the Print section, change the **Comments box** to say “As displayed on sheet” or “At end of sheet”.


Creating a Text Box

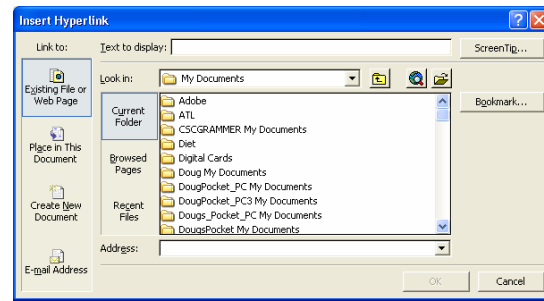
A text box is different from a comment, it is always visible on the excel worksheet.

1. Display the **Drawing toolbar**.
2. Click the text box Icon .
3. Point the cursor to where you want the text box.
4. Click and drag to create the box.
5. Type the text you want and then deselect the box.

Inserting Hyperlinks

Hyperlinks are links in a worksheet that “jump” to other files, worksheets, workbooks, or web pages on the Internet. For example, you may want to create a link to another Excel file that contains the source data for information used in your current worksheet. Or you might want to create a link to a Web page that contains the source data for information used in your current worksheet. You may also want to create a link to a Web page that contains information that relates to items contained in the worksheet or for help filling out an excel form.

1. First select text or graphic you wish to link.
2. **Right-click** the item and select **Hyperlink** on the shortcut menu or use the toolbar icon .
3. When the **Insert Hyperlink** dialog box appears, key the filename or Web page address into the address text box.

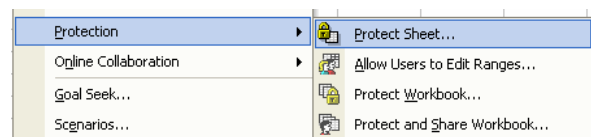


4. Click **OK**, you will be returned to the spreadsheet and the pointer will appear as a pointed finger when it is passed over the linked item.

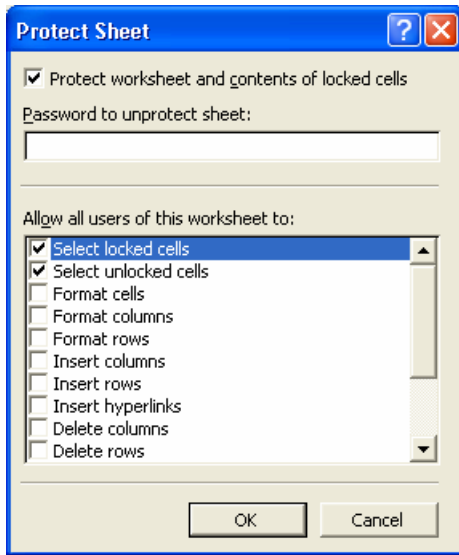
If you create a hyperlink to a file, that file will be opened when the text or graphic is clicked in the worksheet. If you create a hyperlink to a Web page, that page will be opened in your browser when you click the text or graphic that has been linked.

Protection

1. On the **Tools** menu, trace to **Protection**.



2. Click **Protect Sheet**.



3. Enter a password.
4. Check the boxes you want.
5. Click **OK**.
6. A confirm Password dialog box will appear.
7. Enter the same password and click **OK**.

Tracking Changes

Microsoft Excel can maintain and display information about how a worksheet was changed.

Change tracking logs details about workbook changes each time you save a workbook. You can use this history to understand what changes were made, and to accept or reject revisions.

This capability is particularly useful when several users edit a workbook. It's also useful when you submit a workbook to reviewers for comments, and then want to merge input into one copy, selecting which changes and comments to keep.

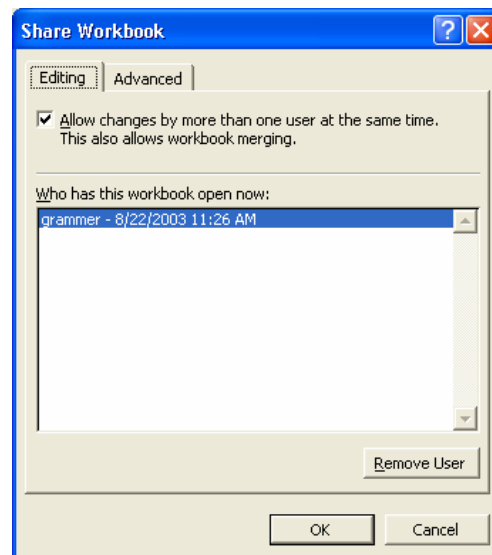
Change tracking is available only in shared workbooks. As a result, features that are unavailable for use in shared workbooks also are not tracked as changes.

Sometimes there will be multiple people working on a worksheet. If this is the case, the

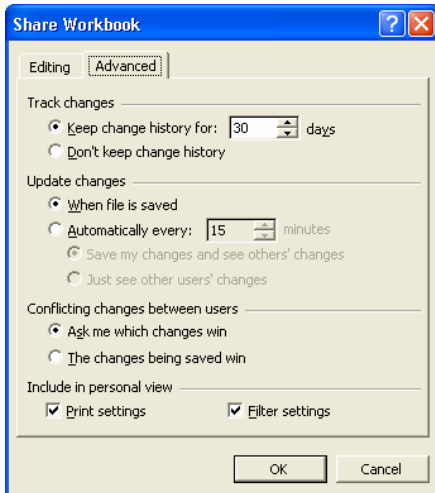
workbook must be made shareable by clicking the Share Workbook option on the Tools menu. Once a workbook becomes a shared workbook, it is important that changes made by an individual user do not conflict with changes made by other individuals. The reviewing toolbar will allow users to track comments that have been inserted. When multiple users are working on a workbook, they should provide comments indicating the changes they have made. You can also track changes that have been made by selecting Track Changes on the Tools menu. You can choose to highlight changes that have been made or to list all the changes on a separate worksheet. Finally, you can choose to either accept or reject the changes that have been made by individual users.

When you first create a new workbook do the following:

1. On the **Tools** menu, click **Share workbook**.
2. Place a check in the box “Allow changes by more than one user at the same time.”



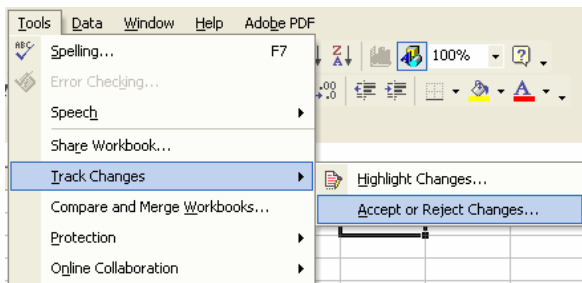
3. Click the **Advance** tab.



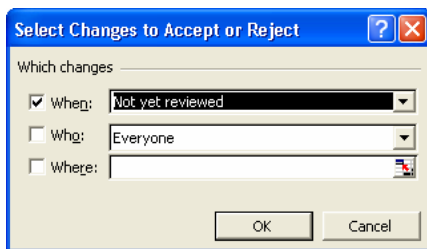
4. Make the appropriate choices for your situation.
5. Save the work book and put it on a shared drive.

Accepting and Rejecting Changes to a Workbook

1. On the Tools menu, click Track Changes.
2. Then select Accept or Reject Changes.



3. You should see a box like the one below.



4. Select the appropriate options can click **OK**.

Auditing Features

You can use Excel's auditing features to trace errors in a worksheet. It can also trace the relationships between cells and formulas on your worksheets.



1. **Error Checking** – Traces the error and resolves the error. It also locates previous occurrences of the error.
2. **Trace Precedents** – Draws arrows to the selected cell from any cells that are referred to by the formula in the cell.
3. **Remove Precedent Arrows** – Removes the tracer arrows from the precedent cells.
4. **Trace Dependents** – Draws arrows from the selected cell to any cells containing formulas that refer to the cell.
5. **Remove Dependent Arrows** - Removes the tracer arrows from the dependent cells.
6. **Remove All Arrows** – Removes all arrows from the worksheet.
7. **Trace Error** – Draws tracer arrows connecting the selected cell and all precedent and dependent cells. Red tracer arrows point to the cell containing the error and blue tracer arrows point to other dependent cells that do not contain errors.
8. **New Comment** – Insert a new comment in the worksheet.
9. **Show Watch Window** – Displays the Watch window where you can see the result of changes to the source cell on destination cells without navigating between worksheets.
10. **Evaluate Formula** – Opens the Evaluate Formula dialog box, which you can use to see the different steps in a nested formula.