

Advanced Excel

Rules for Creating Lists

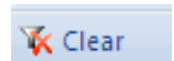
- All of the information about one item must be on one row. This row is referred to as a record.
- Each column is referred to as a field.
- Lists cannot contain blank rows or columns. Blank rows and columns form the boundaries of a list and tells Excel where a list ends and a new list begins.
- The first row of a list should be the header row, which means it should contain the field names for each column.
- Lists should be placed on separate worksheets. Do not put two different lists in the same worksheet.

AutoFilters

An AutoFilter is a method by which a list is limited to temporarily show only those records that meet specific criteria. Records that do not meet the criteria are hidden, but are not deleted.

To Use the AutoFilter:

1. Click on any one cell in the list.
2. Click on the *Data* tab on the *Ribbon* and then click on the *Filter* command in the *Sort & Filter* group.
3. Each cell in the header row now has a Drop Down Arrow. Click on one of the Drop Down Arrows for the list of criteria within that field that you are able to limit by.
4. To return to showing all records, click on the *Clear* command in the *Sort & Filter* group in the *Data* tab on the *Ribbon*.
5. To turn the Autofilter off (remove the Drop Down Arrows from the header row), click on the *Filter* command again in the *Sort & Filter* group in the *Data* tab on the *Ribbon*.

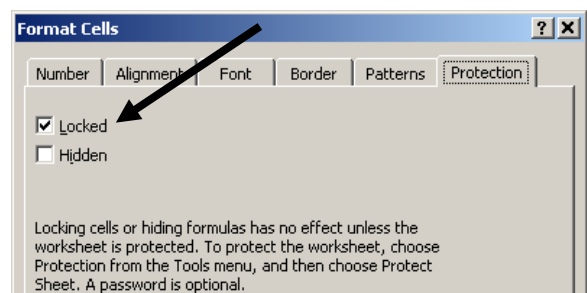


Cell Protection

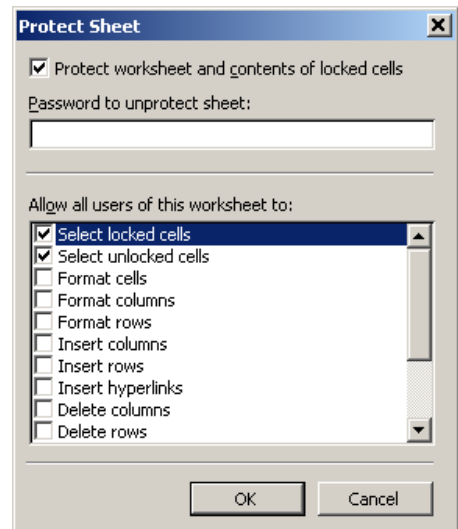
Individual cells can be protected from accidental change by using the Protection feature. When the protection is turned on, all cells with the Locked property cannot be changed. By default all cells are “locked” but the protection is “off.”

Steps to Protecting Cells:

1. Select the cells to be “unlocked”. These are cells where changes will be permitted.
2. Click on the *Home* tab on the *Ribbon*
3. Click on the dialog box launcher in the *Font*, *Alignment*, or *Number* group.
4. On the *Format Cells* dialog box, click on the *Protection* tab.
5. Click to remove the checkmark from the *Locked* checkbox and click on the *OK* button.
6. Repeat steps 1 through 4 above for all cells or cell ranges where changes WILL be permitted.
7. To turn on the protection for all the other cells, click on the *Review* tab on the *Ribbon* and then click on the *Protect Sheet* command in the *Changes* group.



8. The default for this setting allows users to select Locked and Unlocked cells, however, only the contents of Unlocked cells can be edited. To prevent users from selecting Locked cells, if necessary, click to remove the checkmark next to *Select locked cells*.
9. It is optional to set a password. Protection can be turned off and on without a password. However, if you forget your password, there will be no way for you to EVER alter the protection again.
10. Click on the *OK* button.



Turning Off Protection:

1. Click on the *Review* tab on the *Ribbon* and then click on the *Unprotect Sheet* command in the *Changes* group.

Working with Worksheets

Two Ways to Rename a Sheet Tab:

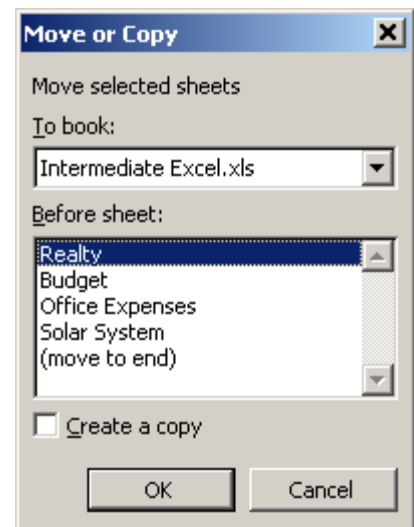
- Double click on the current sheet tab name. With the name selected, type in the new sheet name and then press the *Enter* key on the keyboard.
- Right click on the sheet tab name to be changed and then left click on *Rename* from the menu. Type in the new sheet name and press the *Enter* key on the keyboard.

Moving or Rearranging Sheet Tabs:

- Click and drag on the sheet tab name. A triangle pointing down will appear as long as the mouse button is held down. Move the mouse pointer among the other sheet tabs and when the triangle is pointing where you would like the worksheet to be located, let go of the mouse button.

Using the Move or Copy Dialog Window:

1. Select the worksheet to be moved or copied.
2. Right click on the sheet tab name and then left click on *Move or Copy Sheet* from the menu that opens.
3. When the *Move or Copy* dialog box opens:
 - To move the worksheet - under the *Before sheet:* area, click on the name of the sheet to move the worksheet before and click on the *OK* button.
 - To create a copy - under the *Before sheet:* area, click on the sheet in the list to place the copy before and click to put a checkmark in the checkbox for *Create a copy*. Click on the *OK* button.
 - To move or copy the worksheet to another workbook - click on the down arrow under the *To Book:* area and click on the location. The location can be a new workbook or another open workbook.



Two Methods to Insert a New Worksheet:

- Click on the *Insert Worksheet* tab at the end of the current worksheet tabs at the bottom of the screen.
- Right click on an existing worksheet tab, left click on *Insert* from the menu, verify that *Worksheet* is selected on the dialog box, and then click on the *OK* button.



Two Methods to Delete a Worksheet:

- Click on the down arrow next to the *Delete* command in the *Cells* group on the *Home* tab of the *Ribbon*.
- Right click on the worksheet tab and left click on *Delete* from the menu.

WARNING — deleting a sheet is permanent and cannot be undone.

Formulas that Span Worksheets and Workbooks

A cell reference used in a formula or function can be in the same worksheet, a different worksheet, or even a different workbook. When coming from another worksheet, the cell reference used in the formula or function must include the name of the worksheet. When coming from another workbook, the cell reference must include the name of the workbook and the worksheet.

Examples:


- The cell reference **shift1!B4** refers to the cell **B4** that is on the worksheet called **shift1**. An exclamation point separates the worksheet name from the cell name.
- The cell reference **'shift 2'!B4** refers to the cell **B4** on the worksheet called **shift 2**. Notice that **shift 2** has single quote marks surrounding it. This is because **shift 2** has a space in it. The single quote marks surround it to indicate that these two words together make up the whole worksheet name.
- The cell reference **'[Furniture Factory.xls]Summary'!\$B\$4** refers to cell **B4** on a worksheet called **Summary** in a workbook called **Furniture Factory**. Notice that the workbook name is enclosed in square parentheses. Single quote marks surround the workbook and worksheet name again because there is a space in **Furniture Factory**.
- The cell reference **[FurnitureFactory.xls]Summary!\$B\$4** does not have single quotes because there are not any spaces in the workbook or worksheet name.

In summary, square brackets surround the workbook name and an exclamation point separates the worksheet name from the cell name.

If you use the Point & Click method with your mouse to enter the formula or function, Excel will automatically complete all the necessary information for the cell reference.

Functions

Functions are more complicated formulas that perform a specific mathematical operation. To locate the list of functions available:

- Click on the *Formula* tab on the *Ribbon* and click on the *Insert Function* command in the *Function Library* group, or
- Click on the *Insert Function* shortcut button in front of the *Formula Bar*. 

Once the *Insert Function* dialog box appears on the screen, you can select a category from the menu in the middle and then a function name from the list at the bottom or do a keyword search for a function using the search area at the top. Note that when a function name is selected, a description of the calculation the function performs is displayed at the bottom of the dialog box below the menus. After the function has been selected and the *OK* button clicked, the *Function Arguments* dialog box appears. In these text entry boxes, is where the numbers, cell names, or ranges are entered to enable Excel to compute the answer to the function.

Date Math

Excel keeps track of dates by assigning to each day since January 1, 1900 a consecutive number. For example, January 1, 1900 is 1. January 2, 1900 is 2. July 4, 1976 is 27945. August 3, 2005 is 38567. This allows the user to set up a typical formula to subtract one date from another by using the cell names that contain the dates. Use the *Format Cell* dialog box to format the cell with the result as a number instead of a date. Click on the dialog box launcher in the *Font*, *Alignment*, or *Number* group on the *Home* tab of the *Ribbon* to open the *Format Cells* dialog box.

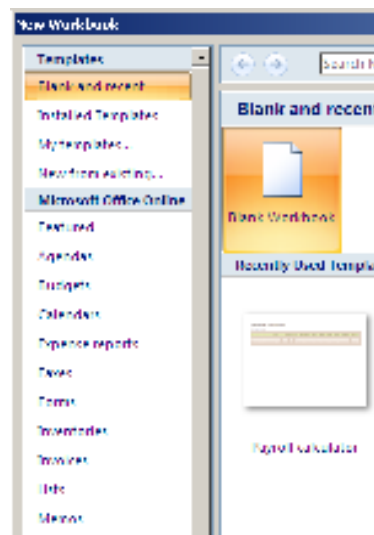
Excel Pre-Existing Templates

Templates are pre-existing workbooks that already contain text, formulas, and/or functions. Excel comes with several templates already or you can create and save your own.

To Access the Excel Templates:

1. Click on the *Office Button* and then click on *New* from the drop down menu. This will open the *New Workbook* dialog box.
2. On the left side of the dialog box in the task pane under *Microsoft Office Online*, click on a template category of your choice, make your selection from the choices in the middle of the dialog box, and then click on the *Create* button in the bottom right corner of the dialog box.

NOTE – this will work only if the computer you are using has an active Internet connection. You can also access templates from Microsoft Office Online by visiting their web site at office.microsoft.com.



Data Validation

Excel has a feature called Data Validation, which will allow you to control what kind of information is typed into cells.

1. Select the cell(s) you wish to control.
2. Click on the *Data* tab on the *Ribbon* and then click on the *Data Validation* command in the *Data Tools* group.
3. Use the three tabs in the dialog box to set the controls. Continue to the next tab by clicking on its name. Do NOT click on the *OK* button until you have entered information on ALL three tabs!
 - Choose the *Settings* for what kind of information will be allowed in the cells. Work on this area from top to bottom.
 - Type the *Input Message* to let users of the spreadsheet know what is expected to be entered into the cells.
 - Select the style of *Error Alert* and type the message that will appear if incorrect information is entered into the cell. Remember that the *Stop* style is the only one that will completely prevent the user from entering unwanted information. The *Warning* and *Information* styles will provide them with an option that allows them to override your settings.