

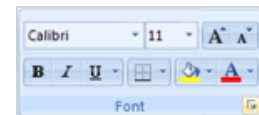
Computer Training

INTRODUCTION TO MICROSOFT EXCEL 2007

Microsoft Office 2007 has new a look and user interface known as the Ribbon. The Ribbon consists of three basic components Tabs, Groups, and Commands that replace the familiar menus and toolbars used in earlier versions. Task oriented Tabs contain Groups of resources and Commands to help accomplish interrelated tasks such as spreadsheet formatting or page layout.

There are seven Tabs by default and each tab has several Groups of related items including Commands. Other Tabs referred to as “*On-Demand Tabs*” appear when additional resources are available for diagrams or charts, etc.

Commands are a button or box to enter information or to choose from a menu are accessed by clicking on the down-arrow in the lower right corner of a Group. This will open the familiar dialog box to access more options related to the group. The Ribbon organizes all commands in logical groups under the tab associated with the task.



Creating a Basic Spreadsheet

A workbook is a collection of spreadsheets composed of rectangular grids in which text; numbers, formulas, and graphs are stored between the intersections of columns and rows called *Cells*. A cell is active when a black rectangle encompasses the cell.

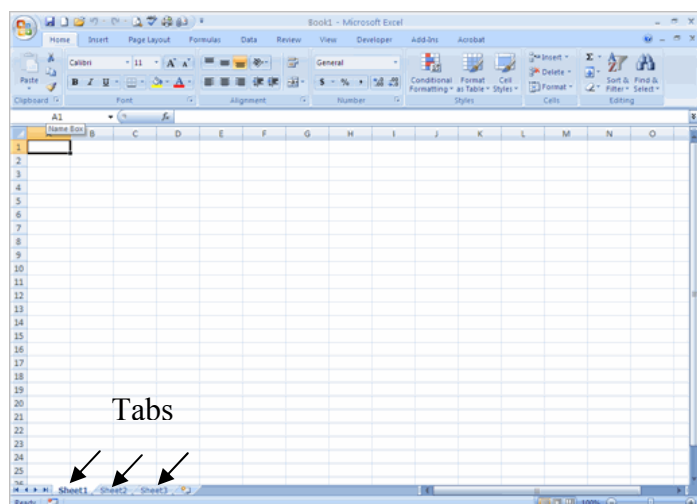
Start the Microsoft Excel program using your preferred method. By default, Excel creates a new workbook named Book (1) with first cell (A1) active.

*Note: The word **Click** will substitute for Left click from this point on, and any action requiring a right click will be stated. **Drag** refers to holding down the left mouse button and moving the mouse either vertically or horizontally.*

Selecting a Cell

Move the mouse pointer, which resembles a thick white plus sign to cell (A1) and *Click*. Notice that a black border surrounds the cell. This is the active cell.

You can also type a cells name in the Name box (B2). Press *Enter* and that cell will become the active cell. Excel recognizes



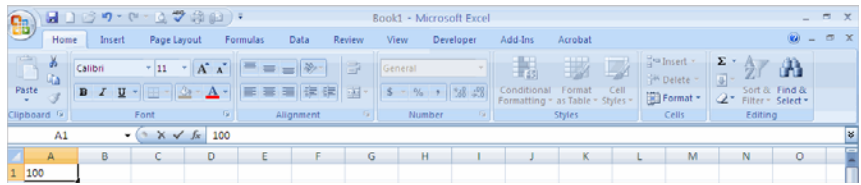
both upper/lower cases.

To move to the next cell you can:

1. *Click* on the next cell with the mouse.
2. To move to the right press the keyboard's *Right Arrow* or the *Tab* key.
3. To move to the left press the *Left Arrow* key or press *Shift+Tab*.
4. To move to the cell below press *Enter* or *Down Arrow* key.
5. To move to the cell above press the *Up Arrow* key or *Shift+Enter*.

Entering Text and Numbers

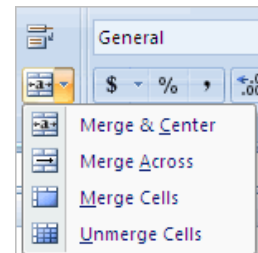
When entering numbers or text in a cell, the entry is visible in both the cell and formula bar.



The cell number also displays in the Name Box. Pressing *Enter* records your entry.

Highlighting Cells

Click and hold the mouse button down inside a cell until the pointer changes to a *thick white plus sign*. Next, *drag the mouse pointer across the adjacent cells* to the desired length. This allows you to select and format a range of cells at one time. Numbers or text need not be present.



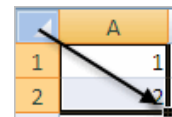
Merging Cells to Center Text across Columns

1. Type some text in cell (A1) and then press the *Enter* key.
2. Reselect cell (A1), then center and hold the mouse button down inside the cell. Drag the mouse pointer (a *thick white plus sign*) across to column (H1).
3. *Click* on the *Merge* button located on the Formatting bar.

Note: The cells remain active until you click outside the active area (*merged cells*).

Using Auto Fill

This feature is used to automatically fill-in dates, numbers, or formulas by dragging the fill handle across adjacent cells.



Note: the small black rectangle on the outside corner is known as the **fill handle**.

Increment a cell's value by one

1. Type the number (1) in the first open cell, and then press the *Enter* key.
2. *Click* back in the cell and then place the cursor on the *fill handle*.
3. Hold the *Ctrl* key down as you drag the fill handle over the adjacent cells. Notice the *small plus sign beside the mouse pointer*. Release the mouse button and then the *Ctrl* key, the cells are now populated by one.

Increment a cell's value by more than one

1. Repeat steps (1) and (2) from the prior example and then *right-click on the fill handle* of the cell containing the data.
2. Holding the mouse button down *drag over the cells you wish to populate with data*.
3. *Release* the mouse button to access the "Auto Fill Options" menu.
4. Click on the command "Series," type 5 in the input box "Step value." The adjacent cells are now incremented *by five*.

Auto Fill Options

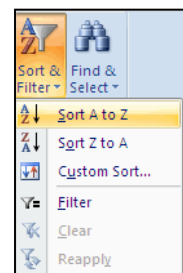
1. *Format* an open cell to accept the date format. *Click* on the menus *Format | Cells*, and then *the tab Number | Date*, choose the first example listed.
2. Click on the *OK* button.
3. Type the current date in [mm/dd/yy] format (02/03/2010) and then press *Enter*. *Right click* and *drag the fill handle* across the next five cells. *Release* the mouse button and then select *Fill Months* from the "Auto Fill Options" menu. The date that was entered will now display in *each month*.

Sorting Cells

1. Select the range of cells that requires sorting. Click on the *Sort & Filter* button in the *Editing* group on the *Home* tab. Select from the options listed, Ascending order (A to Z), Descending order (Z to A), or Custom Sort.

OR

Click the tab *Data* then choose a sort options provided in the *Sort & Filtering* group.



Filling Text in Columns or Rows

Excel can repeatedly fill common text in a column or row. Examples are Days, Months, and Time.

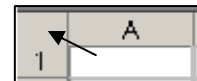
1. Type the weekday Monday in cell (D3), and then *press the Enter key*. Reselect the cell and then *drag the AutoFill handle across a range of cells* (multiple cells). Excel automatically adds the related column headings (Tuesday, Wednesday, Thursday, etc.) in the preceding columns or rows.
2. Excel can also *AutoFill time*. Type (12:00 a.m.) in the first cell (make sure there is a space between the last zero and a.m.) *press the Enter key*.
3. Next type the desired increment for time (12:30 a.m.) To continue the time entry select the two entries and then drag the AutoFill handle to the last cell that displays the end time.

Moving Around the Worksheet

1. To move to the top row in the sheet use the shortcut keys [Ctrl]+[Home], or click once in the gray area directly *below the up arrow* in the vertical scroll bar.
2. To move to the bottom row use the shortcut key [Ctrl]+[End], or click once in the gray area directly above the down arrow in the vertical scroll bar.

Clearing an Entire Worksheet

To clear an entire worksheet first select the worksheet by clicking on the square in the upper corner of the worksheet between column title (A) and row title (1). Click the *Clear* list arrow on the *Home* tab to *Clear All*, *Clear Formats*, *Clear Contents*, and *Clear Comments*.

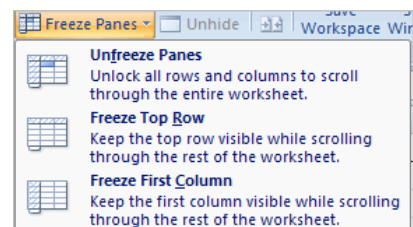


Note: If the worksheet has been formatted – merged cells, numbers, or applied borders press the delete key to clear all contents. Remember that pressing the delete key does not remove any cell formatting.

Freezing Panes

Excel 2007 offers two easy solutions to freezing panes in a spreadsheet.

1. To keep columns and rows visible click below the column label and to the right of the first row label. For this example, cell (B2).
2. Click the *Freeze Panes* list arrow in the Window group on the *View* tab and select *Freeze Panes*. The column and row headings remain visible when you scroll up or down and to the left or right.



3. To unfreeze the pane, click *Unfreeze Panes*.

Using Drag and Drop to Move Data

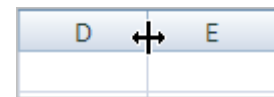
1. Highlight a range of cells that contain data (*B3:B14*). Place the arrow on any border of the selected cells. Hold the *Ctrl* key down and a *small thin black + sign* displays above the mouse pointer.
2. Press and hold the *Ctrl* key and *Left mouse button* down and then drag the selected range to an open cell (*F5*). *Release* the *Ctrl* key followed by the *Left mouse button*.

Note: If you release the mouse button before the *Ctrl* key a copy and paste is executed.

3. Alternatively, you could use the *Cut* and *Paste* tools to accomplish the same task. Highlight the desired range, use the keyboard shortcut *Ctrl+X* or click on the *Cut icon* (scissors) on the *Home* tab.
4. Click in the desired cell and then use the keyboard shortcut *Ctrl+V* or the *Paste icon* to move the data.

Changing Column Widths

1. To adjust the width between two columns place the mouse pointer on the line between the column headers (*E, F*). When the *pointer changes to a two-headed arrow* double-click and Excel will automatically fit the column to the contents of the cell.



2. An alternative method is to *click* and *drag* the two-headed arrow either left or right. Notice a small window displays the width as you move the column.

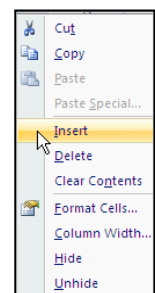
Inserting Rows or Columns

To insert a row or column:

1. Right click in a cell to activate the context menu and choose *Insert*. A small window opens asking if you would like to insert an entire row or column.

OR

Click the row or column header, then click the *Insert* list arrow in the *Edit* group



on the *Home* tab. Choose the desired command, note that Excel inserts new columns to the left of the selection and new rows above.

To insert more than one column or one row:

1. Click on a column or row heading, then drag the thick white plus sign over the desired number of column labels (A, B, C, etc.) or row labels (1, 2, 3, etc.) .
2. Two ways: (1) Right click and choose *Insert* from the context menu, or (2) Click the Insert list arrow in the Cell group on the *Home* tab and select *Insert Sheet Columns/Rows*. Excel inserts the exact number of columns/rows that were selected.

Absolute and Relative Cell Referencing

Relative referencing refers to Excel recognizing that when you copy the same formula to another cell you want only the formula and not the same answer.

For example:

1. Enter the number (12) in cells (A1) and (A2), then *press the Enter key*.
2. In cell (A3) type (=A1*A2), and then press the *Enter key*. Cell (A3) now displays the square root of 12 (144).
3. Now copy that formula to cell (B3) by selecting (A3) and then dragging the AutoFill handle to cell (B3). Release the mouse button and *press the Enter key* or click *outside the active cells*.

Note: Until data is entered in cells (B1) and (B2), cell (B3) will display the number (0).

4. Enter the number (13) in cell (B1) and the number (12) in cell (B2). The result in (B3) is now (156). Excel referenced only the formula and not the cells where the formula originated.

Absolute referencing refers to forcing Excel to reference a cell by a specific row number, column letter, or both by typing a dollar sign in front of the column letter and/or row number.

For example:

1. In cell (A5) type (=\$A\$1*\$B\$1) and then press the Enter key. Cell (A5) displays the result (156).

2. Select cell (A5) and then drag the fill handle to cell (B6). The formula remains absolute because of the dollar signs in the formula and therefore references cells (A1) and (B1). If you only wanted the column references to remain absolute you would remove the \$ from the row references.

For example:

1. In cell (A1), type the number (2).
2. In cell (A6), type the formula ($=\$A1*A\2). Using the same numbers from the prior example the answer is (24).
3. In cell (B2), type the number (3) and then use the fill handle to copy the formula from cell (A6) to (B6). The answer is (6).

Formatting a Cell

Formatting a cell displays the contents in various formats for text, numbers, fonts, colors, and borders. Examples would include the number of decimal places in currency, text position, various fonts, and borders.

Brief Exercise

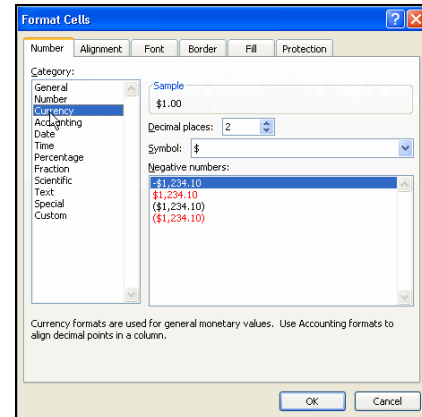
This exercise was designed to help apply the information learned from the preceding web pages. Remember to save your work often. Select a new worksheet before beginning the exercise.

1. In cell (A1) type *Loose Change Cafe* and then *press the Enter key*.
2. In cell (A2) type *Week of (mm/dd/yy) to (mm/dd/yy) [add 6 days to the end date]*. *Press the Enter key*.
3. In cell (A3) type *Daily Sales Revenue* and then *press the Enter key twice*.
4. In cell (A5) type *Week Day* and then *press the Enter key*.
5. In cell (A6) type *Cash Receipts* and then *press the Enter key four times*.
6. In cell (A10) type *Total Revenue* and then *press the Enter key*.
7. In cell (A11) type *Average Revenue* and then *press the Enter key*.
8. In cell (C5) type *Monday* and then *press the Tab key*. Select cell (C5) and then drag the AutoFill handle across to cell (H5). *Release the mouse button*.
9. In cell (C6) type the number (1200) and then *press the Tab key* or use the *right keyboard arrow*. In cell (C7) type the number (1500) and then *press the Tab or Enter key*.

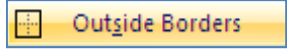
Notice that the text (Monday) is aligned left and that the (*numbers*) are aligned right.

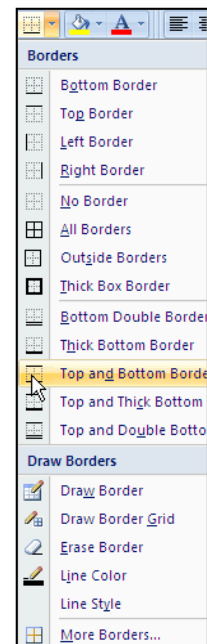
10. Select cell (C6) and *drag the thick white plus sign* to cell (C7). When the plus sign changes to a *thin black + sign* drag the fill handle to cell (H6) and *release the mouse button*. The cells are now incremented by the amount of (300) and remain highlighted.
11. *Right-click* anywhere within the highlighted cells and the *Format Cells dialog box* will open. Choose the tab *Number* and the category *Currency*.

Note: Inspect that the text boxes *Decimal places* and *Symbol* include the number (2) for decimal places and the (\$) symbol. Click on the button *OK*.



Formatting Instructions for Cell A1

12. Select cell (A1), *drag the white plus sign* to cell (H1), and then *release the mouse button*. Click on the *Merge & Center* button in *Alignment* group on the *Home* tab.
 13. Click the *Fill* button in the *Font* group and apply the background color *yellow*. Within the same group, click the *Border* list arrow and select *Outside Borders* (7th from the top).
- 
14. Click the *Font size* list arrow and change the font size to (24). Repeat the same steps to the *Font* box and change the font to *Garamond* and the style to *Bold*. Press *Enter*.
 15. Repeat the prior steps and format cell (A2), except this time change the font to size (14) *Bold*. *Do not add a border, background color, or change the font*.
 16. Repeat the same steps for cell (A3).
 17. Select the cell range (A5:H5) and change the font size to (11) *Bold*. Reselect the same range and add a border. Click on the *Top & Bottom Border* button (2nd row, 3rd from the left).
 18. Select the cell range (A6:H6) and change the font size to (11) *Bold*.
 19. Repeat step (7) for cell range (A10:A11) and add a *Thick Black Border* (last row & box).
 20. Adjust the headings for columns (A) and (B). Place the mouse pointer on the fine line between both column headings and then double-click the mouse button.



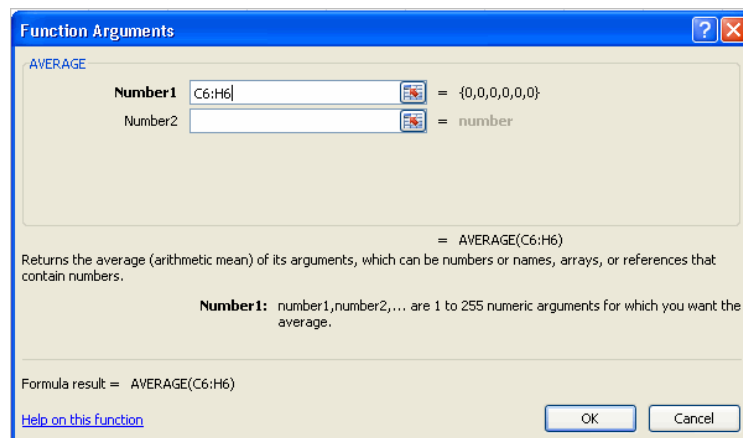
21. Adjust the column width manually for column (B) to (9.43).
22. AutoFit columns (C, D, E, F, G, and H) by holding down the Ctrl key while clicking on each column heading. Click the *Format* list arrow in the Cell group and select *AutoFit Column Width*. The selected columns are adjusted to their contents.
23. Select the cell range (C5:H5) and then center the headings.

Calculations

In Excel, you can assign a calculation to a cell by, (1) click the Sum button arrow list in the *Editing* group on the *Home* tab, (2) Type an $\lt = \gt$ sign in the desired cell and then enter a formula using values, cell references, operations, or Functions, and (3) click the *Insert Function* button on the Formula Bar.



1. In this exercise, you will use the *Sum* button. First, click the cell (B10) where you want to insert the total. Click the *Sum* button (the Greek symbol Σ) located in the *Editing* group on the *Home* tab.
2. The range of cells automatically above the cell is selected by default. Use the mouse pointer to select the correct range (C6:H6, then press the *Enter* key for the *Sum*. Your answer will be \$11,700.00.
3. Select cell (B11) and then click on the arrow next to the *AutoSum* icon. Select *Average* from the menu and then select cell range (C6:H6). Press the *Enter* key and the answer will be \$1950.00.
4. An alternative method is to click inside cell (B11) and then click on *Function Box* button to open the *Insert Function* dialog box. When the dialog box opened, you would choose the function *Average*, which opens the *Function Palette*.
5. Collapse the dialog box by clicking on the small icon that resembles a spreadsheet. Next, drag the mouse arrow over the cell range (C6:H6). Press the *OK* button.



Quick Reference to the Most commonly used Functions

Multiplication

The asterisk is used for multiplication when referencing two or more cells.

For example:

1. Type an equal sign (=) in the cell that will be used to display the product and then reference the cells by typing the cell references or use the mouse.
2. To display the product of cells (C6) and (D6) in cell (E7) enter this following formula in cell (E7) =C6*D6.

Subtraction

Using the above method substitute the asterisk with a *hyphen* between the cell references.

Division

Using the above methods substitute the asterisk or hyphen with a *Slash key (/)* between the cell references.

Creating a Chart

Use the example spreadsheet created in the brief exercise. To generate a chart select the cells and categories that will be used in the chart.

1. Open the example spreadsheet.
2. Click and hold the mouse button down and drag the mouse over the cell range (C5:H6). Leave the cells selected.
3. Click the tab *Insert* on the Ribbon. In the Charts group, review the available chart types before clicking the chart buttons for *Pie*. Select the sub-type *Pie with 3-D effect*.
4. By default, the chart is created and inserted within the spreadsheet. Note that an “*On Demand Tab Chart Tools*” appears providing additional Design, Layout, and Formatting options. Each tab contains new commands grouped by the option that you select.

For instance, the commands under *Design* allow the user to change to another chart type, arrange or select new data, choose from existing layouts or alter the current and move the chart to a new location.

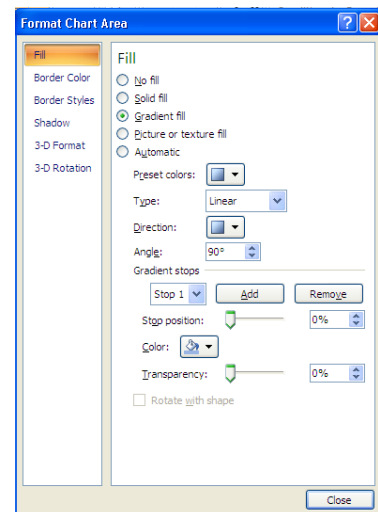
5. Click the *Layout* tab on the *Chart Tools* tab. In the group *Labels* click on the icons *Chart Title* and then *Above Chart*. Next, type *Loose Change Cafe* in the *box provided*. If the chart is showing a legend, click on the button *Legend* and then select *None*.

6. In the same group *Labels* click the icons *Data Labels*, choose *Outside End*, and then choose the command *More Data Label Options*. Check the box *Display Leader Lines* and then click *Close*.
7. Click and drag the data labels off the chart with the mouse pointer to display the leader lines.
8. Place the mouse pointer on the chart, which changes to a 4-headed arrow and move the chart if needed. Holding down the mouse button and drag the chart's right corner diagonally to cell (H14). Release the mouse button. This is just an example reference point.
9. Next, hold the *Ctrl* key down and drag *the chart's bottom left hand corner diagonally* to cell (C28).

Formatting a Chart

1. Right click on Chart's background and select *Format Chart Area*.

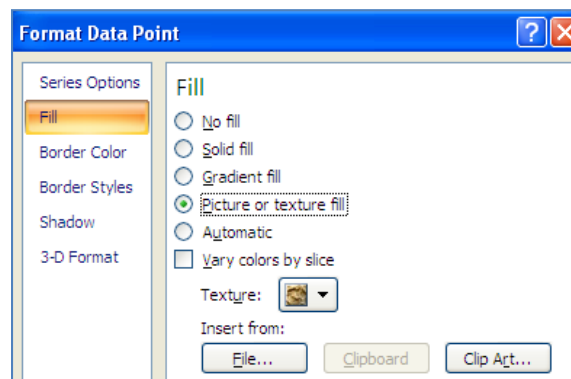
2. Click on *Fill* to access the available options. Each fill option *Gradient* and *Picture or texture* provides various background options in colors, textures, patterns, and the ability to use a picture.
3. Check the option *Gradient* and then click the arrow select from the available *Preset* colors (Daybreak, 1st row, 4th preset). Do not close the Chart Format box.
4. Change the chart's border by selecting *Border Styles*. Place a checkmark in the box *Round corners* and change the border's weight to a higher weight. Save the changes by clicking *Close*.



5. Click on the label *Saturday* and *drag the label outward*. Notice that the leader line follows to the new position. Repeat the move for each label until the chart takes shape.
6. Click on any leader line to change the line weight to the next higher weight.
7. Click on the *Chart Title*, then format the title to *bold, size 16, Garamond Book Condensed* font.
8. Right click on the chart and choose *3-D Rotation* from the short-cut menu. Change the chart's elevation to *25 degrees* in the *Format Chart dialog box*.
9. Click on the edge of the pie chart. Hold the *Ctrl* key down and drag the chart outward. *Release* the mouse button, notice that the pie slices moved away from the center.

10. Next, format one of the pie slices utilizing a different color, texture, or picture. *Right click* on the selected slice and choose "Format Data Point."

When the Format Data Point dialog box opens select the item "Fill," and then select from the choices listed.



Printing a Chart

Select the chart, and then choose Print Preview, Print, only the chart will print. An alternative method is to select the chart then click the *Office Button* and choose *Print | Selected Chart*.

Print Options for Excel Workbooks

Print options include printing the entire workbook or the current worksheet. The user has the ability to print specific areas (print area), charts, change layouts (portrait or landscape), and print to a specific paper width.

To set a Print Area

Select a cell range to define the area or hold the *Ctrl* key down while selecting data to define the area. With the area still selected click the *Set Print* list arrow, and choose *Set Print Area* in the Page Setup group on the *Page Layout* tab. This is the only area that will print until you clear the Print Area.

To Print Row & Column Headings on Each Worksheet

Click the *Office Button* and then *Page Setup*, either type in the cell ranges or collapse the dialog box, then select the range with the mouse pointer. Click *OK* button to retain the settings.

To Print to a Specific Paper Width

Click the *Margins* arrow and the *Custom Settings* located in *Page Setup* group on the *Page Layout* tab. Choose from the options provided to select paper orientation, page scaling, and paper size.

Click on the tab *Margins* to change paper margins and center the print out both vertically and horizontally.

Click on the tab *Header/Footer* and then the appropriate button to enter and customize your selection.

Click on the tab *Sheet* to define or include Grid lines, Row and column headings, and Page order.

Renaming Sheets/Adding Sheets

1. Right click on the tab of the sheet to be renamed (located on the bottom of the worksheet). Choose Rename from shortcut menu.
2. To add a worksheet you would choose Insert from the same menu. Other options include deleting the worksheet, moving the worksheet to another workbook, making a copy of the worksheet, or viewing the code.
3. To move a worksheet in a workbook click and hold the left mouse button down on the worksheet's tab. Next, drag the worksheet to the desired position and then release the mouse button. When moving the worksheet the mouse indicator displays an icon resembling a worksheet.

Color Coding Tabs

1. Right click on the work sheet's tab and then choose Tab color from the menu. Click on a color to apply that color to the current tab.

APPENDIX

WORKSHEET DESIGN AND DEVELOPMENT

Consider the following guidelines to help get you started in the initial design and development of a worksheet.

The key to creating a successful (i.e. useful) worksheet is careful planning. Careful planning produces a worksheet that is accurate, flexible, useful, and easy to read. When analyzing a problem and designing a worksheet solution, you should follow these steps.

1. *Define the problem:* (Write it down on paper)
The purpose of the worksheet.
Identify the results or output you want.
List the calculations/formulas needed to get the results needed.
Determine what data is needed for the calculations and where that data will come from.
Decide what charts, if any, will be useful.
2. *Design the worksheet:*
Decide whether you plan to use one or more worksheets.
Decide how the worksheet(s) will be laid out, i.e. where data, formulas, and identification will be placed in the worksheet(s).
Do a sketch of how the worksheet(s) will look (done by hand or computer).
Consider any techniques and concepts that might make your results better (i.e. shading, formats).
3. *Enter the worksheet:*
Enter the identification (titles, row and column titles).
Enter the data and formulas into a worksheet.
Add any charts deemed necessary.
4. *Test the worksheet:*
Verify that your results are correct; use simple data ($1+1 = 2$, $2-1 = 1$) to verify your formulas.
5. *Format the worksheet:*
Use formatting to make the worksheet easier to read, not because you know how too.