

Platform: Mac/PC

Level of Difficulty: Beginner

This document will familiarize you with some of Excel's most basic features and show you how to make a basic spreadsheet and graphs.

Introduction

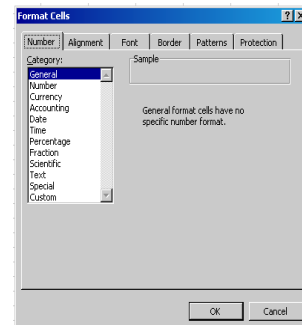
Microsoft Excel is a spreadsheet application. Spreadsheets can be used to create a wide range of documents like personal budgets, laboratory data collection sheets, sorted and organized tables of data, and inventories. Excel has a chart and graph feature that makes customized visual representations of your data. Once you start using Excel, you will find many new uses for this program.

Cells

Cells hold the pieces of information in your spreadsheet. This information can be text, numerical data, or formulas. Cells are arranged in a grid of horizontal numbered rows and vertical lettered columns. If you want to refer to a particular cell on your spreadsheet you must specify the column and row, respectively. For example, the cell reference "C1" refers to the first cell in the third column.

Formatting

You can format cells through the **Format** menu. Highlight the cell(s) you wish to format, then click on **Format** and select **Cells**. A dialog box will pop up that will display the format options available to you (font, size, alignment, borders, etc). Make your desired changes and click OK. If you want to format entire rows or columns at once, select the number or letter at the edge of the sheet to highlight the whole range of cells that have that marker. Go to the **Format** menu and select either **Rows** or **Columns**. Select the attribute you would like to edit. A dialog box will appear that will allow you to make your changes.



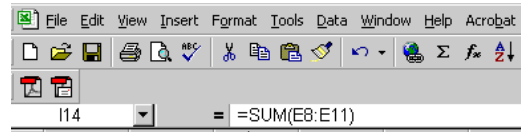
Ranges

Sometimes you want to refer to a collection of cells. This is known as a range. Ranges can be adjacent or non-adjacent. To select a range of adjacent cells highlight the first cell in that range and drag the mouse to the last cell in the range. To select non-adjacent cells select the first sub-range. Hold "Control"(on a PC) or "Apple"(on a Mac) down and highlight the non-adjacent range of cells. Any cells that you select will be the active selection until another cell or range is selected.

Formulas

An Excel spreadsheet can be set up to automatically calculate your data with formulas.

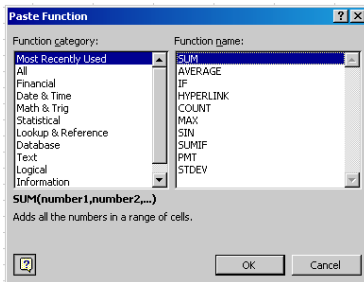
Formulas apply a function to a given range of cells. One way to enter a formula is by typing it directly into the cell where you want to see the output of the function. Formulas always start with a “=” followed by the function name. The range of cells is indicated directly after the function name in parenthesis, with a colon separating the first cell in the range from the last. There are never any spaces in formulas.



Enter formulas here or directly into the cell.

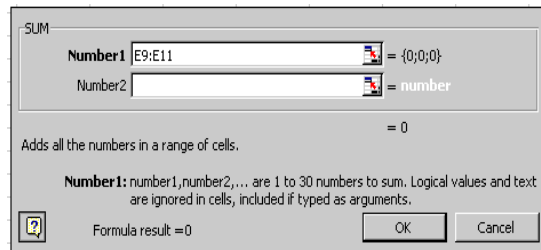
= functionName(first cell in range:last cell in range)

For example, =SUM(A1:A5) would add together all the values in the cells in the first five rows of the first column and put the sum in the cell with the formula. Press "Enter" to apply the formula. Now only the final value and not the formula will show up. To edit the formula, click on the white bar under the toolbars to make changes.



Another way to apply formulas to your data is to use the **Insert** menu. Inserting functions this way allows you to select from a list of functions. First select the cell which is to contain the formula. Click on **Insert** and select **Function**. The **Paste Function** dialogue box will appear. Select the function category and function that you would like to use and click OK.

Instructions on how to use the particular function that you have selected will appear. In the "Number 1" box enter the range of adjacent cells that you want to apply the function to. If you want to apply the function to non-adjacent cells, enter this range in the "Number 2" box. Click on OK. The function will now be applied to the cells you specified and be stored in the cell you selected.



Copying and Pasting

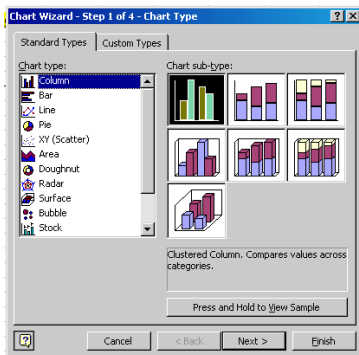
You can copy and paste cells, ranges of cells, formulas, or other objects onto your spreadsheet. Highlight the object that you would like to copy. Go to **Edit** and select **Copy**. Move the cursor to the location that you would like to insert the copied data. Go to **Edit** and select **Paste**. The objects you selected will be copied to the new location.

References in Formulas

There are two types of references in Excel: relative and absolute. All references in Excel are relative by default. When you copy a formula that uses relative references, the references in the pasted formula update and refer to different cells relative to the position of the new location of the formula. If you do not want references to change when you copy a formula to a different cell, you should use an absolute reference. You can create an absolute reference to a cell by placing a “\$” before the parts of the references that you do not want to have updated. For example, typing \$C1 will allow the column to remain unchanged, but will allow the row to adjust to the new location. Typing \$C\$1 will ensure that neither the row nor column will change.

Creating Charts and Graphs

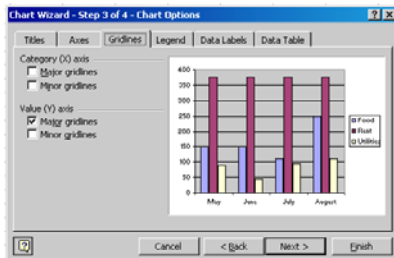
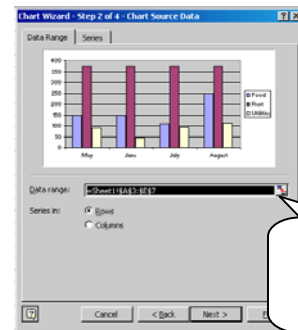
The Chart Wizard takes you through a series of dialogue boxes that assist you in creating your chart. To create a chart you must first highlight the cells containing the data you would like to chart. To start the Chart Wizard, click on the CHART WIZARD icon in the Standard Toolbar. The Chart Wizard will now take you through a series of four steps.



1. Select a chart type from the Chart Type list box. You can preview chart containing your data by clicking and holding on the PRESS AND HOLD TO VIEW SAMPLE button. Click on NEXT.

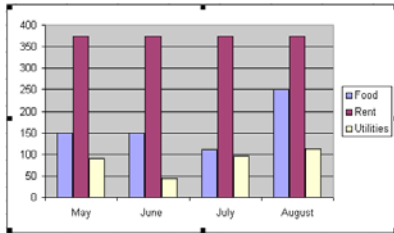
NOTE: The Chart Wizard gives you the option to move back through these four steps. If you would like to edit a previous step, press the BACK button. Note: multiple tabs located at the top of the dialog box indicate additional options in some steps.

2. The Chart Wizard will now ask you to verify your source data. If the data contained in the Data Range box is correct, click on NEXT. If it is incorrect, click on the COLLAPSE DIALOG button located at the end of the Data Range box. This will hide the Chart Wizard dialog box so that you can reselect your data range. When you have selected the correct data range click on the COLLAPSE DIALOG button again to bring back the Chart Wizard box. Click on NEXT.



3. The next dialog box allows you to change your chart options. You can set the title of each axis, adjust the placement of your legend, show or hide gridlines, etc. When you have adjusted these options click on NEXT. Again, note the tabs.

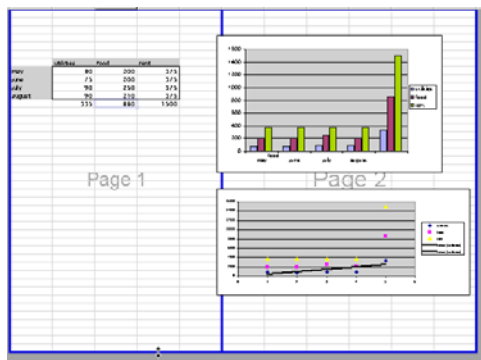
- The final step of the Chart Wizard asks you if you would like to place the chart on a new sheet or in the current sheet. Make your selection by marking the appropriate button and click FINISH.



If you would like to make adjustments to your chart, click on the portion of the chart that you want to edit. This will bring up a dialog box that allows you to make changes to the portion of the chart that you have selected.

Printing Your Spreadsheet

If you want to print your spreadsheet, you should first make sure that your print area is set correctly. The print area is simply the area of the spreadsheet that contains data that will be printed. Items not in the print area will not print. To set your print area, highlight the area of the sheet that you want to print. Go to **File**, select **Print Area**, and choose **Set Print Area**.



If you want to adjust the page breaks of your spreadsheet, go to **View** and select **Page Break Preview**. Your document will be displayed with lines indicating the page breaks. Each page will be labeled in light gray text located in the middle of each page. You can adjust the page breaks by clicking on the blue lines and dragging them to the desired location. Remember that you can choose to print horizontally or vertically on the page, shrink your document to fit a given number

of pages, and set the percent size to print your spreadsheet through option under the **File** menu in **Page Setup** and **Print**.

Where To Get More Help...

The help menu in Excel is an excellent resource and is searchable by topic. If you need more help with Excel you can ask a consultant on duty. Manuals may be available at the consultant station as well.