

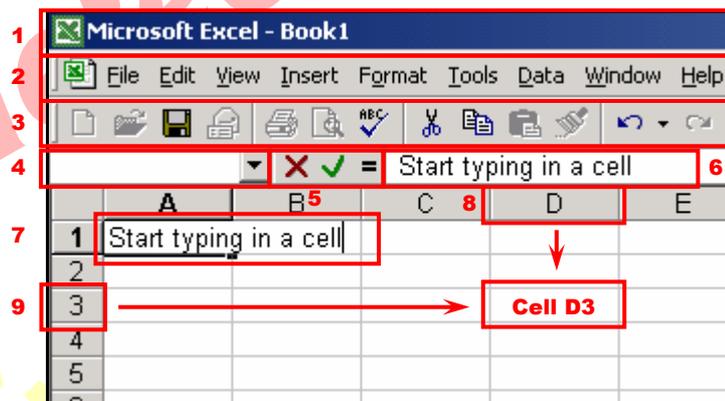
Excel interface and file structure

A quick tour of Excel's screen

It is helpful to identify areas of the screen properly – many areas are overlooked which provide useful feedback or enable a shortcut to do something more efficiently.

Starting at the top

In the screenshot below you can see the most important areas at the top of the screen in Excel, the first three of which are common to most applications.



1. The *Title Bar* shows the title of the current workbook, or Book1, Book2 as appropriate for new workbooks which have not yet been saved.
2. The *Menu Bar* shows the main menus where you will find Excel's main features. You can customise the Menu Bar to show only the most-used features, or show them all, and add shortcuts to macros, for example.
3. The *Toolbars* are a collection of sets of *buttons* which start features or apply settings directly. You can choose which toolbars are visible and where they are placed around the screen (or float them in the middle for convenience). Some toolbars are context-sensitive, and appear automatically when they are likely to be required, such as the chart or pivot table toolbars.
4. The *name box* shows the reference of the active cell (until you begin entering data). If you select a continuous block of cells with the mouse, it shows how many rows and columns you have selected (until you release the mouse button). This is also used to create Named Ranges and navigate to them.

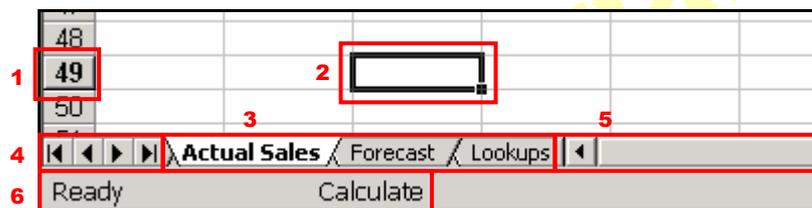
Shortcut to get to any cell

The name box can also be used to 'jump' directly to a cell or range by typing a reference here and pressing Enter - ideal when troubleshooting formulae.

5. The *formula bar* has three buttons, from left to right: Cancel, Enter and Edit. The Cancel button removes whatever you have just entered leaves the cell as it was (same as Esc). The Enter button commits your typing (unlike the Enter key it leaves the cell selected). The Edit button (an = sign in Excel 2000, *fx* in Excel 2003) brings up a dialogue box to help you construct a formula.
6. When you type in a cell or select a cell with existing contents, you see the content in the formula bar here. If a cell has a formula in then the cell will display the result, while the formula bar shows the underlying formula.
7. If you select a cell and start typing, you see your entry appear in the cell as well as the formula bar. Notice how it continues across the screen in front of other cells while you type. This content is still all in cell A1
8. and 9. Columns have lettered headings, rows are indicated by a number, so the cell in column D and row 3 has reference D3. The row and column heading of the current active cell is in bold – A1 in the above example. Clicking on one of these headings selects a whole row or column – particularly useful for changing formatting or for deleting a whole set of data.

Bottom left – worksheet tabs and message area

The bottom left of the Excel screen has more essential things to understand and become familiar with, shown in the screenshot below:



1. Again, notice that the row number for the current cell is in bold.
2. The active cell has a bold border around it. In particular, notice the square at the bottom right hand corner of this border. This is known as the *cell handle* and is very useful for expanding the selection to more than one cell using the mouse.

- The worksheets in a workbook are shown as tabs at the bottom of the screen, rather like the separation tabs for the sections of a ring binder. The current sheet is highlighted. Notice that there may be more tabs to the left of the visible one – you will see a triangle of the edge of the next worksheet tab as shown here.



- These four buttons allow you to scroll the visible worksheet tabs to the left end, one tab to the left, one to the right, or the right end.

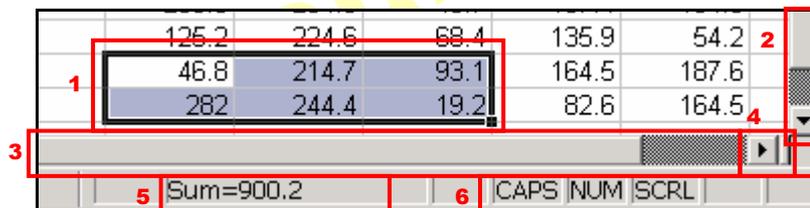
Shortcut to get to any worksheet

If you right-click any of the four worksheet buttons you get a list of all the worksheets available and can jump to any of them by clicking its name.

- The *scroll bar*, as with most applications, can be controlled by clicking the arrows at either end, or by dragging the bar itself.
- The *message area* shows current status – usually ready, but also showing “Enter” while you are editing a cell, as well as additional messages such as the “Calculate” warning in this example, where manual calculation has been turned on and changes have then been made to the sheet.

Bottom right – Keyboard indication and other information

The last area to keep an eye on is the bottom right of the screen – this helps keep track of the state of the keyboard and provides other useful information.



- This time multiple cells have been selected and appear as a shaded block with a solid border around, and a cell handle at the bottom right. The active cell is the first one the mouse touched, and is unshaded – if you start typing this is the cell that will be changed. Note: if you select cells which are not in a continuous range you get no solid border nor a cell handle, the cells are just shaded.
- The vertical scroll bar to move up and down the current worksheet.

3. The horizontal scroll bar again. Notice the proportion of the bar which is blank – this gives an indication of how far across (or down) the sheet you are at the moment). It is measured relative to the furthest cell which has ever contained data, though, so if you have deleted lots of data this can be a little misleading, so use it as a rough guide only.
4. Next to the horizontal scroll button is a small rectangle which you can drag to the left to split the screen in two halves, to view and scroll two different areas of the worksheet independently. Similarly there is another at the top of the vertical scroll bar to split the screen horizontally – or you can do both to use four independent panes at once, although this can become rapidly confusing.
5. When you select more than one cell containing a number, this instant calculator gives you the sum of those numbers, ignoring cells which are blank or contain text. If one or more cells in the selected region have errors then this function will not display anything.

Bonus feature

If you right click where it says Sum you can choose a range of alternative functions such as Average, Count or Maximum. This function will be used until you change it again, even if you close Excel.

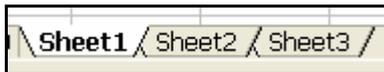
6. This *keyboard indicator* area lets you know which “lock” keys are currently pressed – Capitals Lock, Number Lock, and Scroll Lock. In addition, if you press the Insert key whilst editing a cell, this turns off insert mode and enters “overtyping” mode, showing OVR in this area. This means that whatever you type replaces existing content rather than being inserted in the middle of it. Since it turns itself off when you press Enter you should not have to worry too much about it being on by accident. The F8 key turns on “Extended mode” and shows EXT, Shift + F8 starts Add mode This is covered later but is essentially the same as using Shift or Ctrl with mouse clicks to select multiple cells.

Workbooks, worksheets, cell references

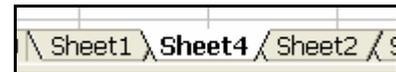
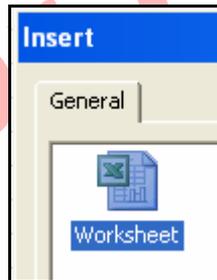
When you create a new file and save it in Excel with a name such as MyFile.xls, this is a *workbook*. It will contain one or more *worksheets*, and may also contain other items such as *charts* and *macros*. By default, a new workbook contains 3 worksheets, although you can add more (or remove some) if you need to. Worksheets appear as a series of tabs (rather like folder dividers) at the bottom of the screen. In a new workbook these are simply named Sheet1, Sheet2, etc.

Example – add, rename and delete a worksheet

At the bottom of your workbook screen you will see the worksheets which already exist in the workbook. The current sheet is highlighted. Right-click with the mouse on one of the existing worksheet tabs and choose **Insert** from the menu, then click OK. Notice you can also add other objects such as a chart sheet or worksheets based on specific templates, but leave those for now. You can also insert a worksheet using the menus – **Insert > Worksheet** which does not give these additional options.

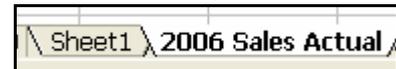


1. Right click on a sheet and choose “insert” then make sure **Worksheet** is highlighted (see right) and click OK



2. Notice that the new sheet will be inserted before the tab you right-clicked (in this example Sheet2 was clicked so new Sheet4 was inserted between 1 and 2).

3) Now right click the new sheet and choose **Rename** – the name becomes highlighted. You can get the same option by double clicking if you prefer. Type a new name for the tab and hit Enter. NB: You can also delete a worksheet from the same menu.



Naming worksheets

Naming your worksheets tells other people what each one contains. If they see “Sheet2” they might assume that there is no data on it since you did not name it. As a matter of good practice, delete worksheets which are not being used for anything to avoid this issue.

Choosing worksheet names

As you will see in the next section, sheet names are also used in cell references, and it is useful to see a meaningful name as part of the reference such as “2006 Sales Actual”, which makes it easier to understand what is being referred to. However, beware making the names too long – if you have several sheets with long names you will have to scroll sideways to see them.

Cells and cell references

Each worksheet is laid out on a grid basis with columns referred to by letters and rows by numbers. Each individual unit of the grid which is in a single column and row is called a *cell*. A cell is most easily referred to by the cross-reference of the column and row – for example, the second cell of the second column would be the cell B2. Column Z is followed by AA, through to AZ, then BA, and so on to the last column IV. The last row is number 65,536.

The whole basis of Excel is that one cell can refer to another cell (or cells) by way of a *formula*, perform some calculation or other operation on what it finds there, and produce a result. This cell may then in turn be the source for another, creating a complex set of results based on a series of formulae.

A cell reference may be as simple as its grid position – “B2” for example, but if the cell is on another sheet or in another workbook altogether, it will need to be more specific, since there will be a B2 on each sheet in each book, and Excel needs to know which one you want to use. A complete reference might include the workbook name, the worksheet name and the cell location, like this:

[MyOtherWorkbook.xls]Sales!B3

Breaking down a cell reference

So, what do all those parts mean?

The square brackets [and] denote the name of another workbook. This is not used when referring to data in the same workbook. The next part is the name of a worksheet, followed by a ! character to separate it from the cell location B3.

If there are spaces in the workbook name or the name of the worksheet (or both), you need to use single quote marks around the whole of this part as shown. This tells Excel that the spaces are part of the name and do not denote the end of the reference.

'[X:\Data\MyFiles\Yet Another Workbook.xls]Actual Sales'!\$D\$9

Notice also that this one shows the full path (X:\Data etc) to where the file is saved. If you see this it just means the source workbook is currently closed – usually you would want to open the source workbooks for better speed. If you don't open them before the one that refers to them you will be prompted whether you want to update the data from the source or not.

Now what about the dollar signs (\$) in the last part? These indicate *absolute* rather than *relative* references, which will be discussed later when you create a formula. They do not affect which cell is referred to, but how the reference will be changed as you copy the formula to other cells.