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Excel 2003 Introduction: Part I

Stephen Moffat, The Mouse Training Company

Excel 2003 Intro

Part I

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Contents

	Introduction	**7**
1	**The Basics**	**9**
1.1	Windows Concepts	9
1.2	The Spreadsheet Concept	12
1.3	The Excel Screen Layout	12
1.4	Use Toolbars	16
1.5	Use Menus	18
1.6	Getting Help	21
2	**Move around and enter information**	**26**
2.1	Moving	26
2.2	Data Entry	31
2.3	Editing	37
2.4	Select information	38
2.5	Clear cells	42

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3	**Formulae and functions**	**48**
3.1	Formulae	48
3.2	Functions	53
3.3	Absolute and relative references	63
4	**File Operations**	**68**
4.1	File Operations	68
5	**Moving and copying data**	**75**
5.1	Move & Copy	75
6	**Formatting**	**87**
6.1	Formatting	87
6.2	Formatting Toolbar	87
7	**Names**	**Part II**
7.1	Names	Part II
8	**Working with multiple sheets**	**Part II**
8.1	Multiple worksheets	Part II
8.2	Activate group mode	Part II

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9	**Printing**	**Part II**
9.1	Printing	Part II
10	**Manipulating large worksheets**	**Part II**
10.1	Split screen	Part II
11	**Sorting & Subtotalling data**	**Part II**
11.1	Lists	Part II
12	**Customisation**	**Part II**
12.1	Customising Excel	Part II
12.2	Set Options	Part II
	Appendix One: Toolbars	**Part II**
	Glossary	**Part II**

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Introduction

Excel 2003 is a powerful spreadsheet application that allows users to produce tables containing calculations and graphs. These can range from simple formulae through to complex functions and mathematical models.

All graphics related to Microsoft in this book is in compliance with Microsoft guidelines and thus permitted by Microsoft.

How to use this guide

This manual should be used as a point of reference following attendance of the introductory level Excel 2003 training course. It covers all the topics taught and aims to act as a support aid for any tasks carried out by the user after the course.

The manual is divided into sections, each section covering an aspect of the introductory course. The table of contents lists the page numbers of each section and the table of figures indicates the pages containing tables and diagrams.

Objectives

Sections begin with a list of objectives each with its own check box so that you can mark off those topics that you are familiar with following the training.

Instructions

Those who have already used a spreadsheet before may not need to read explanations on what each command does, but would rather skip straight to the instructions to find out how to do it. Look out for the hand icon ☞ which precedes a list of instructions.

Appendices

The Appendices list the toolbars mentioned within the manual with a breakdown of their functions and tables of shortcut keys.

Keyboard

Keys are referred to throughout the manual in the following way:

[ENTER] – denotes the return or enter key, [DELETE] – denotes the Delete key and so on.

Where a command requires two keys to be pressed, the manual displays this as follows:

[CTRL][P] – this means press the letter “p” while holding down the Control key.

Commands

When a command is referred to in the manual, the following distinctions have been made:

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When menu commands are referred to, the manual will refer you to the menu bar – E.g. "Choose File from the menu bar and then Print".

When dialog box options are referred to, the following style has been used for the text – "In the **Page Range** section of the Print dialog, click the **Current Page** option"

Dialog box buttons are shaded and boxed – "Click OK to close the Print dialog and launch the print."

Notes

Within each section, any items that need further explanation or extra attention devoted to them are denoted by shading. For example:

> *"Excel will not let you close a file that you have not already saved changes to without prompting you to save."*

Tips

At the end of each section there is a page for you to make notes on and a "Useful Information" heading where you will find tips and tricks relating to the topics described within the section.

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1 The Basics

By the end of this section you will be able to:

- **Understand and use common Windows elements**
- **Launch Excel**
- **Understand the concept of a spreadsheet**
- **Recognise Excel screen elements**
- **Work with Toolbars**
- **Use Menus**
- **Get Help**

1.1 Windows Concepts

Excel is an application that runs under the Windows graphical user interface. When launched, Excel sits in its own "window" – the grey box that surrounds the application elements. The window can be moved, sized, closed, minimised and maximised using the features common to the Windows environment – these are listed below:

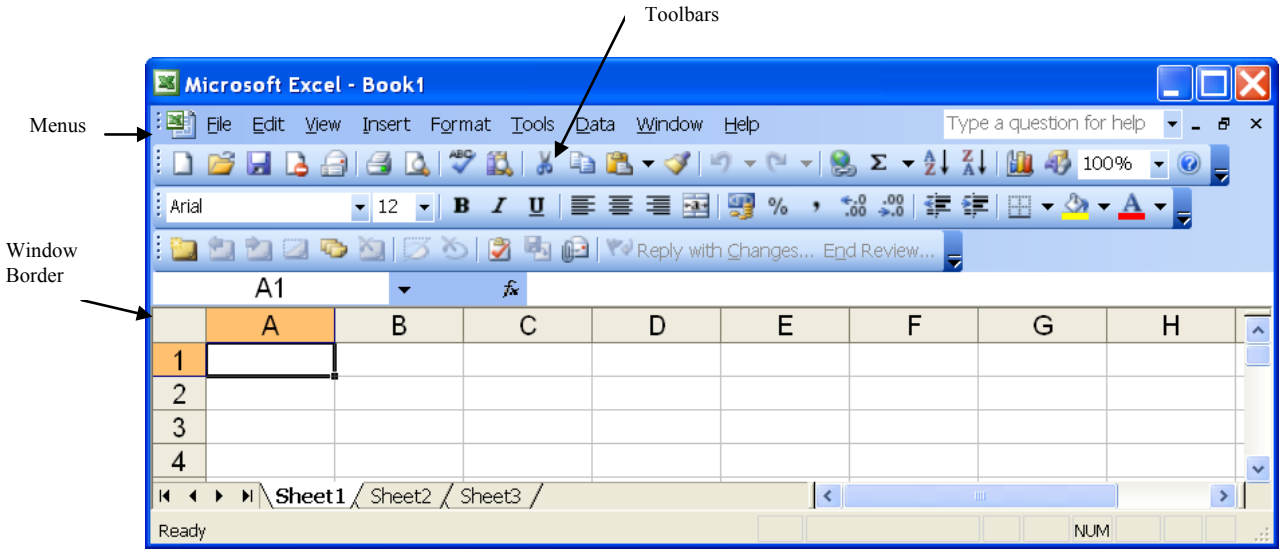

Figure 1 - *Parts of a window*

Window Border The grey box that surrounds the Excel screen when it is not maximised is called the window border. When the mouse is over the border, the pointer changes from a single to a double-headed arrow – clicking and dragging with this shape allows the window to be resized.

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Title bar The coloured bar that appears at the top of the Excel window. The title bar tells you which application you are using and if the workbook you are in is maximised, it will also contain the name of the workbook. If the Excel window is not maximised, by positioning the mouse over the title bar and clicking and dragging, you can move the Excel window to a new location on the screen.

Maximise button When working in a workbook, the Excel screen contains two windows, an application window and a workbook window. You can maximise both windows to capitalise on the space you have on-screen. If you would like the window that your Excel application is in to fill up the whole screen, click the outermost maximise button. You may find that the workbook you are in can still be bigger – click the inner maximise button to fill the remaining space within the Excel application window.

Minimise button This button is very useful if you need to temporarily switch from Excel into another application without closing Excel down completely. Click the minimise button to shrink Excel to an icon on the task bar; you will then be able to view other icons and applications you may wish to access. When you are finished and ready to continue, click the Excel icon from the task bar to resume. The innermost minimise button will minimise the current workbook window.

Restore button This button only appears when a window is maximised. A maximised window has no border and you cannot see what is behind it. If you want to put the window back inside its border so that you can move and size it, click the restore button.

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Close button This button is used to close a window. If you click the close button for a workbook window (the innermost close button), you close the document. The outermost button will close the Excel application.

Application Menu Located to the left of the Title Bar. When selected, it displays a pull-down menu with commands enabling you to resize or close the Excel application. This can also be accessed by pressing [ALT] [SPACEBAR].

Double click on this icon to close the application down.

Document Menu There is also a Context Menu Box located to the left of the Menu Bar. Clicking on this icon allows you to resize or close the workbook you have finished working on. This can also be accessed by pressing [ALT][-].

Double click on this icon to close the current workbook.

Excel Basics

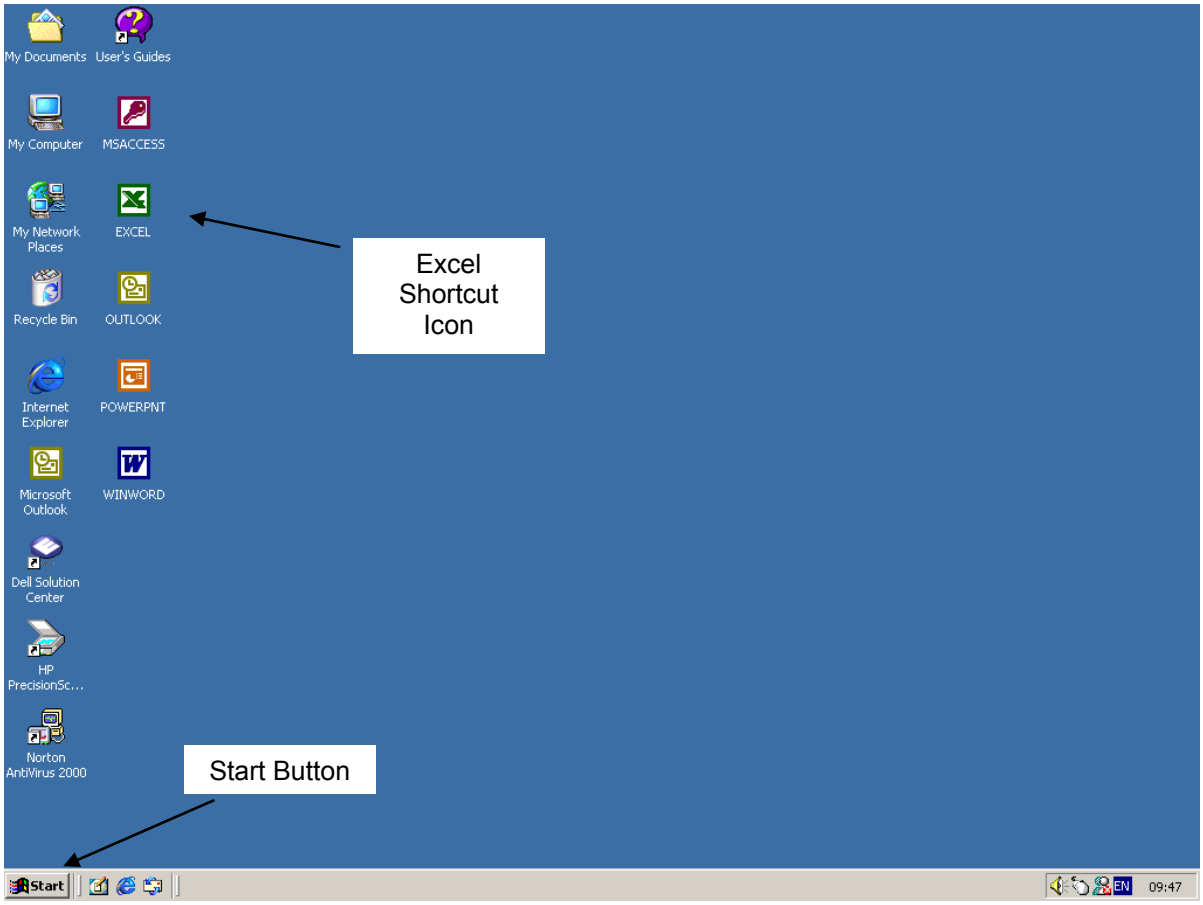

Figure 2 – *Launching Excel*

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To Launch Excel:

Mouse

- Click the Start button from the task bar
- Choose the Programs sub-section. Microsoft Excel will appear listed with its icon – click this to start Excel.

Or

- Double click on the Excel Shortcut Icon that you may find on your desktop.

1.2 The Spreadsheet Concept

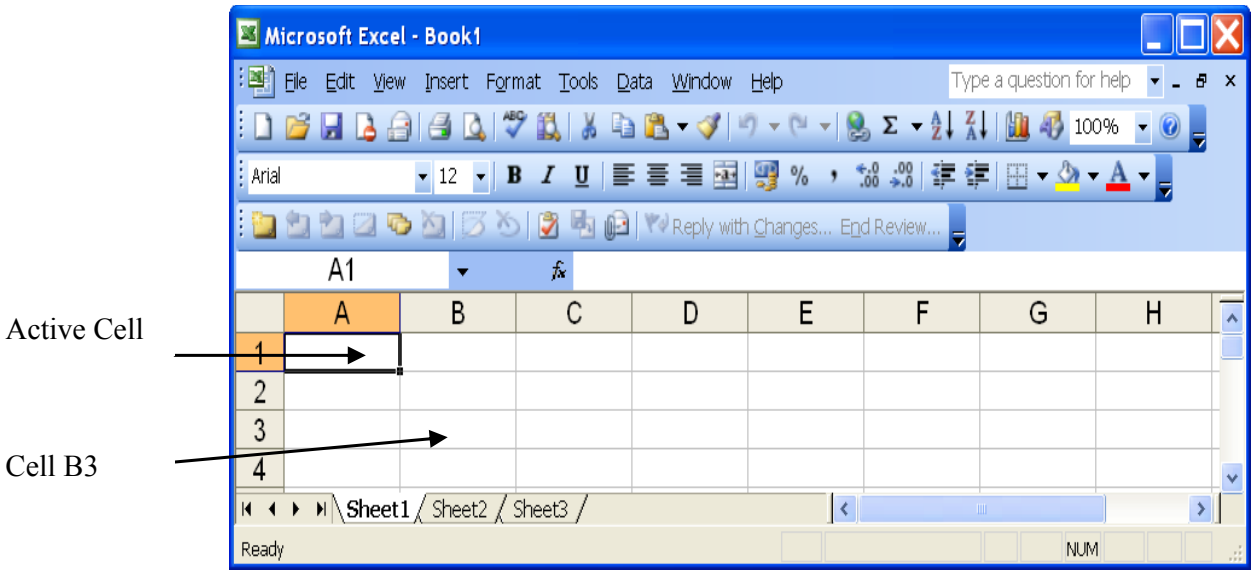

Figure 3 - *The Spreadsheet Concept*

A computer spreadsheet is similar to a very large piece of paper, which is ruled into rows and columns. The intersection of a row and a column is called a cell and each cell has its own unique reference, similar to a map reference.

A spreadsheet can hold a variety of different types of data types, and is generally used when calculations need to be performed. The power of a computer spreadsheet is its ability to recalculate formulae whenever the data is changed. This saves a great deal of time and allows the user to create different results easily. Graphing data, printing, formatting data is all made much easier using a spreadsheet.

1.3 The Excel Screen Layout

When you launch Excel, you will be provided with a blank file ready for you to start work. Files in Excel are called *workbooks* – this is where you enter, manipulate and store your data. Because each workbook can contain many sheets (pages if you like), you can organise various kinds of related information in a single file.

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Each workbook consists of a default of 3 *worksheets* bound together. The worksheets are divided up in a grid of 256 columns wide (labelled by letters) by 65536 rows long (labelled by numbers).

The diagram below labels the screen elements that you see when you are working with Microsoft Excel. It is important to know what each element is called so that you can look up help on it if necessary.

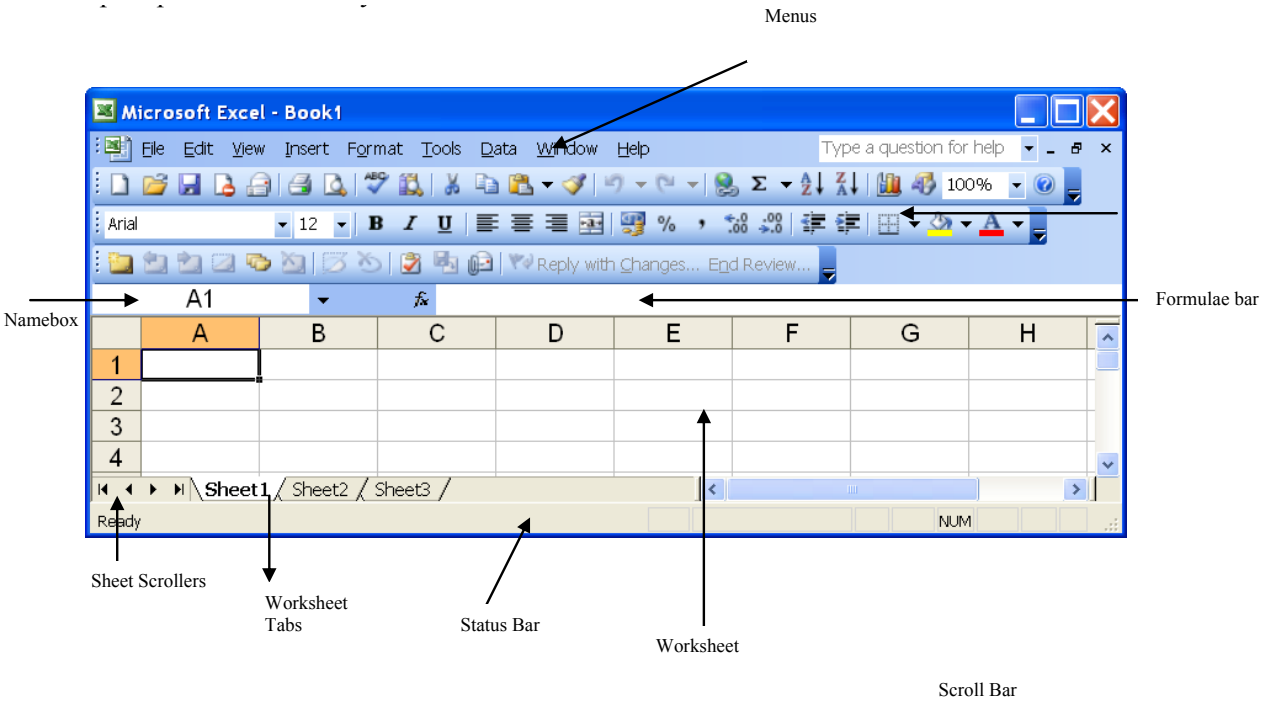
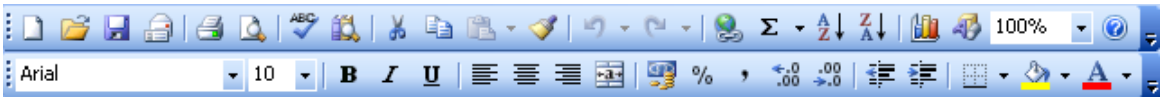


Figure 4 - *Screen Elements*

Menu bar

The menu bar contains menus giving access to all the commands that can be carried out in Excel. You can also gain access to shortcut menus that group together options that would normally be in separate menus. See the section on Menus for more information.

Toolbars



Excel has many different toolbars that can be displayed on-screen but the default toolbars are the Standard toolbar and the Formatting toolbar. The Standard toolbar contains buttons for commonly carried out operations such as saving a file, copying information and so on, whereas Formatting toolbar buttons are devoted to enhancing the appearance of data on the worksheet. When you hover your mouse over any toolbar button, Excel will display a description of what the button does.

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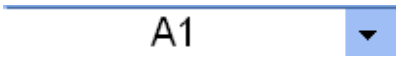
Name box

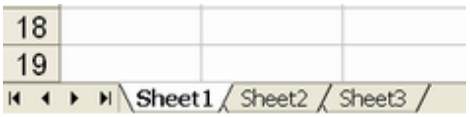


The Name box sits under the Formatting toolbar on the left-hand side of the screen. You can reference cells in Excel by allocating names to them rather than using cell references. If you have named cells, the name box displays the name of the selected cells. You can also move to named cells by clicking the drop down list arrow on the right of the name box and selecting the required name from the resulting list.

Formula Bar

To the right of the Name box is the Formula bar. When you type data into a cell it appears inside the cell and also on the Formula bar. Where the entry is a formula, Excel displays the result of the formula in the cell, but the underlying calculation in the formula bar.

Worksheets



You use worksheets to list and analyse data. You can enter and edit data on several worksheets simultaneously and perform calculations based on data from multiple worksheets. When you create a chart, you can place the chart on the worksheet with its related data or on a separate chart sheet.

The names of the worksheets appear on tabs at the bottom of the workbook window. The name of the active sheet is bold.

Status Bar

The Status bar, across the bottom of the screen, displays different information at different times. To the left is an indicator, which will display Ready, Edit etc. depending on the mode in which the user is currently working. If menus are being accessed, this area will usually give details on the currently highlighted menu option. If you are in the middle of a task – copying data for example – this area will often display messages and prompts instructing you on what to do next.

To the right of the Status bar, keyboard status indicators reveal whether the Num Lock etc. are switched on.

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Task Pane

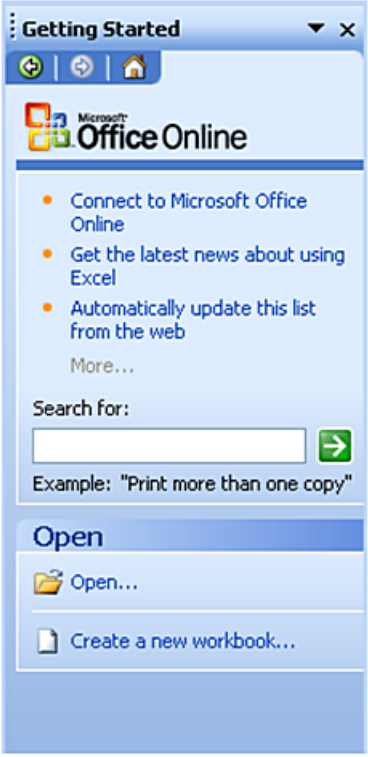

Figure 5 - *Task Pane*

A task pane is a window that collects commonly used actions in one place. The task pane enables you to quickly create or modify a file, perform a search, or view the clipboard.

It is a Web-style area that you can either dock along the right or left edge of the window or float anywhere on the screen. It displays information, commands and controls for choosing options. Like links on a Web page, the commands on a task pane are highlighted in blue text, they are underlined when you move the mouse pointer over them, and you run them with a single click.

A task pane is displayed automatically when you perform certain tasks, for example when you choose File, New commands from the menu bar to create a new document.

To display a task pane at any time:

Mouse

- Choose Task Pane from the View menu.

Or

- Choose View, Toolbars, Task Pane from the menu bar.

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Or

- Right-click the menu bar or any toolbar and choose Task pane from the shortcut menu.

You then need to navigate to the particular task pane you want to work with. You can display any of the main task panes that are available by clicking the down arrow near the upper right corner of the pane that is displayed initially, and choosing the name of the pane you want to open from the drop-down menu.

You can navigate among the task panes you have recently displayed by clicking the Back and Forward Web-style buttons and close the task pane by using the close button.

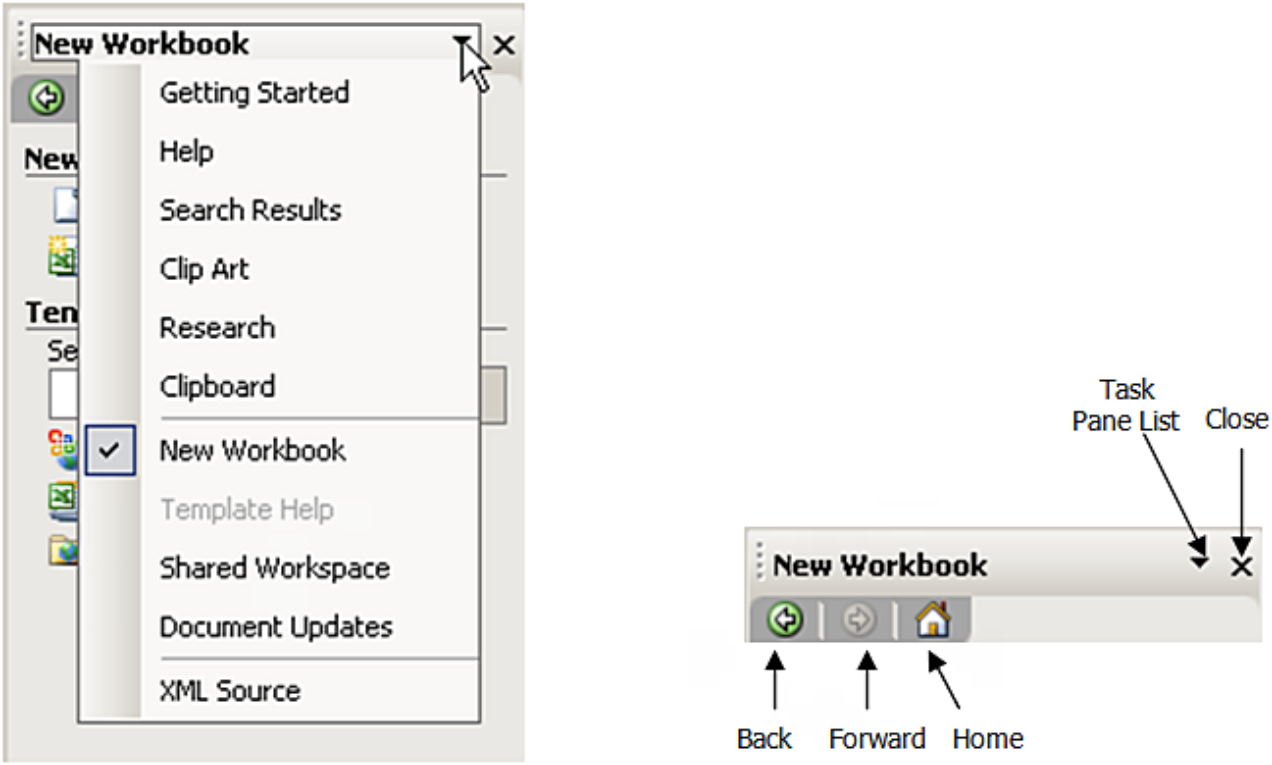

Figure 6 - Task Pane Navigation

1.4 Use Toolbars

Excel displays two toolbars by default when you load it up – the Standard toolbar and the Formatting toolbar. The buttons display "screen tips" when the mouse is hovered over them to tell you what the button does.

Show and hide toolbars

You can call up many more toolbars while you are working with Excel giving you access to buttons that relate to specific tasks.

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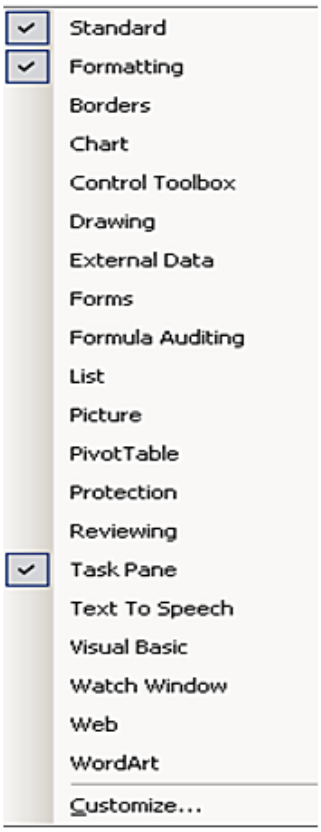

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To show a toolbar:

Mouse

- Click the right mouse button anywhere over a displayed toolbar.
- From the resulting menu, click the toolbar you want to show.

To hide a toolbar:

Mouse

- Click the right mouse button anywhere over a displayed toolbar.
- The resulting menu will show you the currently displayed toolbars with a tick symbol next to them. Click the toolbar you want to hide.

1.5 Use Menus

Excel has a variety of ways that you can issue commands. One way is to use menus. There are two methods for accessing menus and their options – the menu bar and the shortcut menu.

Menu Bar

The menu bar displays all options available within Excel. You can access a menu by clicking its name with the left mouse button.

To select a menu bar menu:

Mouse

- Click on the menu title. A pull-down menu will appear listing all options available. To expand the menu click on the arrows at the bottom of the list.

- Click the required menu option.

Or

Keyboard

- Hold down the [ALT] key and press the underlined letter of the menu title.
- Type the underlined character of the required option.

Shortcut menus

The shortcut menus can only be accessed when the mouse is positioned over a cell on the worksheet itself and you click the right mouse button. The options that appear on the shortcut menus may differ depending on what you have selected.

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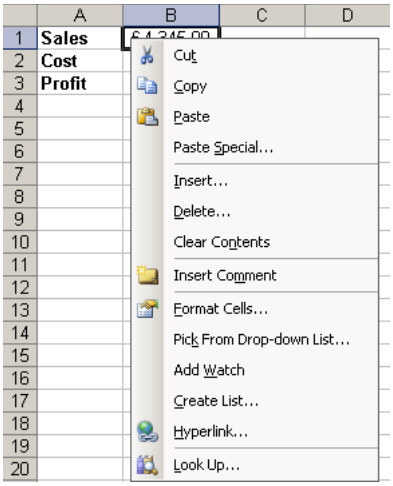
To select a shortcut menu option:

Mouse

- Click with the right mouse button on the required cell. A pull-down menu will appear listing all options available.
- Click the required menu option.



Smart Tags

Smart Tags, first introduced in Microsoft Office XP, make it easier for you to complete some of the most common tasks and provide you with more control over automatic features.

You do not have to complete any additional steps to make the Smart Tags appear or disappear in Excel. The Paste Options, AutoFill Options, Trace Error and Insert smart tags appear automatically to allow you to quickly choose actions and remain in place until you begin another action. For example, when you complete a paste operation, the **Paste Options** button remains in place alongside your text until you begin typing new text.

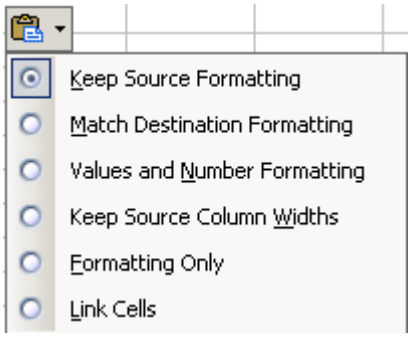


Figure 7 - *Smart Tag*

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This feature alerts you via a smart Tag of a possible error in a cell. You can select a command to resolve the error, ignore it, or access further Error Checking options.

The following example shows the use of a smart tag where a formula has been written into a cell with a possible error i.e. =Sum (A1:A2) may need to read =Sum (A1:A3). If you hover over the tag, the message *The formula in this cell refers to a range that has additional numbers adjacent to it* appears then the options drop down.

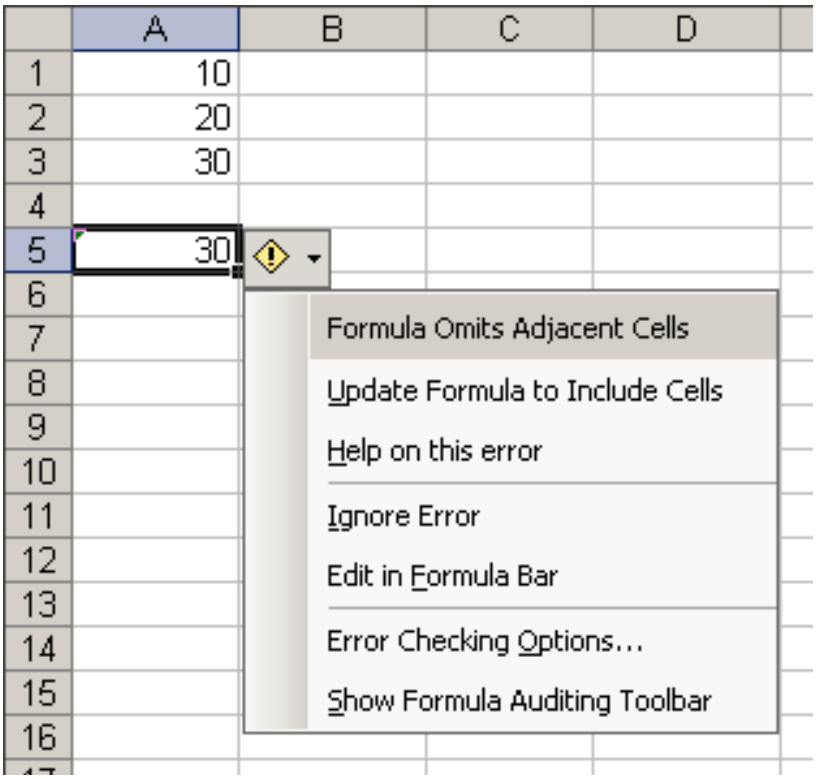

Figure 8 - *Smart Tag Linked to Formula*

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1.6 Getting Help

Figure 9 - *Type a question for help*

Excel offers several quick ways to get help when performing particular tasks. You can select from a list of topics provided by Help, or you can even type a help request in plain English, and Excel will supply the answer using the *Answer Wizard.*

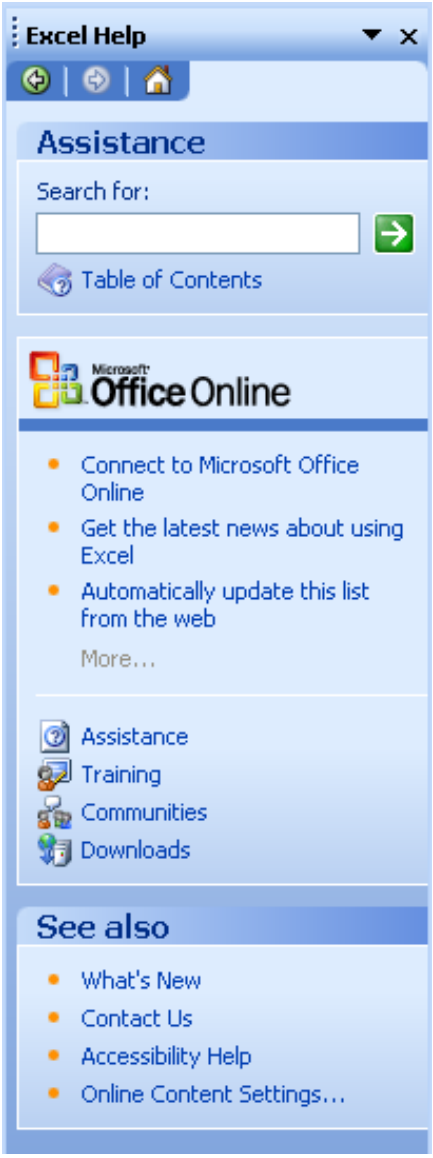

Figure 10 - *The Help Taskpane*

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Microsoft Excel Help

The Help dialog has views that you can move between enabling you to home in on a specific topic.

To access help:

Mouse

- Click Help from the menu bar and then choose Microsoft Excel Help. The Help Taskpane will open:
- Enter your search criteria and press [Enter]
- The Taskpane will display the topics that match your search. Click on a topic in order for it to be displayed

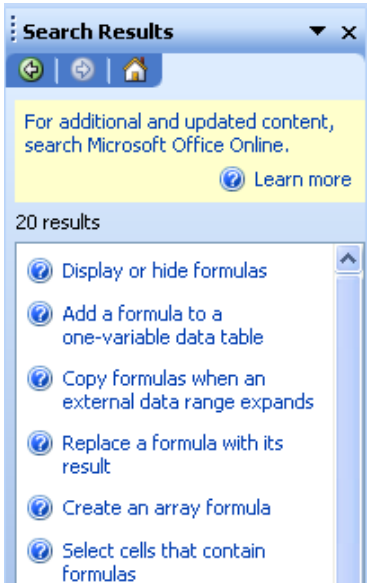

Figure 11 - *Search results*

Find a specific topic

The contents page allows you to select from a list of topic headings.

To use the Contents Page:

Mouse

- Click Help from the menu bar and choose Microsoft Excel Help
- The Help Taskpane will open. Click on the Table of Contents link
- Click on the a topic heading and follow the relavent links until you have reached the information you require

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Ask a Question Box

Excel provides a convenient new alternative to using the assistant, Ask a Question Box. You can get help by typing a question or phrase in to the Ask a Question Box that you will find in the upper-right corner of the application and then pressing Enter.

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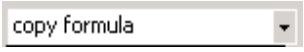

If you want to repeat a question you have already typed during the current session, you can simply select the question from the drop-down list on the Ask a Question Box.

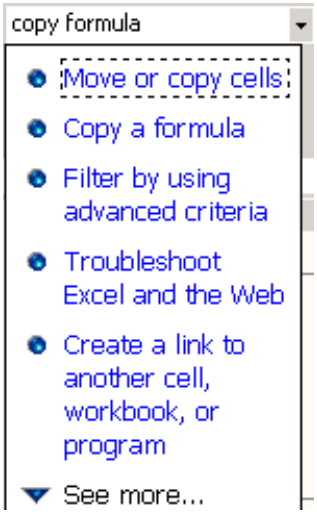

Figure 12 - The Table of Contents

Useful Information

Maximise windows

You can maximise a window in any Microsoft application by double-clicking that window's title bar.

Help

Excel has what is known as context sensitive help. When you have issued a command and are unsure what to do next, you can get help relevant to what you are doing by pressing [F1].

In dialog boxes, Excel displays a ? button that you can click, turning your mouse into a help pointer. If you then click on any item in the dialog box that you are unsure of, Excel will display help information explaining what the dialog box element can be used for.

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•Notes

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2 Move around and enter information

By the end of this section you will be able to:

- **Move efficiently around a workbook**
- **Enter text and numbers**
- **Select items**
- **Edit cell entries**
- **Remove entries**

2.1 Moving

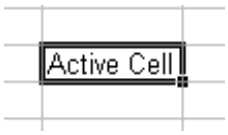
With such a large working area available, you need to be aware of some of the techniques used for moving around the workbook. It is possible to move using either the keyboard or the mouse.

Move with the mouse

The mouse is good if you want to move small distances.

Depending on the position of the mouse in relation to the active cell, Excel displays different pointer shapes. The shape that must be displaying when moving to a cell or selecting cells is

To move to a cell:
Mouse



- Click the white plus on any cell that you want to move to. The cell you clicked in becomes the active cell.

Scrolling

The vertical and horizontal scroll bars do not move the active cell but they do allow you to see areas of the worksheet that are not currently visible. Having scrolled to an area of the worksheet, if you then need to move the active cell into that region, click the mouse.

To use the scroll bars:
Mouse

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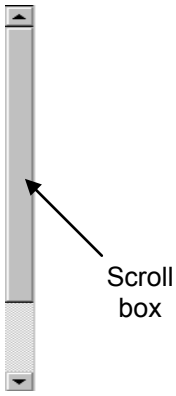

- Click on the scroll arrows up/down or left/right.

Or

- Drag the scroll box until the relevant cell becomes visible.

The size of a scroll box indicates the proportional amount of the used area of the sheet that is visible in the window. The position of a scroll box indicates the relative location of the visible area within the worksheet.

The table below lists some useful tips for scrolling:

To scroll	Do this
One row up or down	Click the arrows in the vertical scroll bar.
One column left or right	Click the arrows in the horizontal scroll bar.
One window up or down	Click above or below the scroll box in the vertical scroll bar.
One window left or right	Click to the left or right of the scroll box in the horizontal scroll bar.

Figure 13 – *Methods for scrolling*

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When dragging the scroll box a scroll tip will display, showing the row or column you will move to when you release the mouse.

Move with the keyboard

When you need to move further, it is better to use the keyboard. The table below lists useful movement keys.

To Move	Do this
One Cell Up, Down, Left or Right	[←][→][↑][↓]
Up One Screen	[PAGE UP]
Down One Screen	[PAGE DOWN]
Left One Screen	[ALT][PAGE UP]
Right One Screen	[ALT][PAGE DOWN]
To Edge of Worksheet (or current block of data)	[CTRL][Relevant Arrow Key]
To a Particular Cell	[F5] then type the reference for the cell required and press Return
To column A in the current row	[HOME]
To cell A1	[CTRL][HOME]

Figure 14 - *Movement keys*

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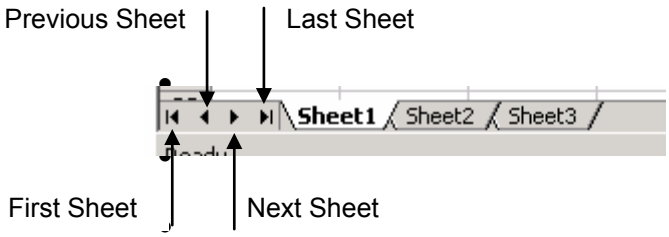
Moving between the Workbook sheets

Each new workbook contains worksheets, named sheets1 to sheet 3. The sheet name appears on a tab at the bottom of the workbook window.

To move between worksheets:

Mouse

- Click on the appropriate tab



If the sheet required is not in view, use the tab scrolling buttons to display the sheet.

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Or

Keyboard

- Press [CTRL][PAGE DOWN] to move to the next sheet, or [CTRL][PAGE UP] to move to the previous sheet.

Go To

You can use [F5] to tell Excel to move to a specific cell. [F5] is the Microsoft Office Go To key. When you press [F5] in Excel a dialog box is displayed where you can type in a cell reference.

To move to a specific cell:
Keyboard

- Press [F5] on the keyboard. The following dialog box will appear.

Figure 15 – Go To dialog

- Type the cell reference that you want to move to in the **Reference** box and press [ENTER].

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You can use [F5] to move to a cell in a different sheet. E.g. To go to Sheet7 cell A1 you can press [F5] and then type Sheet7!a1.

Excel keeps a log of the cells you have visited using the Go to key and lists them in the **Go to** *list area of the dialog. You can go back to a previously visited cell by pressing [F5] and double-clicking on the cell reference you want from the list.*

Named ranges are also listed in the **Go to** *list if they have been set up.*

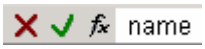
2.2 Data Entry

There are various aspects to note and be aware of, both in terms of entering data, and also to do with the nature of the data being entered. You can enter data into a cell by positioning the cursor in the cell and typing the information. The maximum number of characters that a cell can contain is 32,000.

Enter Text and Numbers

Excel recognises text and numeric entries and initially displays them with different alignments – left for text and right for numbers. You can override these with other formats if required.

To enter information:

Mouse 

- Move to the cell where you want the entry and type a word (for example NAME in cell A1). The text will appear in the Formula bar as well as in the current cell. The cursor will be visible as a flashing insertion point in the formula bar.
- Click on the green tick mark on the formula bar to confirm the entry.

Or

Keyboard

- Press [ENTER] to confirm the entry.

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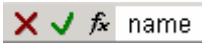
Until you confirm an entry, Excel remains in "Enter" mode, (see Status bar). Excel will return to the "Ready" mode, and the text will appear in the cell.

When you press [ENTER] to confirm an entry, Excel may move the active cell down to the cell below. You can disable this setting or choose to move the active cell in a different direction using the Options dialog (Tools menu). See the Customisation section for more information.

Cancel an entry

You may find that you have typed an entry into the wrong cell. Provided you have not confirmed the entry by pressing [ENTER] or clicking the green tick from the formula bar, you can abandon it.

To abandon an entry:

Mouse 

- Click the red cross from the Formula Bar.

Or

Keyboard

- Press [ESC].

When you have confirmed an entry, while the cell is still selected, the current cell reference will be displayed in the Name box and the cell contents are displayed in the Formula bar. Text information, as opposed to numeric information, will initially appear left aligned within the cell. If you enter text which is longer than the column width, the display on the worksheet will seem to overlap into the next cell to the right (if that cell is empty).

Edit an unconfirmed entry

Occasionally, you may make a typing error prior to confirming an entry. You can use the arrow keys and the [BACKSPACE] and [DELETE] keys to change an entry before confirming it.

To edit the text before entering it:

Keyboard

- Use [←][→] keys to move the cursor within the entry.
- Press [BACKSPACE] to delete characters behind the cursor or [DELETE] to delete characters in front of the cursor.

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Enter Dates

It is possible to enter dates into Excel and have them accepted and displayed as such provided you use a recognised format. Excel 2003 will allow entry of dates from 1900 onward.

Recognised formats for dates

Use a forward slash (/) as the day/month/year separator:

01/01/01

Use a dash (hyphen) as the day-month-year separator:

1-1-01

If you omit the year from a date, Excel will assume the current year. You will not see the year in the cell but if you look at the cell contents on the Formula bar, you will see that Excel has added it.

With some recognised date styles, Excel will automatically format the date to display in a certain way. You can choose how your dates are displayed by formatting them yourself (see the section on formats for more information).

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Some entries are recognised by Excel and are formatted automatically. Dates are one such entry (as described above), percentages are another. When you delete data from such cells and replace it with other entries, you may find that you get surprising results. This is because although you cleared the data from the cells, the formats still remain and are causing the new data that you typed to display in a certain way. For more information on clearing cell data, see the clearing cells later in this section.

Order date	Customer	Product	Quantity
01/01/97	Viking Supplies	Widget	10
02/01/97	Bloggs & Co	Ratchet	23
02/01/97	Jones Brothers	Gimlet	200
03/01/97	Viking Supplies		

AutoComplete

When you type the first few letters of an entry into a cell, Excel can complete the entry automatically using an option known as AutoComplete. It does this by building a list based on the entries already entered in a column. If Excel suggests an inappropriate entry, you can pick a different entry from the list.

To use AutoComplete:

Keyboard

- Position yourself over the next blank cell in a column.
- Begin typing the entry – Excel will try to match what you type with other items already entered in the current column and will automatically complete the entry for you.
- Press [ENTER] to accept Excel's proposed entry.

Or

- Continue typing to replace Excel's proposed entry with your own entry. Press [ENTER] to confirm completion.

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Order date	Customer	Product	Quantity
01/01/97	Viking Supplies	Widget	10
02/01/97	Bloggs & Co	Ratchet	23
02/01/97	Jones Brothers	Gimlet	200
03/01/97	Viking Supplies		
		Gimlet	
		Ratchet	
		Widget	

Pick from list

You can get AutoComplete to display a list of possible entries built up from previously entered column data and select the one you want without typing anything.

To pick from an AutoComplete list:

Mouse

- Click the right mouse button in the required cell.
- Choose Pick from List.
- Choose the entry required.

Excel can only AutoComplete column entries if there are no gaps in your data. If you leave a gap, the next cell that you type in will not AutoComplete, nor will you be able to pick from a list.

Disable AutoComplete

You can stop Excel from AutoCompleting column entries by switching the setting off.

To turn AutoComplete off:

Mouse

- Click Tools from the menu bar and then choose Options. The following dialog box will appear:

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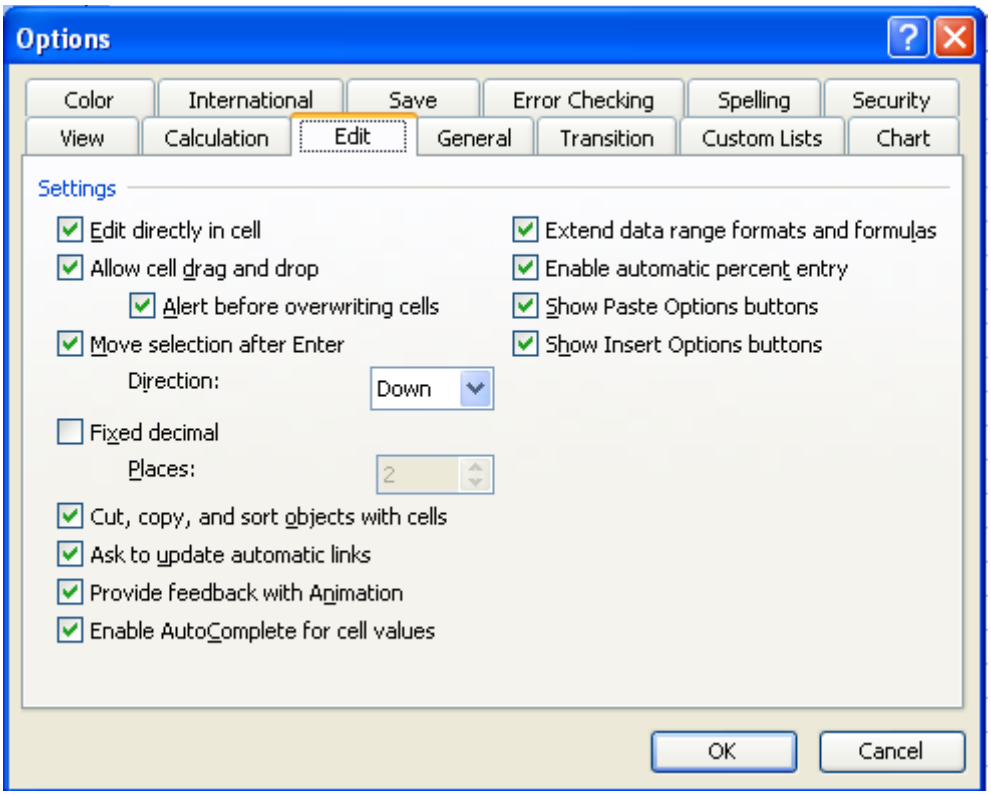

Figure 16 - *Options Dialog*

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- Click the **Edit** tab.
- Deselect the check box **Enable AutoComplete for cell values**
- Click OK to close the dialog and save the changes.

2.3 Editing

There are various ways in which you can change or remove data you have entered in cells on the worksheet.

Typing replaces selection

This option is a feature that is standard throughout the Microsoft Office suite. It ensures that if you type when an item is selected, your typing replaces the selected item. This is extremely useful in a number of instances. When you want to change a short cell entry, it might be quicker to make use of this option to overwrite the entry with the new one.

To overwrite a cell entry:
Keyboard

- Move to the cell you want to change.
- Type in the new entry (the former one will disappear as soon as you start typing).
- Press [ENTER] to confirm the changed entry.

Use the Mouse to edit

Perhaps one character has been omitted, or two characters have been transposed, and only a slight adjustment needs to be made. If this is the case, you can add or change characters using edit mode. You can edit directly in the cell or on the Formula bar.

To edit in cell:
Mouse

- Double-click the cell to change – this will access Edit mode (the prompt on the Status bar will say 'Edit').
- Use the arrow keys to move the cursor to the edit position within the entry and the [DELETE] and [BACKSPACE] keys to remove characters if necessary.
- Press [ENTER] to confirm the changes.

To edit on the Formula bar:
Mouse

- Move to the cell to change.
- Click in the Formula bar where the cell contents appear. This will drop you straight into Edit Mode (see Status bar) and a cursor appears in the Formula bar.
- Use the arrow keys to move the cursor to the edit position within the entry and the [DELETE] and [BACKSPACE] keys to remove characters if necessary.
- Press [ENTER] to confirm the changes.

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Using the Keyboard

You can access edit mode using a function key.

To edit a cell:

Keyboard

- Select the cell to be edited.
- Tap the [F2] function key. Excel will go into Edit mode. A cursor will appear at the end of the active cell.
- Use the arrow keys to move the cursor to the edit position within the entry and the [DELETE] and [BACKSPACE] keys to remove characters if necessary.
- Press [ENTER] to confirm the changes.

2.4 Select information

When you want to issue a command that will affect several cells, you should select those cells first.
When you select a block of cells, Excel shows you which cell is the active cell within that selection by leaving it white, while the rest of the cells are highlighted black. There are a variety of ways you can select different items on the worksheet and these are described below.

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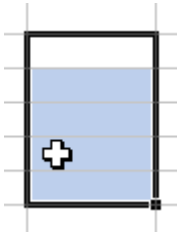
Select cells the mouse



When you select with the mouse, you need to make sure that the selection pointer is displayed. This is the white plus that appears when the mouse is positioned over the middle of a cell.

To select	Do this
A single cell	Click the cell, or press the arrow keys to move to the cell.
A range of cells	Click the first cell of the range, and then drag to the last cell.
All cells on a worksheet	Click the Select All button.
Nonadjacent cells or cell ranges	Select the first cell or range of cells, and then hold down [CTRL] and select the other cells or ranges.
A large range of cells	Click the first cell in the range, and then hold down [SHIFT] and click the last cell in the range. You can scroll to make the last cell visible.
An entire row	Click the row number.
An entire column	Click the column letter.
Adjacent rows or columns	Drag across the row or column headings. Or select the first row or column; then hold down SHIFT and select the last row or column.
Nonadjacent rows or columns	Select the first row or column, and then hold down [CTRL] and select the other rows or columns.
More or fewer cells than the active selection	Hold down SHIFT and click the last cell you want to include in the new selection

Figure 17 - *Mouse selection techniques*

Select cells with the keyboard

Sometimes, selecting with the keyboard gives you more control over the amount of data you select. The table below lists the more useful keys for selecting:

To select	Do this
The active cell plus one Cell up, down, left or right	[SHIFT][←],[SHIFT][→],[SHIFT][↑],[SHIFT][↓]
To Edge of Worksheet (or current block of data)	[SHIFT][CTRL][Relevant Arrow Key]
The current region	[CTRL][*] (use the asterisk from the number pad)
[Ctrl][SPACEBAR]	Whole Column
[Ctrl][A]	Whole Worksheet

Figure 18 - *Keyboard selection keys*

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Deselect a block

You can quickly cancel a selection by moving somewhere else.

To cancel a selection:

Mouse

- Click the white plus on any cell outside the selection.

Or

Keyboard

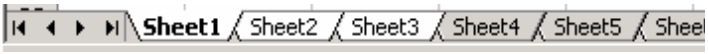
- Tap [←] or [→] or [↑] or [↓].

Select multiple sheets

There are some situations where you need to select more than one worksheet. The active sheet in a workbook can be determined by its white tab where its name appears in bold.

Select adjacent sheets

When the worksheets that you want to select are next to each other, you can use the [SHIFT] key to block select them.



To select adjacent worksheets:

Mouse

- Click the tab of the first worksheet that you want to include in your selection.
- Hold down the [SHIFT] key and click on the tab of the last worksheet that you want included in your selection. All the sheets between the first and the last will be selected. The selected sheet tabs will turn white and the word 'Group' will appear on the title bar.

Select non-adjacent sheets

When the sheets you want are not next to each other in the workbook, you can use the [CTRL] key to select them.

To select non-adjacent worksheets:

Mouse

- Click the on the first worksheet's tab that you want to include in your selection.

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- Hold down the [CTRL] key and click each other worksheet's tab that you want included in your selection. The selected sheet tabs will turn white and the word '[group]' will appear on the title bar.

You can cancel sheet selection by clicking on a sheet tab that is not included in the current selection. For more information on working with multiple worksheets, see the relevant section later in this manual.

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2.5 Clear cells

If you want to remove an entry completely from a cell, you need to clear the cell. There are a variety of ways you can do this and the method you choose depends on what you want to remove from the cell.

Clear contents

You can remove data from cells using shortcut menus or the keyboard. This command would only remove cell data (numbers, text, dates, formulae). If you have formatted the cells, clearing their contents would leave the formats intact so that new data you type in the cleared cells would keep the old data's formats.

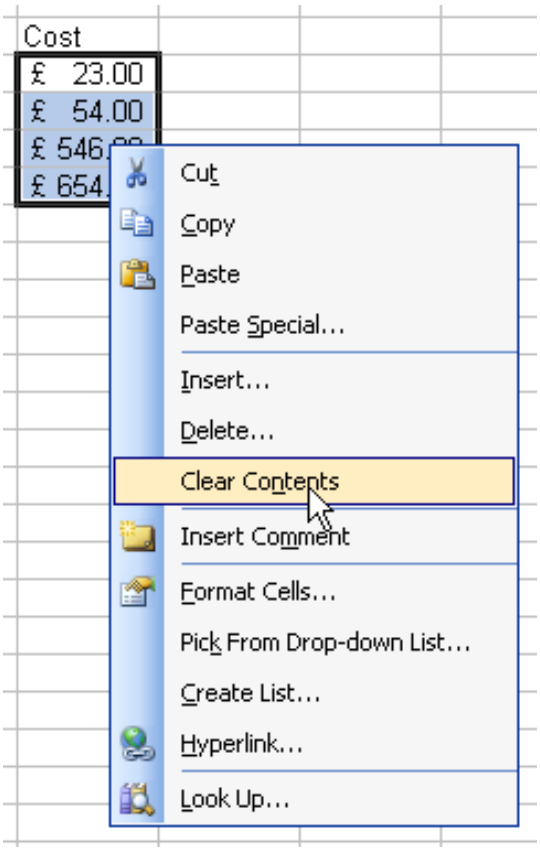

Figure 19 - *Clear Cell Contents*

To clear contents:

Mouse

- Select the cell or cells you want to clear.
- Right click on the cell/selection.
- Choose Clear contents from the shortcut menu.

Or

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Keyboard

- Move to the cell or select the cells whose contents you want to clear.
- Tap the [DELETE] key.

Clear contents, formats and comments

If you need to be able to choose what gets removed when you clear a cell, you should use the Clear command under the Edit menu.

To clear contents, formats or comments:

Mouse

- Move to the cell or select the cells whose entries are to be cleared.
- Click Edit from the menu bar and choose Clear.
- From the resulting sub-menu, select the item you want to clear from the selected cell.

Novice users occasionally imagine that they can clear a cell simply by replacing its contents with a space. This is a dangerous practice and is to be avoided. Although a cell containing nothing but a space may appear to be empty, in fact Excel remembers that a space has been entered there. Such renegade spaces will take up room both in memory and on disk, and can cause real problems with more advanced spreadsheet and database functions. Because it is difficult to tell if a cell contains a space, solving these problems is not always easy. Avoid them by clearing cells properly.

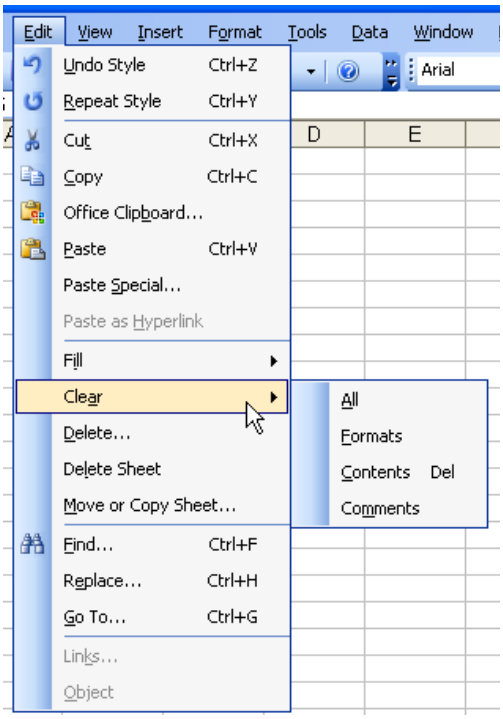

Figure 20 - *Clearing Formats, Contents or Comments*

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The fill handle

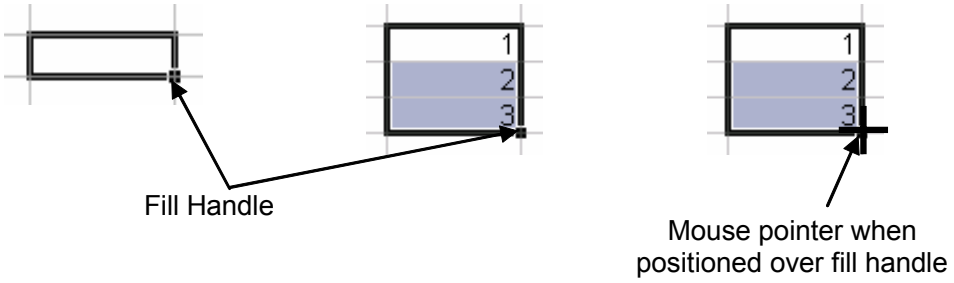

Figure 21 - *The fill handle*

The fill handle is a very useful tool in Excel. It allows you to copy and clear data but also to fill in series of data (dates, weekdays etc.). Those aspects of the fill handle are dealt with later in this manual. The fill handle appears in the bottom right hand corner of the active cell or selection. When your mouse is over the fill handle, the white plus pointer changes to a black plus.

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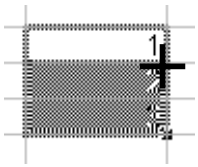
You can use the fill handle to clear the data from a cell.

To clear cell contents with the fill handle:

Mouse



- Select the cells whose contents you want to clear.
- Position your mouse over the fill handle to display the black plus.
- Drag the fill handle back over the selected cells. Release the mouse when all cells have been included.

You can use the fill handle to clear more than just contents. By holding down the [CTRL] key, the fill handle can be used to clear both contents and formats from cells.

Useful Information

Scrolling

To scroll long distances hold down the [SHIFT] key while dragging the scroll box

When you use the scrolling keys (such as [PAGE UP] and [PAGE DOWN]) with SCROLL LOCK turned off, your selection moves the distance you scroll. If you want to preserve your selection while you scroll through the worksheet, turn on SCROLL LOCK first.

Data entry

You can enter the current date into a cell by pressing [CTRL][;].

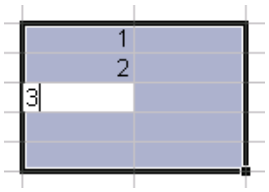
If you want to break a line within a cell, press [ALT][ENTER].

Select cells to limit data entry

When you want to limit the cells that data should be typed in, you can do this by selecting them. When you type in a selection, the entry appears in the active cell (the cell that remains white). You can then move the active cell down or right within the selection to continue. When Excel hits the edge of the selected block, pressing [ENTER] or [TAB] would move you to the next column or row within the selection.

To set limits for data entry:

Mouse



- Select the cells where the entries should be made.

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- Type the first entry. The entry will appear in the active cell.
- Press [ENTER] to move the active cell down.

Or

- Press [TAB] to move the active cell right.

You can continue using [ENTER] or [TAB] to move the active cell to the next cell within the selection where you want data. If you need to go back up or left, use [SHIFT][ENTER] or [SHIFT][TAB].

Do not use arrow keys to move within the selection as they will deselect the block.

Select cells for multiple entry

When the same data needs to be entered into lots of cells, you can do it by selecting them first, typing in the data and then confirming the entry with a special key combination.

To make multiple entries:

Mouse

- Select the cells where you want the entries to appear (use the [CTRL] key if there are several non-adjacent blocks to fill in).
- Type the entry – it will initially appear in the active cell.
- Press [CTRL][ENTER].

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•Notes

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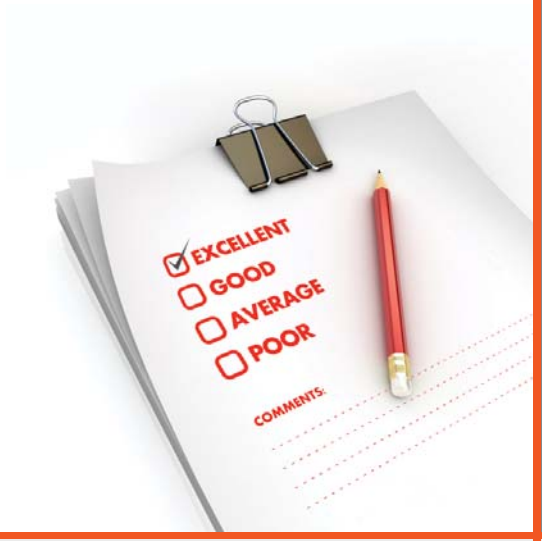

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3 Formulae and functions

By the end of this section you will be able to:

- **Construct custom formulae**
- **Enter cell references in formulae by typing or pointing**
- **Copy formulae**
- **Use functions**
- **Understand relative and absolute references**

3.1 Formulae

In a spreadsheet application, at a very basic level, values often need to be added, subtracted, multiplied and divided. To allow for the fact that individual values might change, spreadsheet formulae generally refer not to actual values, but to the cells where those values are being held. If values have been entered into A1 and A2, then A1+A2 will return an answer which will automatically recalculate if the value of A1 should change. It is this automatic recalculation which makes spreadsheets invaluable.

Excel recognises formulae because they are preceded by an equals sign (=).

When entering basic formulae, the mathematical operators defining the operation to be carried out are as follows:

Addition	+
Subtraction	-
Multiplication	*
Division	/
Exponentiation	^

You will find all of these mathematical operators ranged across the top and down the right hand side of the numeric keypad.

Typing Formulae

You enter formulae by typing them in the cell where you want the formula's result to appear. When you confirm entry of a formula, Excel will display the result on the worksheet, but the underlying calculation appears on the Formula bar.

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AVERAGE =D2*E2

	A	B	C	D	E	F
1	Order Date	Cusomer	Product	Quantity	Price	Total
2	01/01/2001	Viking Supplies	Widget	10	5	=D2*E2
3	02/01/2001	Bloggs & Co	Ratchet	23	7	
4	03/01/2001	Jones Brothers	Gimlet	200	3	
5	04/01/2001	Viking Supplies	Gimlet	201	3	

Figure 22 – *formula entry*

To enter a formula:

Keyboard

- Move to the cell where you want to enter the formula.
- Type an equals sign (=).
- Type the formula (e.g. d2*e2).
- Press [ENTER] to confirm the entry.

Excel automatically recalculates formulae. If you change one of the cells referenced in your formula, as soon as you press [ENTER] to confirm the changed value, your formula result will update.

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Entering Formulae by Pointing

It is possible to enter formulae without actually typing the equals sign (=) or the cell references. Instead, you can make use of a pointing technique to indicate which cells are to be included. As with typing formulae, it is important to start off in the cell where the answer is to be displayed.

Pointing can be quicker and more efficient than typing cell references as it reduces the chances of errors.

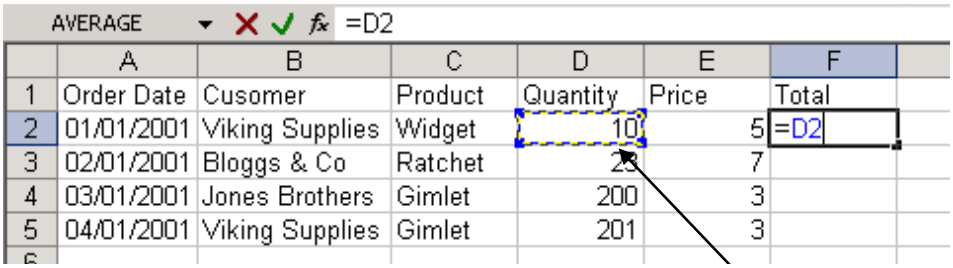
To enter a formula by pointing:

Mouse

- Position the cursor in the cell where you want the formula.
- Type an equals sign (=).
- Click the first cell whose reference should be included in your formula. A moving dotted line, known in Excel as a 'marquee', will appear around that cell and the cell reference will appear in the formula bar immediately after the equals sign.

Or

- Use an arrow key to move there. A moving dotted line, known in Excel as a 'marquee', will appear around that cell and the cell reference will appear in the formula bar immediately after the equals sign.
- Type in the mathematical symbol you want to use in your calculation, then click on (or move to) the next cell to be included in the formula.
- Continue building the formula in this way.
- Press [ENTER] to complete the formula.



Errors in formulae

Sometimes you may get surprising results from a formula. This is most often because you have referenced the wrong cell, but it could also be that you have multiplied where you should have added and so on. You can correct formulae using the editing techniques described earlier in this manual.

To edit a formula:

Mouse

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- Double-click on the cell containing the formula. The cell will switch from displaying the result of the formula to the formula itself.
- Click the mouse over the part of the formula to change to anchor the cursor there. Type any new characters or use the [BACKSPACE] and [DELETE] keys to remove characters.
- Press [ENTER] to confirm the changes.

Or

- Move to the cell containing the erroneous formula.
- Click on the Formula bar which will show you the formula where you want to make the change.
- Type any new characters or use the [BACKSPACE] and [DELETE] keys to remove characters.
- Press [ENTER] to confirm the changes.

Or

Keyboard

- Press [F2] to access edit mode.
- Use the arrow keys to move the cursor to the edit position. Type any new characters or use the [BACKSPACE] and [DELETE] keys to remove characters.
- Press [ENTER] to confirm the changes

Filling Formulae

Having entered an initial formula in the first cell of a column or row, you often find that you want to generate results for the other cells in that column or row. In the example below, you would probably want your formula to work out totals for all the orders.

F2 fx =D2*E2

	A	B	C	D	E	F
1	Order Date	Cusomer	Product	Quantity	Price	Total
2	01/01/2001	Viking Supplies	Widget	10	5	50
3	02/01/2001	Bloggs & Co	Ratchet	23	7	
4	03/01/2001	Jones Brothers	Gimlet	200	3	
5	04/01/2001	Viking Supplies	Gimlet	201	3	

There are a variety of ways that you can get Excel to copy a formula so that it generates results for other cells in a column or row.

The fill handle

The fill handle has already been described earlier in this manual. It can be used to clear cells but has other uses as well, one of which is filling formulae.

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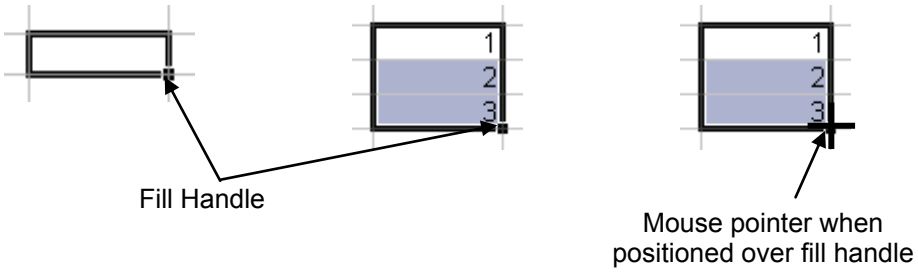
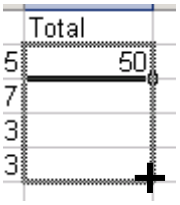


Figure 23 - *The fill handle*

To use the fill handle to copy formulae:

Mouse

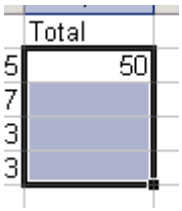


- Move to the cell that has the formula that you want to fill.
- Position your mouse pointer over the fill handle. It will change to a black plus.
- Drag the black plus down, up, left or right over the cells where you want your copied formula to generate results. You will see an outline around those cells.
- Release the mouse when the outline includes all the cells where you want results.
- A Smart Tag will be produced. The options it offers are not needed at the moment.

Fill formulae using keystrokes

You can fill a column or a row of formulae using the keyboard.

To fill using keystrokes:



Keyboard

- Select the cell containing the formula to fill *and* the cells where you want to copy it.
- Press [CTRL][D] to fill down.

Or

- Press [CTRL][R] to fill right.

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There are no keystrokes to fill up or left. Instead, repeat step1 above and then click Edit from the menu bar, choose Fill and select the direction for the fill from the resulting sub-menu.

3.2 Functions

Having mastered how to set up your own custom formulae, you will be able to carry out any calculations you wish. However, some calculations are complicated or involve referring to lots of cells making entry tedious and time consuming. For example, you could construct a formula to generate a total at the bottom of a column like this:

=D2+D3+D4+D5

The above formula would work, but if there were 400 cells to total and not just 4, you would get bored with entering the individual cell references.

When formulae become unwieldy or complex, Excel comes to the rescue with its own built-in formulae known as *functions*.

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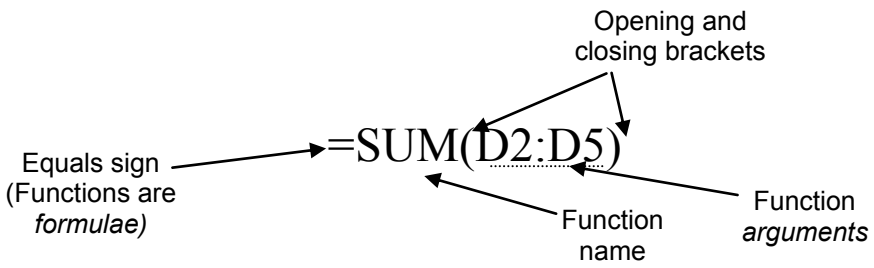
Functions always follow the same syntax:



The name of the selected function tells Excel what you want to do and the arguments generally tell Excel where the data is that you want to calculate.

Excel has a huge number of functions, not all of them are relevant to everyone. The functions are categorised according to what they do. In this manual, we outline some of the functions that can be usefully used at a general level.

AutoSum

One of the most useful functions is the SUM function. This function allows you to create totals for groups of cells. Because generating totals is done so frequently, Excel has included a button on the standard toolbar that will put the SUM function in the selected cell to obtain a total instantly.

To create totals with AutoSum:

Mouse Σ

- Select the cell immediately below a column of figures (or to the right of a row of figures) to be totalled.

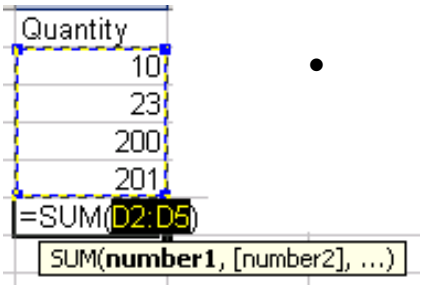


Figure 24 - *Autosum*

- Click the AutoSum button on the Standard toolbar. The Sum function will automatically appear in the Formula bar and Excel will make a guess at which cells you want to total (you'll see a marquee around the cells and their references will be the function arguments).
- Press [ENTER] to accept the cells that Excel proposes.

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Or

- Select the cells you want to total by dragging across them with the mouse or using [SHIFT] and the arrow keys.
- Press [ENTER] to confirm the entry.

Keyboard

- Select the cell immediately below a column of figures (or to the right of a row of figures) to be totalled.
- Press [ALT][=]. The Sum function will automatically appear in the Formula bar and Excel will make a guess at which cells you want to total (you will see a marquee around the cells and their references will be the function arguments).
- Press [ENTER] to accept the cells that Excel proposes.

Or

- Select the cells you want to total by dragging across them with the mouse or using [SHIFT] and the arrow keys.
- Press [ENTER] to confirm the entry.

Other Common Functions

The Sum function is very useful, but the AutoSum icon can also be used to for some other common functions: Average (of the selected figures), Count (the number of selected figures), Max (the largest selected figure) and Min (the smallest selected figure).

To use other common functions:

Mouse

- Select the cell immediately below a column of figures (or to the right of a row of figures) to be totalled.
- Click on the drop-down arrow next to the AutoSum icon and select the function that you want to use from the list.

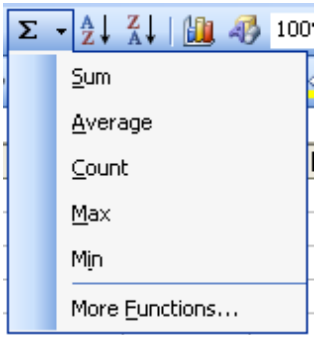

Figure 25 - *The Autosum menu*

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- The selected function will automatically appear in the Formula bar and Excel will make a guess at which cells you want to use (you will see a marquee around the cells and their references will be the function arguments).
- Press [ENTER] to accept the cells that Excel proposes.

Paste Function

To gain access to the other functions Excel contains, use Paste Function.

Enter a function with Paste Function:

Mouse

- Click in the cell where you want the result.
- Click the Paste function button from the Formula Bar. The following dialog box will appear:

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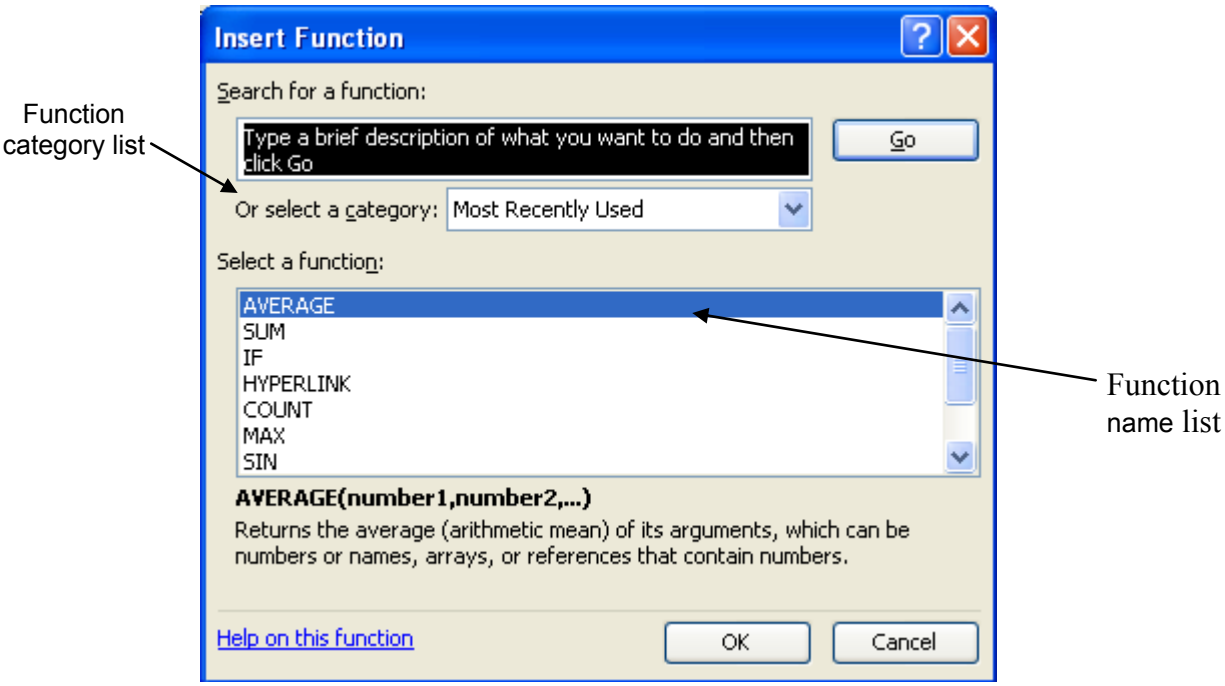
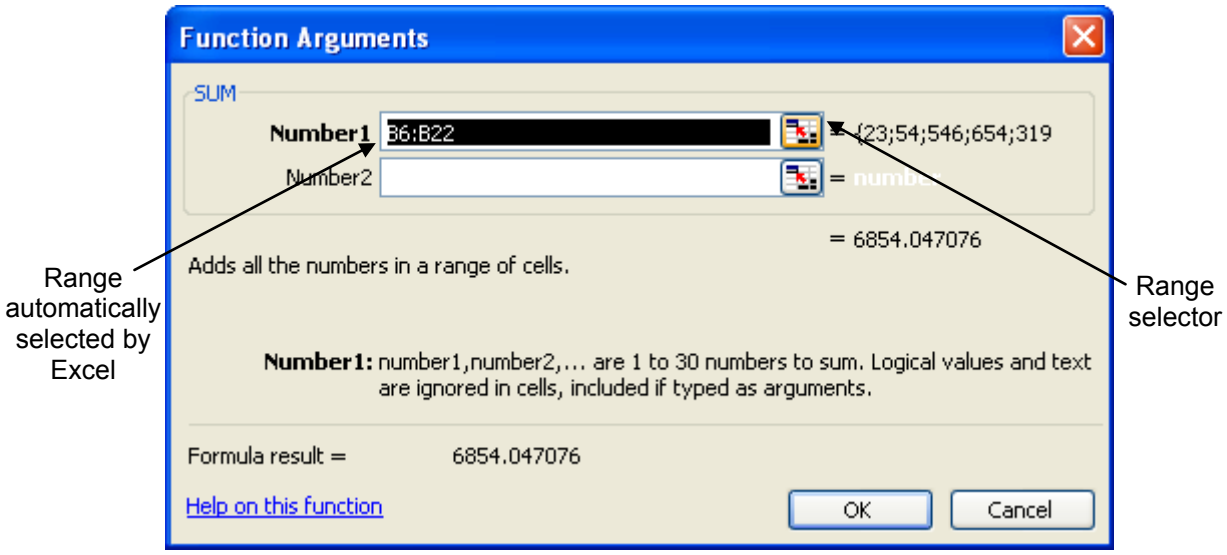


Figure 26 – *Paste Function dialog*

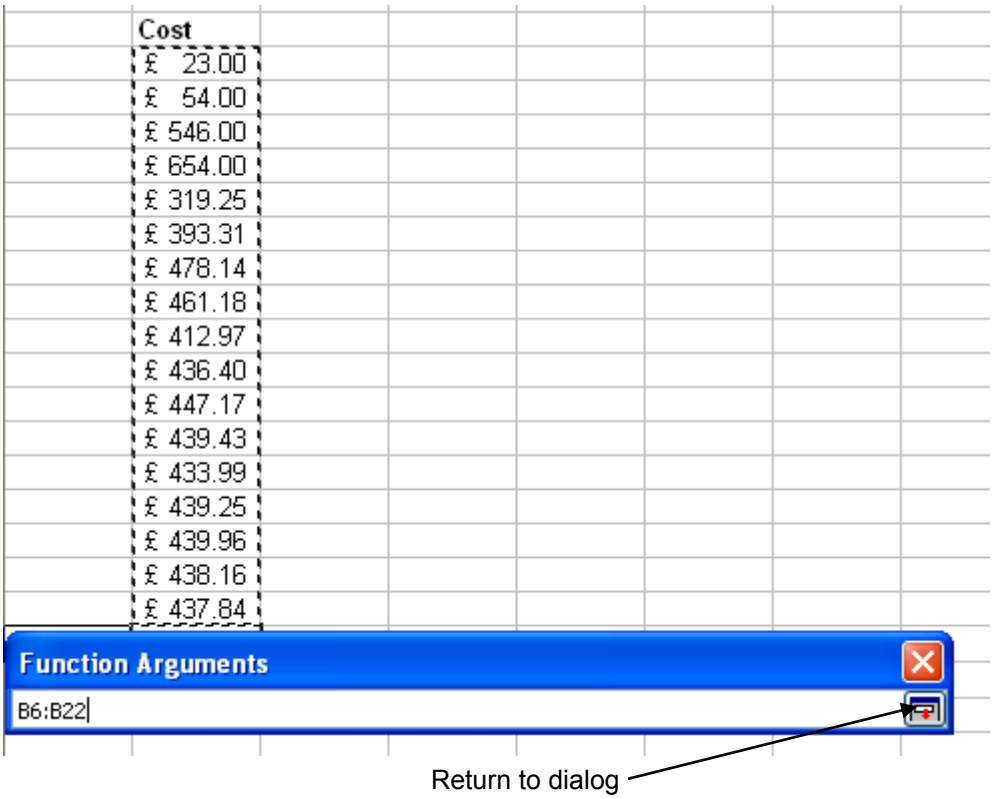
- Select the category the function you require falls into from the **Function category** list or click the All category if you do not know the category for your function. The **Function name** list will change to display functions for the selected category.
- Scroll down the list of function names to find the function you require and click to select it.



- Click OK. The Paste function dialog will disappear, Excel displays your worksheet with a dialog as shown above:
- Excel will place the function on the worksheet in the selected cell. You can see the selected function being built on the formula bar.
- With some functions, Excel tries to guess which cells you want included as the function arguments. Click OK to accept Excel's guess and confirm the function.

Or

- Click the Range selector button. This will collapse the dialog box shown above.
- Drag across the cells to replace Excel's pre selected guess with your own cell references. Click the button marked on the picture below to return to the dialog.



- Click OK to confirm the entry.

Function box

There are some functions that are accessed more than others and for that reason Excel gives you a slightly quicker method for entering them than the Paste function dialog. The Function box, groups the most commonly used functions for quick and easy access.

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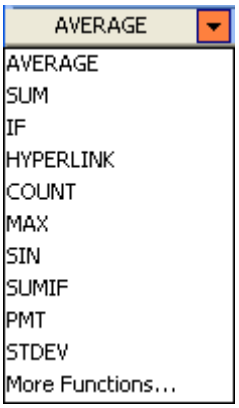
To enter a function using the Function box:



Mouse

- Type the equals sign (=) on the formula bar (or directly into your cell). Excel displays the function box to the left of the Formula bar.
- Click the drop-down list arrow to the right of the function box to display a list of function names.
- Select the function you require by clicking its name from the list.

Or

- If your function is not listed, click the More Functions... option to access the Paste function dialog (*see above for instructions).*

Type functions

When you get more familiar with functions and start to remember how they are constructed, you can type them rather than selecting them using the previously described methods.

To type a function:
Keyboard

- Move to the cell where you want the function.
- Type an equals sign (=) followed immediately by the function name and an open bracket.
- A tool tip appears to indicate the arguments the function needs.
- Select (or type) the cells you want the function to act upon using the mouse or arrow keys.
- Press [ENTER] to confirm the entry.

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As long as your formula only contains one function, you do not need to type the closing bracket. Pressing [ENTER] makes Excel close the bracket automatically.

Function Argument Tool tips

Excel 2003 displays information about function arguments as you build a new formula. The tool tips also provide a quick path to Help. You click any function or argument name within the tool tip.

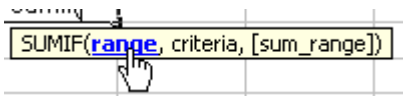

Figure 27 - *link for help on a function*

Cell references

In functions, you often need to refer to a range of cells. The way Excel displays cell references in functions depends on whether the cells you want the function to act upon are together in a block or in several non-adjacent cells or blocks.

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The table below explains how you can use different operators to reference cells:

Operator	Description	Example
Reference operator: (colon)	Range operator, which produces one reference to all the cells between two references, including the two references	B5:B15
, (comma)	Union operator, which combines multiple references into one reference	SUM(B5:B15,D5:D15)
(single space)	Intersection operator, which produces one reference to cells common to two references - In this example, cell B7 is common to both ranges	SUM(B5:B15 A7:D7)

Counting and totalling cells conditionally

Occasionally you may need to create a total that only includes certain cells, or count only certain cells in a column or row.

	A	B	C	D	E	F
1	Order date	Customer	Product	Quantity	Price	Total
2	01/01/97	Viking Supplies	Widget	10	5	50
3	02/01/97	Bloggs & Co	Ratchet	23	7	161
4	02/01/97	Jones Brothers	Gimlet	200	3	600
5	03/01/97	Viking Supplies	Gimlet	201	3	603
6	01/01/97	Viking Supplies	Widget	296	5	1480
7	02/01/97	Bloggs & Co	Ratchet	371	7	2597
8	02/01/97	Jones Brothers	Gimlet	446	3	1338
9	03/01/97	Viking Supplies	Gimlet	521	3	1563
10	01/01/97	Viking Supplies	Widget	596	5	2980
11	02/01/97	Bloggs & Co	Ratchet	671	7	4697
12						
13	**Viking Supplies Total**					
14	**Bloggs & Co No. of orders**					

The example above shows a list of orders. There are two headings in bold at the bottom where you need to generate a) the total amount of money spent by Viking Supplies and b) the total number of orders placed by Bloggs & Co.

The only way you could do this is by using functions that have conditions built into them. A condition is simply a test that you can ask Excel to carry out the result of which will determine the result of the function.

Use SUMIF()

You can use this function to say to Excel, "only total the numbers in the **Total** column where the entry in the **Customer** column is Viking Supplies". The syntax of the SUMIF() function is detailed below:

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=SUMIF(range,criteria,sum_range)

Range is the range of cells you want to test.

Criteria is the criteria in the form of a number, expression, or text that defines which cells will be added. For example, criteria can be expressed as 32, “32”, “>32”, “apples”.

Sum range are the actual cells to sum. The cells in sum range are summed only if their corresponding cells in range match the criteria. If sum range is omitted, the cells in range are summed.

	A	B	C	D	E	F
1	Order date	Customer	Product	Quantity	Price	Total
2	01/01/97	Viking Supplies	Widget	10	5	50
3	02/01/97	Bloggs & Co	Ratchet	23	7	161
4	02/01/97	Jones Brothers	Gimlet	200	3	600
5	03/01/97	Viking Supplies	Gimlet	201	3	603
6	01/01/97	Viking Supplies	Widget	296	5	1480
7	02/01/97	Bloggs & Co	Ratchet	371	7	2597
8	02/01/97	Jones Brothers	Gimlet	446	3	1338
9	03/01/97	Viking Supplies	Gimlet	521	3	1563
10	01/01/97	Viking Supplies	Widget	596	5	2980
11	02/01/97	Bloggs & Co	Ratchet	671	7	4697
12						
13	**Viking Supplies Total**					
14	**Bloggs & Co No. of orders**					

=SUMIF(B2:B11, “Viking Supplies”, F2:F11)

With the example above, the SUMIF function that you would use to generate the **Viking Supplies Total** would look as above.

Use COUNTIF

The COUNTIF function allows you to count those cells that meet a certain condition.

The function syntax is as follows:

=COUNTIF(range,criteria)

Range is the range of cells from which you want to count cells.

Criteria is the criteria in the form of a number, expression, or text that defines which cells will be counted. For example, criteria can be expressed as 32, “32”, “>32”, “apples”.

With our example (shown above), the COUNTIF function that you could use to determine the number of orders placed by Bloggs & Co. would look like this:

=COUNTIF(B2:B11, “Bloggs & Co.”)

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3.3 Absolute and relative references

Relative References

When you fill formulae, you tell Excel to base the formulae it creates on the one you have entered by starting from the cell that contains it.

fx =D2*E2

D	E	F
antity	Price	Total
10	5	50
23	7	
200	3	
201	3	
296	5	
371	7	
446	3	
521	3	
596	5	
671	7	

In the example shown left, the formula being copied says =D2*E2. However, once copied, if you click on any of the copies, Excel will have updated the references to keep the row numbers current (D3*E3, D4*E4 and so on).

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This is because Excel, by default, uses *relative referencing*. When you enter a formula, you enter specific cell references. Behind the scenes, Excel 'translates' those references into positions relative to the result cell. So, in our example shown left, Excel would take the formula:

=D2*E2 and translate it as follows:

=[two cells to the left]*[one cell to the left].

It therefore does not matter which row you copy the formula into, Excel will always use "[two cells to the left] multiplied by [one cell to the left]" to generate the result.

Most of the time, this is what you would want, but there are occasions where you need to stop Excel updating cell references when you copy formulae.

Absolute References

The example below shows a formula being created to work out the amount of discount each order would receive. The order totals are in column F and the discount rate is in B13. The initial formula has therefore been set up as:

=F2*B13

SUM =F2*B13

	A	B	C	D	E	F	G	H
1	Order Date	Cusomer	Product	Quantity	Price	Total	Discount Amount	
2	01/01/2001	Viking Supplies	Widget	10	5	50	=F2*B13	
3	02/01/2001	Bloggs & Co	Ratchet	23	7	161		
4	03/01/2001	Jones Brothers	Gimlet	200	3	600		
5	04/01/2001	Viking Supplies	Gimlet	201	3	603		
6	05/01/2001	Viking Supplies	Widget	296	5	1480		
7	06/01/2001	Bloggs & Co	Ratchet	371	7	2597		
8	07/01/2001	Jones Brothers	Gimlet	446	3	1338		
9	08/01/2001	Viking Supplies	Gimlet	521	3	1563		
10	09/01/2001	Viking Supplies	Widget	596	5	2980		
11	10/01/2001	Bloggs & Co	Ratchet	671	7	4697		
12								
13	Discount Rate	25%						

Figure 28 – *Relative Referencing*

The formula will generate a result for the first order. However, when copied, you will get zeros against the discount amounts for the other orders. This is due to the relative referencing that Excel applies to all formulae by default.

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Having copied the above formula, if you clicked on any formula in the Discount amount column below the first one, you would see that Excel has updated the references (=F3*B14, F4*B15). This is where the problem lies – you want Excel to change the first reference as your formula needs to refer to the different order totals, but the discount rate should remain constant. You need to make that reference *absolute.*

To make a reference absolute:

Keyboard

- Move to the cell where you have typed the formula and press [F2] to access Edit mode.
- Move the cursor with the arrow keys so that it is next to the reference we want to fix.
- Press [F4]. Dollar signs will appear against the column letter and the row number.
- Press [ENTER] to confirm the change.

In our example, amending the formula to read:

=F2*B13

would prevent Excel from changing the B13 reference when the formula is copied.

SUM =F2*B13

	A	B	C	D	E	F	G	H
1	Order Date	Cusomer	Product	Quantity	Price	Total	Discount Amount	
2	01/01/2001	Viking Supplies	Widget	10	5	50	=F2*B13	
3	02/01/2001	Bloggs & Co	Ratchet	23	7	161		
4	03/01/2001	Jones Brothers	Gimlet	200	3	600		
5	04/01/2001	Viking Supplies	Gimlet	201	3	603		
6	05/01/2001	Viking Supplies	Widget	296	5	1480		
7	06/01/2001	Bloggs & Co	Ratchet	371	7	2597		
8	07/01/2001	Jones Brothers	Gimlet	446	3	1338		
9	08/01/2001	Viking Supplies	Gimlet	521	3	1563		
10	09/01/2001	Viking Supplies	Widget	596	5	2980		
11	10/01/2001	Bloggs & Co	Ratchet	671	7	4697		
12								
13	Discount Rate	25%						

Figure 29 - *Absolute Referencing*

Useful Information

Fill handle

You can get the fill handle to fill formulas down to the same level as the entries in the previous column by double-clicking on it.

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Absolute references

Pressing [F4] repeatedly over a reference allows you to toggle between making both the row and column absolute (A1), just the column absolute ($A1), just the row (A$1), or nothing absolute (A1).

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•Notes

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4 File Operations

Objectives

By the end of this session you will be able to:

- **Save and name a new file**
- **Save changes to an existing file**
- **Close a file**
- **Open a file**
- **Create new files**

4.1 File Operations

You can save any information entered in Excel so that you may call it back at a later stage either to add, edit or print the contents. It's a good idea to save work frequently as this will minimise the risk of work being lost in the event of a power cut or system fault.

The first three buttons on the standard toolbar carry out the most common file operations which are described in detail below.

Save files

Excel gives any new document you create a temporary name – the word 'Book' followed by a number. The number increases by one for each new workbook you create in any one work session.

To save a file:
Mouse

- Click the Save button . If you have not saved the workbook previously, the Save As dialog box will appear asking you for a document name and location.

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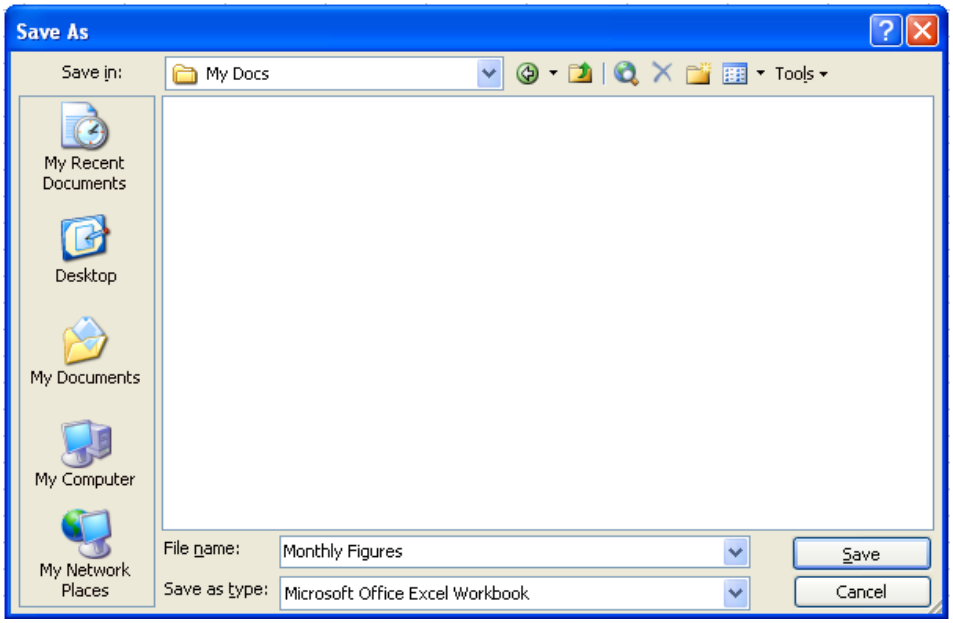

Figure 30 - *Save As dialog*

The first list box marked **Save in** allows you to determine the drive and folder that you want to save the document in. The area below the **Save in** list allows you to see which files are stored in the area currently displayed.

To change the location:

Mouse

- Click the drop-down list arrow to the right of the **Save in** list box and choose the desired drive or folder.

> *If you choose a drive, you will see a list of folders within that drive inside the dialog box. If the list is very long, Excel provides you with a horizontal scroll bar to access folders that are not currently visible. Once you can see your folder, you can double-click to open it.*

At the bottom of the dialog box are two list boxes, one for the file name and one for the document type. Excel automatically assigns the first few words you typed as the workbook name.

Naming a file:

Mouse

- Click in the **File name** box and drag your mouse over the current file name – this will highlight it.
- Type the new name.

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Workbook names can be up to 255 characters. File names cannot include any of the following characters: forward slash (/), backslash (\), greater than sign (>), less than sign (<), asterisk (*), period (.), question mark (?), quotation mark ("), pipe symbol (|), colon (:), or semicolon (;). You do not need to type the document extension (".xls") as Excel automatically adds this to all files you save.

- Finally, when the location and name have been entered, save the workbook by clicking the button marked Save. This closes the dialog box. Back in the Excel screen you will notice that the name you allocated to your workbook appears on the title bar.

Saving changes to files

Once you have allocated a name to a file using the Save As dialog, clicking the Save button simply saves any new changes to the name you originally gave. It is worth saving files that you are working on every ten minutes or so. When you click the Save button, the status bar displays a message to say that it is saving and a blue meter which counts up to show how long the save will take.

Keyboard

- You can save the current workbook by using the keystroke [CTRL][S]. If the workbook has never been saved before, the "Save As" dialog will appear, otherwise, [CTRL][S] saves any new changes to the file name that you have already allocated.

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Close Files

When you finish working on a file, you can close it down using the following methods:

To close the current file:

Mouse

- Double-click this icon (situated to the left of the File menu).

Or

- Click once on this icon (situated on the right-hand side of the screen)

You will see two of the above buttons on-screen – one will close the current file and the other will close the Excel application. To close the current file, use the innermost close button.

If you have changed a file since the last time you saved it, Excel will not let you close that file without prompting you first to save the changes.

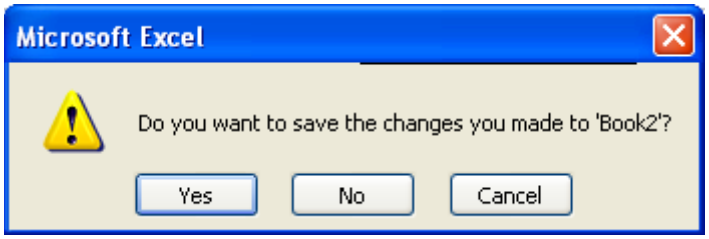

Figure 31 - *Save Prompt*

Open Files

To open a file:

Mouse

- Click the open button. The following dialog box will appear:

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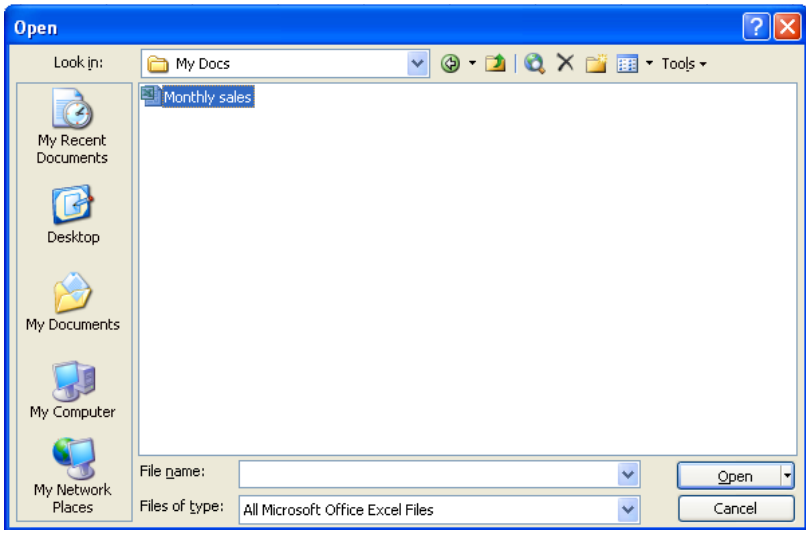

Figure 32 - *Open Dialog*

- If the file you want is not listed in the window, click the **Look in** drop-down list box to change to the location of the desired workbook.
- To open the file either:
- Click once on the file name to select it and click the Open button.

Or

- Double-click the file name.

Keyboard

- You can also open workbooks using the key combination [CTRL][O]. This will invoke the File Open dialog – follow the steps outlined above to select and open the file that you want.

New Files

To create a new file:

Mouse

- Click the new file button from the standard toolbar. A blank workbook will appear on-screen ready for you to start entering information.

Or

Keyboard

- [CTRL][N] will create a new file.

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Useful Information

Close all files

When you have several files open, you can close them all by holding down the [SHIFT] key as you click File from the menu bar. Choose the Close All option to close all currently open files.

Create Workspace files

You can open a group of workbooks in one step by creating a workspace file. A workspace file saves information about all open workbooks, such as their locations, window sizes, and screen positions. When you open a workspace file by using the Open command (File menu), Microsoft Excel opens each workbook saved in the workspace. The workspace file does not contain the workbooks themselves, and you must continue to save changes you make to the individual workbooks.

To create a workspace file:

Mouse

- Open the workbooks you want to open as a group.
- Size and position the workbook windows as you want them to appear the next time you use the workbooks.
- On the File menu, click Save Workspace.
- In the File name box, enter a name for the workspace file.

To open the workbooks each time you start Microsoft Excel, save the workspace file in the XLStart folder in your Microsoft Excel folder. Save only the workspace file, not the workbook files, in the XLStart folder.

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5 Moving and copying data

By the end of this section you will be able to:

- **Use Cut, copy and paste buttons to move and copy data**
- **Use keystrokes and shortcut menus to move and copy data**
- **Use "drag and drop" to move and copy data**
- **Choose what you paste with Paste special**
- **Move and copy data between files**

5.1 Move & Copy

Having entered information in a worksheet, you may decide that you need to reposition it or use cell entries in another worksheet or file that you have created. The good thing about Excel is that once you have entered something once, you can move or copy it anywhere – to other Excel files and even to files that belong to other applications.

All Microsoft products use the same terminology when describing moving and copying items – cut, copy and paste. These terms stem from the times when typesetters would lay out templates by physically cutting an item from its current location, and gluing or pasting it in to the new location.

Moving items

To move items:

Mouse

- Select the cells that you want to move.
- Click the Cut button on the Standard toolbar. The selected cells will display a marquee around them and Excel will show a prompt on the Status bar to tell you what to do next.

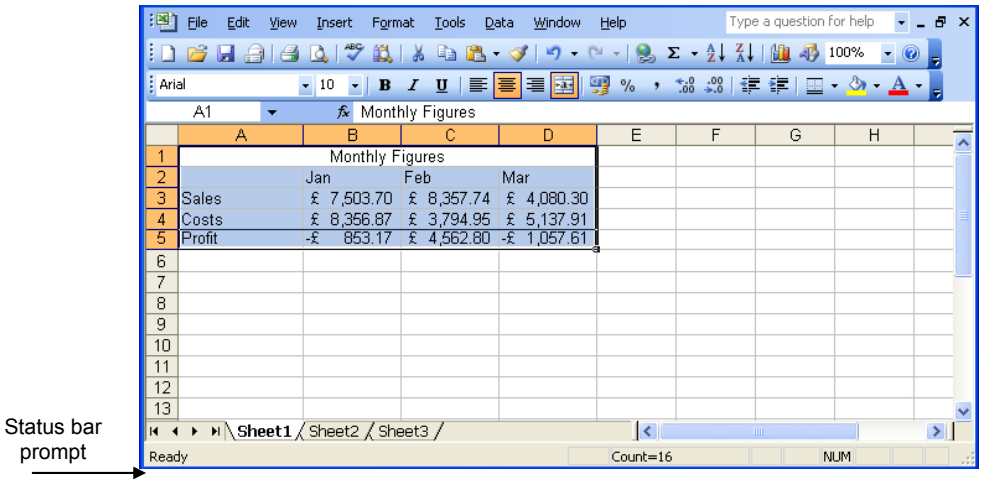

Figure 33 - *Cuts cells in a worksheet*

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- Move to the cell where you want to place the cells you cut. If you have cut a block of cells, the cell you select before you paste is where you want the top left cell in the cut block to move to.
- Click the Paste button from the Standard toolbar.

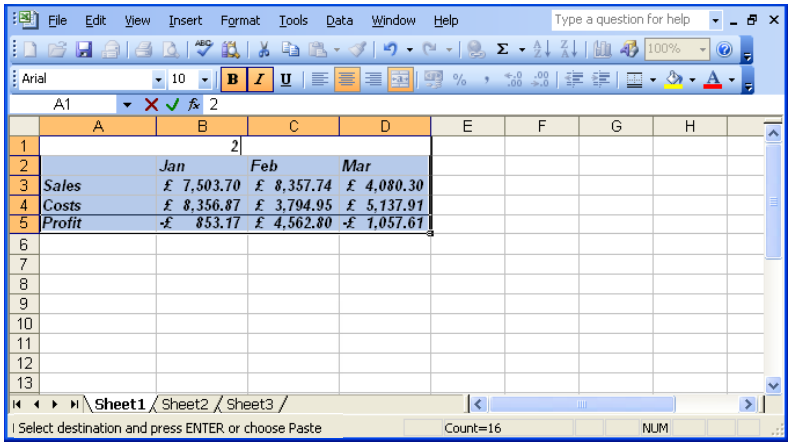
Or

- Press [ENTER].

Or

Keyboard

- Select the cells you want to move.
- Press [CTRL][X] to cut the cells out a marquee will appear around the cells, and you will see a prompt on the status bar.
- Move to the cell where you want the cut cells to jump to. If you have cut a block of cells, the cell you select before you paste is where you want the top left cell in the cut block to move to.
- Press [CTRL][V] to paste the cells into their new location.



Status bar prompt

Copying items

To copy items:

Mouse

- Select the cells that you want to copy.
- Click the Copy button from the Standard toolbar. Excel will display a marquee around the selected cells and give you a prompt on the Status bar.

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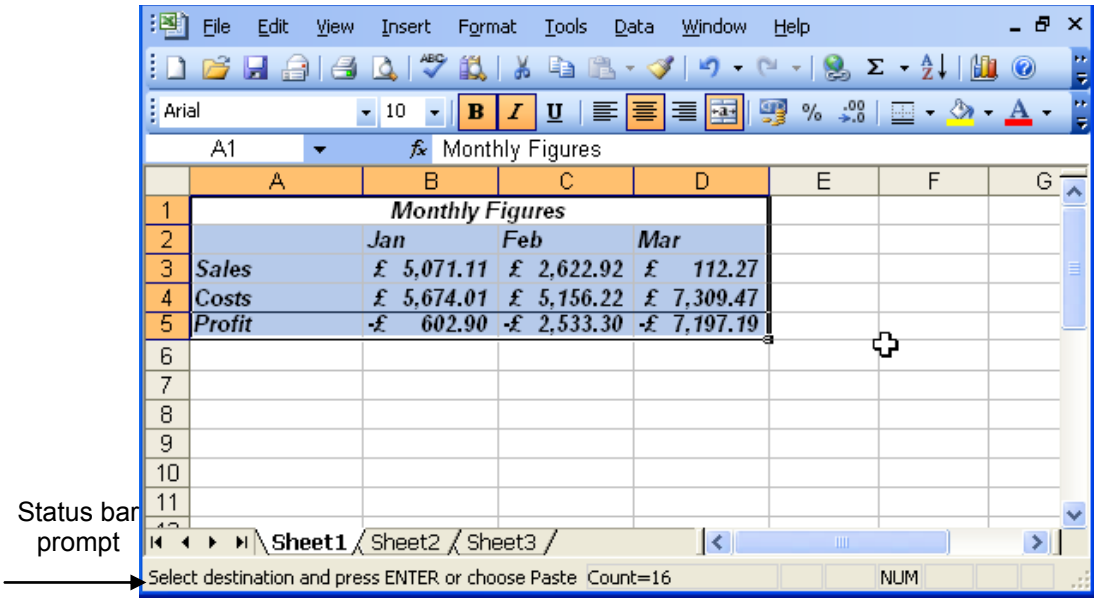

- Move to the cell where you want the copy to go. If you have copied a block of cells, the cell you select before you paste is where you want the top left cell in the copied block to be positioned.
- Click the Paste button from the Standard toolbar. The copied cells will appear.

Or

- Press [ENTER]. The copied cells will appear.

Or

Keyboard

- Select the cells you want to copy.
- Press [CTRL][C] to make a copy. Excel displays a marquee around the copied cells and a prompt on the Status bar.
- Move to the cell where you want the copy to go. If you have copied a block of cells, the cell you select before you paste is where you want the top left cell in the copied block to be positioned.
- Press [CTRL][V] to paste the copy back in.

Or

- Press [ENTER].

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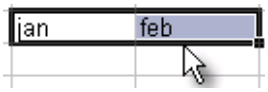
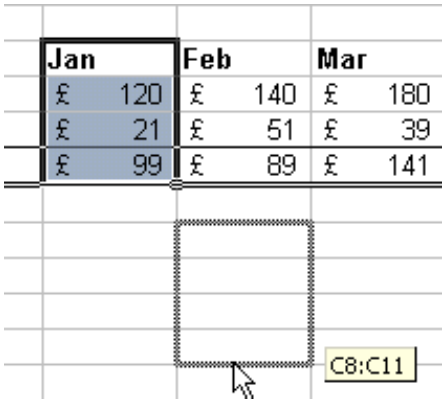
Drag and Drop

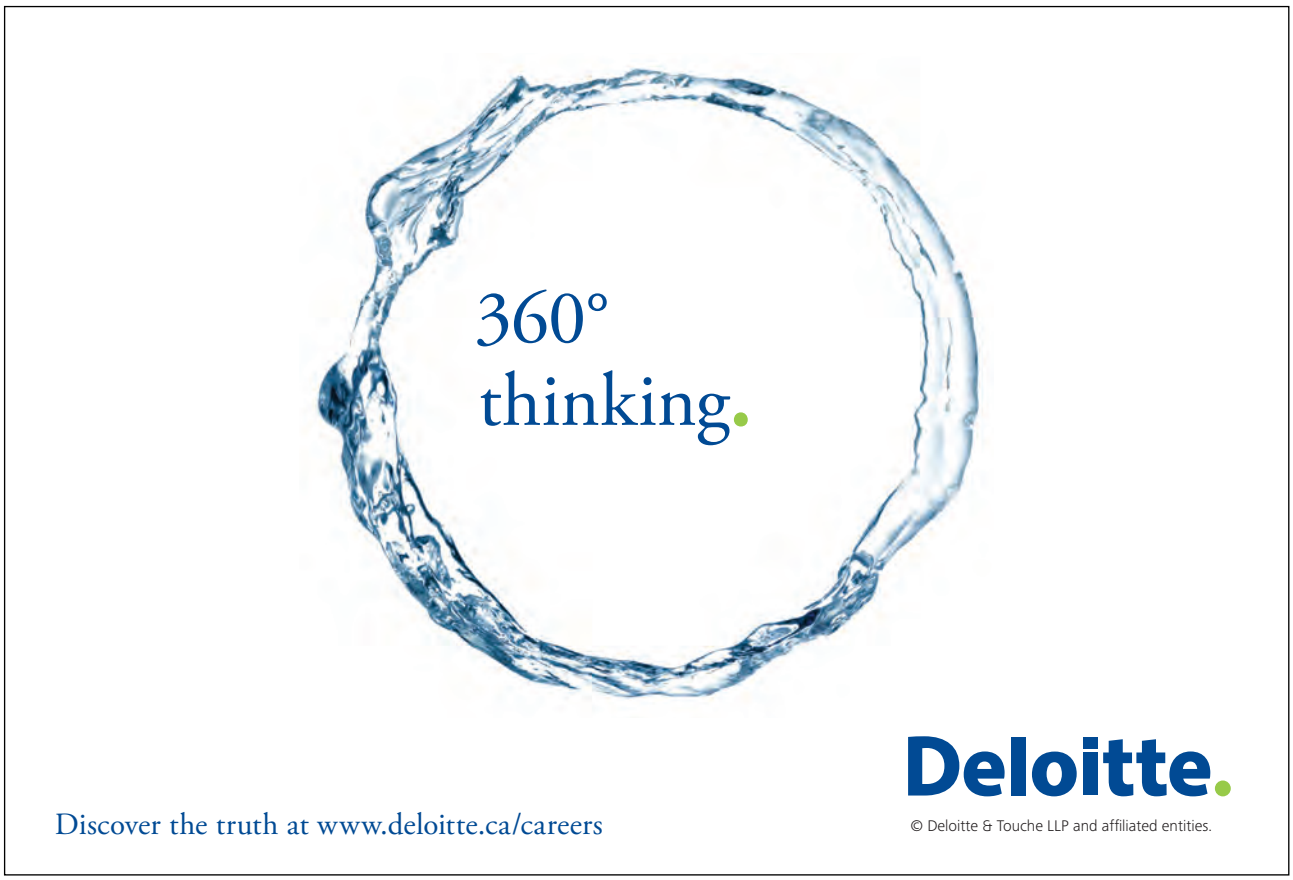


You can move and copy cells by selecting and dragging them with the mouse. When you do this, you must ensure that you have the correct mouse pointer shape displaying before dragging and dropping.

When you select a cell or a group of cells, Excel outlines them with a heavy border. When the mouse is moved slowly over this border, it will display a white arrow which points up and to the left – this is your drag and drop pointer and allows you to move and copy cells with the mouse.

To Move:





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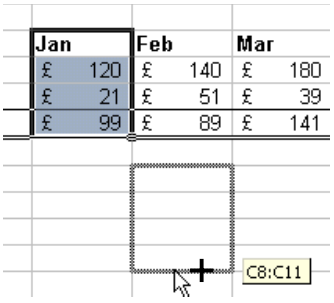
Mouse

- Select the cells you want to move or copy.
- Point to the border of the selection.
- With the drag and drop pointer displaying, drag the selection to the upper-left cell of the paste area. You'll see a fuzzy box, the same size as the selected block that will follow your mouse – when you release the mouse the selected cells will jump to their new location.

When you move cells to an area that already has data, Microsoft Excelwill ask you to confirm that you wish to replace the existing cell contents with the data you are moving.

To Copy:



Mouse

- If you want to copy the selection, repeat steps one and two above but before clicking on to it hold down the [CTRL] key on the keyboard, then begin clicking and dragging. You will see a plus sign appear next to the mouse pointer to signal the fact that you are copying rather than moving.
- With the fuzzy box positioned where you want the copy, let go of the mouse first and then release the [CTRL] key.

Shortcut menus

You can use commands from Excel's shortcut menus to move and copy items. The shortcut menus appear when you click the right mouse button over a cell or selection.

To move cells:

Mouse

- Select the cells you want to move.
- With the mouse positioned anywhere within the highlighted area, click the right mouse button.

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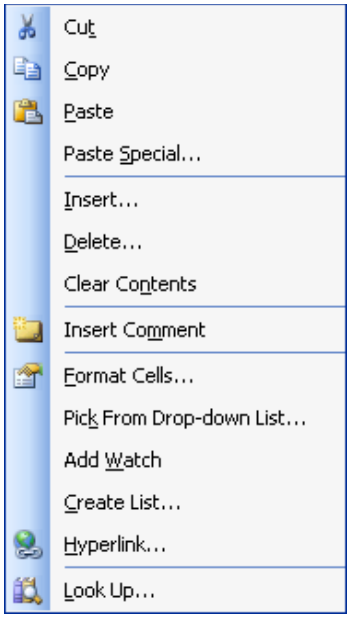

- From the resulting shortcut menu, choose Cut. A marquee will appear around the selected cells and the Status bar will display a prompt.
- Click the right mouse button over the cell where you want the cut cells to jump to. If you have cut a block of cells, the cell you click before you paste is where you want the top left cell in the cut block to move to.
- Choose Paste from the shortcut menu. The cut cells will jump to their new location.

Or

- Press [ENTER]. The cut cells will jump to their new location.

To copy cells:

Mouse

- Select the cells you want to copy.
- With the mouse positioned anywhere within the highlighted area, click the right mouse button.

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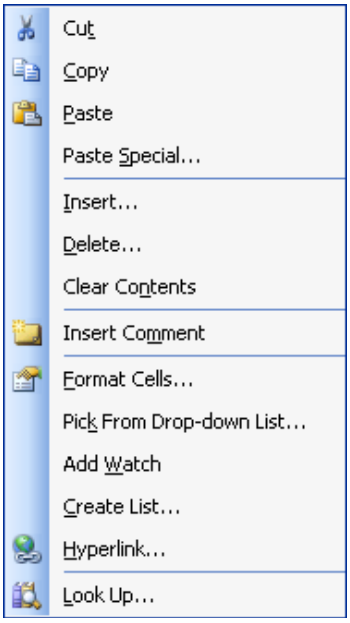

- From the resulting shortcut menu, choose Copy. A marquee will appear around the selected cells and the Status bar will display a prompt.
- Click the right mouse button over the cell where you want the cut cells to jump to. If you have cut a block of cells, the cell you click before you paste is where you want the top left cell in the cut block to move to.
- Choose Paste from the shortcut menu. The cut cells will jump to their new location.

Or

- Press [ENTER]. The cut cells will jump to their new location.

If you want to insert the cut or copied cells between two rows or columns of existing data, you can use the Insert cut/copied cells option that also appears on the shortcut menu.

Moving and Copying between files

You can use any of the methods described above (even drag and drop) to move and copy items from one workbook to another. When doing this, it is useful to be able to arrange the screen so that you can see the source file (the file containing the items that you want to move or copy) and the destination file (the document where you want to put them) at the same time.

To view open files:

Mouse

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- Open both workbooks using the techniques described in Section 4, File Operations.
- Click Window, from the menu bar (you will see that the bottom section of this menu lists the files that are currently open) and choose Arrange All. The two workbooks will be tiled on screen one above the other, each in its own window.

Use your preferred technique (as described above) to move or copy items from one file to the other.

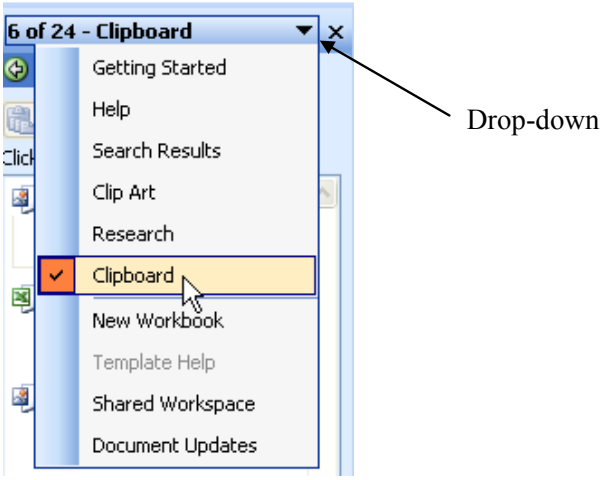
Using the Clipboard

The Clipboard will enable you to copy or cut several items at once. This feature can store up to 24 items at one time. This allows you to hover over the items and paste them into your workbook at any time and in any order. The Clipboard is one of the Task Panes available in Excel.

To switch on the Clipboard

Mouse

- Choose Task Pane in the View menu.



- If the Clipboard Task Pane is not automatically shown, click on the drop-down (shown in diagram) to select it.

Or

Keyboard

- Use the [CTRL][C] as if you were making a copy.
- Use [CTRL][C] a second time to open the Task Pane.

Pasting items using the Clipboard

- Use the copy and cut features as normal

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- From the Clipboard select the item you would like to paste (the Clipboard will list all the items that have been copied or cut recently)

Useful Information

Insert Paste

As already mentioned, Excel will overwrite existing data with cells that you are moving or copying. There are occasions where you want to swap the positions of cells without overwriting what you already have.

	A	B	C	D	E	F
1	Order Date	Cusomer	Product	Quantity	Price	Total
2	01/01/2001	Viking Supplies	Widget	10	5	50
3	02/01/2001	Bloggs & Co	Ratchet	23	7	161
4	03/01/2001	Jones Brothers	Gimlet	200	3	600
5	04/01/2001	Viking Supplies	Gimlet	201	3	603
6						

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In the example above, if you wanted to move the selected cells up two rows so that both "Viking Supplies" orders were next to each other, you would have to use Insert paste to do it, otherwise the existing data (the "Bloggs & Co. order) would be overwritten.

To insert the cells between existing cells:
Mouse

- Select the cells you want to move or copy.
- Point to the border of the selection.
- Hold down [SHIFT] (if moving) or [SHIFT][CTRL] (if copying) as you drag. You'll see a fuzzy line that you can position horizontally (between rows) or vertically (between columns). Release the mouse, then the keyboard. Your cells will jump to their new location.

Moving and copying between worksheets

When you drag cells to areas not currently visibly, Excel will scroll the display down or across allowing you to move or copy the cells to those areas. Sometimes, you may want to drag an item to a different worksheet within the workbook.

To move and copy to another worksheet:
Mouse

- Select the cells to move or copy.
- Position the mouse over the selection border.
- Hold down the [ALT] key as you drag the cells ([ALT][CTRL] if you are copying).
- Drag down over the sheet tab that you want to put the cells on and Excel will jump to that sheet. Continue dragging until you are in the location on the selected sheet that you want the cells in.
- Release the mouse then the keyboard.

Paste Special

The Paste Special option gives you the ability to choose what should be pasted into the destination cells. For example, you may want to paste data without its formats, or you might want to convert a formula to a static value – Paste special gives you the choice.

You can also use Paste Special to add/subtract/divide or multiply the copied cells with the destination cell data.

To use Paste Special:
Mouse

- Select the cells you want to copy.
- Right click anywhere within the highlighted block and choose Copy from the shortcut menu.
- Click the right mouse button over the cell where you want the copied data to appear. If you have copied a block of cells, the cell you click before you paste is where you want the top left cell in the copied block to move to.

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- Choose Paste Special. The following dialog box will appear:

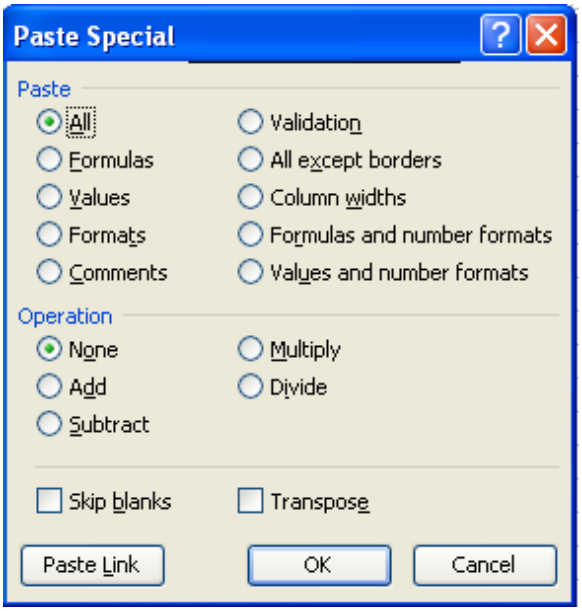

Figure 34 - *Paste Special dialog*

Select an option in the **Paste** section of the dialog to choose what will be pasted into the destination cells

- Select an option from the **Operation** section of the dialog to choose the mathematical operation you want to perform on the copied data.
- Check the **Skip blanks** box to suppress empty cells being pasted.
- Check the **Transpose** box to change the arrangement of the copied cells from column to row and vice versa.
- Click OK to close the dialog and paste the data.

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6 Formatting

By the end of this section you will be able to:

- **Change font style, colour and alignment of cells**
- **Indent cell data**
- **Use borders and shading**
- **Merge cells**
- **Use built in and create custom number formats**
- **Copy formats using the Format painter**

6.1 Formatting

Having produced a spreadsheet, it may be formatted to achieve a more professional and more easily readable layout of data for both screen display and printout. There are several different ways of formatting data in Excel to produce extremely impressive effects, and many of the tools on the Formatting toolbar are used for the most popular formatting tasks. This section looks at several different approaches to improving the layout of a spreadsheet.

6.2 Formatting Toolbar

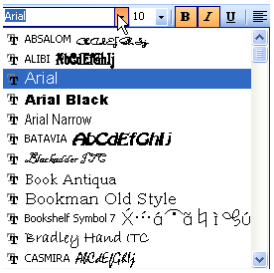
The Formatting toolbar groups together the buttons that create formats most frequently used to enhance worksheet appearance. Not all the formats that you can apply in Excel are contained on a Formatting toolbar button, some can only be accessed via the Format menu which is discussed later in this section.

Font

By default, Excel uses Arial as its base font and all new worksheets will use this font for data that you enter. However, you can choose different font faces for cells on the worksheet using the Formatting toolbar.

To change the font:

Mouse



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- Select the cells where you want to change the font.
- Click the drop-down list arrow to the right of the Font box on the Formatting toolbar.
- The fonts are listed alphabetically. Use the vertical scroll bar on the right of the list to move the list items up and down.
- Select the desired font by clicking on it. The font face for the selected cells will change to reflect your choice.

Or

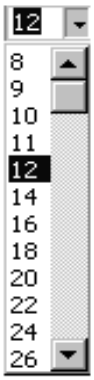
Keyboard

- Select the cells to change.
- Press [CTRL][SHIFT][F] to highlight the current font on the formatting toolbar.
- Use [ALT] [¯] to drop down the list of available fonts, use the up and down arrows to move the highlight bar up and down the list and [ENTER] to apply the chosen font to the selected cells.

Point Size 12

This controls the size of the printed characters.

To change the point size :



Mouse

- Select the cells with the data to change.
- Click on the drop-down list arrow to the right of the currently displayed point size.
- Pick a new number from the list – the selected cell data will change size accordingly.

Or

Keyboard

- Select the text to change.
- Press [CTRL][SHIFT][P] to highlight the current point size on the formatting toolbar.

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- Either type the point size that you want to use (your typing will replace the currently selected number) or use [ALT][˜] to display the list of point sizes and move the highlight bar to the selected size using the up and down arrow keys.
- Press [ENTER] to apply the currently highlighted size to the selected cells.

Although Excel displays from 8 to 72 points in the list, you can type your own numbers in and press [ENTER] to apply the format).

Bold, Italic and Underline

Bold, italic and underline can be applied to the selection using buttons on the formatting toolbar or keyboard shortcuts.

Apply bold, italic or underline: **B** *I* U

Mouse

- Select the cells to change.
- Click on either the B, *I* or U buttons on the toolbar. The button will "switch on" and the selected text will display the applied format.

Or

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Keyboard

- Select the cells to change.
- Press [CTRL][B] to apply bold formatting, [CTRL][I] to apply italic formatting or [CTRL][U] to apply single underline formatting to the selected cell data.

Remove Bold, Italic and Underline:

Mouse

- Select the cells with the format.
- Click the Bold, Italic or underline button to turn the format off.

Or

Keyboard

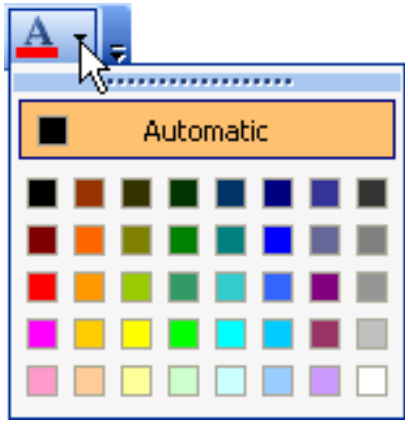
- Select the cells with the format.
- Press [CTRL][B], [CTRL][I] or [CTRL][U] to switch the format off.

Font Colour

This will change the colour of on-screen information. It will also print the information in the chosen colour if you are connected to a colour printer.

To change font colour:

Mouse



- Select the cells whose font colour you want to change.
- Click the drop-down list arrow displayed on the right-hand side of the button and choose the desired colour.

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To reset font colour:

Mouse

- Select the cells you want to reset to the default colour.
- Click the drop-down list arrow displayed on the right-hand side of the Font colour button.
- The **Automatic** option will reset text back to the default colour (normally black).

Background Fill colour

If you want to shade the background of cells, use the Fill colour button.

To change fill colour:

Mouse

- Select the cells whose background colour you want to change.
- Click the drop-down list arrow displayed on the right-hand side of the Fill colour button.
- The **No Fill** option will remove any applied fill colours.

Borders

When you print a worksheet, Excel allows you to choose whether you want all the cell gridlines to print or not. Often, you want to print some but not all of the lines – this is when you need to apply borders. You can then tell Excel not to print the gridlines but your borders *will* be printed.

To apply borders:

Mouse

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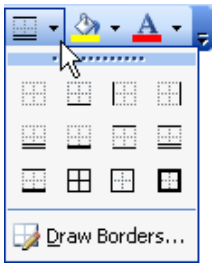

- Select the area you want to border.
- Click the drop-down list arrow to the right of the Borders button on the Formatting toolbar.
- From the palette, click on the required border option.

> *If the palette does not have the bordering option that you want to apply, use the Format cells dialog (discussed later in this section) to apply the borders.*

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To remove borders:

Mouse

- Select the area with the borders you want to remove.
- Click the drop-down list arrow to the right of the Borders button on the Formatting toolbar.
- From the palette, click on the first border option.

Alignment

You can select from three different cell alignment options in Excel by clicking the relevant button (described below). The buttons determine how data lines up between the left and right edges of the selected cell(s).

To change alignment:

Mouse

- Select the cell(s) whose alignment you want to change.
- Click on the button for the alignment you require (*see below*).

Click this button to left-align cell data. Left alignment ensures that the left edge of an entry is flush with the left edge of the cell. Left alignment is the default alignment for text entries in cells.

Click this button to centre cell data. This will make each cell entry in the selection position itself in the middle of the cell.

Click this button to right-align cell data. Right alignment ensures that the right edge an entry is flush with the right edge of the cell. Right alignment is the default for numeric cell entries.

Merge cells

If you want to type a heading across the top of a table of data, it can be quite difficult to line it up in the centre. If the columns in your table are different widths, or the title is a certain length, the chances of you getting it exactly central along the top of the table are practically nil. Luckily Excel has a solution. You can merge the cells across which you want the heading, centring it at the same time.

	A	B	C	D	E	F
1	ORDERS 1997					
2						
3	Order date	Customer	Product	Quantity	Price	Total
4	01/01/97	Viking Supplies	Viking Supplies	10	5	50
5	02/01/97	Bloggs & Co	Bloggs & Co	23	7	161
6	02/01/97	Jones Brothers	Jones Brothers	200	3	600

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To merge cells:

Mouse

- Select the cells you want to merge.
- Click the Merge and Centre button from the Formatting toolbar.

To Unmerge cells

Mouse

- Select the cells you want to unmerge
- Click the Merge and Centre button again and this will unmerge the cells selected

	A	B	C	D	E	F
1	ORDERS 1997					
2						
3	Order date	Customer	Product	Quantity	Price	Total
4	01/01/97	Viking Supplies	Viking Supplies	10	5	50
5	02/01/97	Bloggs & Co	Bloggs & Co	23	7	161

Indents

Indents allow you to control where a cell entry begins inside a cell.

To indent cell data:

Mouse

- Select the cell(s) where you want an indent.
- Click the increase indent button to indent the selected cell data by a standard amount from the left. You can click this button again to increase the amount of indent and so on.
- If you need to take the indent back, click the decrease indent button to do this.

Number formats

Initially, numbers in Excel use a General format. You may find that the results of formulae run to different numbers of decimal places, or you might want to display numbers as monetary values with a currency symbol and two decimal places. There is no need for you to enter the numbers in the way you want them displayed – it is far better to use Excel's number formatting buttons.

Increase and decrease decimal places

You can add and remove decimal places from numeric data using the Increase Decimal and Decrease Decimal buttons. Where you decrease, Excel will round numbers up or down to the nearest unit.

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To increase decimals:

Mouse

- Select the cells with the numbers you want to change.
- Click the Increase Decimal button from the Formatting toolbar.
- Keep clicking the Increase Decimal button until your numbers display the correct number of decimal places.

To decrease decimals:

Mouse

- Select the cells with the numbers you want to change.
- Click the Decrease Decimal button from the Formatting toolbar.
- Keep clicking the Decrease Decimal button until your numbers display the correct number of decimal places.

Comma style

Comma style sets all the selected numbers to 2 decimal places and puts commas between different thousand multiples.

e.g. 100000 would become 100,000.00 when comma style is applied to it.

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To apply comma style:

Mouse

- Select the cells with the numeric data you want to format.
- Click the Comma Style button from the Formatting toolbar.

Currency

Applying this style will add a £ sign and two decimal places (pence) to the selected numbers.

To apply currency style:

Mouse

- Select the cells with the numeric data you want to format.
- Click the Currency button from the Formatting toolbar.

The currency symbol that Excel adds depends on the Regional settings in the Control Panel. You can choose from different currency symbols using the Format Cells dialog discussed later in this section.

Percent Style

Where you have typed decimals on the worksheet, you may want to express those values as percentages. You can do this with the Percent Style format.

e.g. 0.5 would become 50% when you apply Percent Style.

To apply Percent Style:

Mouse

- Select the cells with the numeric data you want to format.
- Click the Percent Style button from the Formatting toolbar.

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The number formats (apart from Increase and Decrease Decimal) are mutually exclusive. Applying Comma Style to cells that already have Currency formats would lose the currency symbol. If you need to return to the default General style for numbers, you can use the Format Cells dialog discussed later in this section.

If you ever see ###### in cells that normally display numbers, it is because the format you have applied is too wide for the column. To show the numbers, either change to a format that fits or widen the column (see later in this section for details on changing column widths).

Advanced Formats

When you want to apply formats that Excel does not give you buttons for on the Formatting toolbar, you need to use the Format Cells dialog. This dialog contains all the formatting options (including those accessible via the Formatting toolbar) that you can use within the Excel application.

Format Cells dialog

The Format Cells dialog is divided into tabs, each tab dealing with a format category.

To access the Format Cells dialog:

Mouse

- Select the cells whose formats you want to change.
- Choose Format from the menu bar and click the Cells option.

Or

Keyboard

- Press [CTRL][1]
- The following dialog box will appear:

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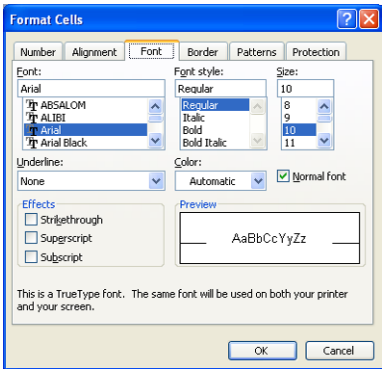

Figure 35- *Format Cells dialog*

Once the dialog is on-screen, you can move between the format categories by clicking on the labelled tabs and change settings on each. Each tab has a **Preview** window to show you what the effects of your changes will look like should you choose to apply them. When all the formats have been set, click the OK button to close the dialog and apply the new formats.

Font tab

Most of the formats you find on the Font tab of the Format cells dialog can be applied directly from the Formatting Toolbar and need no further discussion. However, there are some extra Effects that can be applied should you need to do so.

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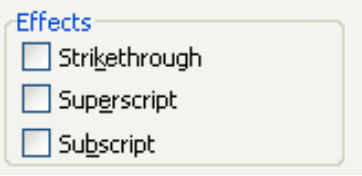
To apply effects:

Mouse

- Select the cells you want to format.
- Choose Format from the menu bar and click Cells to access the Format cells dialog.
- Click the **Font** tab.



- Check the **Strikethrough**, **Superscript** or **Subscript** boxes (the **Preview** window will show you what the formatting will look like on sample data).
- Click OK to close the dialog and apply the changes.

The Superscript and Subscript options are mutually exclusive.

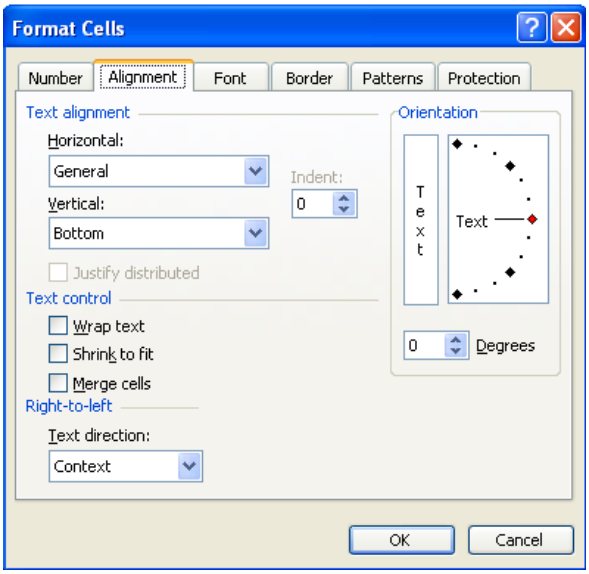


Figure 36 - *Format Cells dialog (Alignment tab)*

Alignment tab

The settings on this tab give you lots of options for alignments which are not available on the Formatting toolbar.

Horizontal

Most of the formats for horizontal alignment are available on the Formatting toolbar, however there are some extras:

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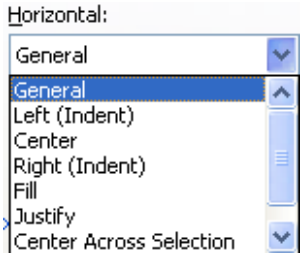
Justify - where you have several lines of data in a cell, you can ensure that the left and right edges of the data are straight.

Fill – use this to repeat the selected cell entries within their cells so that the entire cell from left to right is full.

To change horizontal alignment:

Mouse



- Select the cells you want to format.
- Choose Format from the menu bar and click Cells to access the Format cells dialog.
- Click the **Alignment** tab.
- Click the drop-down list arrow to the right of the Horizontal list box.
- Choose the alignment by clicking on the required option from the list.
- Choose OK to close the dialog and apply the changes.

Vertical

Use the options in this list to choose how data lines up between the top and bottom edges of cells.

To change vertical alignment:

Mouse

- Select the cells you want to format.
- Choose Format from the menu bar and click Cells to access the Format cells dialog.
- Click the **Alignment** tab.
- Click the drop-down list arrow to the right of the **Vertical** list box.
- Choose the alignment by clicking on the required option from the list.
- Choose OK to close the dialog and apply the changes.

Text Control

The text control options allow you to determine how the size of the data in the selected cells will affect columns and rows.

Wrap text - Where you have an entry that is too wide for the column, you can get Excel to wrap within a cell. Where a single line becomes multiple lines, Excel will automatically adjust the row height.

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Shrink to fit - Reduces the apparent size of font characters so that all data in a selected cell fits within the column. The character size is adjusted automatically if you change the column width. The applied font size is not changed on printouts.

BEFORE Viking Sup **AFTER** Viking Supplies

Merge cells - Makes the selected cells into one cell.

Where there are entries in all the selected cells, when you merge them together, Excel will warn you that it will only keep the entry in the top left cell in your selection.

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Sources: Keuzegids Master ranking 2013; Elsevier 'Beste Studies' ranking 2012; Financial Times Global Masters in Management ranking 2012

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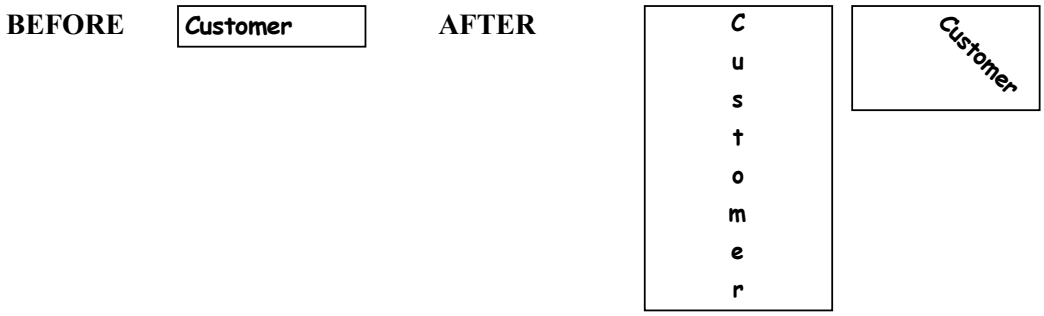
To change text control settings:

Mouse

- Select the cells you want to format.
- Choose Format from the menu bar and click Cells to access the Format cells dialog.
- Click the **Alignment** tab.
- Check the relevant options under the **Text Control** heading to switch on the effect.
- Click OK to close the dialog and apply the new formats.

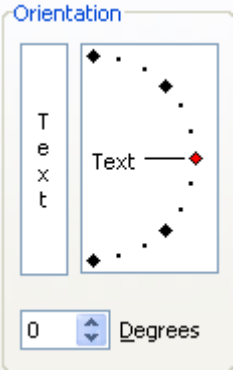
Orientation

You can display and print data in Excel oriented any way you choose.



Shown above are some examples of different orientations.

To change orientation:



Mouse

- Select the cells you want to format.
- Choose Format from the menu bar and click Cells to access the Format cells dialog.
- Click the **Alignment** tab.
- In the **Orientation** section, to keep characters horizontal but arrange them one underneath the other, click the picture that corresponds.

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Or

- Drag the red dot marker up or down to give a degree value of plus or minus 90° from the base position (horizontal).
- Click OK to apply the new formats and close the dialog.

Patterns tab

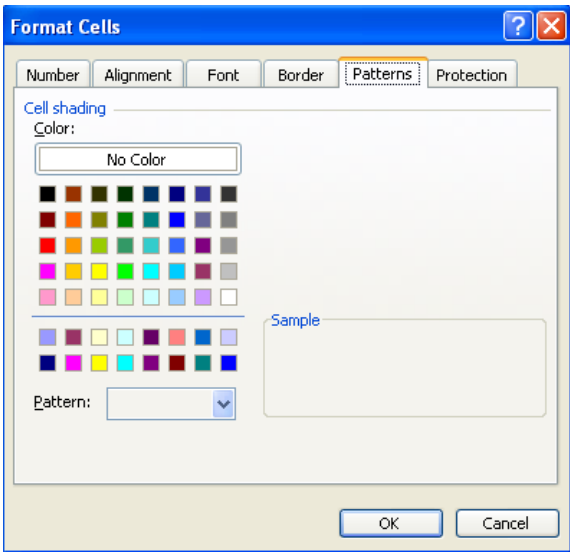


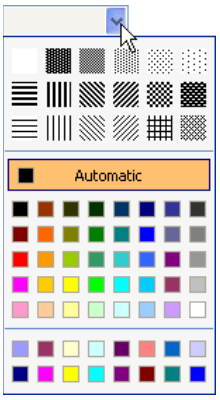
Figure 37 - *Format cells dialog (Patterns tab)*

You can use settings on the Patterns tab to not only add background fill colours to cells, but apply patterns to them as well.

To apply patterns to cells:

Mouse

- Select the cells you want to format.



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- Choose Format from the menu bar and click Cells to access the Format cells dialog.
- Click the **Patterns** tab.
- Click the drop-down list arrow on the right of the **Patterns** box to display a palette of patterns and their colours.
- Choose the pattern that you want (i.e. lines, dots etc). If you want to choose what colour the lines/dots etc. that make up your pattern will be, access the palette once again and click a colour.
- The **Sample** pane will display what the chosen formats will look like should you choose to apply them. If you want a background fill colour (the solid colour behind the pattern), click a colour from the **Colour** palette.
- Choose OK to close the dialog and apply your formats.

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Borders tab

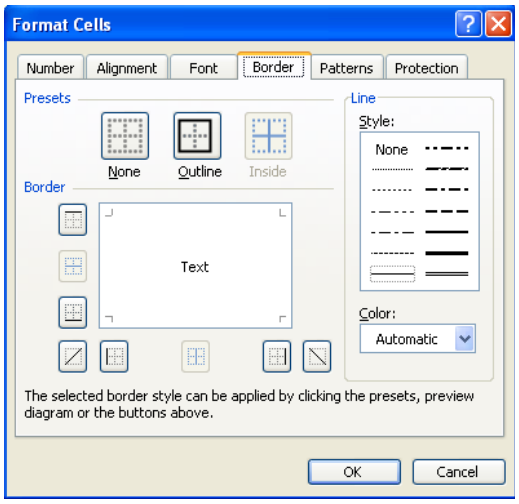

Figure 38 - *Format cells dialog (Borders tab)*

You can change border line styles, colours and directions using the Borders tab.

To apply custom borders:

Mouse

- Select the cells you want to format.
- Choose Format from the menu bar and click Cells to access the Format cells dialog.
- Click the **Border** tab.
- Choose the line style by clicking on the appropriate line from the **Style** palette.
- Choose the line colour by clicking on the drop-down arrow to the right of the **Colour** box to access a colour palette. Click the colour you want your border to be.
- In the **Border** section, set which edges of your selection need bordering by clicking the button which shows the relevant edge.

Or

- If there are multiple edges that need borders, click the preview diagram (where the word "Text" sits) along the edges that you want the borders. Clicking the word "Text" in the preview diagram will give diagonal borders. One click will add a border, another will remove it.
- Click the OK button to close the dialog and apply your changes.

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Numbers tab

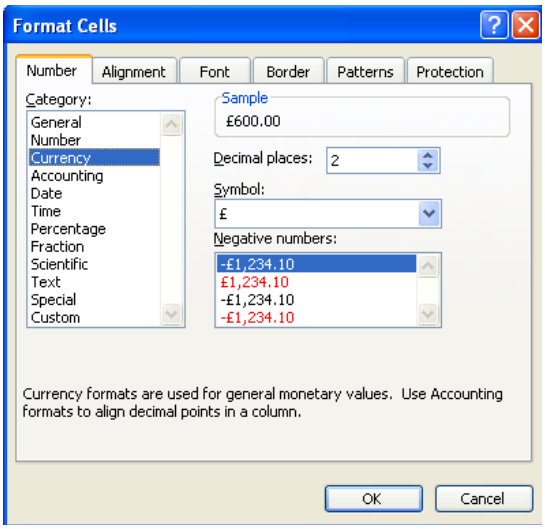

Figure 39 - *Format cells dialog (Numbers tab)*

The Numbers tab gives you the ability to display data that Excel stores numerically in lots of different ways. The Formatting toolbar gives you buttons for applying only very few of the vast selection of number formats that Excel contains. The options that you see on the tab vary depending on which category of format you select. Generally speaking, Excel will display a sample based on the contents of the active cell and the default option within the category you selected. You can then pick from a list of format codes until the sample is displayed the way you want it.

To apply number formats:

Mouse

- Select the cells you want to format.
- Choose Format from the menu bar and click Cells to access the Format cells dialog.
- Click the **Number** tab.
- Click the category of formatting your numeric data should use from the **Category** list.
- Select the relevant options that appear until the **Sample** data looks the way you want your numbers to look.
- Click OK to close the dialog and apply the format.

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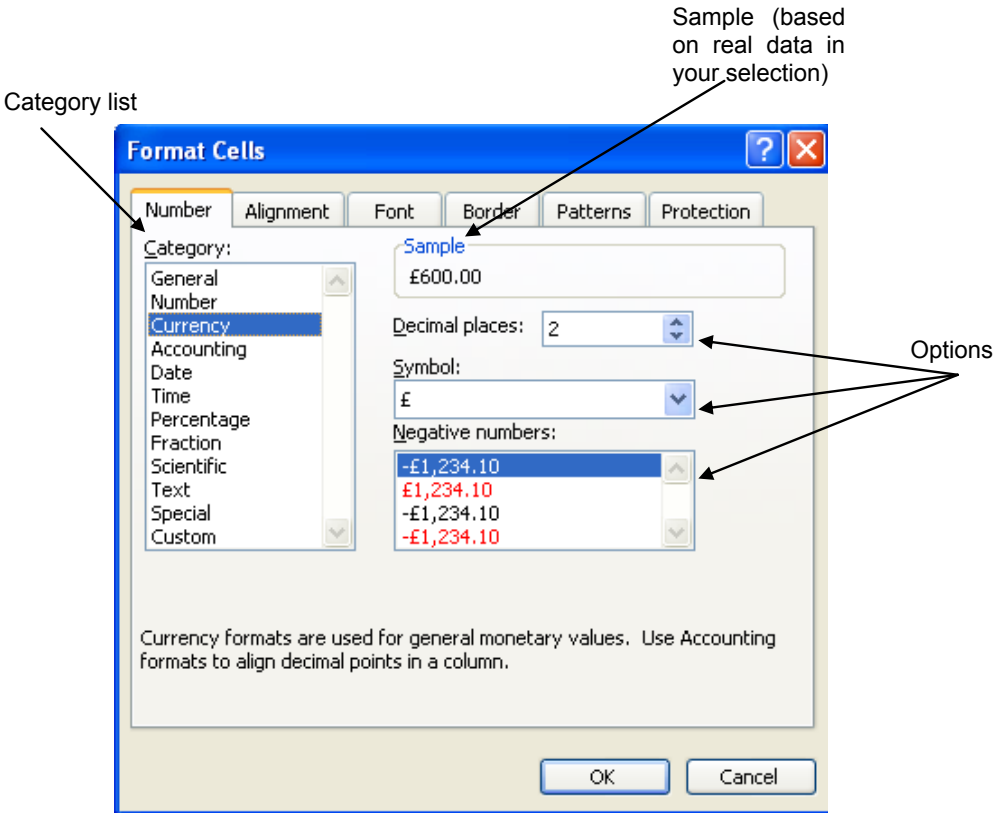

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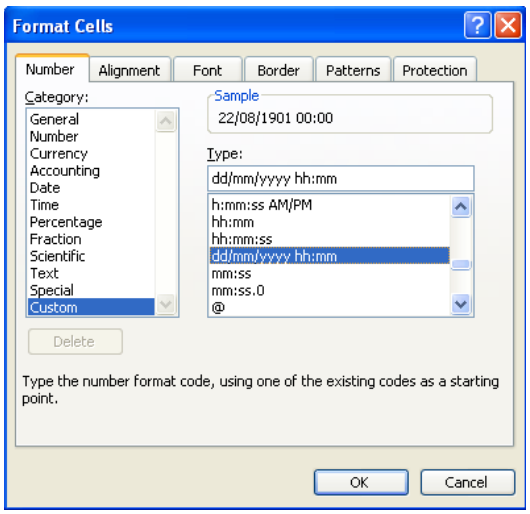
Custom Number formats

There are occasions when you want numeric data to display in a way that Excel does not have a format for. When this happens, you can create a custom format.

To create a custom number format:

Mouse

- Select the cells you want to format.
- Choose Format from the menu bar and click Cells to access the.



- Click the **Number** tab.
- Choose the Custom category (the last option on the Category list). The dialog box will change to show you a list of Type format codes.
- Scroll down the Type list until you find a code similar to the one you want to format your data with.
- For example, if you wanted to change a date currently displaying as 01/01/2000 to display as "January", select the format code "mmm-yy" to give you a base to alter – it would initially display your date as "Jan-2000", but you can change it to what you want.
- Click in the Type box and amend the code to give the display you want (watch the sample as you do this). For the example mentioned above, you would type "mmmm".

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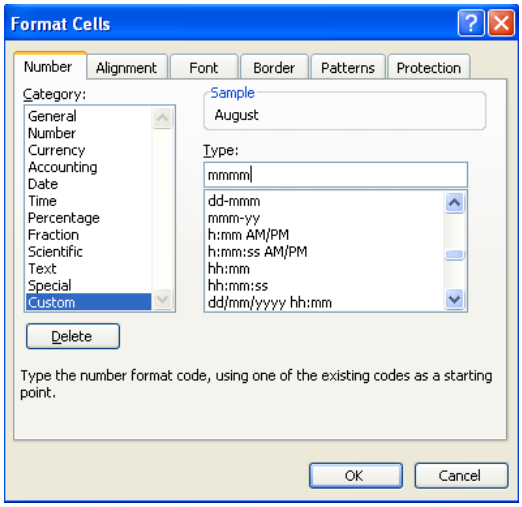

- When you have the correct code, click OK to close the dialog and apply the custom number format.

Custom formats, once created, only exist in the file that they were set up in. If you want to use them in another workbook, you can copy the format across. You can copy formats only using Paste Special (see Section 5 for more information).

Protection tab

You can use the settings on this tab to control which cells are accessible when you protect a worksheet. This topic is dealt with in the section "Working with multiple sheets" later in this manual.

Formatting Columns and rows

Excel has some formats that apply themselves to whole columns and rows. Changing widths and heights, hiding, inserting and deleting rows and columns are all operations that you might want to carry out.

Column width

You can alter the width of a single column, or by selecting the columns whose width you want to change, you can make all columns in the selection the same width. With a single column, Excel changes the width of the column to the left of your mouse pointer.

To change column width:

Mouse

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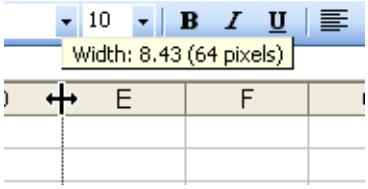

- Move the mouse over the intersection between the column letters on the right-hand side of the column you want to change. The mouse pointer will display the shape that you need for changing column width.
- Click and drag to the right or left to widen or narrow the column – a guide will draw itself down into the worksheet to preview where the column edge will jump to, and Excel will display the actual width of the column in points in a tip box that appears.
- Release the mouse when the desired width has been reached.

To change width of multiple columns:

Mouse

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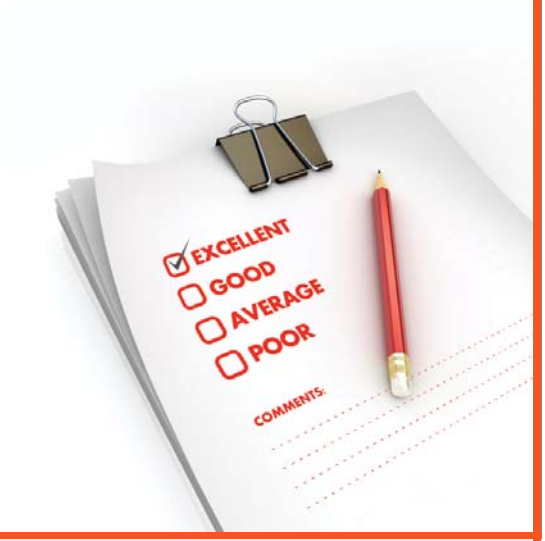

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- Select the columns whose width you want to change by clicking and dragging over the column letters with the selection pointer (white plus).
- Position the mouse over one of the intersections between the column letters in your selection. The pointer will display the shape needed for altering column widths.
- Click and drag to the right or left to widen or narrow the column - a guide will draw itself down into the worksheet to preview where the column edge will jump to, and Excel will display the actual width of the column in points in a tip box that appears.
- Release the mouse when the desired width is reached. All the columns in the selection will jump to the same width as the one you changed.

AutoFit

If you're not sure what the optimum width for a column would be, you can get Excel to AutoFit it for you. AutoFit looks at all the data in a column and fits the column width around the widest entry – you may find the column gets wider or narrower when you AutoFit.

To AutoFit a column:
Mouse

- Move the mouse over the intersection between the column letters on the right-hand side of the column you want to change. The mouse pointer will display the shape that you need for changing column width.
- Double-click the intersection.

To AutoFit multiple columns:
Mouse

- Select the columns you want to AutoFit by clicking and dragging over the column letters with the selection pointer (white plus).
- Position the mouse over one of the intersections between the column letters in your selection. The pointer will display the shape needed for altering column widths.
- Double-click to AutoFit all selected columns.

Standard width

Having changed the widths of columns, if you need to go back to Excel's standard width, you can choose an option from the menu to do so.

To revert columns to standard width:
Mouse

- Select the column you want to change to standard width by clicking on the column letter, or if there are multiple columns, drag across the letters with the selection pointer.
- Choose Format from the menu bar, click Column and then choose Standard Width.

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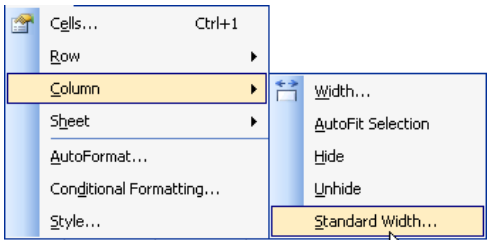


Because other formats can affect the widths your columns need to be, it is often a good idea to leave changing column widths until last, this will avoid you repeatedly having to change the widths as you apply other formats.

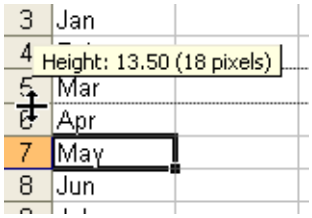
If the column of a cell is too narrow to display the numbers, Excel displays the cell with '####. If you hover over the cell a tool tip will appear displaying the information within the cell.

Row height

Excel automatically changes row height when you alter the font and point size of the cell entries within it. However, you can alter the height of a single row manually, or by selecting the rows whose height you want to change, you can make all rows in the selection the same height. With a single row, Excel changes the height of the row above your mouse pointer.

To change row height:

Mouse



- Move the mouse over the intersection between the row numbers below the row you want to change. The mouse pointer will display the shape that you need for changing row height.
- Click and drag up or down to increase or decrease row height – a guide will draw itself across into the worksheet to preview where the row edge will jump to, and Excel will display the actual height of the row in points in a tip box that appears.
- Release the mouse when the desired height has been reached.

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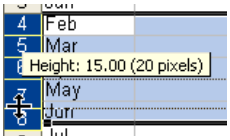
To change height of multiple rows:

Mouse



- Select the rows whose height you want to change by clicking and dragging over the row numbers with the selection pointer (white plus).
- Position the mouse over one of the intersections between the row numbers in your selection. The pointer will display the shape needed for altering row heights.
- Click and drag up or down to increase or decrease row height - a guide will draw itself across into the worksheet to preview where the row edge will jump to, and Excel will display the actual height of the rows in points in a tip box that appears.
- Release the mouse when the desired height is reached. All the rows in the selection will jump to the same height as the one you changed.

AutoFit

If you're not sure what the optimum height for a row would be, you can get Excel to AutoFit it for you. AutoFit looks at all the data in a row and fits the row height around the tallest entry – you may find the row gets taller or shorter when you AutoFit.

To AutoFit a row:

Mouse

- Move the mouse over the intersection between the row numbers below the row you want to change. The mouse pointer will display the shape that you need for changing column width.
- Double-click the intersection.

To AutoFit multiple rows:

Mouse

- Select the rows you want to AutoFit by clicking and dragging over the row numbers with the selection pointer (white plus).
- Position the mouse over one of the intersections between the row numbers in your selection. The pointer will display the shape needed for altering row heights.
- Double-click to AutoFit all selected rows.

Hide columns and rows

You can choose not to display certain rows and columns on your screen. Hiding them also prevents them from printing.

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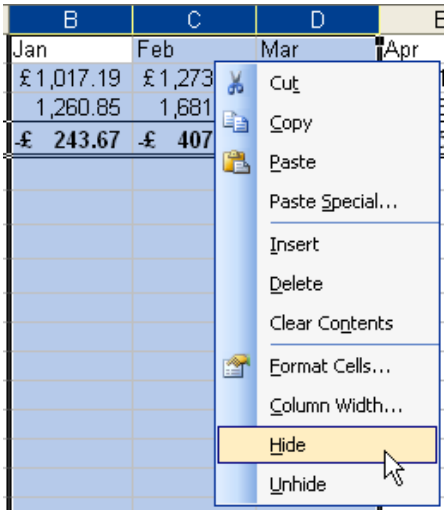
To hide columns:

Mouse



- Select the column you want to hide by clicking on the column letter, or if you want to hide multiple columns, highlight them.
- Click the right mouse button anywhere over the selection to display the shortcut menu.
- Choose Hide.

Or

Keyboard

- Repeat step 1 above.
- Press [CTRL][0]

To hide rows:

Mouse

- Select the row you want to hide by clicking on the row number, or if you want to hide multiple rows, highlight them.
- Click the right mouse button anywhere over the selection to display the shortcut menu.
- Choose Hide.

Or

Keyboard

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- Repeat step 1 above.
- Press [CTRL][0]

To unhide columns and rows:

Mouse

- Select the columns or rows either side of the hidden ones by dragging over the column letters or row numbers with the selection pointer.
- Position the mouse over the row or column intersection between the selected rows or columns
- Double-click.

Or

Keyboard

- Repeat step 1 above.
- Press [CTRL][SHIFT][+].

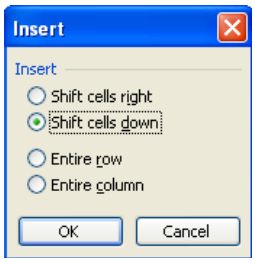
Insert and delete cells

You can add new cells into a worksheet if you need to make space to add new entries in. Excel also gives you tools for adding entire rows and columns. If you add cells, Excel will ask you how the existing cells should be rearranged to accommodate the new ones.

Add cells

To insert a cell:

Mouse



- Select the cell below or to the right of where you want the new one.
- Click the right mouse button to access the shortcut menu.

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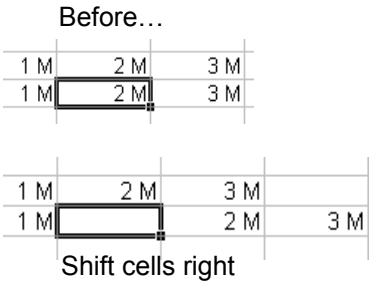
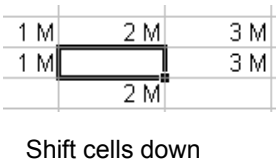


- Choose Insert. The following dialog box will appear:



- Choose **Shift cells right** to insert a new cell to the left of the selected one, or **Shift cells down** to insert a new cell above the selected one.

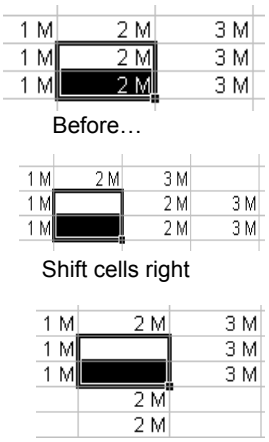
Or

Keyboard

- Repeat step 1 above.
- Press [CTRL][SHIFT][+].

To insert multiple cells:

Mouse



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- Select the amount of cells corresponding to the number you want to insert below or to the right of where you want the new ones.
- Click the right mouse button to access the shortcut menu.
- Choose Insert to access the dialog.
- Choose **Shift cells right** to insert new cells to the left of the selected one, or **Shift cells down** to insert new cells above the selected one.

Or

Keyboard

- Repeat step 1 above.
- Press [CTRL][SHIFT][+].

To insert entire rows:
Mouse

- Select the row below where you want the new one by clicking its row number, or if you are inserting multiple rows, highlight them.
- Click the right mouse button anywhere over the selection to access the shortcut menu.
- Choose Insert. Excel adds the number of selected rows above the first row in your selection.

Or

Keyboard

- Repeat step 1 above.
- Press [CTRL][SHIFT][+].

To insert entire columns:
Mouse

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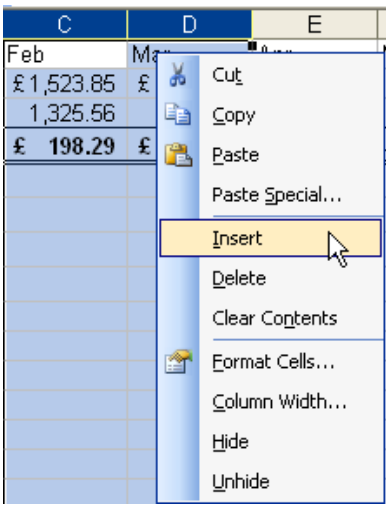


- Select the column to the right of where you want the new one by clicking its column letter, or if you are inserting multiple columns, highlight them.
- Click the right mouse button anywhere over the selection to access the shortcut menu.
- Choose Insert. Excel adds the number of selected columns to the left of the first column in your selection.

Or

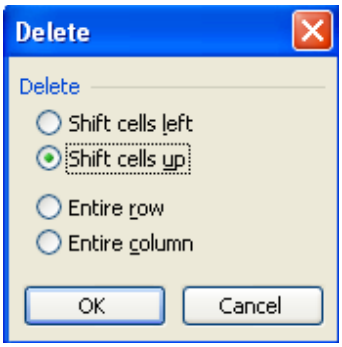
Keyboard

- Repeat step 1 above.
- Press [CTRL][SHIFT][+].

Delete cells

To delete cells:

Mouse



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- Select the cells you want to delete.
- Click the right mouse button to access the shortcut menu.
- Choose Delete. The following dialog box will appear:
- Choose **Shift cells left** to close the gap left by the deleted cells with cell entries to the left.

Or

- Choose **Shift cells up** to close the gap left by the deleted cells with cell entries above.

Or

Keyboard

- Select the cells to delete.
- Press [CTRL][-].
- Choose **Shift cells left** to close the gap left by the deleted cells with cell entries to the left.

Or

- Choose **Shift cells up** to close the gap left by the deleted cells with cell entries above.

To delete entire rows or columns:
Mouse

- Select the row or column you want to delete by clicking its row number or column letter or, if you are deleting multiple columns or rows, highlight them.
- Click the right mouse button anywhere over the selection to access the shortcut menu.
- Choose Delete.

Or

Keyboard

- Repeat step 1 above.
- Press [CTRL][SHIFT][-].

Format Painter

The Format Painter is a tool that you can use to copy all formats from one area of the worksheet to another. This is particularly useful when you have spent time formatting one group of cells and you decide that another group of cells should have the same formats – rather than reapplying the formats again manually, one by one, you can paint them on to the new cells with the Format Painter.

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To paint formats:

Mouse

- Select the cell that has the formatting you want to use.
- Click the Format Painter button from the Standard toolbar. Your mouse pointer will change to display a paintbrush next to the selection pointer (white plus).
- Select all the cells you want to apply the formats to by dragging over them. As soon as you release the mouse, the formats will appear.

If you want to keep cell contents but remove all the formatting from those cells, click on Edit on the menu bar,select Clear,and then Formats.

Shortcut keys for formatting

Excel has some shortcut keys that you can use for formatting data. The table below lists those you can use:

Figure 41 - Shortcut keys for formatting

To	Press
Display the Cells command (Format menu)	[CTRL][1]
Apply the General number format	[CTRL][SHIFT][~]
Apply the Currency format with two decimal places (negative numbers appear in parentheses)	[CTRL][SHIFT][$]
Apply the Percentage format with no decimal places	[CTRL][SHIFT][%]
Apply the Exponential number format with two decimal places	[CTRL][SHIFT][^]
Apply the Date format with the day, month, and year	[CTRL][SHIFT][#]
Apply the Time format with the hour and minute, and indicate A.M. or P.M.	[CTRL][SHIFT][@]
Apply the Number format with two decimal places, 1000 separator, and – for negative values	[CTRL][SHIFT][!]
Apply the outline border	[CTRL][SHIFT][&]
Remove all borders	[CTRL][SHIFT][_]
Apply or remove bold formatting	[CTRL][B]
Apply or remove italic formatting	[CTRL][I]
Apply or remove an underline	[CTRL][U]
Apply or remove strikethrough formatting	[CTRL][5]
Hide rows	[CTRL][9]
Unhide rows	[CTRL][SHIFT][9]
Hide columns	[CTRL][0]
Unhide columns	[CTRL][SHIFT][+]

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Useful Information

Format cells dialog

You can access the Format cells dialog using a shortcut menu. Click the right mouse button and choose Format cells from the resulting menu.

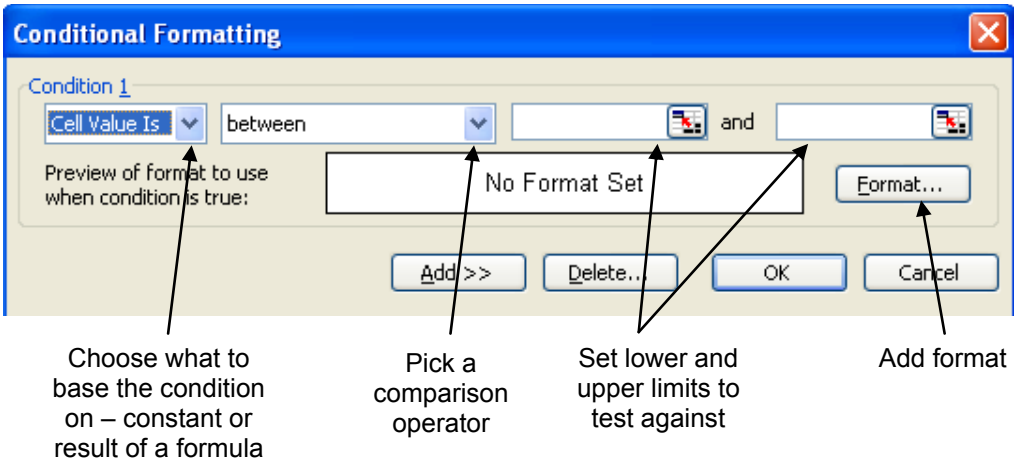
Conditional formatting

You can make Excel format cells in certain ways according to whether their data meets a condition. For example, in a table of numbers, you might want to display numbers over 100 in red, numbers below 50 in green and anything in-between in blue. You can use conditional formats to achieve this.

To apply conditional formatting:

Mouse

- Select the cells whose formats you want to set conditionally.
- Choose Format from the menu bar and select Conditional Formatting. The following dialog box will appear:



- The first drop-down list displays the option "Cell Value Is". Your condition can be based on a constant value or the result of a formula. If you want to build the condition from a formula, drop down the list and choose "Formula Is".
- Click the drop-down list arrow next to the box marked "Between" to choose a comparison operator against which to match your data.
- Set the limiting value you are testing against. The number of limiting values you can enter depends upon which comparison operator you chose.
- Click the format button to specify how cells that meet your condition should appear. Click OK when you have set them.
- Click the Add button to add another condition to be tested for.
- Repeat the steps above until all conditions and their formats have been specified. Click OK to apply the formats.

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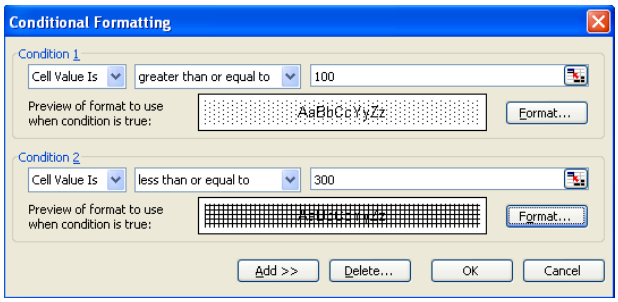
Example

Before...

	Jan	Feb	Mar
Womenswear	£ 453.00	£ 325.00	£ 743.00
Menswear	£ 543.00	£ 542.00	£ 426.00
Accessories	£ 364.00	£ 190.00	£ 264.00
Homewear	£ 600.00	£ 743.00	£ 437.00
Perfumery	£ 367.00	£ 744.00	£ 436.00

Above 500
Below 300
Between

Conditional format setup.....



After...

	Jan	Feb	Mar
Womenswear	£ 453.00	£ 325.00	£ 743.00
Menswear	£ 543.00	£ 542.00	£ 426.00
Accessories	£ 364.00	£ 190.00	£ 264.00
Homewear	£ 600.00	£ 743.00	£ 437.00
Perfumery	£ 367.00	£ 744.00	£ 436.00

Above 500
Below 300
Between

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•Notes

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