Worksheet Basics

Consider these steps when setting up a new workbook or worksheet

1. **Plan**—Specify the purpose of the worksheet and how it should be organized. This includes identifying the data that will be input, the calculations needed, and the output desired. It is helpful to sketch a design of the worksheet to organize the structure.

2. **Enter and edit**—Enter worksheet labels, data, and formulas and edit for consistency.

3. **Test**—Test the worksheet for errors. It is helpful to use sample sets of data for each data item to ensure that the worksheet will function successfully under all possible conditions.

4. **Format**—Enhance the appearance of the worksheet to make it more readable or attractive. This step is more easily performed when the worksheet is near completion.

To create a new workbook
- Click , then click on “New”.

To create a new worksheet within a workbook
- Along the sheet tabs at the bottom of the workbook, click on the “Insert Worksheet” button.
- You may also insert a worksheet by right-clicking on a sheet tab and selecting “insert”.
- **Keyboard shortcut**—Shift+F11

**Edit Header or Footer**
- Select the “View” tab on the Ribbon and select “Page Layout” in the Workbook Views pane.
- Click where it says “Click to add header” at the top of the page or “Click to add footer” at the bottom of the page.

- **Suggestion**: Click on folder image to place document location in header or footer.

**Help**
- In Excel 2007, the help button is located in the upper right corner of the screen.
Helpful Hints

Create or copy a worksheet in a workbook
- Right-click on a workbook sheet (lower left corner).
- Select “Insert...” to add a worksheet or “Move or Copy” to move the original or copy of a worksheet within a workbook or to another open workbook.

Custom formatting a cell, quantity and style of digits
- Right-click on a cell or group of selected cells.
- Select the “Format Cells” option.
- Select the Number tab in the “Format Cells” box. Select the Custom category. Under “Type:” you may enter a specific number format code.

Zip codes are an example. Without custom formatting, the zip code “00123” would change to “123.”

Display keyboard shortcuts
- Press the Alt button on the keyboard and the appropriate keyboard shortcut will appear above buttons on the Ribbon.
- When keyboard shortcuts are displayed, press the appropriate letter or number. See example below

Freeze column or row
- Select the View tab on the Ribbon. The “Freeze Panes” option is located here.
- Along with options to freeze the top row or first column, you can drag the split box to the desired row or column and click on “Freeze Panes.”
Scenario 1: Preparing a document to print

Problem statement: When I print a page, there are cells and columns excluded from the page I want.

1. Switch to the “Page Break Preview” by:
   - Selecting the Page Break Preview button in the bottom right corner of the screen.
   - Selecting the view tab on the Ribbon and clicking on “Page Break Preview” on the left side.

2. Drag the blue highlighted line to include desired cells.

3. Print document selecting and then select print.

To include column and row headings on subsequent pages:
   - Click on the Page Layout tab on the Ribbon and click on Print Titles.
   - The Page Setup dialogue box opens. In the Print titles section, select the rows and columns to repeat and click “ok.”
Scenario 2: Formatting cells

Problem statement 1: Cells change formatting styles after I press enter

1. Edit cell format:
   - Right-click on a cell or group of highlighted cells:
     - From here you may edit many aspects of a cell’s format, such as font, size, color, etc.
     - For additional formatting options, select the “Format Cells” option from the dialogue box or select the Home tab on the Ribbon and use the “Number” box.

2. Format Cells:
   - The tabs along the top of this dialogue box allow you to edit additional aspects of a cell.
   - Often selecting the appropriate format category will solve many issues.
   - The Alignment tab also has useful formatting options, including text wrapping and merging cells.

Problem statement 2: The cell with my data looks like this

1. Resize the column to fit the cell contents:
   - Click and drag the row or cell divider (see “resize column or row” in index for details).
   - Double-click the divider between columns or rows to automatically resize.

Note—Excel allows you to view text when a column is too narrow as seen in this example but will show ### for numbers.
Glossary

A

**Auto fill:** Drag the bottom right corner of a selected cell. Depending on the cell contents, this function will either show identical cell contents in the expanded section or will modify the contents. After you drag the fill handle, the “Auto Fill” Options button appears so that you can choose how the selection is filled.

**Absolute reference:** An absolute cell reference in a formula, such as $A$1, always refers to a cell in a specific location. If the position of the cell that contains the formula changes, the absolute reference remains the same. If you copy or fill the formula across rows or down columns, the absolute reference does not adjust.

C

**Clear, Cut, & Copy:**
- **Clear** cell formatting, contents, comments, or all by clicking on the “Home” tab of the Ribbon and selecting the “Clear” option.
- **Cut** a cell or group of selected cells by right-clicking and selecting “Cut,” selecting the “Home” tab of the ribbon and clicking on , or using the *Keyboard shortcut—* Ctr+x.
- **Copy** a cell or group of selected cells by right-clicking and selecting “Copy,” selecting on the “Home tab” of the ribbon, and clicking on .

E

**Edit cell format:** (See Scenario 2: Formatting Cells for greater detail)
- Right-click on a cell or group of highlighted cells.
- from here you may edit many aspects of a cells format, such as font, size, color, etc.
- for additional formatting options, select the “Format Cells” option from the dialogue box or select the Home tab on the Ribbon and use the “Number” box.
**Fill Handle:** See “Auto fill”

**Formulas, basic:** A formula is used to perform calculations within a cell or cells on a worksheet. Locate formulas/functions in the Formula tab on the Ribbon or create your own. Unless merely referencing another cell, a formula always contains an operator (+, -, /, *, etc.) or a function (SUM, COUNT, MAX, etc.). A formula should always start with an equal (=) sign and often reference multiple cells. See example

**Freeze column or row:** Select the View tab on the Ribbon. The “Freeze Panes” option is located here.
- Along with options to freeze the top row or first column, you can drag the split box to the desired row or column and click on “Freeze Panes”

**Function:** Built-in functions are located in the Formulas tab on the Ribbon. Terms such as SUM, COUNT, AVERAGE, and IF are used to perform calculations on a worksheet.

**Help:** In Excel 2007, the help button is located in the upper right-hand corner of the screen.

**Insert:**
- **Column:** Right click on column label (e.g.– A) and select “insert”
- **Row:** Right click row label (e.g.– 1) and select “insert”
- **Worksheet:** Right click worksheet tab on bottom left of page or click on the “Insert Worksheet” tab (e.g.– )

**Merge:** Join several adjacent cells to create one cell

**New document/workbook:** Click , Click “new,” select preferred document style.

**Page layout:** Located in bottom right corner of screen: normal, page layout, and page break preview

**Paste:** Click Home tab on ribbon, select “Paste.” **Keyboard shortcuts**– Ctrl+v
Range: A range is a group or block of cells in a worksheet that have been selected or highlighted. When cells have been selected they are surrounded by a black outline or border.

Relative Reference: A cell or range of cells referenced in a formula whose location is interpreted by Excel in relation to the position of the cell that contains the formula. Opposite of absolute reference, this applies to copying formulas to different locations. In the following example: the formula in A1 (which references A4), copied to B2 references B5

Resize column or row: Click and drag the column or row divider. You can automatically resize a column or row to fit the cell contents by double clicking on the line in between a column or row

Ribbon: Located across the top of the screen

The ribbon consists of seven tabs; Home, Insert, Page Layout, Formulas, Data, Review, and View

Save document: Click , Click “save” for current location/format or “save as” to change file location/format

Spell check: Click on the “Review” tab on the Ribbon and click on , located on the left side of the Ribbon

Undo: Click , Keyboard shortcut– Ctrl+z

Zoom: Click the View tab on the ribbon and Keyboard shortcuts– F9, or Ctrl+Alt+mouse scrolling wheel
Commonly used formulas and functions

Remember these formula basics:
• A formula always starts with an equal sign (=)
• Unless merely referencing another cell, a formula always contains an operator (+, -, /, *, etc.) or a function (SUM, COUNTA, MAX, etc.)
• Formulas and functions may contain data expressed as cell references (A1) or as constants (2)

**Functions**— in Excel 2007 you may search for a function by clicking on the “Formulas” tab on the Ribbon clicking on the Insert Function button, and typing a description of the function you want.

All sample functions reference the data in the following table:

<table>
<thead>
<tr>
<th>Function</th>
<th>Formula</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVERAGE</td>
<td>=AVERAGE(A1:A2)</td>
<td>7.5</td>
</tr>
<tr>
<td>COUNTA</td>
<td>=COUNTA(A1:A2)</td>
<td>2</td>
</tr>
<tr>
<td>MAX</td>
<td>=MAX(A1:A2)</td>
<td>10</td>
</tr>
<tr>
<td>MIN</td>
<td>=MIN(A1:A2)</td>
<td>5</td>
</tr>
<tr>
<td>SUM</td>
<td>=SUM(A1:A2)</td>
<td>15</td>
</tr>
</tbody>
</table>

**Examples using formulas with data**— All example numerical formulas reference the data in the following table:

- \((A1-2) \times A2\) = subtract 2 from A1 and multiply by A2 
  - result = 40
- \(A1+4 \times 5\) = multiply 4 X 5 and add A1 
  - result = 30
- \(A1/2+100\) = divide A1 by 2, and add 100 
  - result = 105

**Examples using formulas with text**—

All examples using text reference the data in the following table:

- \(A1 \& " \" \& B1\) = combine the contents of A1 with B1, with a space separating the cell values (indicated by “ “)
  - result = Joe Smith
- \(B1 \& \", \& A1\) = combine the contents of B1 with A1, with a comma (“, “) separating the cell values
  - result = Smith, Joe
- \(B1 \& \", \& SUM(C1:F1)\) = contents of A1 combined with the sum of data in cells C1 through F1. Separated by a comma (“, “) 
  - result = Smith, 14
- \(COUNTA(A1:A4)\) = counts cells between A1 and A4 containing data
  - result = 3