



UTAH EDUCATION NETWORK  
PROFESSIONAL DEVELOPMENT  
WWW.UEN.ORG

Victoria Rasmussen  
victoria@uen.org  
March 2008

## Excel Basics for Teachers

### Anatomy of a Spreadsheet

Cell – where a row and a column intersect, named A1, A2, B4, B212, etc.

Row – numbered

Column – alphabetized

Range – a group of cells specified by upper left cell address and lower right cell address like this: (A1:Z50)

Worksheet or Sheet – a tab in the workbook, may be multiple pages

Workbook – an entire document or file that may include many worksheets

Plan your spreadsheet BEFORE you begin entering row and column headings. Consider what you will want to total, where you will put labels, how your data can be best organized so that you can add to it or replace it conveniently.

### Data Entry and Navigation

Type characters in a cell. Use the tab key to move across and the enter key to move down. Or, use the arrow keys to move from cell to cell.

Note that you are not limited to the space of the cell displayed on the screen. Text may run across several cells, but may not print correctly unless you use the Format Menu options to wrap text, or change the size of the cell.

### Formatting

Merge and Center: On the Format Toolbar there is a button for “Merge and Center” (immediately right of the alignment buttons). *[2007: Home tab → Alignment group]* This is useful for page headings or titles. Select the cell containing title text, and the other cells you wish the title to span. Then, click the button. This “merges” all the selected cells and centers the text across them in one step.

Format Menu → Cells *[2007: Home tab → Format group]*: Change the format of **numbers**, or the **alignment** including angle of text, merging and wrapping text and cell borders and colors. These features apply to any selected cell(s)..

### Quick Tips

1. Click ON a cell with a single click to SELECT the cell for formatting, copying, etc.  
Double Click on a cell to go INSIDE the cell to edit text or a formula.

2. Select cells or data and use copy, cut, paste and format features as in any Windows program.
3. To drag and drop cell contents: position the cursor on the EDGE of a selected area and drag.
4. Fill Handle is a small black square in the lower right corner of any selected cell area. Click on this “handle” and drag to fill cells with repeated information, or to continue a sequence of information such as days of the week or months of the year or a formula.
5. Double-click the separator between column letters to automatically adjust the column width to show all data. Drag the separator to size the column manually.
6. Use Ctrl + click to select non-adjacent cells for charts and formatting.

### Tips for Printing

1. Always use Print Preview. *[2007-Found under Office button → Print.]*
2. Use Page Setup under the Page tab to change to landscape orientation.
3. Use Page Setup under the Margins tab to set margins by measurement, and also to center the sheet horizontally and vertically on the page.
4. Use Page Setup under the Headers/Footers tab to create text/image that displays at the top or bottom of every page outside of the spreadsheet area.
5. Use Page Setup under the Sheet tab, check print gridlines.

### Tips for Charts

1. Be careful what data you have selected. Data must be in a complete rectangle. Zeros or blank cells might cause problems with the chart appearance.
2. Select the headings of your columns and rows, as well as data.
3. Choose the right chart type for your purpose!
  - a. Pie charts show the relation of a piece(s) to the whole. The pieces need to add up to 100%.
  - b. Bar and Column charts compare items.
  - c. Line charts show change over time.

### Protecting Sheets and Cells

- By default, all cells on the sheet are locked, so when the sheet is protected, no cells can be clicked.
- You can selectively “unlock” some cells, so your headings can’t be edited, but a person could type in certain blank cells.

Two part process:

1. Select cells you wish to be UNLOCKED. Go to Format Menu, Cells, *[2007: go to Home tab → Font group → launch button]* then choose the far right tab Protection. Click the checkbox so that “locked” has no check mark in it.
2. Go to the Tools Menu, Protection and choose Protect Sheet. *[2007: Review tab → Protect button on far right.]* Click the checkbox so “Select Unlocked Cells” is the only box with a checkmark in it.

This two-part process allows you to protect the entire sheet EXCEPT specific cells in which you wish to enter data. Other protection schemes can be created as well – all cells, specify locked cells only, etc.

## Sort

To sort a single column alphabetically or numerically in increasing or decreasing order:

- Click on the column letter to select the entire column
- Click the “A-Z” button on the toolbar. One A-Z button has an arrow pointing up, and one has an arrow pointing down. [2007: Home tab→Editing group (far right)→ Sort and Filter button]

## Basic Functions

1. When you enter a function in the cell, only the result displays on screen and printout. To edit a formula, use the formula bar (bottom tool bar). Click the cell so the formula displays in the bar.
2. To enter a function in a cell, always begin with the equal sign =.
3. You may then either enter numbers or cell addresses. Use cell addresses if the number might change as you develop the sheet.
4. You need to understand the math function or formula you wish to use.
5. Excel follows this “order of precedence” when calculating formulas: Exponentiation, Multiplication and Division, then Addition and Subtraction. Use parentheses to change the order of precedence.

Here are examples of how you would enter basic math formulas.

=4+5	Simple addition of two numbers
=A1+B7	Simple addition of two numbers given by cell address
=3-9	Simple subtraction of one number from another; note the negative result
=A1-(B1+B2)	Add numbers in cells B1 & B2, then subtract that amount from the contents of A1; compare with the results of A1-B1+B2
=5*210	Simple multiplication of two numbers
=A2*B6	Simple multiplication of two numbers given by cell address
=8*B3	Simple multiplication of two numbers, one fixed and one given by cell address
=9/3	Simple division of one number by another
=A4/A5	Simple division of one number by another with both numbers given by the cell address
=SUM(A1:C10)	Add the contents of all the cells in the range A1 thru C10; this includes cells A1 thru A10 and B1 thru B10 and C1 thru C10 for a total of 30 cells whose contents will be added together by this formula

Here are a few other common functions:

=average(A2:J2)	Calculates the average of the numbers in cells A2, B2, C2.... thru J2
=count(A4:Z4)	Counts the number of cells from A4 thru Z4 which contain number values
=max(A1:Z26)	Selects the largest or “maximum” value from A1 thru Z26
=min(A1:Z26)	Selects the smallest or “minimum” value from A1 thru Z26