



Microsoft Excel 2007

Level One



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Course Objectives

Upon successful completion of this course, students will be able to:

- Understand basic Excel terminology.
- Open, close, create, and save workbooks.
- Create a basic worksheet by entering text and values.
- Format text, numbers, and cells.
- Insert, delete, and modify columns and rows.
- Use basic formulas to perform calculations on data.
- Manipulate multiple worksheets in a workbook.
- Apply numerous page display settings to prepare a worksheet for printing.
- Set up headers and footers, page breaks, and a print area.
- Preview and print spreadsheet data.
- Use the Help windows to answer questions.

Introduction

Understanding Electronic Spreadsheets

Microsoft Excel is an *electronic spreadsheet* which organizes information into defined columns and rows. The data can then be sorted, filtered, analyzed with mathematical formulas and much more. Formulas are particularly helpful because if you change any number the formula is referring to, the result of the formula is automatically updated to include the new number. As long as the formulas were entered correctly, the calculations will remain accurate. While Excel is primarily designed to store and manipulate numbers, it can also be used to store text. Some features also make it easier to place text-based data in Excel.

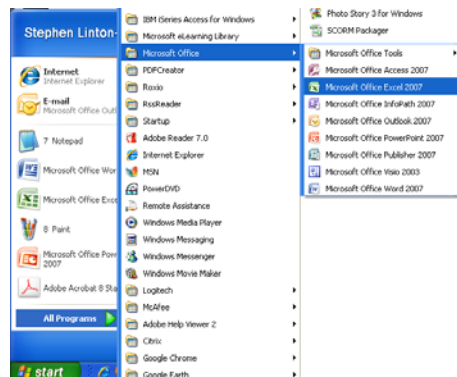
Most Common Uses of Excel

- Storing numbers, text or both
- Sorting and filtering data
- Performing calculations with formulas
- Displaying numerical data with charts & graphs

	A	B	
1	Car Loan		
2			
3	Loan Amount	\$ 12,000	
4	Interest Rate	5.50%	
5	# Payments	48	
6	Monthly Prnt	(\$279.08)	
7			

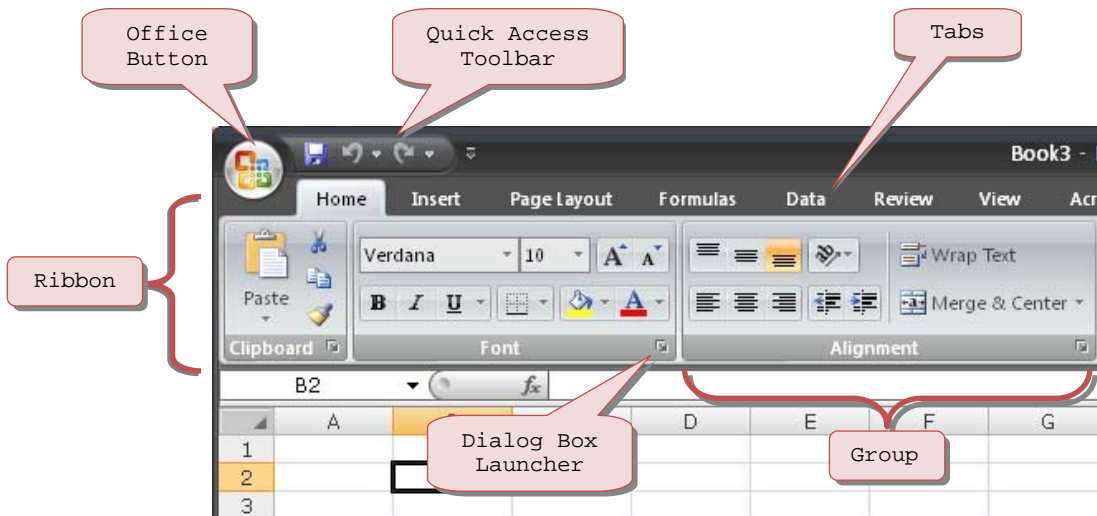
Opening Microsoft Excel

To start the program, double-click the Microsoft Excel icon on your **Desktop**. If an icon is not on your desktop, you can click **START > ALL PROGRAMS > MICROSOFT OFFICE > MICROSOFT EXCEL**.

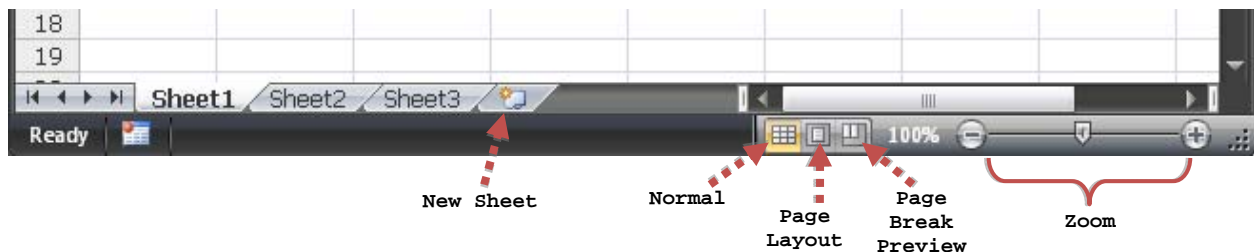


Excel Basics & Terminology

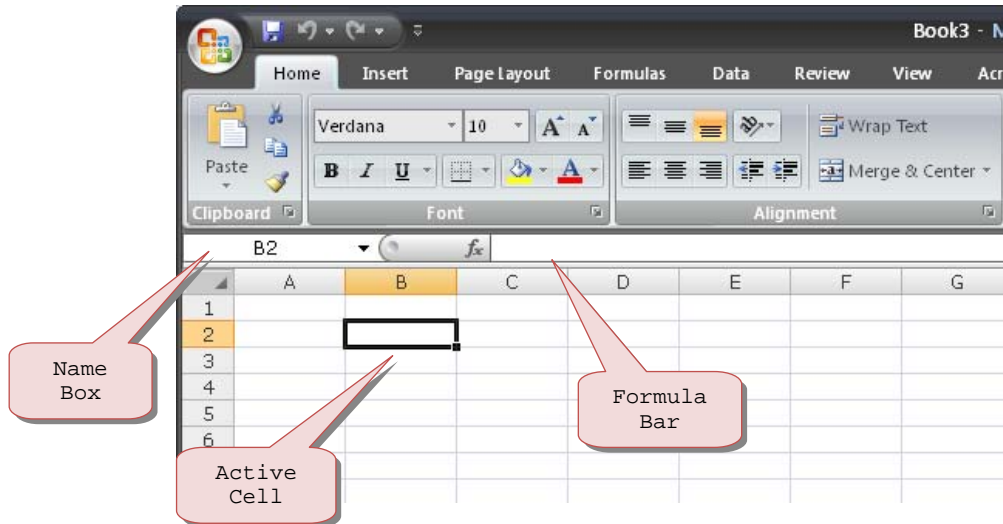
In this section we will become familiar with the various tools and commands available in Excel. We will also learn about the basic structure of an Excel spreadsheet.



- **THE RIBBON:** The ribbon area organizes all tools by **TABS**, **GROUPS** and **DIALOG BOX LAUNCHERS**
- **OFFICE BUTTON:** A menu of popular commands like **NEW**, **SAVE**, **PRINT**, **PRINT PREVIEW**, **EXCEL OPTIONS**
- **QUICK ACCESS TOOLBAR:** This toolbar is always visible and is the only area you can customize with your own favorite tools. To add buttons to this toolbar, right-click any item or command and select **ADD TO QUICK ACCESS TOOLBAR**



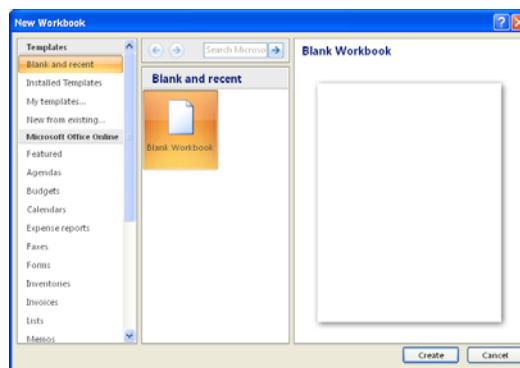
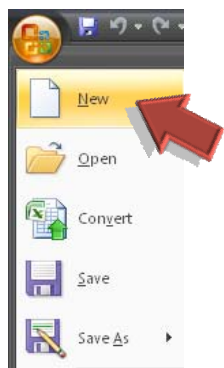
- **WORKBOOK:** An Excel file is called a **WORKBOOK**. By default, new workbooks are named **BOOK1**.
- **WORKSHEETS:** By default, each workbook contains three worksheets. The sheets are named **SHEET1**, **SHEET2**, **SHEET3**. The sheet tabs are located at the bottom of the window. More sheets can be added with the **NEW SHEET** button.
- **VIEWS:** Spreadsheets can be viewed in one of three ways:
 - **NORMAL:** Standard view where only the data in the cells are visible
 - **PAGE LAYOUT:** Used to add headers and footers and to see the edges of each page
 - **PAGE BREAK PREVIEW:** Breaks between pages can be modified by clicking and dragging on the blue lines



- **COLUMNS & ROWS:** Each worksheet displays a grid or table created by **COLUMNS** (labeled with letters) and **ROWS** (labeled with numbers). Each worksheet has *16,384 columns* and *1,048,576 rows*.
- **CELLS:** As the rows & columns intersect, they divide the spreadsheet into individual cells.
- **CELL REFERENCE:** Each cell is assigned a cell reference, based on the column and row labels, to indicate its location in the worksheet. The cell located where column B and row 2 intersect, is referenced as cell B2.
- **ACTIVE CELL:** The cell that is currently selected is called the active cell. Notice the bold border surrounding the active cell and the corresponding row and column headings are highlighted.
- **FORMULA BAR:** This bar will display the formula (the spreadsheet will display the result.) If no formula exists in the cell, the formula bar will simply display the contents of the cell.
- **NAME BOX:** The cell reference for the active cell is displayed in the *Name Box* on the *Formula Bar*.
- **RANGE:** Multiple cells is called a *Range*.

Creating a Workbook

When starting a new workbook, you can either start with a **Blank Workbook** or you can choose a preformatted **template**. To see these options, click the **OFFICE BUTTON > NEW**.



Navigating an Excel Spreadsheet

There are several different methods of navigating an Excel spreadsheet:

Action	Result
Click on the cell	Activates that cell
Type cell reference in the NAME BOX	Activates that cell (alternate method)
Arrow Keys	Left, Right, Up, Down (one cell at a time)
TAB	One cell to the Right
SHIFT + TAB	One cell to the Left
PAGE DOWN	Moves several rows Down
PAGE UP	Moves several rows Up
ALT + PAGE DOWN	Moves several columns to the Right
ALT + PAGE UP	Moves several columns to the Left
CTRL + HOME	Moves to cell A1
CTRL + END	Moves to last cell containing data
F2	Opens a cell for editing
CTRL + PAGE DOWN	Opens the next Sheet to the right
CTRL + PAGE UP	Opens the next Sheet to the left

Entering Text and Numbers

To enter text or numbers into a cell, click on the desired cell and begin typing. Notice that as you type, the text also appears in the **Formula Bar**. To confirm the new cell entry you can either use the mouse to click elsewhere or use the keyboard by pressing any of the following: **ENTER**, **TAB**, **SHIFT + TAB**, any arrow key.

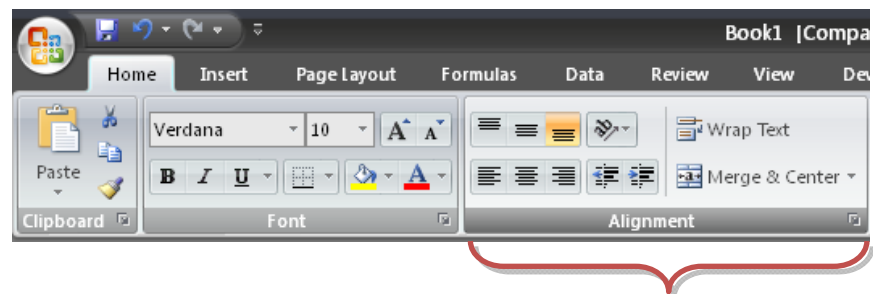
Note that when you are typing into a cell, many of the buttons on the **RIBBON** are not available. However, once you confirm the entry in the cell, the buttons become available again.

Text & Number Alignment

By default, text and numbers are aligned differently within a cell. You cannot change the default, but after data is entered in a cell, you can modify its alignment from the **HOME** tab's **ALIGNMENT** group. The default alignments are:

- A cell with only **Text**, will be **Left** aligned
- A cell with only **Numbers**, will be **Right** aligned
- A cell containing both **Text** and **Numbers** will be **Left** aligned

	A
1	Blue
2	16
3	Green 42
4	

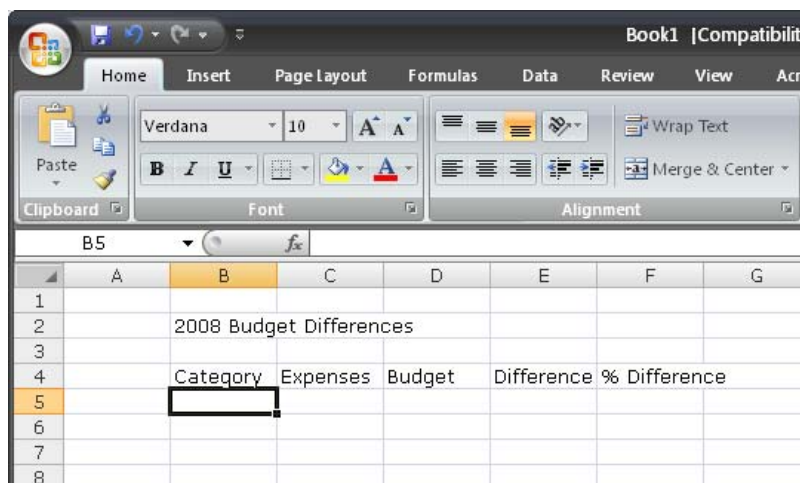


Exercise

- In cell **B2**, type **2008 Budget Overview**
- Press **ENTER**

Notice that the text appears to bleed over to the next cell. If you click in the adjacent cell (C2) and then check the formula bar, you'll notice that no text exists in that cell. Type into cell C2 and text in cell B2 will no longer appear to bleed over. If a column is not wide enough and data exists in the adjacent cell, Excel will display only as much as the width of the column will allow. Modifying column width is covered later in this guide.

- Press the **DOWN ARROW** on the keyboard to move to cell **B4**. Type **Category**.
- Press **TAB** on the keyboard to move to In cell **C4**. Type **Expenses**.
- Click in cell **D4**. Type **Budget**.
- Press the **TAB** key to move to cell **E4**. Type **Difference**.
- Move to cell **F4**. Type **% Difference**.



Undo and Redo

You can reverse any action by clicking the **UNDO** button on the **QUICK ACCESS TOOLBAR**. You can click the undo button as many times as you like and it will undo everything up until the point you opened the file. The undo button also has a small arrow next to it revealing a list of all the actions you can undo. They must, however, be undone contiguously. If you change your mind after you click Undo, you can restore the action by clicking the **REDO** button.



Opening an Existing File

Let's add data to this spreadsheet. A budget already exists and includes data we could use here. Open that workbook and we will copy the data, and paste it into this one.

- Click **OFFICE BUTTON > OPEN**
- If necessary, click the down arrow at the end of the **Look in** field to browse to the appropriate folder
- Double-click on **Departmental Budget**




Alternate Methods for Opening a Workbook

Option 1. If you added it to the **QUICK ACCESS TOOLBAR**, click the **OPEN** button from there

Option 2. Press **CTRL + O** on the keyboard.

Move, Cut, Copy & Paste

Cells and their contents can be re-located in three different ways: **Move, Cut & Paste** or **Copy & Paste**. Before learning each of these actions, first note that your mouse will appear in different formats based on what the mouse is pointing at.

Mouse	Action	Pointing At
	Select Cells	Anything but the active cell border
	Move Cells	The active cell border
	AutoFill Cells	The active cell AutoFill handle (lower-right)

Move: A cell or range can be re-located by clicking and dragging it to another location.

- Select the cell or range of cells you wish to move.
- Place your mouse on the bold border of the cell or range.
- Once your mouse changes into a **four-headed arrow**, click and drag the cell(s) to their new location.
- If any data already exists in the new location, you will be asked whether you want to **replace** the existing contents.

Category	Expenses	Budget
Projects	\$ 25,000.00	\$ 27,500.00
Publications	\$ 1,500.00	\$ 1,250.00
Travel	\$ 1,290.00	\$ 1,059.39
Supplies	\$ 2,000.00	\$ 1,775.00

Cut & Paste: Use the buttons on the **HOME** tab instead of clicking and dragging.

- Select the cell or range of cells you wish to move.
- Click the **CUT** button on the **HOME** tab's **CLIPBOARD** group
- A marching border appears around the cut cell(s). Notice the cell(s) maintain their contents.
- Click on the cell where you want to move the cell(s) to.
- Click the **PASTE** button in **CLIPBOARD** group.



Copy & Paste: Similar to cut & paste, but data is not moved, only copied.

- Using the exercise... select the range **B5** through **D8**.
- Press the **COPY** button on the **HOME** tab. (two pieces of paper icon)
- Go to the Windows task bar and click **BOOK1** (the one you started to create)
- Click in cell **B5** then click the **PASTE** button --OR-- press **ENTER** on the keyboard.
 - *Using the Paste Icon:* The marching border continues around the original range and the **SMART TAG** appears.

- o *Using Enter*: The marching border stops and no **SMART TAG** appears. Formatting from the source is maintained.

Paste Options Smart Tags

When data is cut/copy & pasted in Excel using the Paste button, you are presented with a **SMART TAG** in the bottom right corner of the pasted data. This button gives you other options regarding the format of the pasted data. From our exercise, the data pasted in the destination cells retained the formatting from the source cells. Also notice, two columns displays a series of pound signs (#####). This is not an error – when it comes to numbers, Excel will display either the entire number or pound signs if the column is not wide enough.

The source data included formatting such as cell shading, font styles, and number formats. You can choose to keep the entire source formatting, some of the formatting, or discard all the formatting and match the destination formatting. To discard the source formatting...

- Click the **PASTE OPTIONS** button
- Click **MATCH DESTINATION FORMATTING**

	A	B	C	D	E	F	G	H
1								
2		2008 Budget Differences						
3								
4		Category	Expenses	Budget	Difference	% Difference		
5		Projects	#####	#####				
6		Publicatic	#####	#####				
7		Travel	#####	#####				
8		Supplies	#####	#####				
9		Software	#####	#####				
10		Hardware	#####	#####				
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								

Keep Source Formatting
 Use Destination Theme
 Match Destination Formatting
 Values and Number Formatting
 Keep Source Column Widths
 Formatting Only
 Link Cells

Because there wasn't any formatting specified for the destination worksheet, the pasted cell contents appear as plain text.

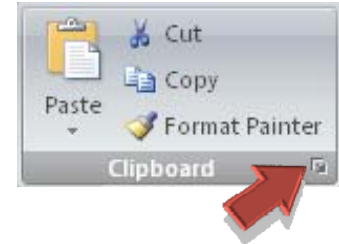
Smart Tags are small indicators that appear automatically when: (1) certain types of actions are taken (2) Excel recognizes certain types of data (3) Excel identifies possible worksheet errors. Some smart tags, such as the **Paste Options** and the **Auto-Fill Options** tags, are enabled by default, and can be viewed when you perform specific actions. Other smart tags, such as the one that recognizes stock symbols, must be turned on before they can be used. To turn on context-sensitive smart tags, click **OFFICE BUTTON > EXCEL OPTIONS > PROOFING > AUTOCORRECT OPTIONS > SMART TAGS** tab, then select the **LABEL DATA WITH SMART TAGS** check box, and then click **OK**.

	A	B	C	D	E	F	G
1							
2		2008 Budget Differences					
3							
4		Category	Expenses	Budget	Difference	% Difference	
5		Projects	25000	27500			
6		Publicator	1500	1250			
7		Travel	1290	1059.39			
8		Supplies	2000	1775			
9		Software	42000	45000			
10		Hardware	6000	7500			
11							
12							

The Office Clipboard: Cutting or Copying Multiple Items

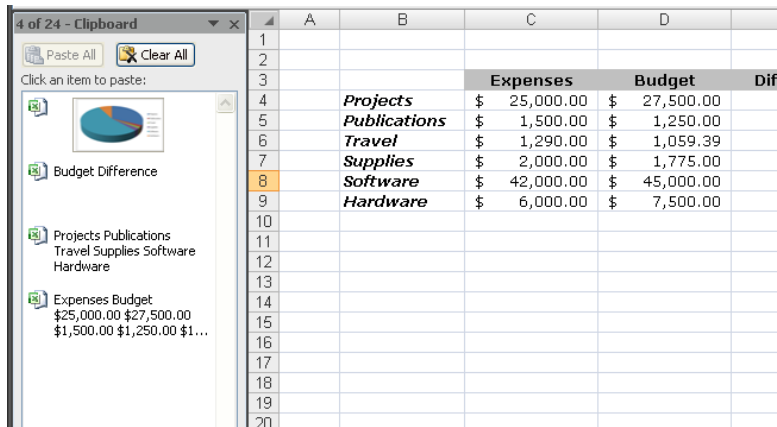
The Office Clipboard can store (via Cut or Copy) up to 24 separate items. Those items can include portions of a cell, a single cell, a range of cells, pictures, charts, etc. After the item(s) are cut or copied to the Office Clipboard, you can paste them in at any time – as long as Excel stays open. Here's how to use it:

1. To open the Office Clipboard, go to the **HOME** tab's **CLIPBOARD** group and click the dialog box launcher
2. Select the 1st item you want to cut or copy
3. Click the **CUT** or **COPY** button
4. Select and cut or copy any additional items
5. Click where you want to paste an item
6. Click the item on Office Clipboard you want to paste. (The **PASTE ALL** button will paste all items in the order they were collected.)
7. If necessary, click the **PASTE OPTIONS SMART TAG** button that appears at the bottom corner of the pasted item, then select the desired option



Cut or copied items remain on the **Office Clipboard** until you:

- Exit all Microsoft Office applications
- Exit Windows
- When you cut or copy more than 24 entries
 - When you cut or copy a 25th item, the Clipboard task pane drops the oldest entry and adds the new one

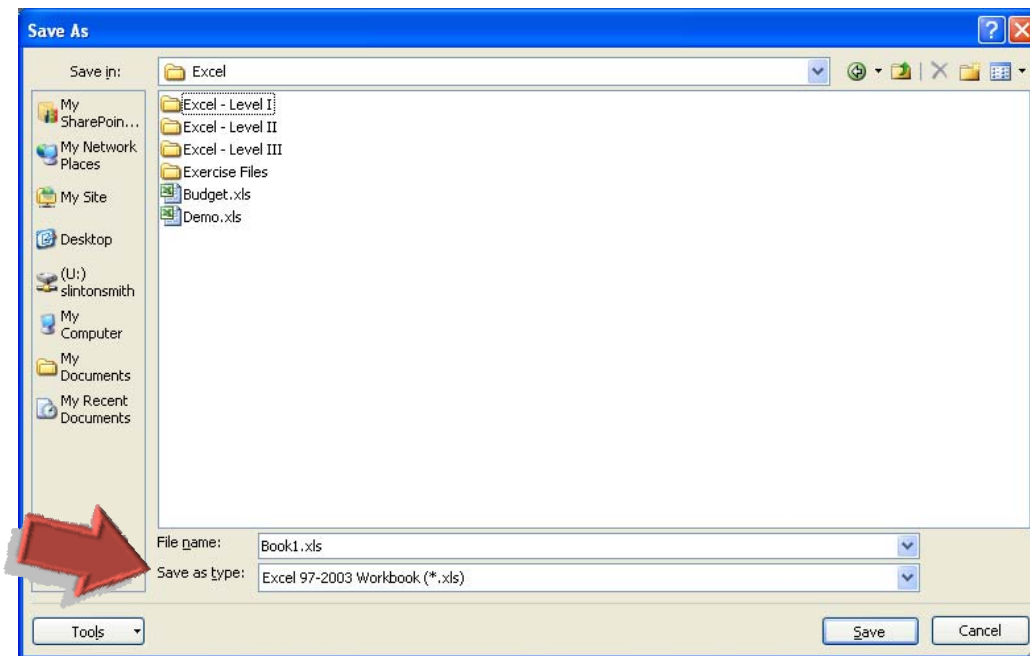


Saving a Workbook

So that you don't lose any of your work, it's a good idea to save your workbook often in case of power outages or computer failure. The first time you save a new workbook, Excel will present the **SAVE AS** dialog box where you'll need to specify a **location** to save the file and a **file name**.

- Click the **SAVE** button on the **QUICK ACCESS TOOLBAR**
- Specify a file location by clicking the **SAVE IN** drop-down arrow
- In the **FILE NAME** field, remove **BOOK1** and type in your desired file name
- In the **SAVE AS TYPE** field, you can choose between **EXCEL WORKBOOK** or **EXCEL 97-2003 WORKBOOK** (The former is the new Excel 2007 format. See below for more information.)
- Click **SAVE**
- After you have saved the file with a name and location, you can re-save the file by clicking the save button on the **QUICK ACCESS TOOLBAR**





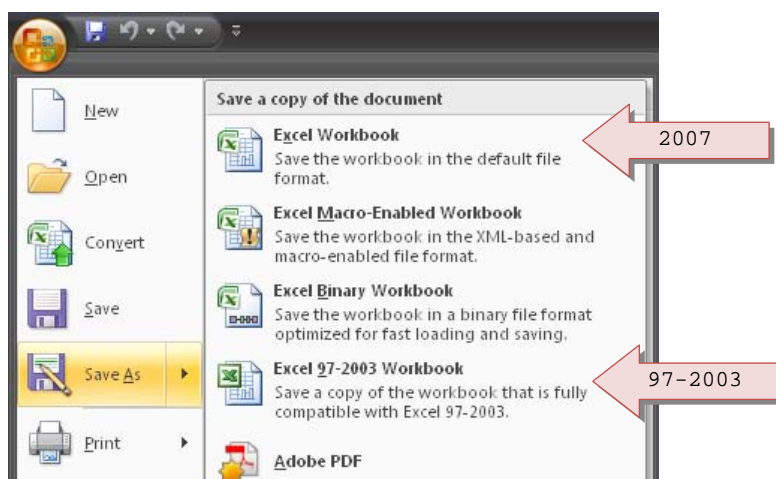
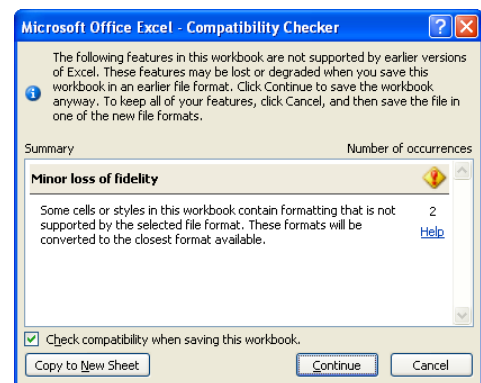
Save as Type: Excel 2007 vs. Excel 97-2003

Excel 2007 comes with many new and improved features. To take advantage of many of these features, Excel must be saved in the new file format. In the **SAVE AS TYPE** field of the **SAVE AS** dialog box, the new format is simply identified as **EXCEL WORKBOOK**. However, Excel 2007 is still **backward compatible** – meaning you can open, edit & save files in the older format (97-2003). This is also important because those who do not have Excel 2007 cannot read files in the new format, therefore saving files in the older format is a good idea.

Compatibility Mode

Excel 2007 runs in **COMPATIBILITY MODE** when an older format (Excel 97-2003) file is open. The **TITLE BAR** across the top will display the name of the file followed by **[COMPATIBILITY MODE]**. You can continue using these files in the old format with Excel 2007 - unless you want to take advantage of the newer features.

When you save the file, the **COMPATIBILITY CHECKER** will scan the file for any new features that the old format does not support. For example, in Excel a **MINOR LOSS OF FIDELITY** could be something as simple as specific colors that are not supported by the older format.



At any time you can take an existing Excel file and save it "up" to the 2007 format or "down" to the 97-2003 format. These options are located on the **OFFICE BUTTON** in the **SAVE AS** group.

Formatting a Worksheet

Modifying Column Width & Row Height

The width of any Excel column can be modified in one of three ways.

Modify Column Width

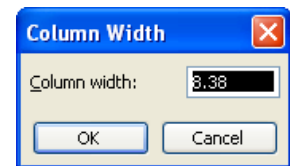
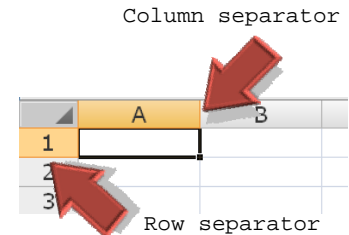
Option 1. Double-click the column separator

Option 2. Drag the column separator left or right

- Note the ScreenTip displays the numerical width: **Width: 18.00 (131 pixels)**

Option 3. Entering the desired numerical width:

- Select the desired column(s)
- Right-click on the selected column(s) header/letter
- Click **COLUMN WIDTH**
- Type in a specific number and click **OK**



Modify Row Height

Row height can be modified similar to column width, you're just working vertically instead of horizontally.

Option 1. Double-click the row separator between rows

Option 2. Drag the row separator between the rows up or down

- Note the ScreenTip displays the numerical height: **Height: 36.00 (48 pixels)**

Option 3. Entering the desired numerical width:

- Select the desired row(s)
- Right-click on the selected row(s) header/number
- Click **ROW HEIGHT**
- Type in a specific number and click **OK**

Row Height Measurement: the number used to measure row height is related to font size and is usually set to 2.75 points higher than the font size to add some white space so that the data is easy to read.

Row Height Auto Adjust: the height of a row will also automatically adjust when you increase the font size. If it fails to do so, double-click on the row separator.

Inserting and Deleting Columns & Rows

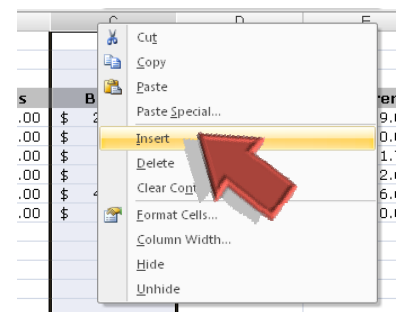
Columns or rows can be inserted or deleted very quickly. Anytime additions or deletions are made, the data will shift to accommodate the added or removed element. Additionally, relative cell references in formulas will also automatically adjust. (More about formulas later.)

Inserting a Column

- Right-click on a column header and select **INSERT**
- The new column is inserted to the **left** of the column selected
- To add multiple columns, select the same number of columns as the number you wish to add

Inserting a Row

- Right-click on a row header and select **INSERT**
- The new row is inserted **above** the selected row
- To add multiple rows, select the same number of rows as the number you wish to add



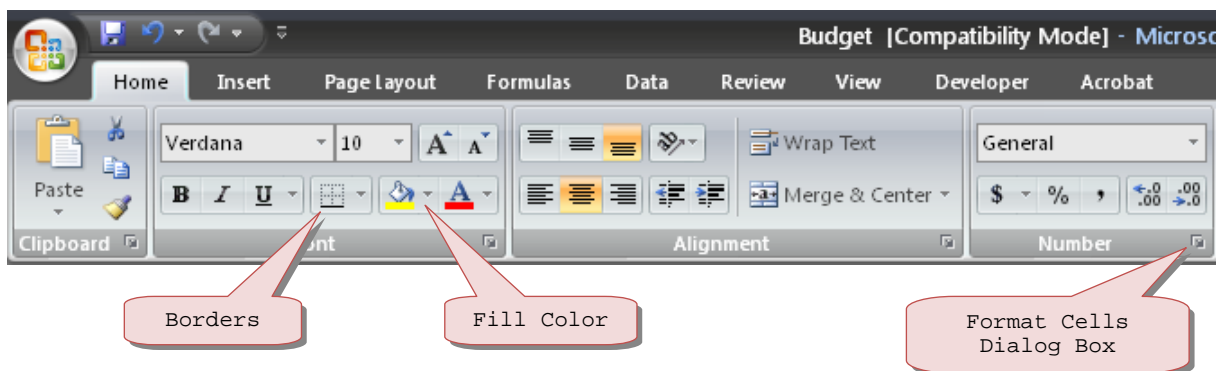
Deleting Columns or Rows

- Right-click on a column or row header
- Select **DELETE**

Formatting Text & Alignment

Fonts can be modified in many different ways to emphasize certain text. Quick formatting changes can be made via the **HOME** tab. In our exercise, we'll make a few cells stand out more.

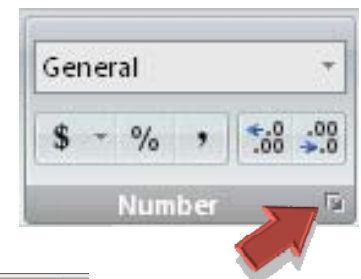
1. Select cells **B4** through **F4**.
2. From the **HOME** tab, make the following formatting selections:
 - Click the **B** to **BOLD** the text
 - From the **BORDER** list, select **ALL BORDERS**
 - From the **FILL COLOR** list, select any color (Note that dark colors will mark darker font colors hard to see)
3. Select cells **B2:F2** and make the following formatting selections
 - Click the **MERGER & CENTER** button on the **HOME** tab
 - Select **14** from the **SIZE** list
 - Colorize the text
4. For more detailed changes, you can click the **FORMAT CELLS** dialog box launcher in the bottom corner of most of the groups on the **HOME** tab.



Formatting Number Style

Now let's format the numbers in columns C through F with dollar signs.

1. Select cells **C5:F8**.
2. On the **HOME** tab, find the **NUMBER** group.
3. Click the dollar sign symbol **\$**
4. Choose the number of **DECIMAL PLACES** with the **INCREASE DECIMAL** or **DECREASE DECIMAL** buttons

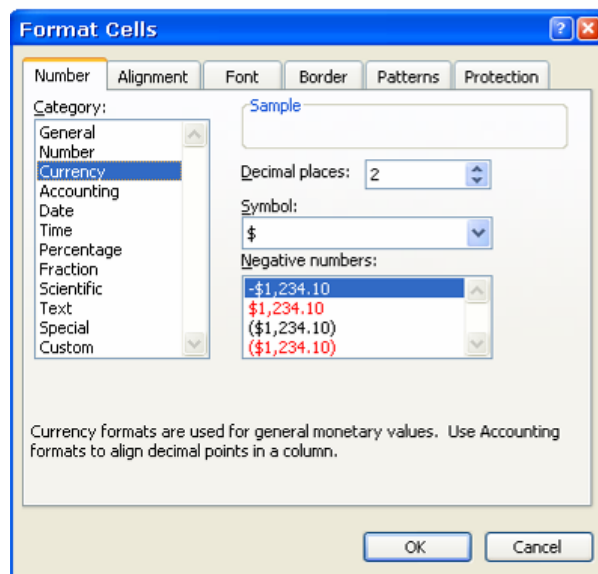
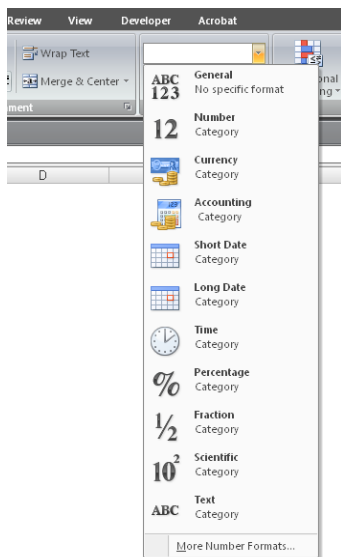


	A	B	C	D	E	F
1						
2			2008 Departmental Budget			
3						
4		Category	Expenses	Budget	Difference	% Difference
5		Projects	\$ 25,000.00	\$ 27,500.00		
6		Publications	\$ 1,500.00	\$ 1,250.00		
7		Travel	\$ 1,290.00	\$ 1,059.39		
8		Supplies	\$ 2,000.00	\$ 1,775.00		
9						

More Number Formats

Number formats can also be changed from the drop-down list in the **NUMBER** group. For more advanced number formats, click the **FORMAT CELLS** dialog box launcher at the bottom corner of the **NUMBER** group.

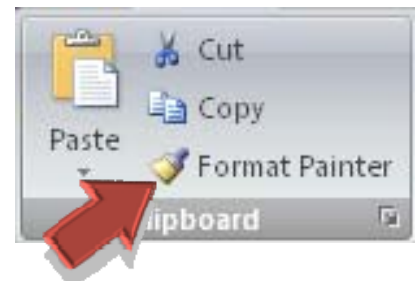
- **GENERAL:** a number with no special formatting
- **NUMBER:** decimal places, commas and negative numbers
- **CURRENCY:** decimal places, negative numbers and currency symbol (which is aligned next to the number)
- **ACCOUNTING:** decimal places, currency symbol (which is aligned relative to all other numbers). There are no negative number options, but negative values will be displayed in parentheses and in black.
- **DATE:** long date, short date, military style, etc.
- **PERCENTAGE:** decimal places (make sure the numbers entered are less than zero otherwise "25" will be displayed as 2500%. Enter it as "0.25" to ensure it is displayed as 25%)
- **TEXT:** if you want Excel to treat the numerical entry as text
- **SPECIAL:** very helpful in automatically formatting **ZIP CODE+4** or **PHONE NUMBERS**



Format Painter

The Format Painter button, found on the far left side of the **HOME** tab, allows the user to copy the formatting of a selected cell and apply that formatting to other cells. This can save a great deal of time for heavily formatted cells. Use the Format Painter button as follows:

1. Click on the cell that has the formatting you like and want to apply elsewhere
2. Click the **FORMAT PAINTER** button on the **HOME** tab (Notice the crosshair now has a paint brush next to it)
3. Click the cell you want to apply that format to (or drag over a range of cells)
4. The format painter will then turn off



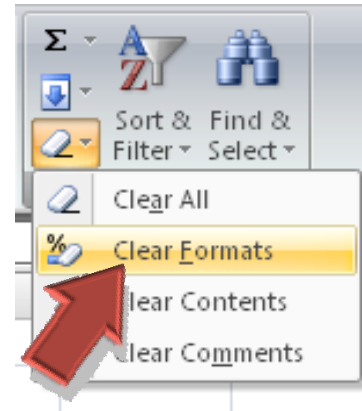
Copying the Format to Multiple Locations

1. To copy the format to several other non-contiguous locations, double-click the **FORMAT PAINTER** button, then click the cells you want to apply that format to
2. The Format painter will remain on until you click the button again to turn it off

Clearing Formatting

The default formatting for all cells in a new spreadsheet is **GENERAL**. There are two ways you can remove the formatting from any cell, thus setting it back to General.

- Option 1. Find a cell that is already set to General and use the Format Painter to take the formatting from the General cell and apply in elsewhere.
- Option 2. Go to the **HOME** tab on the far right hand side, and click the eraser icon and make a selection from: **CLEAR ALL, CLEAR FORMATS, CLEAR CONTENTS, CLEAR COMMENTS**



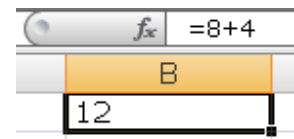
Calculating Values

Basic Formulas

All formulas must follow certain structural rules. If they are not typed in correctly, the result will either be wrong or non-existent. All formulas must begin with an **equal sign (=)** and the basic mathematical operators are: **addition (+)**, **subtraction (-)**, **multiplication (*)**, **division (/)**, and **exponents (^)**.

- Click cell **B11**, and type **=8+4**.
- Press **ENTER** to complete the calculation.

Notice that the value displayed in the cell, **12**, is the result of the formula.



Order of Precedence

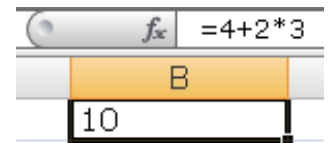
When formulas are calculated, Excel follows the mathematical rule called **order of precedence**. Beginning at the equal sign, Excel calculates items in the following order from left to right:

Order of Precedence	
1.	Parentheses
2.	Exponents
3.	Multiplication/Division
4.	Addition/Subtraction

The order of precedence is easily remembered by the acronym **PEMDAS** and the grade school saying "**P**lease **E**xcuse **M**y **D**ear **A**unt **S**ally."

- Type **=4+2*3**, and press **ENTER**

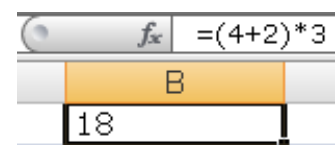
Notice the result: **10**. Moving from left to right, instead of adding 4 and 2, and then multiplying the result by 3, Excel followed the order or precedence. Excel first multiplied 2 by 3, and then added the result to 4.



You can use parentheses to control the result.

- Type **=(4+2)*3**, and press **ENTER**

Notice that this time Excel first added 4 and 2, and then multiplied the result by 3 to get the result of **18**.



Using Cell References in Formulas

Static numbers can always be entered into a formula, however if the data changes, the formula will be incorrect. Instead of typing in the actual values, write your formula with *cell references*. Excel will then calculate the formula based on the values in those cells – and if they change, the formula also updates.

When you write a formula with cell references, colored borders appear around the referenced cells. This is how Excel helps you visually recognize which cells are referenced in a formula.

Several Methods for Adding a Range

Click in cell **C9** and try each of these options

- Type in formula: **=C5+C6+C7+C8**
- Type "=", then click the cell, type "+", then click other cell, etc.
- Type "=SUM" then an open parenthesis then select the range **=SUM(C5:C8)**
- Click the **AUTOSUM (Σ)** button on the **HOME** tab and Excel will automatically select a range of numbers and place the appropriate SUM function in the cell
- Select values and adjacent blank cell, then click the **AUTOSUM (Σ)** button on the **HOME** tab

	A	B	C	D
3				
4		Category	Expenses	Budget
5		<i>Projects</i>	\$ 25,000.00	\$ 27,500.00
6		<i>Publications</i>	\$ 1,500.00	\$ 1,250.00
7		<i>Travel</i>	\$ 1,290.00	\$ 1,059.39
8		<i>Supplies</i>	\$ 2,000.00	\$ 1,775.00
9			=C5+C6+C7+C8	

Subtraction

- Click cell **E5**
- Type **=D5-C5**
- Click the **ENTER** button

	B	C	D	E	
		Category	Expenses	Budget	Difference
		<i>Projects</i>	\$ 25,000.00	\$ 27,500.00	=D5-C5
		<i>Publications</i>	\$ 1,500.00	\$ 1,250.00	

Using Auto-Fill

The formula in cell E5 can be copied to cells E6 thru E8 using Auto-Fill. To use Auto-Fill, hover over the small black square in the lower-right corner of the active cell. This is called the **fill handle**. When you hover over the fill handle, the mouse changes to a black cross hair.

- Click cell **E5** and hover over its **auto-fill** handle
- Drag the fill handle to cell **E8**

	Budget	Difference	% D
\$	27,500.00	\$2,500.00	
\$	1,250.00	(\$250.00)	
\$	1,059.39	(\$230.61)	
\$	1,775.00	(\$225.00)	

Notice that the cell references in the formulas were adjusted to reference the adjacent cells instead of the same cells as the original formula. The formula updated **relative** to the new locations it was auto-filled to.

Other Examples of Auto-Fill

Auto-Fill is also very useful for filling in continuous series such as days, dates, and numbers. For instance:

Month Auto-Fill

- Click in cell **B15** and type **January**
- Drag the fill handle to cell **B26**

Repeating Value or Text Auto-Fill

- Click in cell **C15** and type **10**
- Drag the fill handle to cell **C26**

Step Value Auto-Fill

- Click in cell **D15** and type **10**
- Click in cell **D16** and type **20**
- Select both cells **D15** and **D16**
- Drag the fill handle to **D26**

Date Auto-Fill

- Click cell **E15** and type **10/28/2008**
- Drag the fill handle to **E26**

	A	B	C	D	E
13					
14		Month	Repeating Value	Step Value	Date
15		April	10	10	10/28/2008
16		May	10	20	10/29/2008
17		June	10	30	10/30/2008
18		July	10	40	10/31/2008
19		August	10	50	11/1/2008
20		September	10	60	11/2/2008
21		October	10	70	11/3/2008
22		November	10	80	11/4/2008
23		December	10	90	11/5/2008
24		January	10	100	11/6/2008
25		February	10	110	11/7/2008
26					

Division

In cell **F5** we'll add a division formula and then auto-fill it down to complete the table:

- Click cell **F5**
- Type **=E5/D5** and press **ENTER**
- Drag the fill handle to cell **F8**
- On the **HOME** tab, click the **PERCENT STYLE** button
- Click the **INCREASE DECIMAL** button twice

	A	B	C	D	E	F
1						
2		2008 Departmental Budget				
3						
4		Category	Expenses	Budget	Difference	% Difference
5		Projects	\$ 25,000.00	\$ 27,500.00	\$ 2,500.00	9.09%
6		Publications	\$ 1,500.00	\$ 1,250.00	\$ (250.00)	-20.00%
7		Travel	\$ 1,290.00	\$ 1,059.39	\$ (230.61)	-21.77%
8		Supplies	\$ 2,000.00	\$ 1,775.00	\$ (225.00)	-12.68%
9						

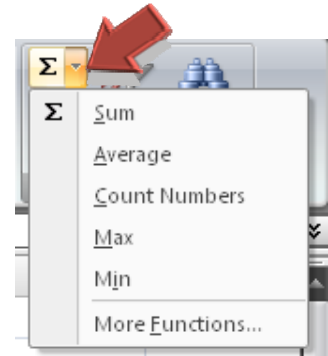
Editing a Formula

If you ever need to edit a formula, you can do so without deleting the entire formula. This is especially important when you have a very complex formula. Simply double-click on the cell and make your changes.

Other Functions on the AutoSum Button

Clicking on the AutoSum button automatically inserts the **SUM** function. However, clicking on the down-pointing arrow next to the AutoSum button offers quick access to 4 additional functions. They are:

- **AVERAGE:** Calculates the average in a range of data
- **COUNT NUMBERS:** Returns the total number of cells in the selected range which contain numbers
- **MAXIMUM (MAX):** Returns the largest value in the selected range
- **MINIMUM (MIN):** Returns the smallest value in the selected range



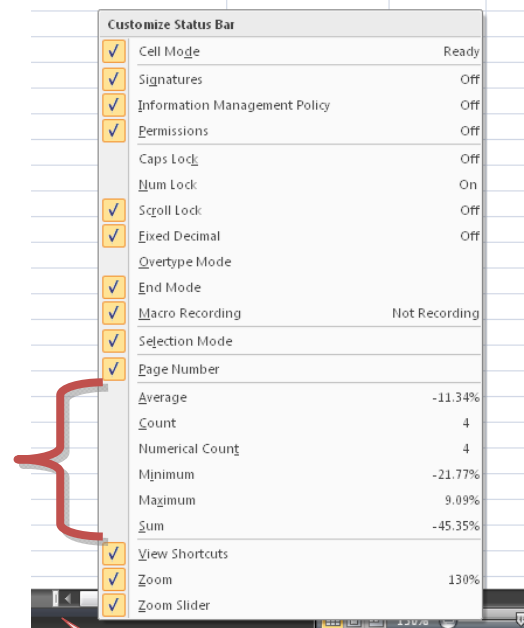
AutoCalculate

AutoCalculate offers quick access to several function results when you don't need the permanency of inserting a function into your spreadsheet. To use AutoCalculate:

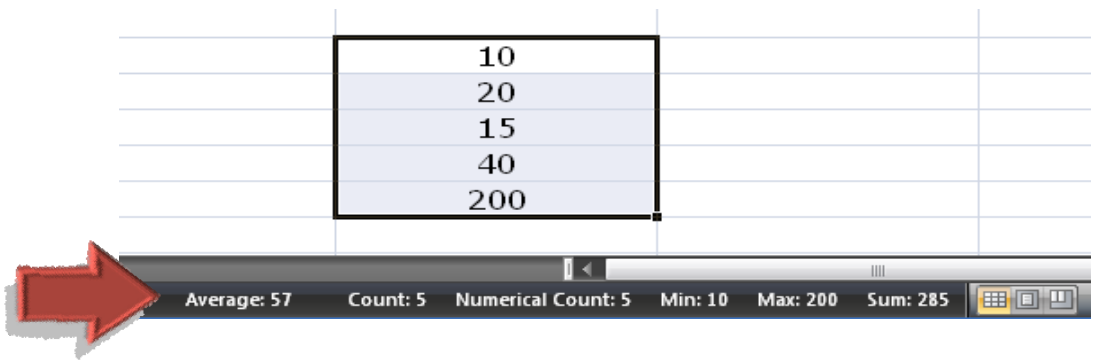
1. At the bottom of the screen, right-click on the **STATUS BAR** to select which function types you want displayed:

- **AVERAGE:** Calculates the average of a numeric range. Ignores blank and non-numeric cells.
- **COUNT:** Counts all items (numbers or text) in the selected range. Ignores blank cells.
- **NUMERICAL COUNT:** Counts only numbers in the selected range. Ignores blank and non-numeric cells.
- **MINIMUM:** Returns the smallest value in the selected range.
- **MAXIMUM:** Returns the largest value in the selected range.
- **SUM:** Adds numbers within selected range. Ignores blank and non-numeric cells.

2. Select a range of cells you wish to calculate
3. The results display on the **STATUS BAR**
4. You can choose to display any or all of six function types on the Status Bar. To add or remove functions from the status bar, right-click on the status bar and make your changes from the **CUSTOMIZE STATUS BAR** menu:



Right Click



Spell Check

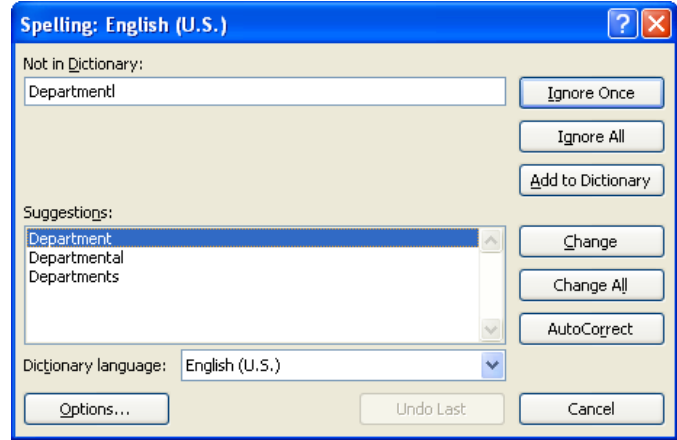
Checking your spelling is always a good idea. Ensure that all words are spelled correctly by using **Spell Check**.

1. Go to the **REVIEW** tab and click the **SPELLING** button
2. Click **YES** to check the entire document.

When a word is not recognized by Excel, it offers suggestions for replacements. If you know the word is correct, you could **IGNORE** it or **ADD TO DICTIONARY**. To replace this misspelled word with the suggested one:

3. Click **CHANGE**
4. To close Spell Checker, click **OK**

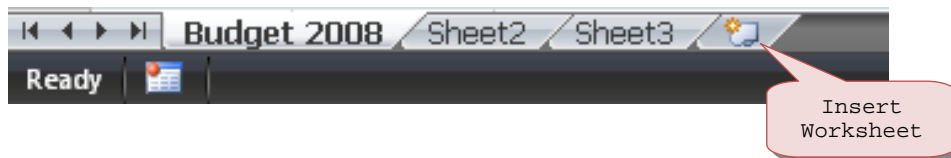
After you close Spell Checker, the cell with the last correction becomes the active cell.



Worksheet Tabs

Inserting or Deleting a Worksheet

- To **insert** a new worksheet, click the **INSERT WORKSHEET** button on the **STATUS BAR**
- To **delete** a worksheet, **right click** the worksheet to be deleted and select **DELETE**



Renaming Worksheets

The default worksheet name is Sheet1, Sheet2, Sheet3. To rename a worksheet, do one of the following:

- Option 1.* **Right click** the sheet then click **RENAME**
- Option 2.* Double click the sheet then type the new name and press **ENTER**

Adding Color to the Worksheet Tab

To colorize a worksheet tab, **right click** the tab and choose **TAB COLOR**. Select a color from the palette.

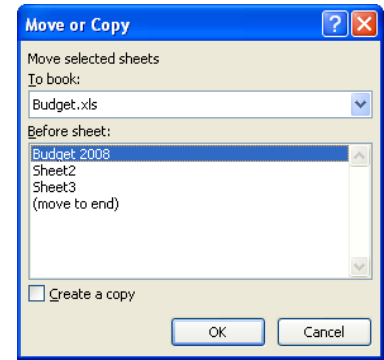
Reordering Worksheets

The worksheet tabs are lined up from left to right. To move a worksheet to a different location along that list on the bottom, simply click and drag the sheet to the new location.

Move/Copy a Worksheet to Another File

Entire Excel worksheets, or tabs, can be moved or copied to another file or workbook without having to copy and paste. The benefit of using the Move/Copy tool, is that all column widths, row heights and page setup options stay with the worksheet. To move or copy a worksheet:

1. Open both the workbook the sheet is to be moved or copied **From** (source) and the workbook the sheet is to be moved or copied **To** (destination).
2. In the source workbook, **right click** the sheet to be moved or copied and select **MOVE OR COPY**.
3. From the **TO BOOK** drop down list, select the file name of the destination workbook.
4. Select the sheet to be moved or copied
 - o To **copy** the sheet to the destination workbook, select **CREATE A COPY**.
 - o To **move** the sheet to the destination workbook, leave **CREATE A COPY** blank.
5. Click **ok**.



Page Setup

Headers and Footers

In the printed version of your spreadsheet you may want to have a header or footer. You can use this to display just about any text you wish from current date, page numbers, file name or manually entered text.

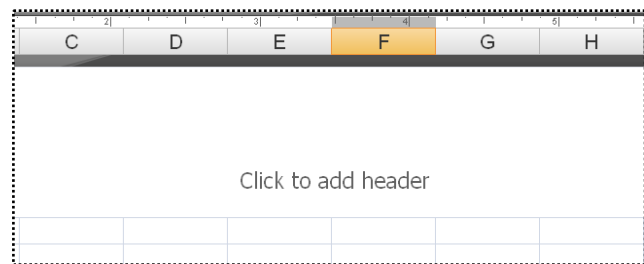
1. Go to the **STATUS BAR** and click the **PAGE LAYOUT** button



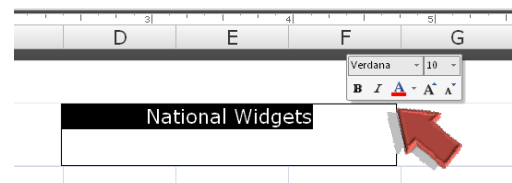
2. Click in the **CLICK TO ADD A HEADER** or **CLICK TO ADD A FOOTER** area

3. You have three rectangles to work with and they are aligned left, center, and right

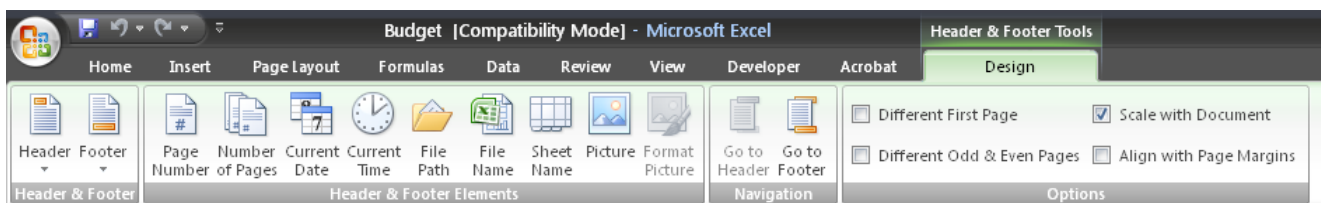
4. Enter your desired text or choose from the **HEADER & FOOTER ELEMENTS** on the **DESIGN** tab



5. Text can be formatted by selecting it and make changes from the **MINI TOOLBAR** or the **HOME** tab (To access the mini toolbar, select the text with your mouse then move your mouse to the top right corner of the selected text.)



Also note the **OPTIONS** for varying where the header and footer appears with **DIFFERENT FIRST PAGE** or **DIFFERENT ODD AND EVEN PAGES**.

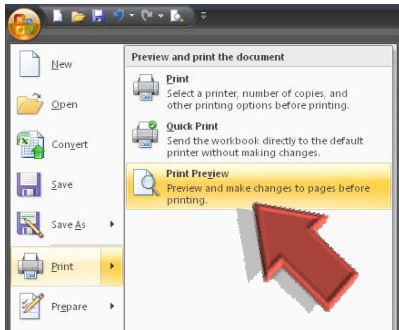


Print Preview

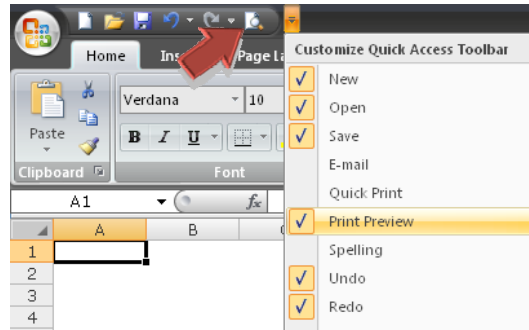
With print preview you can view your spreadsheet before you print it out. This can help ensure the file will print out the way you want.

Accessing Print Preview

Option #1:
OFFICE BUTTON > PRINT > PRINT PREVIEW

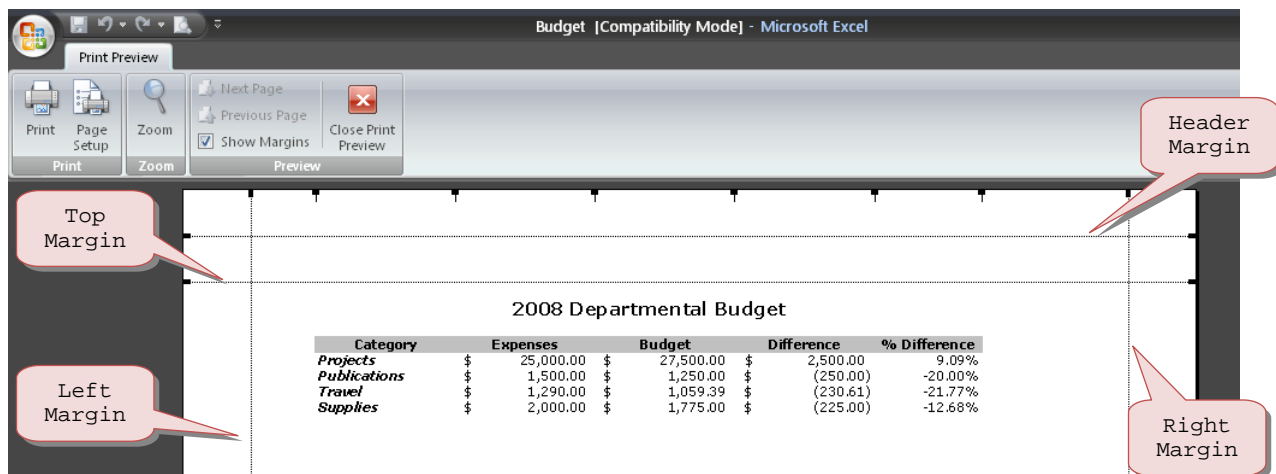


Option #2:
 Button on the **QUICK ACCESS TOOLBAR**
 (if not visible, select from customize menu)



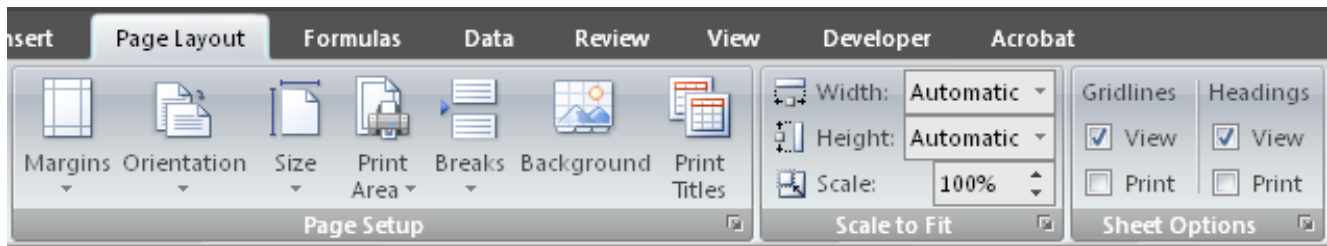
Print Preview Tools

- **PRINT:** A direct button to the **PRINT** dialog box.
- **PAGE SETUP:** A direct button to the **PAGE SETUP** dialog box.
- **ZOOM:** A toggle button to zoom in or out.
- **SHOW MARGINS:** This will reveal where the margins are. The margins can be altered here by clicking and dragging on the margin guidelines.



Page Layout Tab

The Page Layout tab allows you to change other standard page setup options.



- **MARGINS**
Choose from pre-defined margins or create your own with **CUSTOM MARGINS**
- **ORIENTATION**
Portrait or landscape
- **SIZE**
Letter, legal, etc.
- **PRINT AREA**
To print only a limited area of spreadsheet (more about this below)
- **BREAKS**
To insert or remove a page break
- **BACKGROUND**
Allows you to add a picture to appear behind your data
- **PRINT TITLES**
Takes you to the **PAGE SETUP** dialog box where you can identify which rows(s) or columns(s) you want to print out with each page
- **SCALE**
With this you can shrink the printed size of your spreadsheet. Modifying this will not change the view on-screen.
- **GRIDLINES**
The grey lines that appear on the screen are **GRIDLINES**. These are different than **BORDERS**.
- **HEADINGS**
You can print out the column letters and row numbers with the rest of your data

Print Area

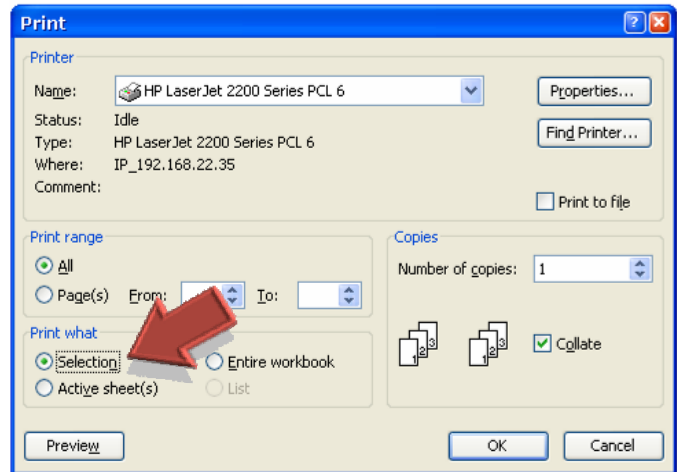
Defining a print area can be handy if you have a large amount of data in a spreadsheet, but you only want to print out only part of it. To set a print area:

1. Click and drag to select the cells, rows or columns you want to print
2. Go to the **PAGE LAYOUT** tab and click **PRINT AREA > SET PRINT AREA**
3. To verify that only the selected data will print, view it with **PRINT PREVIEW**
4. Click the **OFFICE BUTTON > PRINT > PRINT PREVIEW**
5. When finished printing, you can clear the print area in a similar manner: **PAGE LAYOUT** tab > **PRINT AREA > CLEAR PRINT AREA**

No Need to Set & Clear Print Area

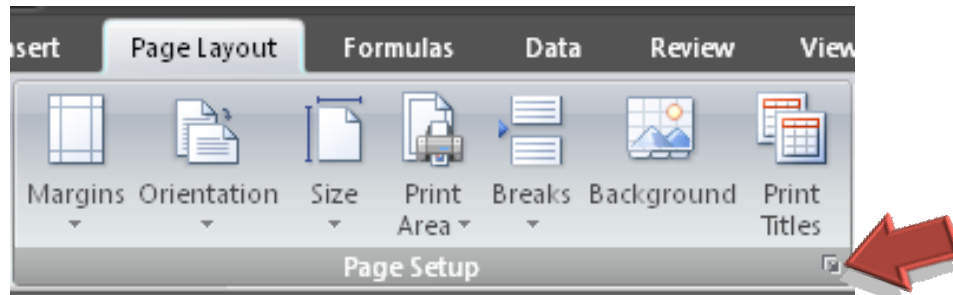
If you don't want to worry about setting and clearing your print area, you can just select your desired data and go straight to the print dialog box:

1. Select the data (rows/columns) you want to print
2. Click the **OFFICE BUTTON > PRINT**
3. Under **PRINT WHAT**, choose **SELECTION**
4. Click **OK**



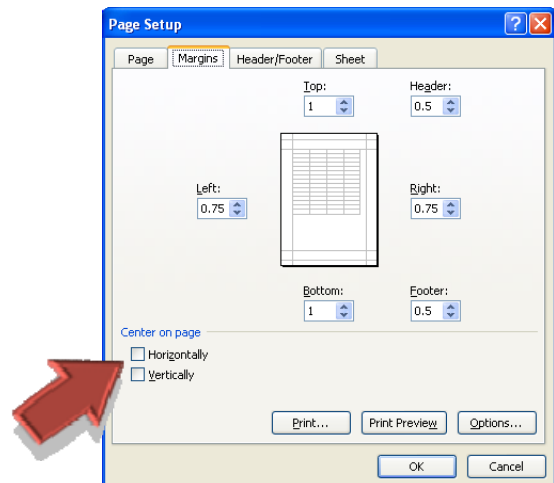
Advanced Page Setup

To set more advanced page setup options, click the **PAGE SETUP** dialog box launcher on the **PAGE LAYOUT** tab.



Margins Tab

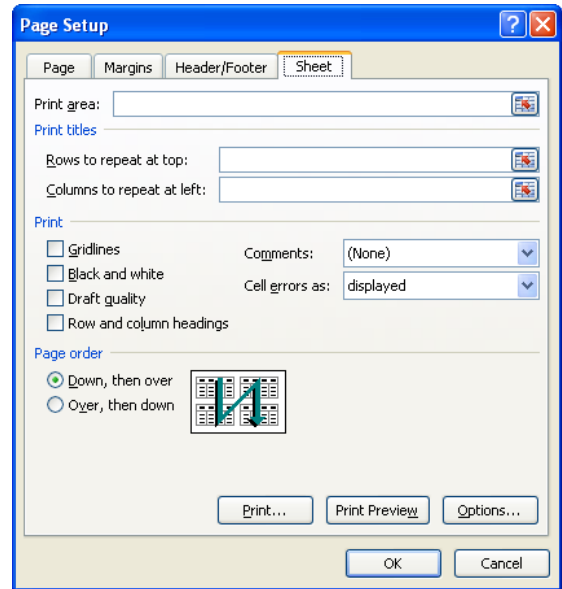
From here you can set your own custom **MARGINS** (including header and footer area). You can also center your data with the **CENTER ON PAGE** options. This is normally used for smaller amounts of data which you can center either **HORIZONTALLY**, **VERTICALLY** or both.



The Sheet Tab

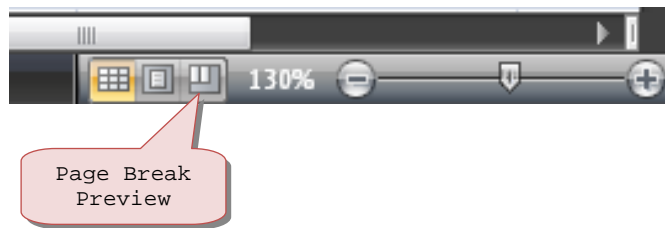
From this tab you can set the following options:

- **PRINT AREA**
If you have set a print area from the **PAGE LAYOUT** tab, the cell references for that print area will appear here
- **ROWS TO REPEAT AT TOP**
For data that prints out on multiple pages you may need to have at least **Row 1** print out at the top of each page. To use this feature, click inside the **ROWS TO REPEAT AT TOP** field then move your mouse to the spreadsheet area and click in the row(s) you want to repeat at the top.
- **COLUMNS TO REPEAT AT LEFT**
Follow the same procedures as above
- **PAGE ORDER**
Best illustrated in **PAGE BREAK PREVIEW**, this allows you to control in what order Excel will print out each page after page 1



Page Breaks

Since Excel spreadsheets are one big table, it sometimes becomes necessary to control how the data flows from page to page. The **PAGE BREAK PREVIEW** view will allow you to view such flow and modify it, if necessary.



1. Go to the **STATUS BAR** and click the **PAGE BREAK PREVIEW** button.
2. Click **OK** on the notification box.

Category	Expenses	Budget	Difference	% Difference
Projects	\$ 25,000.00	\$ 27,500.00	\$ 2,500.00	9.09%
Publications	\$ 1,500.00	\$ 1,250.00	\$ (250.00)	-20.00%
Travel	\$ 1,290.00	\$ 1,059.39	\$ (230.61)	-21.77%
Supplies	\$ 2,000.00	\$ 1,775.00	\$ (225.00)	-12.68%

In this view, the worksheet is divided into printed pages and enables you to modify the page breaks by dragging them. Notice that the table extends beyond one printed page. You can either correct it by dragging new page breaks or modify other page setup options, such as **ORIENTATION**.

- A **dotted blue line** indicates an automatic page break
- A **solid blue line** indicates a page break that was manually altered
- You can insert a manual page break from the **PAGE LAYOUT** tab with the **BREAKS** button

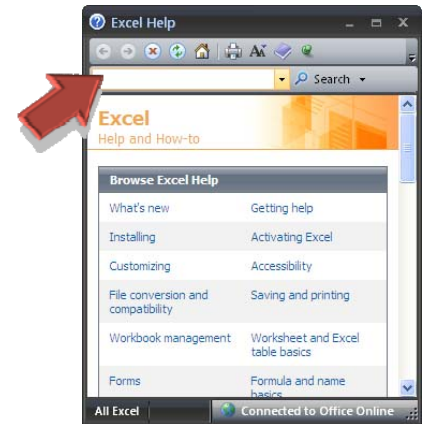
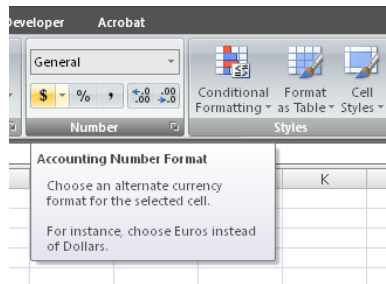
Getting Help

When you have questions about Excel, you can use the **HELP** button in the top right corner. From the resulting dialog box, type your question in the field at the top left and click **SEARCH**.



Screen Tips

ScreenTips show information about different elements on the screen so that you'll know what it does before clicking it. Item.



KEYBOARD SHORTCUTS

Microsoft Excel

General

F2	Opens a cell for editing
Arrow Keys	Moves the Active Cell ... Left, Right, Up, Down (one cell at a time)
Tab	Moves the Active Cell ...One cell to the right
Shift + Tab	Moves the Active Cell ...One cell to the left
Page Down	Moves several rows down
Page Up	Moves several rows up
Alt + Page Down	Moves several columns to the right
Alt + Page Up	Moves several columns to the left
Ctrl + Page Down	Opens the next sheet to the right
Ctrl + Page Up	Opens the next sheet to the left
Ctrl + Home	Moves to cell A1
Ctrl + End	Moves to last cell containing data
Ctrl + 1	Opens the Format Cells dialog box

Cut, Copy & Paste

Ctrl + C	Copies the selected text or cell to the clipboard
Ctrl + X	Cuts , or <i>moves</i> , the selected text or cell to the clipboard
Ctrl + V	Pastes into the active cell the last item which was cut or copied
Ctrl + A	Selects the entire sheet
Ctrl + D	Copies to the active cell the contents of the cell just above it

Editing

Ctrl + Z	Undo
Ctrl + Y	Redo
Ctrl + F	Brings up the Find and Replace dialog box

Formatting

Ctrl + B	Bold : Toggles the selected text or cell between Bold and non-Bold
Ctrl + I	Italic : Toggles the selected text or cell between <i>Italic</i> and non-Italic
Ctrl + U	Underline : Toggles the selected text or cell between <u>Underline</u> and non-Underline

Tools

Ctrl + O	Open a document
Ctrl + S	Saves the currently open file
Ctrl + P	Brings up the Print dialog box
Ctrl + N	Opens a blank new file
F1	Brings up the Help dialog box
F7	Starts the Spell Checker
ESC	Cancel an action