

Objectives:

- Entering Numbers as Text
- Working with Dates
- Cell Formatting
- Adjusting Column Width
- Formulas
- Functions
- Auto Fill Options
- Absolute Cell References



Entering Numbers as Text

When entering numbers into Excel, you should plan ahead as to how the numbers are to be used. If the number is not going to be used in any calculations, it is often best to enter the number as text. That will prevent the number from accidentally being included in calculations where it doesn't belong. For example, when you enter an employee id number, a document number, an invoice number, etc. you know in advance that you will never do an addition of that number to other numbers, nor would you ever multiply it or get a percentage of it. It is never going to be used in calculations. In these cases, it is best for the number to be entered as Text.


Entering Numbers as Text using Apostrophe

One way to enter a number as text is to type an apostrophe (') followed by the number. The apostrophe will not be displayed. A small green triangle will appear in the top left corner of the cell, indicating that this is text, not a number.

Entering Numbers as Text using Cell Formatting

Another way to enter numbers as text is to first format the cell for text before entering the number. First select the cell(s) in which you want to place the numbers. Click on **Format → Cells**. Select **Text**. When you then input the numbers, they will be considered by Excel to be Text, not Numbers. It is important to format the cells prior to entering the data. If you first enter the numbers and later change the formatting to text, the existing numbers will not be changed.

Resizing Columns

When you enter text that is too wide to be displayed in a column, the text will display in the cell to the right only if that cell is empty. If the right-hand cell is not empty, then the text will be truncated to show only what fits within that column. To resize the column move the cursor into the gray header area on the top margin. Move the cursor over the line on the right side of the column. The cursor changes to a double sided arrow . Hold down the left mouse button and drag to the right until the entire name is shown. You can also double click on the line between the two columns and it will automatically widen enough to show the longest entry in the column.

The display of numbers works differently than text. If you enter a number that is longer than the width of the column, Excel automatically widens the column to accommodate the entry. If you resize the column to make it narrower than the entry, then Excel displays the value in scientific notation. A value expressed in scientific notation is shown as a number between 1 and 9 raised to a power of 10. For example 10,000,000 as 1E+7. If the column is not wide enough to accommodate scientific notation, it displays a series of pound signs (#####) as a warning. You can use the same methods to widen the column as explained above for text.

Deleting Data

Deleting data out of cells can be done in two ways. If you simply want to clear out the data and leave the cells blank, then first select the cells to be cleared, and then hit the **Delete** key on the keyboard. The contents of the selected cells will be erased.

Sometimes you want to not only empty the cells, but completely remove them from the table in order to make room for other existing cells to move over and occupy the area formerly used by the deleted cells. Once again you must first select the cells to be deleted, but then you click on

Edit → Delete. The **Delete** window appears, allowing you to choose from “**Shift Cells Left**” or “**Shift Cells Up**”. You can also select whether to do just the selected area or an entire row or column. Make your choices, then click on **OK**.

Formatting Data

When you start with a blank worksheet, all cells are formatted as **General**. That means that any kind of data can be displayed there. As you enter the data, Excel tries to figure out what it is, and will consider it to be a number, a date, a formula, or text depending on what kind of data is entered. You can also format the cells yourself, to avoid problems in which Excel formats the data incorrectly.

Special Format

Excel has built-in formats for Zip Codes, telephone numbers, and social security numbers. Before entering any of these numbers into Excel, you should first format the cell. Click on **Format → Cells**. Click on **Special**. Then select the type of formatting you want. Click **OK**. Note - You can also these numbers as Text as described above.

Working with Dates

In Excel, dates are stored as numbers, with the starting point of **January 1, 1900** being the number 1, and every day from then forward adding one to the number. So for example, the date April 6, 2007 is stored internally in Excel as the number 39178. As long as the cell containing a date is formatted for dates, it displays the date in a normal fashion. However if the cell formatting gets changed to Number, it will revert to the number.

This odd way of storing dates can lead to problems if dates are accidentally included in calculations, such as being added into a sum. For this reason it is often better to format all dates as **Text**, not as **Dates**, unless the dates are to be used in calculations.

Formatting Numbers

When you first enter a number, Excel will display as many decimal place values as you type in. You can adjust the number of decimal places you want shown by formatting. Click on a cell that has a number in it. Next click on **Format → Cells** or Right click on the number, then select **Format Cells** from the list. Click on **Number**. Set the decimal places to however many you want. You can also click in the checkbox to show the 1,000 separator comma. Now click on **OK**. The number will be displayed with the desired number of decimal places shown. It is important to remember that what is displayed might not be exactly the number due to formatting. For example, if decimal places is set to **zero**, then **0.5** would display as **1**. Note - The exact contents of the active cell will always be shown in the Formatting Toolbar at the top of the page, so you can check here to see the exact number.

When the data represents money, and you want to display the Dollar Sign (\$), click on **Format → Cells**. Set to **Currency** or **Accounting**, with number of decimal places set to **2**.

Formulas

All formulas *must* begin with an equal sign =. Formulas are created using the following Mathematical Operators:

Operator	Operation
^	Exponentiation
/	Division
*	Multiplication
+	Addition
-	Subtraction

Excel performs calculations according to its **Operator Precedence**. First it will do exponentiation, then it will divide and multiply, and finally addition and subtraction. If you need to overcome this order, you must use parentheses, since calculations within parentheses are always evaluated first.

Example: =2+2*6 will give you an answer of 14. If you want 24, then you enter the formula as =(2+2)*6 Excel will add the 2's and then multiply

Creating a Formula

You can enter a formula in several different ways. The first is to write the formula to include the cell addresses. For example, select a cell where you want the answer displayed, then type in a formula such as =(F21-G21)*F19-F20 and press the **Enter** key. This formula would subtract the value of cell **G21** from the value of cell **F21**. Then it would multiply this amount by the value in cell **F19**, and finally subtract the value of cell **F20**.


The second method is to create the formula in a similar fashion, but instead of typing in each cell address, you just click on the cell as it comes up in the formula. Excel will enter the cell address for you. For example, you could select the cell where you want the result displayed, then type in the **equal sign (=)**. This starts the formula. Then type in the left parentheses (and then click in cell **F21**. Next type the minus sign -. Then click in cell **G21**. Then type the right parentheses. Next type the asterisk *. Click in cell **F19**. Then type the minus sign – and then click in cell **F20**. To finish the formula, press **Enter**. As you create the formula, you can see the formula being spelled out in the right side of the Formula Bar.

AutoSum


When you want Excel to calculate the sum of a column or row of numbers, you do not need to create your own formula. This can be done quickly using **AutoSum**. First select the cell where you want the sum to be displayed. Click on the **AutoSum** icon Σ on the toolbar. It will automatically select the column of figures above the active cell. If there are no numbers above the active cell, it will select a row of numbers to the left of the active cell. Excel will display a dotted box around the cells it is selecting to sum. If you want other cells, use the mouse to select the series of cells that you want. Press the **Enter** key. The total will appear.

AutoFill

In many tables, you want similar text or numbers or formulas to be used in each row of the table. In this case, you only need to create the data for the first row of the table. Then to put the same

or similar data in each of the cells below it, use **AutoFill**. First click on the cell that has the data you want to copy. Then position your cursor over the fill handle at the lower right corner of the cell. Your cursor will change to the **AutoFill** cursor . Click on the **fill handle** and drag it down to fill in the other cells with similar data. Note that for formulas Excel does not put in the exact same formula, but instead adjusts each formula for its **relative** position. For example, if the original cell was in row **6**, and the formula referred to cells **D6** and **G6**, filling the formula into row **7** would have the formula refer to cells **D7** and **G7**.

Autofill can be used to either **copy** the cells, or create a **series**, such as the numbers 1,2,3 etc. Excel will automatically do one or the other. Immediately after doing an **Autofill** operation,

Excel will display the **Auto Fill Options Tag**  at the end of the fill. If you want to change the type of fill, just click on the smart tag, then choose either **Copy Cells** or **Fill Series**. Note: The Auto Fill Option Tag will disappear as soon as you do some other operation.

Functions

Excel has many standard functions. Some commonly used ones are **Average**, **Maximum**, and **Minimum**. Click where you want the results of the function to be displayed. Click on the **Insert Function** icon, ***fx***, in the Formula Bar. Select the function you want, then click on **OK**. Now the Function Arguments box will appear, and it will already display the cell addresses of the cells it will operate on. For example if using the Average function it might display **D6:D14**, meaning it will calculate the average of all the cells from **D6** to **D14**.

If you want to change the selected cells, you can either edit the cell addresses, or you can select the desired cells using your mouse. Then click on **OK**.

Inserting Rows and Columns

Sometimes you want to insert an entire new row into a table of existing data. Locate your cursor in the left hand border, and click on the row number just below where you want the new row to be located. This will select the entire row. Click on **Insert → Row**. An additional row will be entered just above the row you selected. You can also insert a Column by clicking on the column letter, then click on **Insert → Column**.

Multi-Line Text

When creating column headings, it is often necessary to use word-wrap to get multi-line text instead of a long string of text that is too wide to fit within the column. Right click in the cell where the text is to go. Select **Format Cells**. Click on the **Alignment** tab. Now put a check mark next to **Word wrap**. You can now enter the text and it will automatically be broken into several lines so it fits within the column.

Absolute cell references

Some equations require a calculation to refer to a single, specific cell regardless of the position of that cell relative to other cells. To do this, you must write the equation to refer to the cell's **Absolute** cell address instead of the usual **Relative** address. Just insert a **Dollar Sign (\$)** before the column letter and row number. For example, cell **D14** would be entered as **\$D\$14**. The equation then can be used in an Autofill, and that cell address will not be adjusted according to the relative position of the cells.

