

Microsoft Excel 2011



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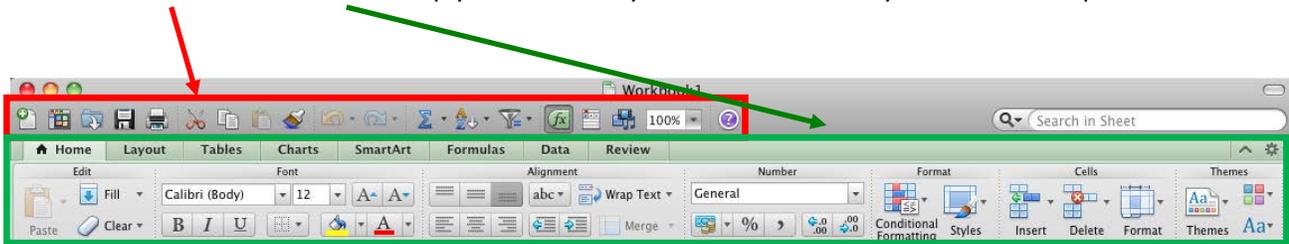
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New Look in Microsoft Office 2011

Microsoft Office 2011 improves the interface that was introduced in Microsoft Office 2008 by redesigning the **Standard Toolbar** and **Ribbon** to help you more easily access the features you need to complete tasks.



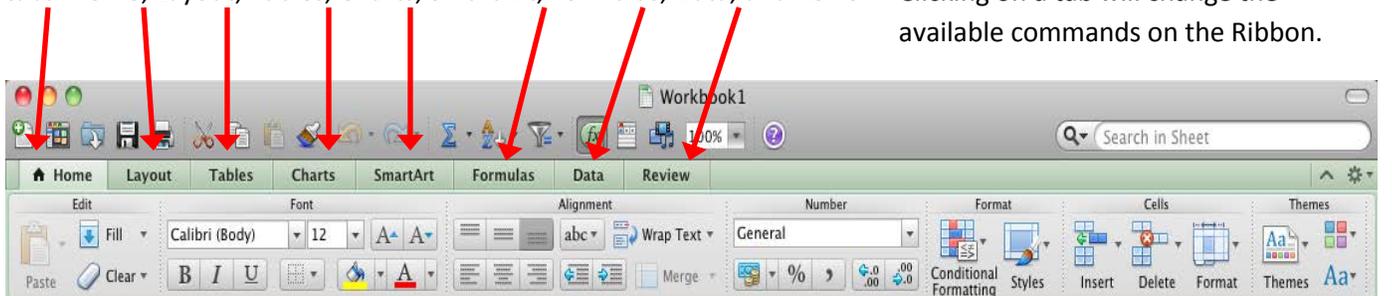
Standard Toolbar

The Standard Toolbar is now a part of the workbook when opening Excel. It may be turned on or off, but cannot be detached from the workbook. To show/hide this toolbar, click **View → Toolbars** and check or uncheck Standard.

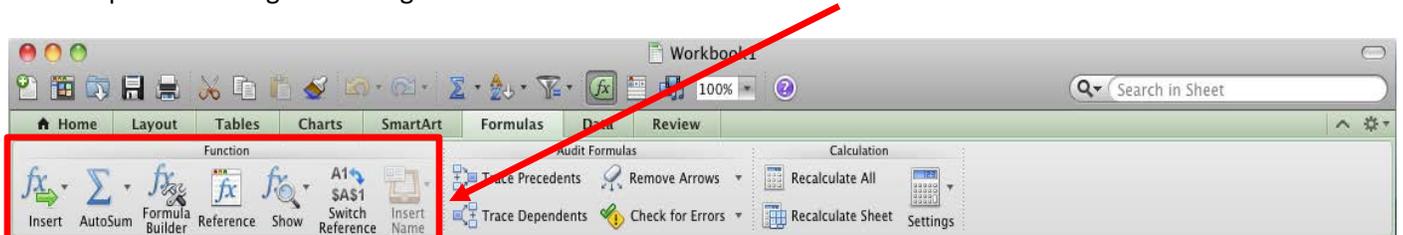


Ribbon

Microsoft Office 2011 improves on the Ribbon interface (found in Microsoft Office 2008) by replacing and moving some of the menus and tools found in the Palette into task-driven tabs. The example below is comprised of eight tabs: Home, Layout, Tables, Charts, SmartArt, Formulas, Data, and Review. Clicking on a tab will change the available commands on the Ribbon.



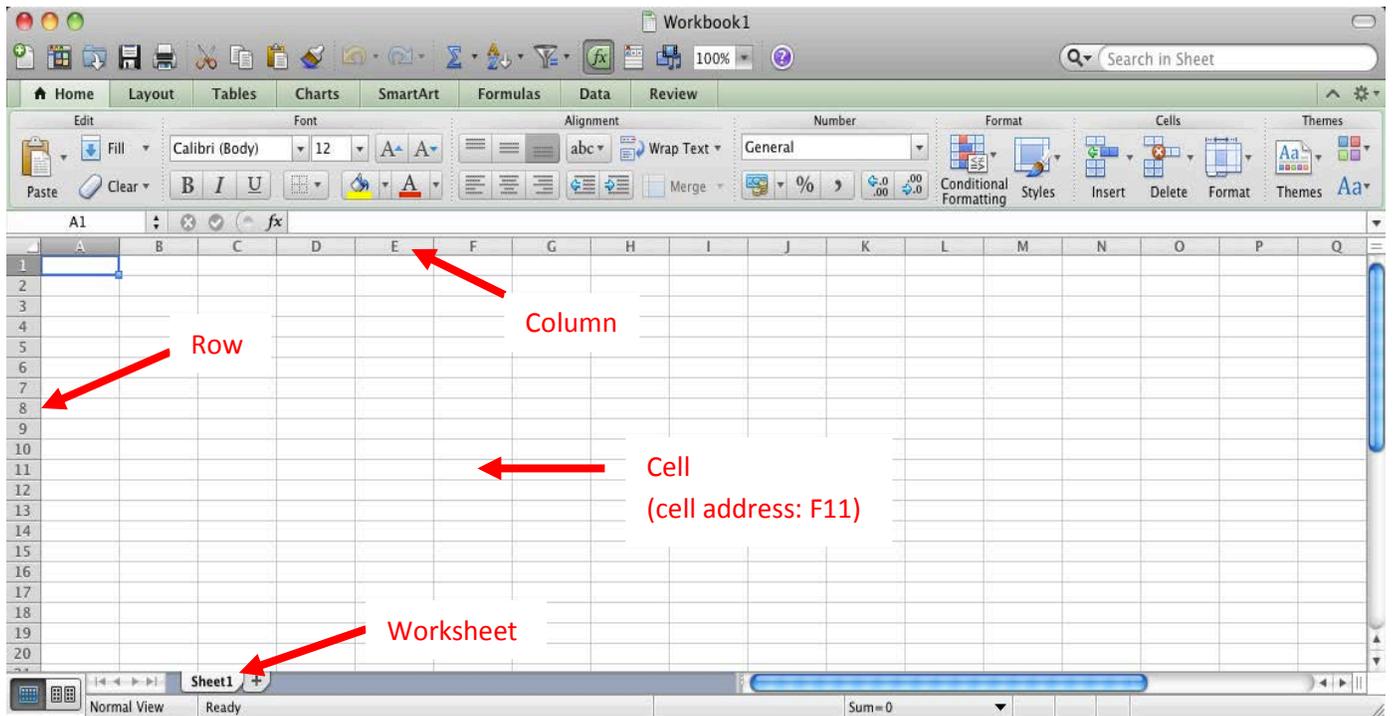
Tools on the Ribbon are further organized by groups. In the example below, Formulas is the active tab of the Ribbon and all options relating to working with functions can be found in the Functions section of this tab.



Appearance of Microsoft Excel

Microsoft Excel allows you to create spreadsheets much like paper ledgers that can perform automatic calculations. Each Excel file is a **workbook** that can hold many **worksheets**. The worksheet is a grid of **columns** (designated by letters) and **rows** (designated by numbers). The letters and numbers of the columns and rows (called **labels**) are displayed in buttons across the top and left side of the worksheet. The intersection of a column and a row is called a **cell**. Each cell on the spreadsheet has a **cell address** that is the column letter and the row number. Cells can contain text, numbers, or mathematical formulas.

After opening Microsoft Excel, you will be taken to a blank workbook and see the following screen.

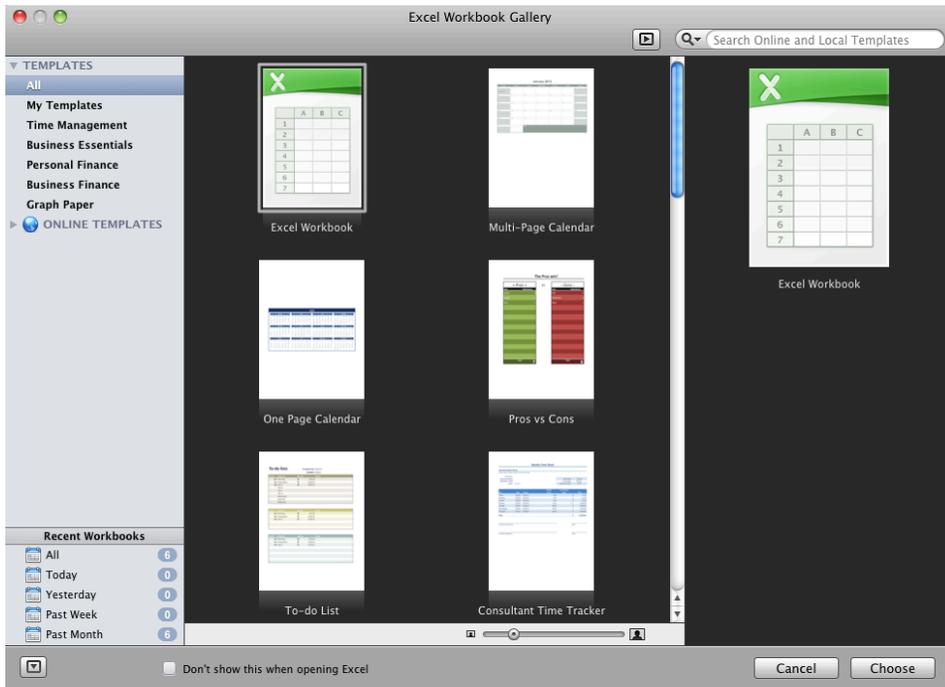


The default view in Microsoft Excel 2011 is **Normal View**, allowing the workbook to display as many rows and columns as will fit on the screen. The **Workbook View** can be changed by clicking the icons along the bottom.



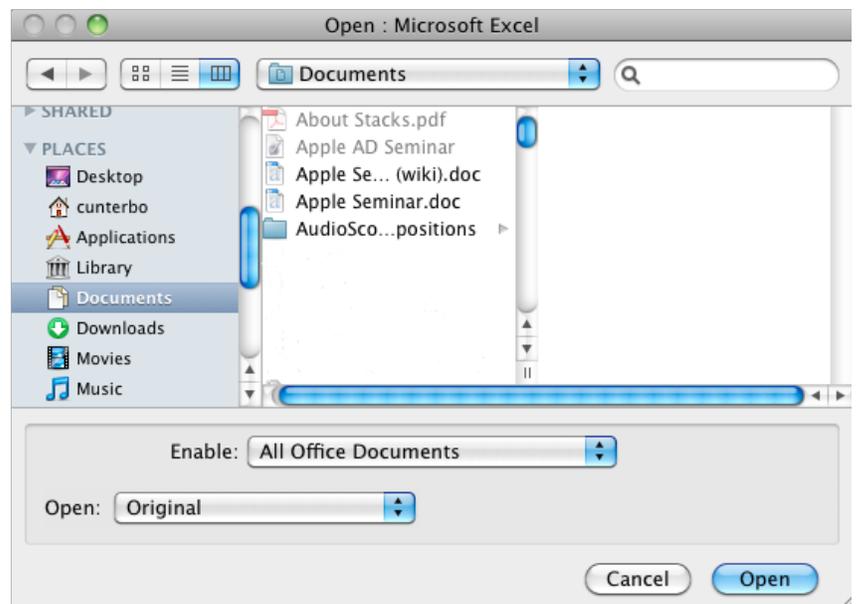
Creating a New Workbook

To begin a new workbook, click on **File** → **New Workbook**. If you would like to select different templates, click on File and then **New from Template**.



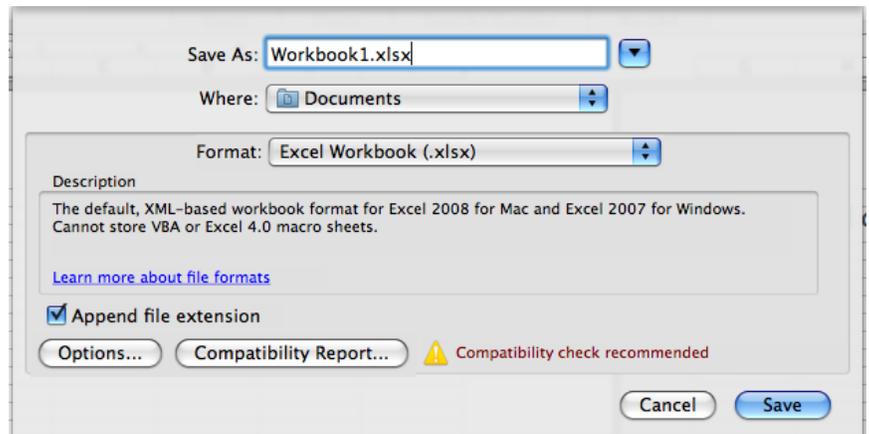
Opening a Workbook

To open an existing workbook, click on **File** → **Open**. The **Open** window will appear. Select the location where you have saved the file, then click on the file name from the list and click the Open button. You can also click the **Open** button on the Excel toolbar to display the **Open** window (shown at right).



Saving a Workbook

To save a workbook, click on **File → Save**. If this is a new workbook that you are saving for the first time, the **Save As** dialog box will open. Select the location where you would like the file to be saved, enter a file name and click the Save button. The default file format is the Excel Workbook (.xlsx) file format. This format ensures that all workbook formatting is saved and will be available the next time the file is opened. Note that .xlsx files are unable to be opened with Excel 2004. In this case, you can change a document to be saved in the Excel 97-2004/older file format (.xls). Note that the .xls file type removes certain types of formatting.

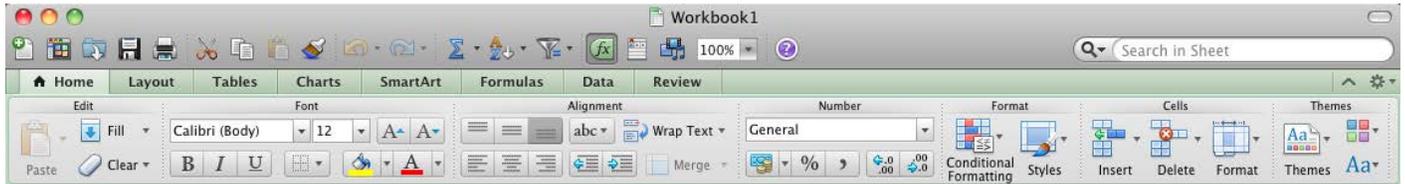


If you have previously saved the workbook, clicking **Save** will save changes to the existing file.

If you prefer to have your changes saved to a different file, click on File, then **Save As**.

In addition to saving as .xls and .xlsx, Excel 2011 has the ability to save directly to a PDF file. To save an Excel workbook as a PDF, click on File, then Save As, and change Format to **PDF**. Select the location where you would like the file to be saved, enter a file name and click **Save**. Note: Make sure you also save your workbook as an Excel file as you won't be able to edit the PDF document that you created from within Microsoft Excel.

Home Tab - Styling your Workbook

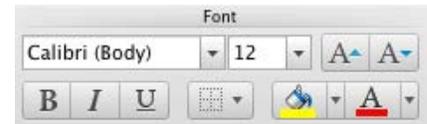


The Home tab can be used to style your workbook, including the formatting of fonts and cells.

Font Formatting

Select the cells you want to format/change and then select the font, size, style and color under the Font group.

For additional font options for the cell, click on **Format** → **Cells** from the Menu bar and then click on **Font** tab.



Copy/Paste Text

Highlight the cells you wish to copy, click on **Edit** → **Copy** from the Menu bar, move your cursor to the desired location, and click **Edit** → **Paste**.

Cut/Paste Text

Highlight the cells you wish to move, click on **Edit** → **Cut** from the Menu bar, move your cursor to the desired location, and click **Edit** → **Paste**.

Cell Formatting

Cell formatting options are available by clicking on **Format** → **Cells** in the Menu bar.

The Alignment group allows the vertical and horizontal alignment of each cell to be set along with the direction of text.

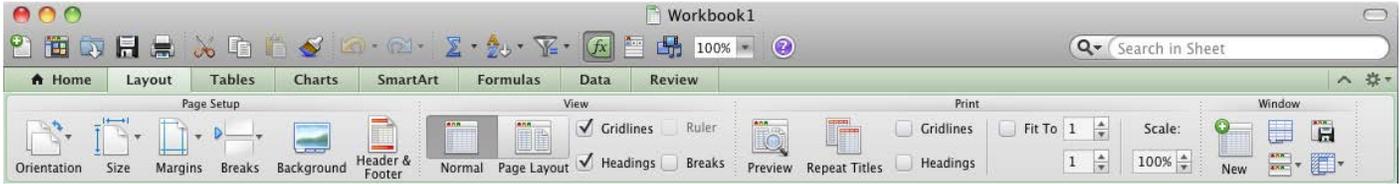
The Number group sets options for the type of number in a cell, such as a percentage or financial figure.

Clicking on the Cell Styles arrow under the Format group will allow you to pick a pre-defined cell style.

Find & Replace

In Office 2011, Microsoft incorporated the Search feature in the Standard Toolbar to make finding words or phrases easily. By default, it will search the current sheet. To find a word or phrase, just start typing in the Search field and press Enter. To search by workbook, click on the Magnify Glass icon and select **Workbook**. To do an Advanced Search or Replace, click on the Magnify Glass icon and select **Advanced Search** or **Replace**.

Layout Tab

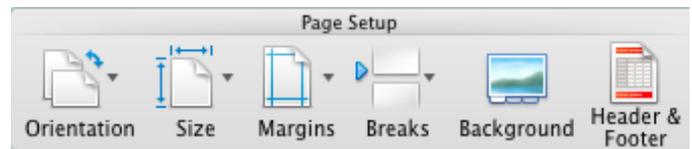


This tab can be used to set layout options for an Excel workbook.

Page Setup

The Page Setup group contains options that are used to setup the layout of your page, such as margins, the actual size of the page, background, and header & footer.

To change the page orientation of your worksheet, click on Orientation and then select Portrait or Landscape.



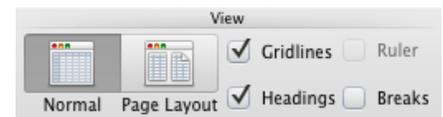
To change the paper size, click on Size and then select from the list of pre-defined paper sizes or click on Page Setup to enter a customized size.

To set the margins for your worksheet, click on Margins and then select from a list of pre-defined margins or click Custom Margins to set your own margins.

To insert a header & footer, click on Header & Footer and select from a list of pre-defined headers and footers, or click on “Customize Header” or “Customize Footer” to set how you want them to look.

Viewing Gridlines & Headings

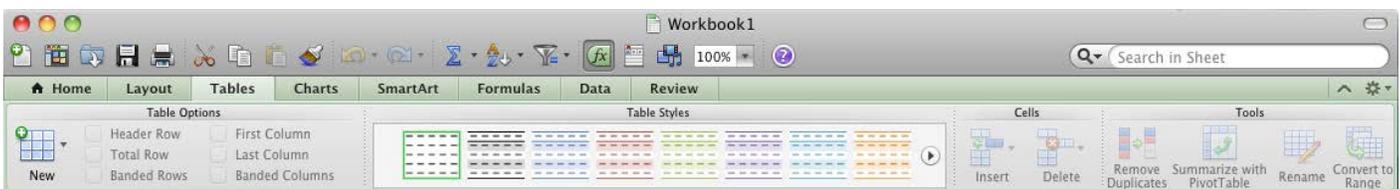
The View group contains options to specify whether gridlines and headings are displayed when the workbook is being viewed or printed.



Insert Links, Pictures, Symbols

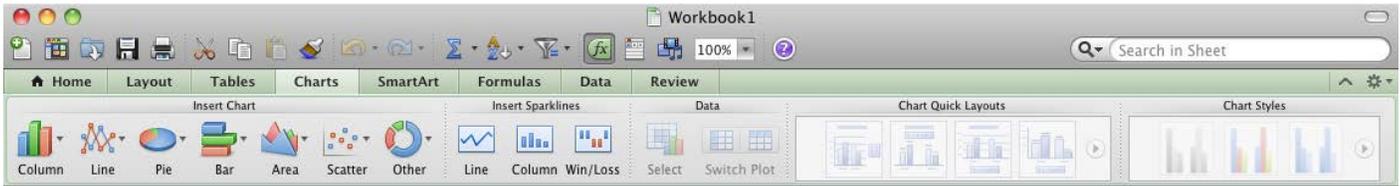
To insert links, pictures, symbols, and additional objects, click on **Insert** in the menu bar and then select the type of object you want to insert.

Tables Tab



This tab can be used to add a table to your workbook. From there, you can edit table options, select a style, insert/delete cells, and remove duplicates in your workbook.

Charts Tab

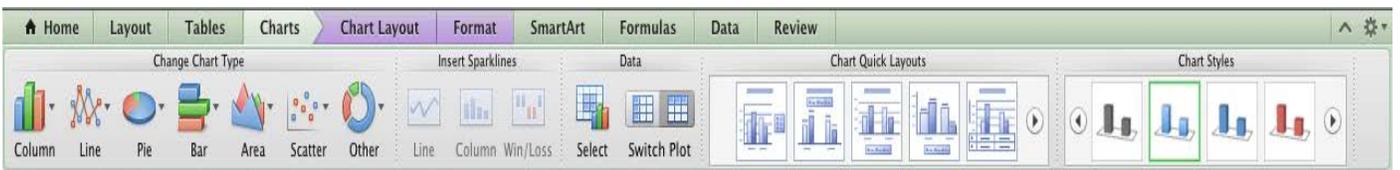


The Charts tab is used to setup a chart.

To create a chart, enter your data in a worksheet and then click the type of chart you want under the Insert Chart group. The following data to the right is going to be used as an example.

Seasons	People who Prefer
Spring	52
Summer	76
Fall	34
Winter	17

Once a chart is selected from the Insert Chart group, two new tabs, **Chart Layout & Format**, will appear on the ribbon next to Charts.

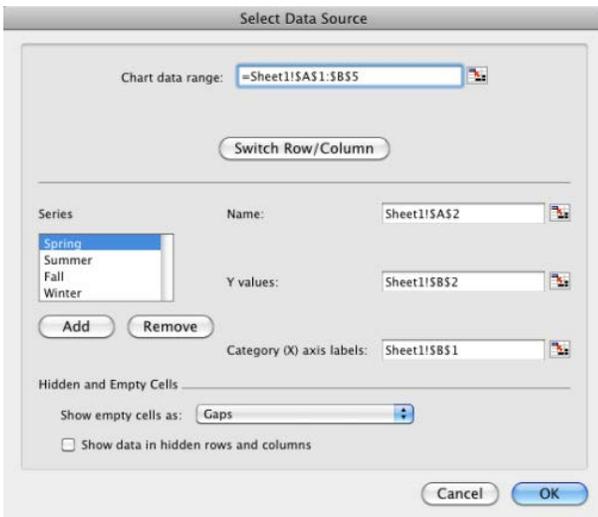


These new tabs are used to customize your chart.

First, you need to set your data source by clicking **Select** under the Data group.

A *Select Data Source* window will appear in which you can add your chart data range.

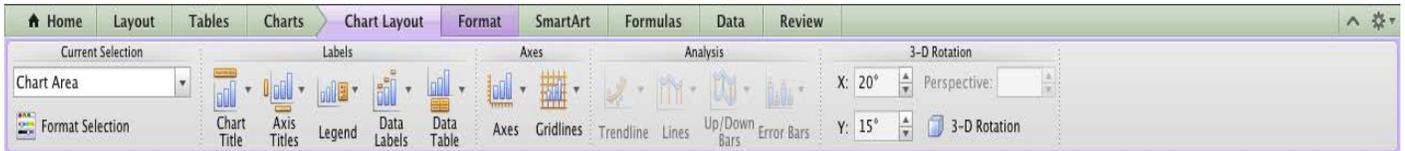
Highlight the cells you want to appear in the chart (which will then display in the select data source text box).



Using the data set as shown above, now we have the data range set for the chart. You can now specify how you want the series and values to appear. In the example to the left, the series will display the seasons and the axis label will display as “People who prefer”. If you click the **Switch Row/Column** button, it will swap the series and axis labels (for example, “People who prefer” would now be on the series and the names of the seasons would appear on the axis.) Once you have the data source set, click the OK button.

The example displays the following graph:

Now that the chart has been created, the Chart Layout and Format tabs can be used to change the chart to a different type of chart, change the layout of the chart, or apply a chart style.

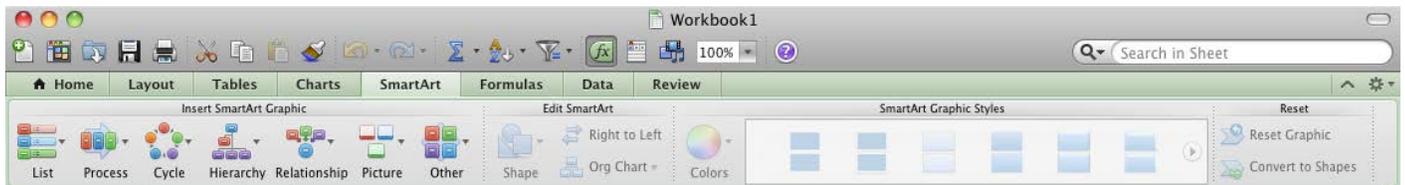


The Chart Layout tab is used to set labels for the title, axis, legend, data labels, and data tables on the chart. It can also be used to set the axes options, add trendlines, and change the perspective.



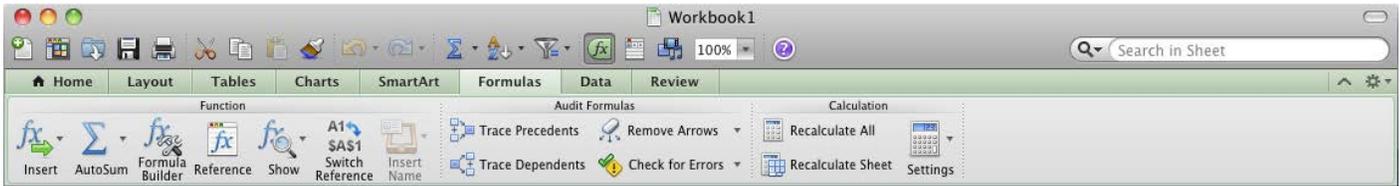
The Format tab is used to apply formatting options to the chart, such as selecting a predefined style for the chart or manually setting the fill, lines, and effects options for the chart.

SmartArt Tab



This tab gives you the ability to add SmartArt graphics to your workbook. From here, you can insert the SmartArt graphic, edit it, choose a graphic style, or convert it to a shape.

Formulas Tab

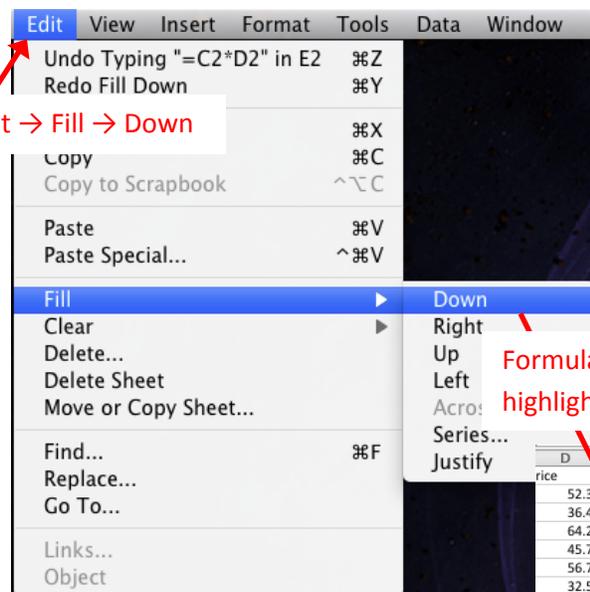
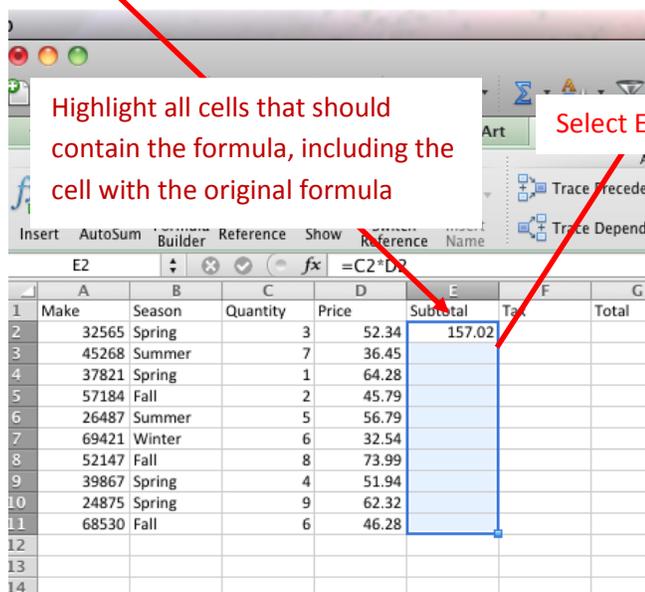
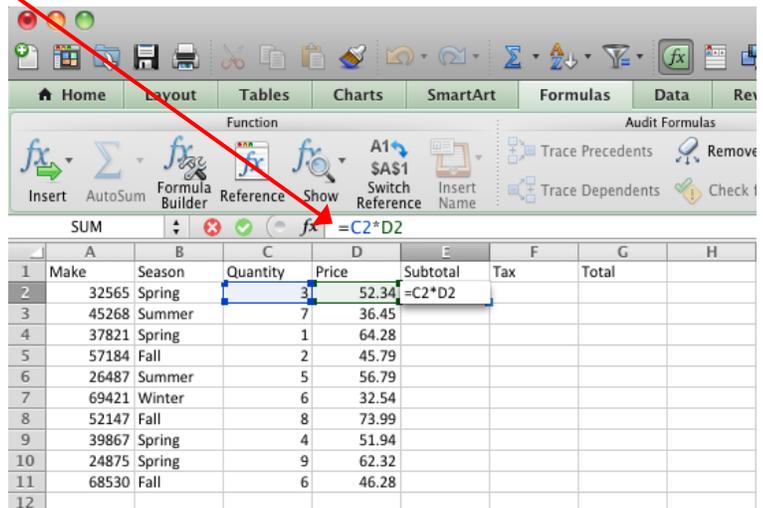


Formulas can be used to assist with adding functions to allow calculations to be performed in an Excel workbook. Formulas and functions are typed in the formula bar and are always preceded by an equal sign (=).

Formulas

A formula is an equation that performs calculations on values in a sheet. For example, to create a formula in the sample sheet that will calculate the quantity times the price, select cell E2 and in the Formula Bar, type `=C2*D2`. This will ensure that cell E2 displays the total subtotal for the entire quantity.

After pressing Enter, the Subtotal will calculate. Rather than typing in the same formula for all the subtotals, you can simply highlight all of the cells where that formula should be used, including the original cell that contains the formula, then click on **Edit → Fill → Down**.



The cells should all fill in with the correct formula. Now, if you change a price or quantity, the Subtotal will still be correct because you used the cell address rather than the value in the formula.

	D	E	F
	rice	Subtotal	Tax
	52.34	157.02	
	36.45	255.15	
	64.28	64.28	
	45.79	91.58	
	56.79	283.95	
	32.54	195.24	
	73.99	591.92	
	51.94	207.76	
	62.32	560.88	
	46.28	277.68	

Linking Worksheets

You may want to use the value from a cell in another worksheet within the same workbook. For example, the value of cell A1 in the current worksheet and cell A2 in the second worksheet can be added using the format "sheetname!celladdress". The formula for this example would be "=A1+Sheet2!A2" where the value of cell A1 in the current worksheet is added to the value of cell A2 in the worksheet named "Sheet2".

Basic Functions

Functions can enhance formulas by allowing more complex calculations to be performed. For example, if you wanted to add the values of cells A1 through A9, you could type the formula "=A1+A2+A3+A4+A5+A6+A7+A8+A9". While this method will work, it's very inefficient. Instead, the SUM function can be used by entering "=SUM(A1:A9)".

The calculations performed by a function are done in a particular order, or structure. The structure of a function always begins with the equal sign (=), followed by the function name, an opening parenthesis, the arguments for the function separated by commas, and finally a closing parenthesis.

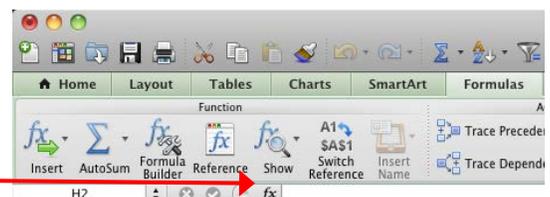
Here are some of the most commonly used functions within Excel:

Function	Example	Description
SUM	=SUM(A1:100)	Finds the sum of cells A1 through A100
AVERAGE	=AVERAGE(B1:B10)	Finds the average of cells B1 through B10
MAX	=MAX(C1:C100)	Returns the highest number from cells C1 through C100
MIN	=MIN(D1:D100)	Returns the lowest number from cells D1 through D100
TODAY	=TODAY()	Returns the current date (leave the parentheses empty)
IF	=IF(E1<100,"OK","Over Budget")	If condition (E1<100) is met, returns true ("OK"), or false ("Over Budget")

Functions can be added by clicking on the **Insert** icon in the Function group. Select the cell that should contain the function and then select the function by clicking the function group type and selecting the particular function. For example, to add the average function, click **AutoSum** and then click **Average**. The function will be added to the cell and will automatically guess which cells should be included. If it selects the wrong cells, you can manually change the values by adjusting the formula within the formula bar.

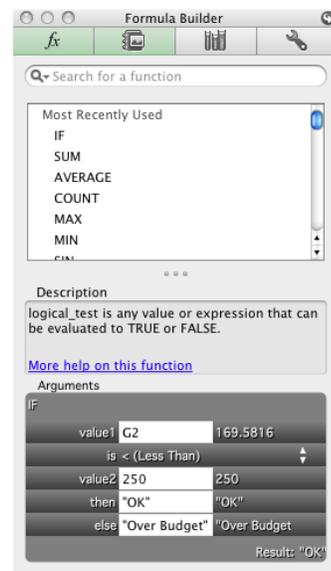


In addition to using the Formula Builder to insert functions, you can type the name of the function directly into the formula bar or use the **Insert Function** icon next to the formula bar.



Clicking on the **Formula Builder** button in the Function group will display the Formula Builder window. This window provides the list of functions available in Excel, with a brief description of each. To start using the builder, double-click a function in the list.

For example, if within our spreadsheet we want to determine if the price is within our budget or not, we can use the IF function. After choosing the IF function, the "Arguments" section appears below. Next to *Arguments*, fill in the parameters in which you are going to be testing. In our case, we want to see if the total is under our budget of \$250. Therefore, we type G2 for *value1*, then change the next field to *is <* (*Less than*). Next, we type 250 for *value2*, then we write OK for the *then* field, and lastly for *else* field, we type Over Budget.



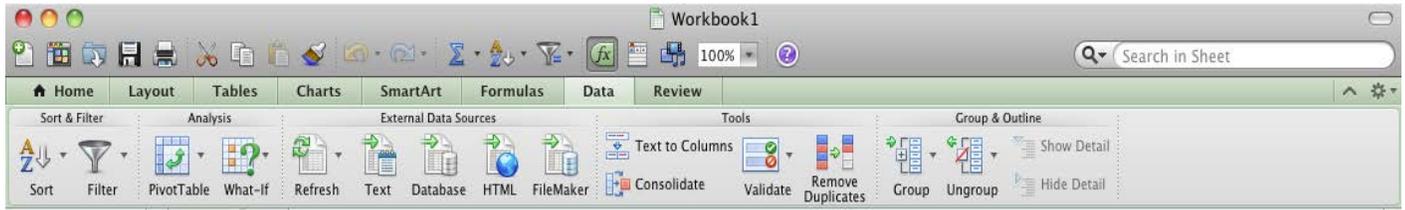
The image below shows the result for each row.

	A	B	C	D	E	F	G	H
1	Make	Season	Quantity	Price	Subtotal	Tax	Total	
2	32565	Spring	3	52.34	157.02	12.5616	169.5816	OK
3	45268	Summer	7	36.45	255.15	20.412	275.562	Over Budget
4	37821	Spring	1	64.28	64.28	5.1424	69.4224	OK
5	57184	Fall	2	45.79	91.58	7.3264	98.9064	OK
6	26487	Summer	5	56.79	283.95	22.716	306.666	Over Budget
7	69421	Winter	6	32.54	195.24	15.6192	210.8592	OK
8	52147	Fall	8	73.99	591.92	47.3536	639.2736	Over Budget
9	39867	Spring	4	51.94	207.76	16.6208	224.3808	OK
10	24875	Spring	9	62.32	560.88	44.8704	605.7504	Over Budget
11	68530	Fall	6	46.28	277.68	22.2144	299.8944	Over Budget

Relative, Absolute, and Mixed Referencing

Calling cells by just their column and row labels (such as "A1") is called **relative referencing**. When a formula contains relative referencing and is copied from one cell to another, Excel does not create an exact copy of the formula. It will change cell addresses relative to the row and column that they are moved to. For example, if a simple addition formula in cell C1 "=(A1+B1)" is copied to cell C2, the formula would change to "=(A2+B2)" to reflect the new row. To prevent this change, cells must be called by **absolute referencing** and this is accomplished by placing dollar signs "\$" within the cell addresses in the formula. For example, to use absolute referencing with the above example, write the cell as "=(A\$1+\$B\$1)" so that if cell C1 is copied, it will contain the values of A1 + B1 and not A2 + B2. **Mixed referencing** can also be used where only the row OR column is fixed. For example, in the formula "=(A\$1+\$B1)", the row of cell A1 is fixed and the column of cell B2 is fixed.

Data Tab



This tab is used for working with data, such as bringing in external data to a workbook, and sorting & filtering data.

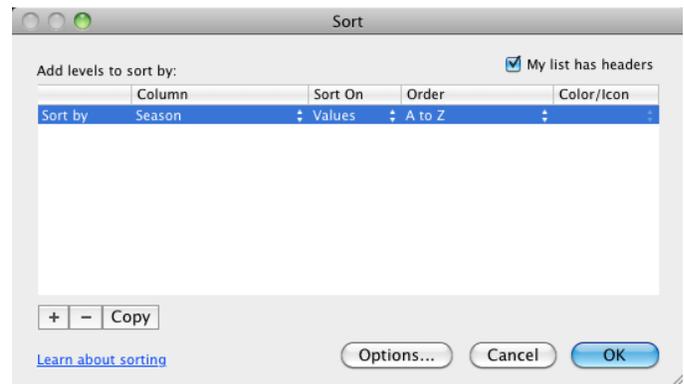
Get External Data

To add data to an Excel workbook from an external source, such as Text, SQL Database, the Web, or FileMaker database, click on the appropriate icon in the External Data Sources group.

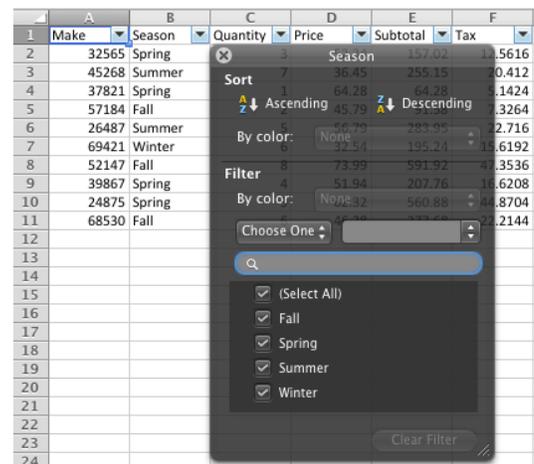


Sort & Filter

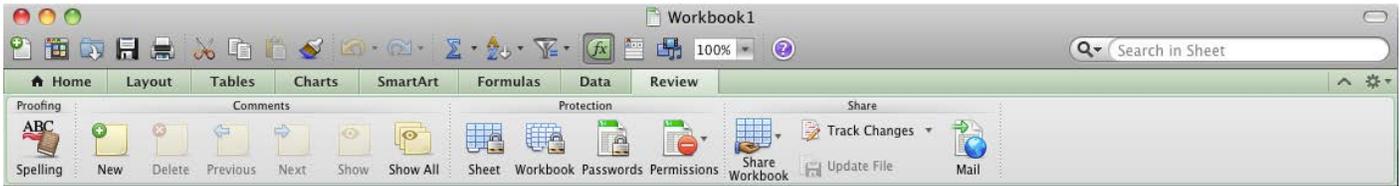
To sort data within an Excel workbook, highlight the data that you want sorted, click “Data” on the menu bar, and then click “Sort”. A Sort window will appear, giving you the ability to select how the data should be sorted. In the example to the right, our data will be sorted by Color. To remove one of the sort criteria options, click the criteria you want removed and select “None” from the Sort by list.



To apply a filter to data within an Excel workbook, select the cell you want to filter by, click on **Filter** in the Sort & Filter group. Click on the drop down icon in the column that you want to filter by and uncheck any values that you don’t want included. Once you select which to filter by, your data will be filtered and you will only see the data that you checked. To see the full list, check **Select All**.



Review Tab



This tab is used to review your workbook, including proofing, adding comments, and tracking changes.

Proofing

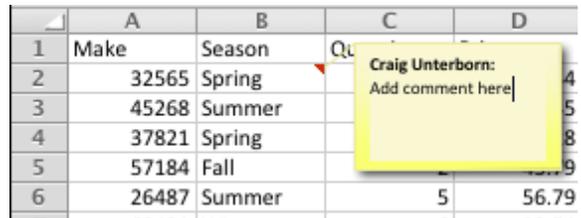
The Proofing group assists with proofing your workbook after it is finished.

Click **Spelling** to check for any spelling problems within the workbook.

To use the Thesaurus, highlight a word and then, in the Menu bar above, click on **Tools** → **Thesaurus** and the thesaurus will automatically look up the highlighted word.

Comments

To insert a comment in a workbook, highlight the cell you want commented and then click **New** from the Comments group. A comment box will appear to the right of your workbook where you can enter the comment. Each cell that has a comment associated with it will display a little red triangle in the upper-right hand corner of the cell. To display a hidden comment, highlight the cell your comment is in, and then click on **Show** from the Comments group.



To remove the comment, highlight the cell that has the comment you wish to remove and select **Delete** from the Comments group.

Tracking Changes

Tracking changes can be a valuable tool if you are sharing an Excel workbook with someone else. If you turn track changes on and have someone else edit the worksheet, when they send it back, Excel will display the changes they made and allow you to accept or reject them.

To turn tracking changes on, click **Track Changes** from the Share group, then click Highlight Changes. A Highlight Changes window appears. Click *Track changes while editing. This also shares your workbook.* Any changes made to the cells in a workbook will display a black triangle in the upper-left hand corner of the cell.



To accept or reject a change, click **Track Changes** from the Share group, then click **Accept or Reject Changes**. An *Accept or Reject Changes* wizard will appear, allowing you to specify whether the change should be accepted or rejected.

