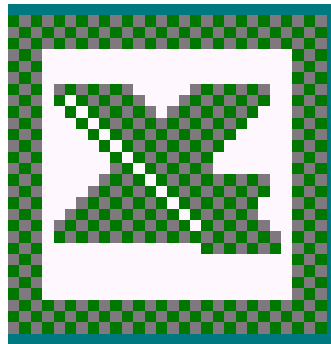


# CHAPTER 10

## **MICROSOFT EXCEL 2003**

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# A First Look at Excel 2003

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## Learning Module Objectives

**When you have completed this learning module you will have seen how to:**

- Create a new default workbook
- Create a new workbook file using a specified template
- Open an existing workbook
- Enter numbers
- Enter text
- Enter dates or times
- Modify the movement of the active cell when you press Enter
- Enter data into a range of cells
- Fill a range of cells with the same data
- View items that will be corrected by AutoCorrect
- Add items to AutoCorrect
- Delete an AutoCorrect entry
- Use a Pick List
- Move using the mouse
- Move from cell to cell using the keyboard
- Move within a selection
- Move between sheets using the mouse
- Move between sheets using the keyboard
- Move using Go To
- Move within formulas
- Select a cell
- Select a range of cells by dragging the mouse
- Select a range of cells (making up a rectangular block)
- Select a non-contiguous range
- Select a row
- Select a column
- Select an entire worksheet
- Select several sheets
- Select all sheets
- Insert a row into a worksheet
- Insert a column into a worksheet
- Delete a row or column
- Insert cells or ranges
- Save a workbook
- Save a backup copy
- Save summary information
- Move to a different worksheet within a workbook
- Move to the first or last worksheet in a workbook
- Move between worksheet tabs using the keyboard
- Check spelling in a worksheet
- Close a file
- Minimize a workbook window
- Exit Excel 2003

## The Advantages of Using Excel 2003

- Powerful and flexible
- Easy to use
- Learn on a 'need to know' basis



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## The Advantages of Using Excel 2003

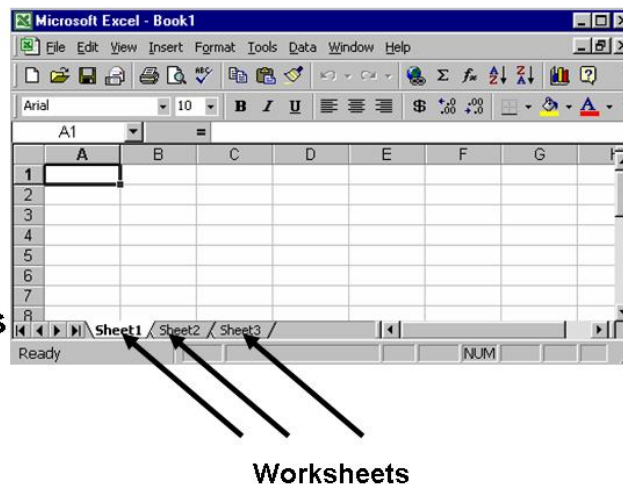
### Background

Excel 2003 is an advanced computer-based spreadsheet which combines incredible power and flexibility with ease of use. You can learn how to use Excel 2003 on a "need to know" basis. For instance, you may never need to learn about the very advanced features such as Pivot Tables, yet you can still use the program to achieve your desired goal. Excel 2003 is a program where the more you look and the more you investigate the sub-menus, the more you see!

The really big advantage of using any computer-based spreadsheet, as opposed to writing down all your figures on a piece of paper, is that you can change any particular piece of data. Providing you have used the correct functions and formulae within the spreadsheet, the computer will do all the work necessary to re-calculate all your end values (such as totaling columns of figures).

## What are Workbooks and Worksheets?

- A workbook is made up of multiple worksheets
- A worksheet is made up of the rows and columns into which you enter your information



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## What are Workbooks and Worksheets?

### Background

You enter your data into a worksheet. It consists of rows and columns and is essentially a very large table.

The worksheets in turn are grouped together into a workbook. By default each workbook in Excel 2003 contains 3 worksheets which are identified by tabs displaying along the bottom of your screen which identify the individual worksheets making up the workbook. By default the first worksheet is called **Sheet1**, the next is **Sheet2** and so on.



By default each new workbook you open will contain 3 blank worksheets, although you can increase this number or reduce it down to a workbook which only contains one worksheet.

Within Excel 2003, you can have up to 65,536 rows in a worksheet and up to 256 columns! That's room for a lot of data!

## Creating and Opening Workbooks

- **Opening a workbook**
  - Allows you to open an existing workbook
- **Creating a workbook**
  - Allows you to create a new, 'empty' workbook



The last few files that you opened are displayed at the bottom of the File drop down menu!

## Creating and Opening Workbooks

### To create a new default workbook

- Click on the **New** icon located within the **Standard** toolbar  
**OR** press **Ctrl+N**

### To create a new workbook file using a specified template

- Click on the **File** drop down menu, and then click on the **New** command. The **New** dialog box will be displayed. To create a workbook using the default template, click on the **Workbook** icon, located within the **General** tab. Click on the **OK** button to continue.

To create a new specialist workbook, using a pre-defined template, click on any of the other tabs that may be displayed, such as **Spreadsheet Solutions**, and then select the required icon (such as **Invoice**). Click on the **OK** button to continue.

### To open an existing workbook

- From the **File** menu, choose **Open**  
**OR** click on the **Open** icon on the **Standard** toolbar.
- Locate the file that you wish to open and then double click on the file name to open it. If you need to change to a different folder, then you can use the **Up One Level** icon

**OR** you can click on the down arrow next to the **Look in** field.

## Entering Data

- **Select the cell into which you wish to enter the data**
  - Numbers will be right-aligned by default
  - Text entries are left-aligned by default
- **To enter the current date**
  - Press **CTRL+;**
- **To enter the current time**
  - Press **CTRL+:**



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## Entering Data

### To enter numbers

- Select the cell in which you want to enter a number and type in the number. If you want to make the number a negative, type a minus sign in front of it or enclose it in parentheses.
- To indicate decimal places, you type a full stop.
- The numbers will be right-aligned by default. If you wish to enter a number or formula as text, type an apostrophe before it.

### To enter text

- Select the cell in which you want to enter the text and then type in the text. Text entries are left-aligned by default.

### To enter dates or times

- Select the cell in which you want to enter the date or time and then type in the date or time. Separate the date with either hyphens or slashes.
- To enter the current date, press **Ctrl+;**; to enter the current time, press **Ctrl+:**

### To modify the movement of the active cell when you press Enter

By default when you press **Enter** in Excel, the new active cell becomes the "next cell down". If you are upgrading from another spreadsheet program, where you may be used to the active cell not moving when you press **Enter**, then the ability to modify this behavior may aid transition to Excel!

- From the **Tools** menu, select **Options** to display the **Options** dialog box. Then select the **Edit** tab.
- Select or de-select the **Move selection after Enter** check box.
- You can then set the direction in which the active cell will move by clicking on the down arrow in the **Direction** section of the dialog box. Click on the **OK** button to close the **Options** dialog box.

## Further Data Entry Techniques

- There are a number of techniques to be aware of when carrying out data entry
  - Entering data into a range of cells
  - Filling a range of cells with a single value
  - AutoCorrect
  - AutoComplete
  - Pick Lists

### Further Data Entry Techniques

#### To enter data into a range of cells

- Use the mouse to drag across a range of cells into which you wish to enter numbers. This will highlight the selected range as illustrated.
- Type your first entry and press **Enter** – the active cell moves down one location.
- Enter the remaining numbers following each with the **Enter** key. When you reach the bottom of each column (in the selected range) the active cell moves to the top of the next.

	A	B	C	D	E
1					
2					
3					
4					
5					
6					
7					
8					

	A	B	C	D	E
1					
2					
3		25	12		
4		3	5		
5		6	8		
6		4	4		
7					
8					

#### To fill a range of cells with the same data

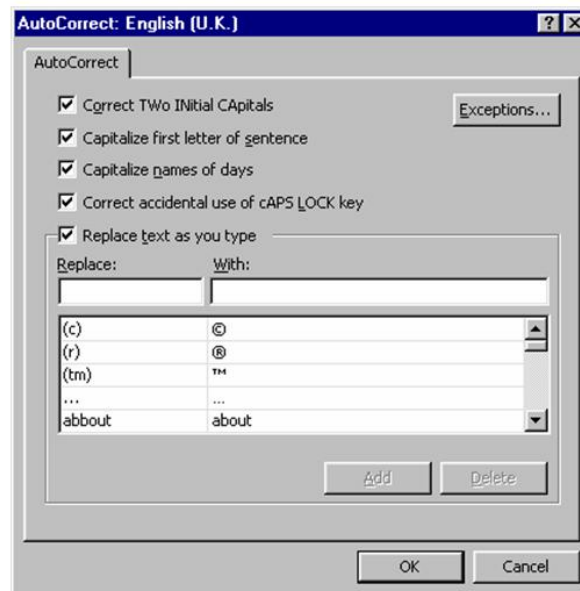
- Highlight the cells you wish to fill.
- Enter the information that you wish to fill the selected range with.
- Press **Ctrl+Shift+Enter** and the range will be filled.

	A	B	C
1			
2			
3	North		
4	North		
5	North		
6	North		
7	North		
8	North		
9	North		
10	North		



## AutoCorrect

- AutoCorrect looks at the entry you are making and checks it against a (pre-defined) list of common errors
- If you make a common error AutoCorrect will make the required correction



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Excel 2003 - Slide No. 7

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## AutoCorrect

### To view items that will be corrected by AutoCorrect

Open the **Tools** menu and select the **AutoCorrect** option. Use the scroll bars to move through the items listed in the **Replace** and **With** section. As you can see if you enter (c) this will automatically be replaced by a © symbol.

### To add items to AutoCorrect

- Open the **Tools** menu and select the **AutoCorrect** option.
- Enter the incorrect spelling in the **Replace** box.
- Enter the correct spelling in the **With** box.
- Click the **Add** button. The entry is now in the AutoCorrect list.
- Click **OK** to finish.

### To delete an AutoCorrect entry

- Open the **Tools** menu and select the **AutoCorrect** option.
- Select the entry you wish to delete from the scrollable list.
- Click on the **Delete** button and then click **OK** to finish.

## AutoComplete

- When you start entering data into an empty cell, directly below an existing list, then Excel will automatically offer you a match from the existing data above it

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### AutoComplete

- Say you have entered the following data.

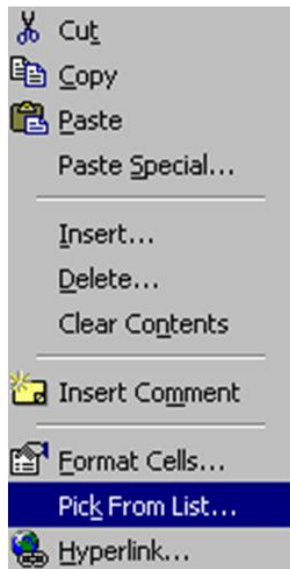
Van
Truck
Car

- Click on the cell directly below the existing list.
- In this case as soon as we enter the letter **C**, then Excel will offer the rest of the word **Car**, as illustrated.
- At this point you can continue to enter the rest of a word and then press the **Enter** key

Van
Truck
Car
Car

**OR** you can press the **Enter** key as soon as the AutoComplete offers to enter the word **Car**, and the word **Car** will be inserted into the cell.

## Using Pick From List



- Right click on the empty cell directly below an existing list and select “Pick From List”

	A
1	Tom
2	Dick
3	Bill
4	Harry
5	
6	Bill
7	Dick
8	Harry
9	Tom

## Using the Pick List

### To use a Pick List

Similar to AutoCorrect in concept.

- Position the active cell below to a list.
- Point at the cell and depress the right-hand mouse button.
- Select **Pick From List**.
- Select the required item and click the left mouse button

**OR** select the required item and press **Enter**.

### An example of using a Pick List

- Say you have entered the following data.

Van
Truck
Car

- Click on the cell directly below the existing list
- Right click to display a pop-up menu.
- Select **Pick From List** and you will see the following.

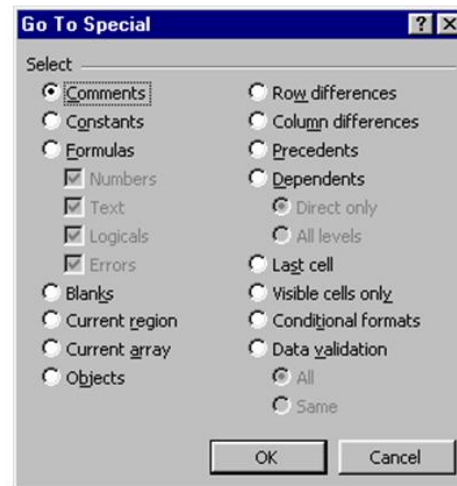
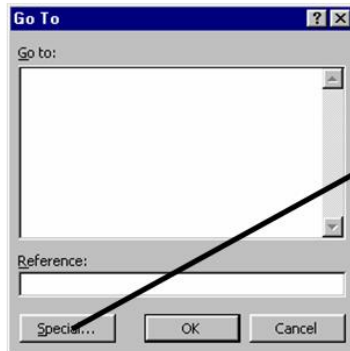
Van
Truck
Car
Car
Truck
Van

- Click on the required item. In this example we selected the word **Truck**. It is then displayed as illustrated.

Van
Truck
Car
Truck

## Navigating in the Worksheet

- Use the mouse to click on the cell to which you wish to move
- Use keyboard shortcuts
- Use the Go To feature



**TIP: The row and column headers are highlighted to make it easy to identify the active cell(s)**

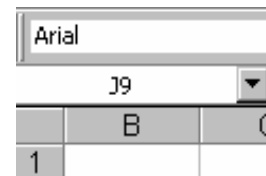
## Navigating in the Worksheet

**To move to a cell using the mouse**

- Place the mouse pointer on the cell and click.

**To move to a particular cell (quick way)**

- Enter the cell that you wish to jump to into the **Name Box** (at the top, left of the screen, as illustrated). In the example shown the cell reference J9 has been entered. When you press the **Enter** key you will jump to the cell you entered.



**To move from cell to cell using the keyboard**

- To move from cell to cell, use one of the following methods:

Press this:	To move:
→	One cell to the right.
←	One cell to the left.
↓	One cell down.
↑	One cell up.
<b>Ctrl + →</b>	To the right-hand edge of the current region.
<b>Ctrl+ ←</b>	To the left-hand edge of the current region.
<b>Ctrl + ↓</b>	To the bottom edge of the current region.
<b>Ctrl + ↑</b>	To the top edge of the current region.
<b>Home</b>	To the first cell in the row.

Press this:	To move:
<b>Ctrl+Home</b>	To the first cell in the worksheet.
<b>Ctrl+End</b>	To the lowest right-hand cell in the worksheet that contains a data entry.
<b>Page Down</b>	One screen down.
<b>Page Up</b>	One screen up.
<b>Alt+PgDn</b>	One screen to the right.
<b>Alt+PgUp</b>	One screen to the left.

#### To move within a selection

- Use one of the following key combinations:

Press this:	To move the active cell:
<b>Tab</b>	To the right one cell.
<b>Shift+Tab</b>	To the left one cell.
<b>Enter</b>	One cell down.
<b>Shift+Enter</b>	One cell up.

#### To move between sheets using the mouse

- Place the mouse pointer on the sheet tab you want, and click.

#### To move between sheets using the keyboard

- Use **Ctrl+PgDn** to move to the next sheet.
- Use **Ctrl+PgUp** to move to the previous sheet.

#### To move using Go To

- From the **Edit** menu, choose **Go To** in order to display the **Go To** dialog box.
- In the **Reference** text box type the cell reference, or click a range name in the **Go To** list box and then select **OK**.

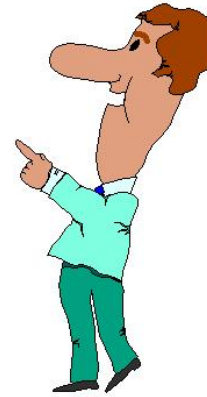
#### To move within formulas

- To start editing, double click on the formula. Use the following key combinations:

Press this:	To move:
→	Right one character.
←	Left one character.
<b>Home</b>	To the beginning of the line.
<b>End</b>	To the end of the line.
<b>Ctrl+→</b>	One word to the right.
<b>Ctrl+←</b>	One word to the left.

## Selecting Items Within Excel 2003

- You can select a single cell or a range of cells
- You can select a non-contiguous range
- You can select a row or a column
- You can select an entire worksheet
- You can select an object
- You can select a single sheet or several sheets
- You can select all sheets

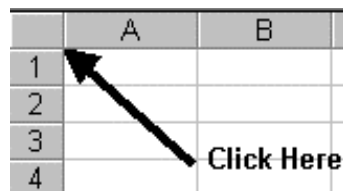


## Selecting Items Within Excel 2003

- |   |   |
|---|---|
| <b>To select a cell</b>   | <ul style="list-style-type: none"> <li>• Click on the cell you wish to select.</li> </ul>   |
| <b>To select a range of cells by dragging the mouse</b>           | <ul style="list-style-type: none"> <li>• Click on the first cell in the range.</li> <li>• Hold down the left-hand mouse button and drag over the cells you wish to include in the selection.</li> </ul>   |
| <b>To select a range of cells (making up a rectangular block)</b> | <ul style="list-style-type: none"> <li>• Click on the first cell of the rectangular block that you wish to select (i.e. the top-left hand corner).</li> <li>• Move down to the cell that marks the bottom-right corner of the rectangular block.</li> <li>• Depress the <b>Shift</b> key (and keep it depressed).</li> <li>• Click once on the last cell of the required block.</li> <li>• Release the <b>Shift</b> key.</li> </ul> |
| <b>To select a non-contiguous range</b>                           | <ul style="list-style-type: none"> <li>• Select the first range.</li> <li>• Select the next range in the same way but hold down the <b>Ctrl</b> key (and keep it depressed) while you click and drag with the mouse.</li> </ul>   |
| <b>To select a row</b>  | <ul style="list-style-type: none"> <li>• Click the row heading number.</li> </ul>   |
| <b>To select a column</b>   | <ul style="list-style-type: none"> <li>• Click on the column heading letter.</li> </ul>   |

**To select an entire worksheet**

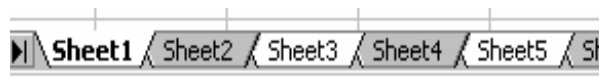
- Click the **Select All** icon in the top, left-hand corner of the worksheet where the row heading and column heading meet,



**OR** press **Ctrl+A**.

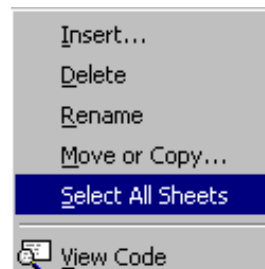
**To select several sheets**

- Click on the first sheet tab.
- Click on other sheet tabs you wish to select while depressing the **Ctrl** key.



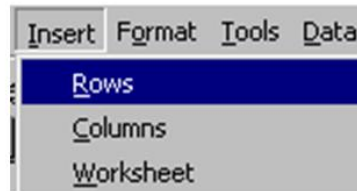
**To select all sheets**

- Click on a sheet tab using the right-hand mouse button to display the shortcut menu.
- Choose **Select All Sheets**.

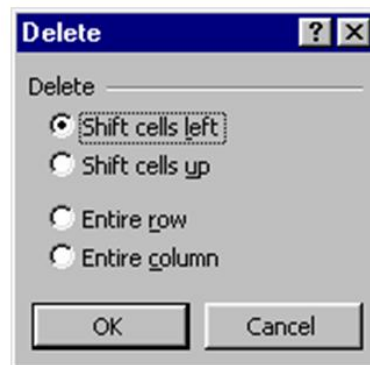


## Inserting and Deleting Cells, Rows and Columns

- Insert cells, rows or columns using the Insert menu



- Delete cells, rows or columns using the Edit menu



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Excel 2003 - Slide No. 12

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## Inserting and Deleting Cells, Rows and Columns

### To insert a row into a worksheet

- Select the row you want to move down when the new row is inserted above it.
- To select more than one row, drag the mouse pointer across the required row headings (with the mouse button depressed).
- Right click over the selected row(s) to display a pop-up menu.
- Select **Insert**. Any existing data will move down to accommodate the new cells.

### To insert columns into a worksheet

- Select the column you want to move to the right when the new row is inserted.
- To select more than one column, drag the mouse pointer across the required column headings (with the mouse button depressed).
- Right click over the selected column(s) to display a pop-up menu.
- Select **Insert**. Any existing data will move right to accommodate the new cells.

### To delete a row or column

- Use the same techniques outlined above, but select the **Delete** command from the pop-up menu.



**To insert cells  
or ranges**

- Select the cell where you want to insert a new cell.
- From the **Insert** menu, select **Cells** to display the **Insert** dialog box.
- Select one of the following options:

<b>Entire column</b>	Moves all cells in the column to the right and inserts a new column.
<b>Entire row</b>	Moves all cells in the row down and inserts a new row.
<b>Shift cells down</b>	Moves existing cells down and inserts one cell.
<b>Shift cells right</b>	Moves existing cells to the right and inserts one cell.

- Click on **OK**.

**To delete cells  
or ranges**

- Select the cell(s) you want to delete.
- From the **Edit** menu, select **Delete** to display the **Delete** dialog box.
- Select one of the options.
- Click on the **OK** button.

## Saving Workbooks

- **To save a workbook**

- From the File menu, select Save
- Or press CTRL+S
- Or click on the Save button on the Standard toolbar



↑  
**SAVE**

- **To save a back-up copy using a different name**

- From the File menu, select Save As to display the Save As dialog box



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Excel 2003 - Slide No. 13

## Saving Workbooks

### To save a workbook

- From the **File** menu, select **Save**
- OR** press **Ctrl+S**
- OR** click on the **Save** button on the **Standard** toolbar.
- If it is a new file, the **Save As** dialog box will appear. If necessary select a different folder that you may wish to save the file in.
  - Enter a name in the **File name** text box.
  - Select **Save**.

### To save a backup copy

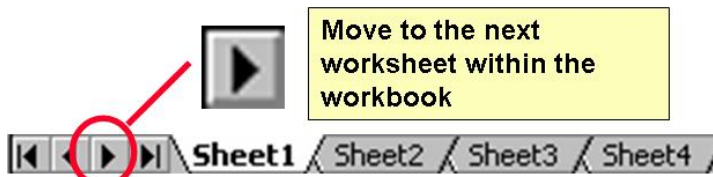
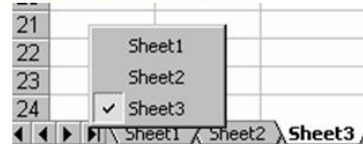
- From the **File** menu, select **Save As** to display the **Save As** dialog box.
- Insert a name for the file in the **File name** text box.
- Select **Save**. To work on the original file again, select it from the list displayed at the bottom of the **File** drop down menu.

### To save summary information

- From the **File** menu, select **Properties**.
- Enter the required information in the **Properties** dialog box.
- Select **OK** to save the information within the file.

## Moving Between Worksheets

- To move to a visible worksheet
  - Click on the relevant worksheet tab
- To move to a worksheet that is not visible
  - Click on the worksheet arrows using the left-hand mouse to move forwards or backwards through the worksheets
  - Or click on the worksheet arrows using the right-hand mouse button to display the list of available worksheets, and click on the required worksheet



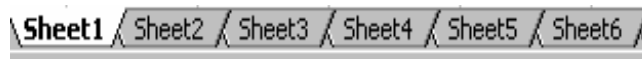
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Excel 2003 - Slide No. 14



## Moving Between Worksheets

**To move to a different worksheet within a workbook**

- Click on the appropriate worksheet tab displayed along the bottom of the worksheet.



**To move to the first or last worksheet in a workbook**

- To move to the last worksheet in a workbook, click on this arrow: 
- To move to the first worksheet in a workbook, click on this arrow: 

**To move between worksheet tabs using the keyboard**

- Use the following keyboard shortcuts to move between worksheets:

Press this:	To do this:
<b>Ctrl+Page Up</b>	To move one tab to the left.
<b>Ctrl+Page Down</b>	To move one tab to the right.

## Using the Spelling Checker

- From the Tools drop down menu, select Spelling
- Or press F7



## Using the Spelling Checker

### To check spelling in a worksheet

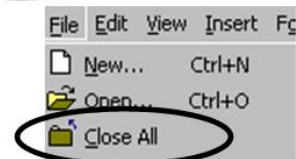
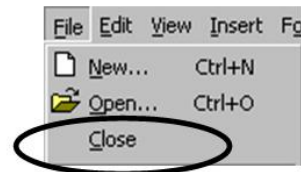
- Select a single cell to check the entire worksheet and then from the **Tools** menu, select **Spelling**.
- If no incorrect words are found, the **Spelling** dialog box will not appear. A box will appear to tell you that Excel 2003 has finished checking the spelling.
- If the **Spelling** dialog box is displayed, select one of the following options:

<b>Add</b>	Will add the word to the current custom dictionary.
<b>Cancel</b>	Will stop the spelling check.
<b>Change</b>	Will change this occurrence of the word to the word displayed in the <b>Change to</b> text box.
<b>Change All</b>	Will change all occurrences of the word to the word displayed in the <b>Change to</b> text box.
<b>Ignore</b>	Will ignore the word and continue.
<b>Ignore All</b>	Will ignore all further occurrences of the word in the document.
<b>Suggest</b>	Will suggest alternative words from the dictionary.
<b>AutoCorrect</b>	The misspelled word and its correct spelling is added to the list of words and phrases that are corrected automatically by <b>AutoCorrect</b> .

- If you began the spelling check in the middle of the worksheet, you may be asked whether you want to continue checking at the beginning of the sheet. Select **Yes**.
- When the spelling check is complete a box will appear. Select **OK**.

## Closing an Excel 2003 Workbook

- To close an Excel 2003 workbook
  - From the File menu, select Close
  - Or double click on the Control menu in the top left-hand corner of the workbook window
- To close all open workbooks
  - Depress the SHIFT key, click on the File drop down menu and then release the SHIFT key
  - The Close All command is displayed



**Keyboard shortcut for closing the current workbook**  
**Press Ctrl+F4**

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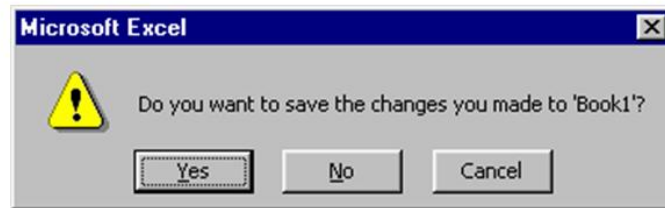
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## Closing an Excel 2003 Workbook

- To close a file**
- From the **File** menu, select **Close**, or double click on the **Control** menu in the top left-hand corner of the workbook window.
  - You will be asked if you wish to save any changes you have made to the file. Select **Yes** to save, or **No** to ignore the changes.
  - If you are saving a new file, the **Save As** dialog box will be displayed. In the **File name** text box, enter a name and click on the **Save** button.
- To minimize a workbook window**
- Click on the **Minimize** button in the top right-hand corner of the workbook window.
  - If the workbook is maximized, restore it first by clicking the **Restore** button which appears in the top right-hand corner of the workbook window.

## Exiting Excel 2003

- To exit Excel 2003
  - From the File menu, select Exit
  - Or press ALT+F4
- Excel 2003 will warn you if any data is unsaved



**NOTE: Since Excel 2003, you have a *Yes to All* button, when you have multiple workbooks open**

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## Exiting Excel 2003

### To exit Excel 2003

- From the **File** menu, select **Exit**  
**OR** press **Alt+F4**.
- If you have saved all the changes made in the active workbook files, Excel 2003 will close.
- If you have not saved all the changes, the **Save** confirmation box will be displayed.
- To save the current workbook file before exiting, select **Yes**.
- To exit without saving the file, select **No**.
- To cancel the exit command, select **Cancel** or press **Esc**.

## Review Questions



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### Review Questions - How Would You ...

1.	Create a new default workbook?
2.	Create a new workbook file using a specified template?
3.	Open an existing workbook?
4.	Enter numbers, text, dates or times?
5.	Modify the movement of the active cell when you press Enter?
6.	Fill a range of cells with the same data?
7.	View items that will be corrected by AutoCorrect?
8.	Add items to AutoCorrect?
9.	Delete an AutoCorrect entry?
10.	Use a Pick List?
11.	Move from cell to cell using the keyboard?
12.	Move between sheets using the mouse?
13.	Move between sheets using the keyboard?
14.	Move using Go To?

15.	Select a cell?
16.	Select a range of cells by dragging the mouse?
17.	Select a range of cells (making up a rectangular block)?
18.	Select a non-contiguous range?
19.	Select a row?
20.	Select a column?
21.	Select an entire worksheet?
22.	Select several sheets?
23.	Select all sheets?
24.	Insert a row into a worksheet?
25.	Insert a column into a worksheet?
26.	Delete a row or column?
27.	Insert cells or ranges?
28.	Save a workbook?
29.	Move to a different worksheet within a workbook?
30.	Move to the first or last worksheet in a workbook?
31.	Move between worksheet tabs using the keyboard?
32.	Check spelling in a worksheet?
33.	Close a file?
34.	Exit Excel 2003?



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## A Closer Look at the Excel 2003 Screen

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### Learning Module Objectives

**When you have completed this learning module you will have seen how to:**












- Identify the main icons on the Standard and Formatting toolbars
- Change the View options
- Zoom the view
- Undo a command
- Repeat a command
- Display Tips via the Office Assistant












# A Closer Look at the Excel 2003 Screen

Excel 2003

## The Standard Toolbar

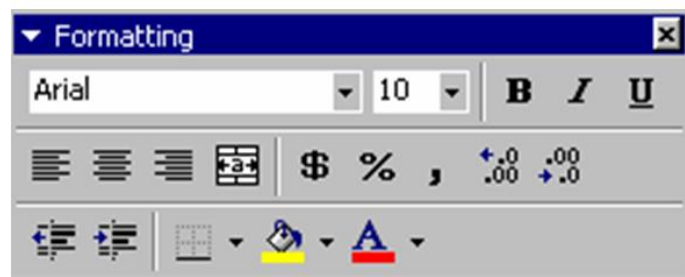
Click on the icon you wish to use. The following are icons on the **Standard** toolbar:

This icon:	Does this:
 <b>New Workbook</b>	Will create a new workbook.
 <b>Open</b>	Will display the Open dialog box.
 <b>Save</b>	Will save the workbook.
 <b>Email</b>	Will allow you to send the workbook as an email.
 <b>Print</b>	Will print the workbook.
 <b>Print Preview</b>	Will change to print preview.
 <b>Spelling</b>	Will start the Spelling checker.
 <b>Cut</b>	Will cut the selected range to the Clipboard.
 <b>Copy</b>	Will copy the selected range to the Clipboard.
 <b>Paste</b>	Will paste the data from the Clipboard.
 <b>Format Painter</b>	Will copy formatting.

This icon:	Does this:
 <b>Undo</b>	Will undo the last action.
 <b>Repeat</b>	Will repeat the last action.
 <b>Insert Hyperlink</b>	Enables you to insert a hyperlink.
 <b>AutoSum</b>	Will create a sum function.
 <b>Paste Function</b>	Will start the Paste Function.
 <b>Sort Ascending</b>	Will sort the selection in ascending order.
 <b>Sort Descending</b>	Will sort the selection in descending order.
 <b>Chart Wizard</b>	Will start the Chart Wizard.
 <b>Drawing</b>	Will display the Drawing toolbar.
 <b>Zoom Control</b>	Will enable you to zoom the worksheet to a percentage you specify.
 <b>Office Assistant</b>	Displays the Office Assistant, from where you can get help to better use the system.

## The Formatting Toolbar

- Allows you to achieve common formatting actions in Excel 2003 quickly and effectively including:
  - Changing the font type and size
  - Toggling bold, italics and underlining
  - Alignment
  - Applying borders and colors
  - Applying currency and decimal point information















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## The Formatting Toolbar

- The following icons are available on the **Formatting** toolbar:

This icon:	Does this:
	Allows you to select fonts from a drop-down list.
	Allows you to select a font size from a drop-down list.
	Allows you to apply bold to a selected range.
	Allows you to apply italics to a selected range.
	Allows you to underline a selected range.
	Allows you to align a selected range to the left.
	Allows you to center a selected range.
	Allows you to align a selected range to the right.

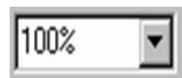
This icon:	Does this:
	Allows you to center text across a selected range.
 	Allows you to apply currency style to a selected range. <b>NOTE:</b> In the United States you may see a \$ (dollar) symbol here rather than the coins.
	Allows you to apply percentage style to a selected range.
	Allows you to apply comma style to a selected range.
	Allows you to decrease the number of decimal points displayed in a selected range.
	Allows you to increase the number of decimal points displayed in a selected range.
	Allows you to increase the level of indentation in a selected range.
	Allows you to decrease the level of indentation in a selected range.
	Allows you to select and apply borders to a selected range.
	Allows you to select and apply color to a selected range.
	Allows you to select and apply color to text in a selected range.

## Selecting Worksheet Views

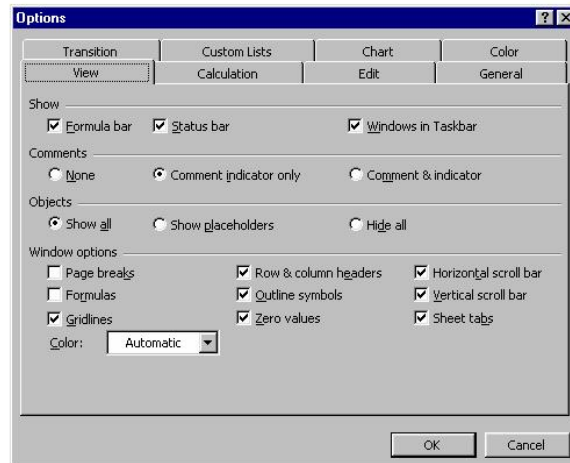
- Allows you to customize how Excel 2003 components will be displayed on your screen

- You may select from the View drop down menu

- You may select the Zoom tool



- Set default View options using the Tools/Options command



## Selecting Worksheet Views

### To change the View options

- From the **Tools** menu, select **Options** to display the **Options** dialog box.
- Select the **View** tab.
- Choose what you want displayed from the following in the **Show** area:

<b>Formula bar</b>	Deselect this check box to hide the formula bar.
<b>Status bar</b>	Deselect this check box to hide the status bar.
<b>Windows in Taskbar</b>	Deselect this check box to prevent each open workbook from being listed on the Taskbar.

- Click an option button to choose how an object will appear in the **Objects** area:

<b>Hide all</b>	Hides all objects.
<b>Show all</b>	Shows all objects.
<b>Show placeholder</b>	Shows a gray box where the object appears.

- Choose which items you want to display in the **Window options** area:

<b>Page breaks</b>	Select if you want page breaks to be displayed on the screen.
<b>Formulas</b>	Select if you want to see formulas, rather than results.
<b>Gridlines</b>	If you want to hide gridlines, do not select this item. If it is selected, you can change the color of the gridlines by clicking an option in the <b>Color</b> drop-down list box.
<b>Horizontal scroll bars</b>	Do not select this option if you want to hide the horizontal scroll bars.
<b>Outline symbols</b>	Do not select this option if you want to hide outline symbols. (They will only appear when you have created an outline).
<b>Row &amp; column headers</b>	Do not select this option if you want to hide row and column headings.
<b>Sheet tabs</b>	Do not select this option if you want to hide sheet tabs.
<b>Vertical scroll bars</b>	Do not select this option if you want to hide the vertical scroll bars.
<b>Zero values</b>	Do not select this option if you want to hide cells containing 0.

- Select **OK**.

#### To zoom the view

- From the **View** menu, select **Zoom** to display the **Zoom** dialog box.
- You can either click on an option button to select the magnification you require; choose the **Fit selection** option button to fit a selected range into the current window; or enter a magnification percentage in the **Custom** text box.
- Select **OK**.

## Undo and Repeat

- **Allows you to undo or repeat an action**
- **To Undo an action**
  - Click the **Undo** button on the **Standard** toolbar
  - Or press **CTRL+Z**
  - Or select **Undo** from the **Edit** menu
- **To Repeat an Action**
  - Click the **Repeat** button on the **Standard** toolbar
  - Or press **F4**
  - Or select **Repeat** from the **Edit** menu

**Don't panic, use  
the Undo button!**



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## Undo and Repeat

### To undo a command

- Click the **Undo** icon on the **Standard** toolbar  
*OR* select **Undo** from the **Edit** menu  
*OR* press **Ctrl+Z**.


### To repeat a command

- Click the **Repeat** icon on the **Standard** toolbar  
*OR* press **F4**  
*OR* select **Repeat** from the **Edit** menu.



## The Office Assistant

- When you get stuck...
- Use the Office Assistant!



The Office Assistant is a friendly character that helps you when you're stuck. It appears as a paperclip with eyes and a speech bubble. The speech bubble asks, "What would you like to do?" and contains a text input field with the placeholder text "Type your question here, and then click Search." Below the input field are two buttons: "Options" and "Search".

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## The Office Assistant

### What is the Microsoft Office Assistant?

By default this friendly little creature will watch what you do and offer tips on how to work more productively.

Occasionally the Office Assistant will display information on the screen. If you are unsure about how to use this product you should always read the help offered.

### Today's Tip

By default Excel 2003 will display a tip of the day each time you start Excel. If you take the time to read these as they are displayed, then you will soon find that you are on the way to becoming a Excel 2003 expert!

### To display the Office Assistant

- Click on the **Office Assistant** icon located within the **Standard Toolbar**.



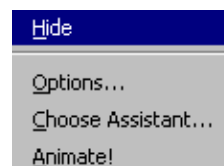
### Displaying Tips via the Office Assistant

The Office Assistant will display a light bulb, as illustrated. If you click on the Assistant with the bulb displayed, then you will see a tip offering advice.



### To hide the Office Assistant

- Right click on the Office Assistant, and from the pop-up menu displayed, select **Hide**.



## Review Questions



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### Review Questions - How Would You ...

1.	Change the View options?
2.	Zoom the view?
3.	Undo a command?
4.	Repeat a command?
5.	Display Tips via the Office Assistant?

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## Formatting and Customizing Data

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### Learning Module Objectives

**When you have completed this learning module you will have seen how to:**

- Align data between the top and bottom of a cell
- Change the “read” orientation of data in cells
- Display multiple lines of data in a cell
- Indent data within a cell
- Rotate text to any angle
- Center a heading over multiple columns
- Center data within a cell
- Change the font which is used in a cell or range
- Change the default font of the current workbook
- Change the default font in all new workbooks
- Change the font attributes for selected cells and numbers
- Change number formatting in Excel 2003 using the Formatting toolbar
- Apply a custom format to numbers in a cell or range
- Format a number as a percentage
- Round numbers using a numeric format
- Establish a fixed number of decimal places for cell formats
- Round a number to a certain number of decimal places
- Remove decimal values from numbers
- Set decimal places for all numeric values on the workbook
- Align numbers by decimal point
- Change the width of a column
- Set the column width to match the data automatically
- Change the width of multiple columns
- Set new default column widths
- Change the height of a row
- Automatically change a row height
- Delete the contents of a cell or range
- Delete data without removing the underlying cell formats
- Apply and remove borders to cells or ranges
- Automatically format a table
- Copy data to a different location on the same page
- Use the Clipboard to copy data to other programs
- Move and copy data to another worksheet
- Copy data to another workbook
- Use the Clipboard to copy an object between pages, workbooks, or programs
- Copy an object to a different location on the sheet
- Insert new cells to make space for the copied data
- Copy a numeric value down a column
- Copy a column of text into a row

## Formatting Options Within Excel 2003

- There are many ways to format an Excel 2003 spreadsheet and a large number of different items that can be formatted separately, including:
  - Cell borders and colors
  - Cell contents
  - Printer formatting options

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## Formatting Options Within Excel 2003

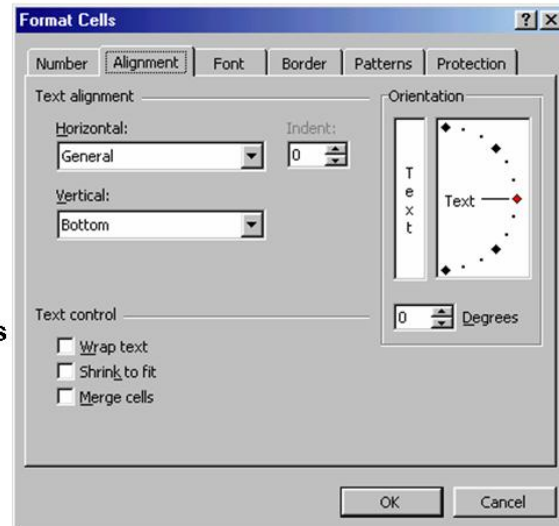
### Background

Within Excel 2003 there are many levels at which formatting can be applied. You can format individual characters or paragraphs. You can format a worksheet or you can format the entire workbook.

Many different formatting effects can be applied such as alignment of data. You can add color effects. You can even use the AutoFormat option to automatically apply formatting to a table of data.

## Alignment

- Data can be aligned with any, or all four sides of a cell
- Text can be aligned to the left, right, top or bottom of a cell
  - You can also change the direction in which text reads in a cell, i.e.
  - from top to bottom
  - bottom to top
  - left to right
  - or stacked



## Alignment

### To align data between the left and right sides of a cell

- Select the cell, or cells, you wish to align.
- On the **Formatting** toolbar, click the **Align Left** icon to align data with the left edge of the cell.
- Click the **Align Right** icon to align data with the right edge of the cell.
- Click the **Center** icon to center the data in the cell.

### To align data between the top and bottom of a cell

- Select the cell, or cells, you wish to align. From the **Format** menu, select **Cells** to display the **Format Cells** dialog box.
- To view the **Alignment** options, click on the **Alignment** tab at the top of the dialog box.
- Choose the **Top**, **Center**, or **Bottom** option in the **Vertical** area to align the data in the cell.
- To make the lines of data fit evenly within the height of a cell, choose the **Justify** option and click on **OK**.

### To change the "read" orientation of data in cells

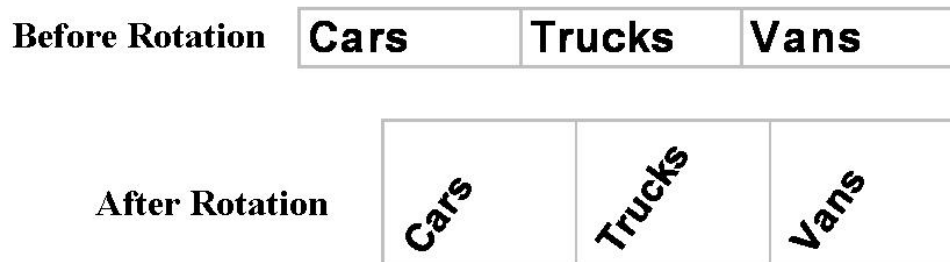
- Select the cell, or cells, you wish to change and from the **Format** menu, choose **Cells** or press **Ctrl+1**, to display the **Format Cells** dialog box.
- To view the **Alignment** options, click on the **Alignment** tab at the top of the **Format Cells** dialog box.
- Click the option you require in the **Orientation** area and click on **OK**.

### To wrap multiple lines of data in a cell

- Type the data you require into the cell and press **Enter**. The entry will appear as one long line and select the cell, or cells, you wish to format.
- From the **Format** menu, choose **Cells** or press **Ctrl+1** to display the **Format Cells** dialog box.
- Click on the **Alignment** tab to display the **Alignment** options.
- Select the **Wrap text** check box and click on **OK**.

## Data Indentation and Rotation

- Works in a way similar to indenting when using a word processor
- Text can also be rotated to any angle you require



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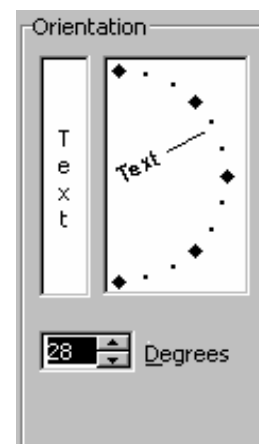
## Data Indentation and Rotation

### To indent data within a cell

- First select the cell(s) that you wish to apply the indenting formatting to.
- Right click to display the pop-up box, and from the list displayed, select **Format Cells**. This will display the **Format Cells** dialog box. Select the **Alignment** tab.
- Select **Left (Indent)** from the **Text alignment / Horizontal** list, and then use the spinner controls to add the required indent.
- Select **OK**.

### To rotate text to any angle

- First select the cell(s) that you wish to apply the rotation formatting to.
- Right click to display the pop-up box, and from the list displayed, select **Format Cells**. This will display the **Format Cells** dialog box. Select the **Alignment** tab.
- From the **Orientation** section either enter the exact amount of rotation required into the **Degrees** box, or drag the **Text** dial to give the desired level of rotation.
- Select **OK**.



## To Center Items in a Cell/Cells

- Make sure that you know how:



- To center data within a cell
- To center a heading over multiple columns



	C	D	E	F	
	Across Cells				



## To Center Items in a Cell/Cells

### To center a heading over multiple columns

- Type a heading at the top of the left-hand column.
- Place the cell pointer on the heading cell and highlight it along with all the cells across the columns.
- On the **Formatting** toolbar, click the **Merge and Center** icon.

### To center data within a cell

- Highlight the cell(s) which contain the data you wish to center.
- On the **Formatting** toolbar, click the **Center** icon to center the data within the cell(s).

## Using Fonts

- Make sure that you know how:
  - To change the font which is used in a cell or range using the **Font** drop down list

To change the default font in all new workbooks, use the **Options** dialog box

**Style**

Style name: **Normal**

Style includes:

- Number General
- Alignment General, Bottom Aligned
- Font Arial 10
- Border No Borders
- Patterns No Shading
- Protection Locked

**Options**

Transition | Custom Lists | Chart | Color

View | Calculation | Edit | **General**

Settings:

- R1C1 reference style
- Ignore other applications
- Prompt for workbook properties
- Provide feedback with sound
- Zoom on roll with IntelliMouse
- Recently used file list: 9 entries

Sheets in new workbook: 3

Standard font: Arial Size: 10

Default file location: C:\My Documents

Alternate startup file location:

User name: David Murray

To change the default font of the current workbook, use the **Style** dialog box

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## Using Fonts

### To change the font used in a cell or range

- Select the cell or range you wish to change.
- On the **Formatting** toolbar choose a font from the **Font** drop down list.

### To change the default font of the current workbook

- From the **Format** menu, select **Style** to display the **Style** dialog box.
- From the **Style name** drop down list, choose **Normal**.
- Select **Modify** to display the **Format Cells** dialog box.
- Choose the **Font** tab and make the changes you require.
- Choose **OK** to return to the **Style** dialog box.
- Choose **OK** again.

### To change the default font in all new workbooks

- From the **Tools** menu, choose **Options** to display the **Options** dialog box.
- Select the **General** tab and choose a font from the **Standard font** drop down list box.
- Select a font size from the **Size** drop down list box.
- Select **OK**. You must exit Excel 2003 for these changes to take place.
- Select **OK**.



**To change the font attributes for selected cells and numbers**

- Select the cell or range you wish to change.
- On the **Formatting** toolbar, click the arrow on the **Font** drop down list, find the font you require and select it. Select a font size from the **Font Size** drop down list box by clicking on it.
- To select a style, use one of the icons on the **Formatting** toolbar:

This icon:	Will do this:
<b>Bold</b>	The selected cell or range will appear in <b>bold</b> .
<b>Italic</b>	The selected cell or range will appear in <i>italics</i> .
<b>Underline</b>	The selected cell or range will appear <u>underlined</u> .

- Click on the icons again to remove the respective formatting.

**To change other font characteristics**

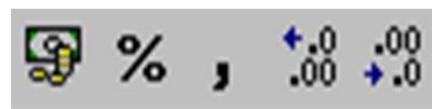
- Select the cell or range you wish to change.
- From the **Format** menu, choose **Cells** or press **Ctrl+1** to display the **Format Cells** dialog box.
- Select the **Font** tab to change the **Font**, **Style**, or **Size**.
- Select the **Underline** drop down list box to select a style of underline or **None** to remove the underlining.
- Select the **Color** drop down list box to choose a font color.
- Select **Effects** to choose **Strikethrough**, **Superscript**, or **Subscript**.
- To change all the settings in the dialog box back to the **Normal** style which is set in the **Style** dialog box, select the **Normal Font** check box.
- Select **OK** to close the **Format Cells** dialog box.

## Formatting Numbers

- To change number formatting in Excel 2003 use the Formatting toolbar

- You may change:






- Currency
- Percent
- Comma
- Decimal displayed Increase/Decrease



## Formatting Numbers

**To change number formatting using the formatting icons**

You can quickly change the formatting of a cell or selected range by using the following icons on the **Formatting** toolbar:

Selecting this icon:	Will do this:
 <b>Currency</b>	23456 will become \$23,456.00 (or your local currency equivalent)  <b>NOTE: In the United States this icon may contain a \$ symbol.</b>
 <b>Percent</b>	.25 will become 25%
 <b>Comma</b>	12345 will become 12,345.00
 <b>Increase Decimal</b>	23,456.00 will become 23,456.000
 <b>Decrease Decimal</b>	23,456.00 will become 23,456.0

**To apply a custom format to numbers in a cell or range**

- Select the cell or range in which you want to customize the number format.
- From the **Format** menu, choose **Cells** to display the **Format Cells** dialog box.
- Select the **Number** tab and click the **Custom** format in the **Category** list box.
- Select the format which most resembles the one you wish to create by clicking other items in the **Type** list box.
- Edit the code in the **Type** text box if required.
- Select **OK**.

**To format a number as a percentage**

- Select the range you wish to format.
- From the **Format** menu, select **Cells** to display the **Format Cells** dialog box.
- Select the **Number** tab and select **Percentage** in the **Category** list box.
- Select the number of decimal places you require by using the **Decimal places** spin box arrows.
- Select **OK**.

**NOTE:** Select the range and click the **Percent Style** icon on the **Formatting** toolbar if you want a percentage with 0 decimal places.

**To round numbers using a numeric format**

- Select the range you wish to format.
- From the **Format** menu, select **Cells** (or press **Ctrl+1**) to display the **Format Cells** dialog box.
- Select the **Number** tab and select **Number** in the **Category** list box.
- Select the number of decimal places you require by using the **Decimal places** spin box arrows.
- Click on the **OK** button.

## Decimal Places



- **Make sure that you know how:**
  - To establish a fixed number of decimal places for cell formats
  - To round a number to a certain number of decimal places
  - To remove decimal values from numbers
  - To remove the integer portion of a number
  - To set decimal places for all numeric values on the workbook

## Decimal Places

### To establish a fixed number of decimal places for cell formats

- Select the cell, or range, you wish to format with a fixed number of decimal places.
- To add a decimal point to the selection, click on the **Increase Decimal** icon on the **Formatting** toolbar. You can continue to click to add as many decimals as required.
- To remove a decimal point from the selection, click on the **Decrease Decimal** icon on the **Formatting** toolbar. Again, you can continue to click to remove as many decimals as required.

### To round a number to a certain number of decimal places

- Select the cell which contains the value you wish to round.
- In the formula bar, edit the data to read: **=ROUND (data,1)**. Data represents the information which already exists in the cell. The value will be rounded to 1 decimal place. Change the 1 to any number of decimal places you require. For example, if the cell contains the formula **=A4\*E2**, you would change it to **=ROUND(A4\*E2,2)** to round the value to two decimal places.

### To remove decimal values from numbers

- Highlight the cell which contains the value for which you want the integer portion.
- The data in the formula bar should be edited to read **=INT(data)**.
- For example, if the cell contains the formula **=A4\*E2**, you would change it to **=INT(A4\*E2)**.

### To set decimal places for all numeric values on the workbook

- From the **Tools** menu, choose **Options** to display the **Options** dialog box.
- Select the **Edit** tab, and select the **Fixed Decimal Places** check box.
- Enter the number of decimal places required in the spin box.
- Select **OK**.
- You will not need to type in the decimal point when you are entering numbers in the workbook. This does not affect data which already exists.

## Formatting Columns and Rows

- **Make sure that you know how:**
  - To change the width of a column
  - To set the column width to match the data automatically
  - To change the width of multiple columns
  - To set new default column widths
  - To change the height of a row
  - To automatically change a row height

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## Formatting Columns and Rows

### To change the width of a column

- Find the right-hand border of the column you wish to change and follow it to the top of the worksheet into the area of the column heading.
- When the mouse pointer is moved in this area, it changes to a thick crosshair.
- Click on the right-hand column heading border and drag the mouse to the left to reduce the column, or to the right to increase the column size.

**NOTE:** If you enter text which exceeds the column width, it will spill over into the next column as long as the cell does not contain any data. If it contains data the entry will be truncated at the edge of the cell. Although the entire entry does not appear, it will still be intact. If you enter a number which exceeds the width of a column, ### signs will be displayed in the cell to let you know that the column is not wide enough.

### To set the column width to match the data automatically

- Find the right-hand column border in the column heading area.
- Double click on the border to make the column change to fit the data in it. The column will be as wide as the largest entry in it.

### To change the width of multiple columns to match the data

- Click on the heading (column letter) of the first column you want to change, and drag to highlight the other columns.
- Double click on the right-hand border of the column heading of any of the highlighted columns.
- The column widths will change to match their largest entry.

**To set new default column widths**

- From the **Format** menu, choose **Column Standard Width** to display the **Standard Width** dialog box.
- Enter a new width for standard columns (measured in characters).
- Select **OK**.

**To change the height of a row**

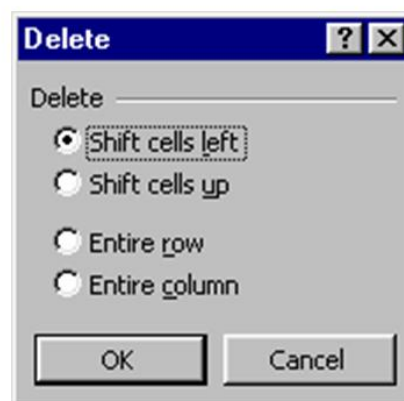
- Select the row(s) you wish to change.
- From the **Format** menu, select **Row** and choose **Height** from the **Format Row** menu. The **Row Height** dialog box is displayed.
- Enter the value you want (from 0-409) in the **Row Height** text box. The value represents the row height in points.
- Select **OK**.

**To automatically change a row height to match the data**

- Select the row(s) you wish to change.
- From the **Format** menu, select **Row** and choose **AutoFit** from the **Format Row** menu.

## Deleting Cells, Formats, Objects and Worksheets

- **Make sure that you know how:**
  - To delete the contents of a cell or range
  - To delete data without removing the underlying cell formats
  - To delete rows and columns
  - To delete cells or ranges
  - To delete objects
  - To delete worksheets



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## Deleting Cells, Formats, Objects and Worksheets

### To delete the contents of a cell or range

- Select the cell or range that you want to delete.
- Press the **Delete** key. **NOTE: If you delete values from cells which are used in formulas, the formulas will return errors.**

### To delete data without removing the underlying cell formats

- Select the cell or range containing the data you want to remove.
- From the **Edit** menu, choose **Clear Contents**. The data will be removed from the cell, or range, without removing the formatting.
- If you want to remove the formatting from a cell without removing the data, select the **Clear Formats** command from the **Edit** menu.

### To delete rows and columns

- Click on the row number or column letter to highlight the rows and/or columns you want to delete.
- From the **Edit** menu, choose **Delete**. The row or column will be deleted and the other rows or columns will move to account for the deletion.

### To delete cells or ranges

- Select the cell or range you wish to delete, and select **Delete** from the **Edit** menu to display the **Delete** dialog box.
- To make the remaining cells shift up to fill the space left by the deleted cells, choose **Shift cells up**. To make the remaining cells shift left to fill the space left by the deleted cells, choose **Shift cells left**, and click on **OK**.

### To delete objects

- Select the object by clicking on it.
- Press the **Delete** key to remove it.

**To delete worksheets**

- Switch to the worksheet you wish to delete.
- From the **Edit** menu, select **Delete Sheet**. A dialog box will appear to warn you that this action will permanently remove the selected sheets.
- Click on **OK** to remove the worksheet, or choose **Cancel** to cancel the operation.



## Adding, Editing and Removing Borders

- **Make sure that you know how:**
  - To apply a border to cells or ranges
  - To remove a border from cells or ranges
  - To change the style and color of borders

---

### Adding, Editing and Removing Borders

#### To apply a border to cells or ranges

- Select the cell(s) to which you want to add a border.
- To view border options, click on the down arrow next to the **Borders** icon on the **Formatting** toolbar.
- Select the option you require. Once you have added a border using the **Borders** icon, the border you selected will appear on the **Borders** icon. You can add the same border simply by clicking on the icon after you have select the cell(s) to which you wish to apply the border.

#### To remove a border from cells or ranges

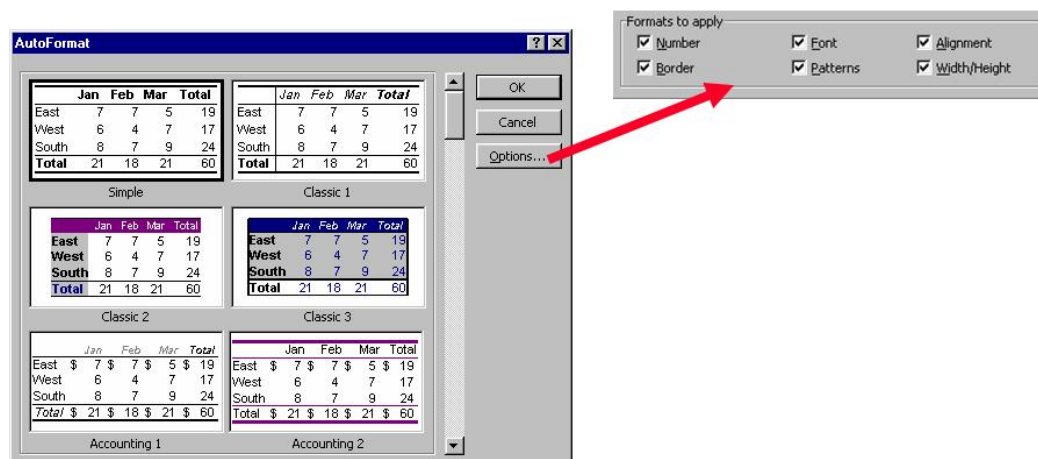
- Select the cell(s) that contain the border you wish to remove. If you have a border that appears to be on the left side of a cell, but may actually be on the right side of the adjacent cell, select both of the cells.
- To reveal the border options, click the arrow next to the **Borders** icon on the **Formatting** toolbar.
- Click on the first border option. This contains no border selection and all highlighted borders will be removed.

#### To change the style and color of borders

- Select the cell that contain a border and then from the **Format** menu, choose **Cells**, or press **Ctrl+1** to display the **Format Cells** dialog box.
- To display the border options, click the **Border** tab on the top of the **Format Cells** dialog box.
- Select the border style you require by clicking on it.
- From the **Color** drop-down palette, select the color you require.
- Click on the **Border** options to determine where you want the colored borders to appear on the selected cells. Click on **OK**.

## Using AutoFormat

- Allows you to automatically format a table



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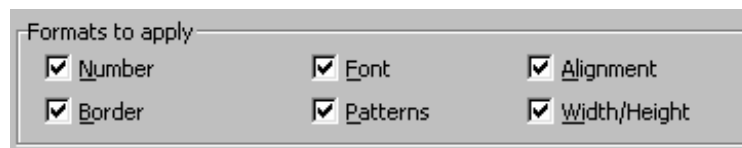
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## Using AutoFormat

### To AutoFormat a table

- Place the insertion cell within a table of information.
- From the **Format** drop down menu, select the **AutoFormat** command.
- From the list displayed in the **Table format** section of the dialog, select the required format, and click on the **OK** button to apply the formatting information.

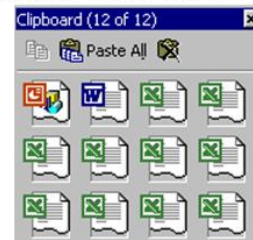
**NOTE:** Clicking on the **Options** button within the dialog box allows you to specify the following customization options.



- Checking any of the above boxes applies the appropriate elements when AutoFormat is applied.
- If you do not wish to apply a format to a particular element uncheck the appropriate box.

## Copying Data

- **Make sure that you know how:**
  - To copy data to a different location on the same page
  - To use the Clipboard to copy data programs
  - To copy data between sheets and workbooks
  - To copy a text entry over several cells (fill)
  - To copy an object to a different location on the sheet
  - To insert new cells to make space for the copied data
- **NOTE: The Microsoft Office Clipboard can now hold up to 12 items.**



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## Copying Data

### To copy data to a different location on the same page

- Select the cell or range you wish to copy.
- Click on the border edge of the highlighted range with the mouse pointer, while holding down the **Ctrl** key. Before you click, the mouse pointer should turn into an arrow.
- While holding down the mouse button, drag the selection to the required location.
- Release the mouse button to insert the selection.

**NOTE: Any formulae contained in the copy of the selection will adjust relative to the new location.**

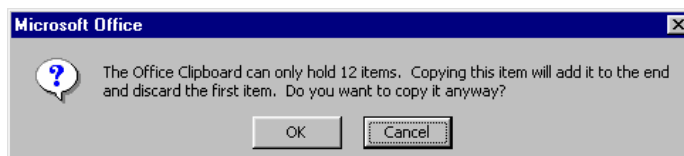
### To use the Clipboard to copy data to other programs

- Select the cell or range you wish to copy.
- From the **Edit** menu select **Copy** (or press **Ctrl+C**, or click on the **Copy** icon on the **Standard** toolbar).
- Switch to the required destination program.
- Place the cursor where you want the data to appear.
- Select **Paste** from the **Edit** menu (or press **Ctrl+V** or select the **Paste** icon from the **Standard** toolbar).

**Note:** With the introduction of Office 2003 more than one item may be stored on the Clipboard at the same time, however the facility is only available within Office 2003 compatible programs. Normally if you copy more than one item to the Clipboard, the previous item will be lost.

#### To copy multiple items to the Clipboard

- As Microsoft Office now supports up to 12 items on the Clipboard, when you have copied 12 items you will see a message similar to that illustrated. To copy multiple items, simply select each item and copy it to the clipboard.



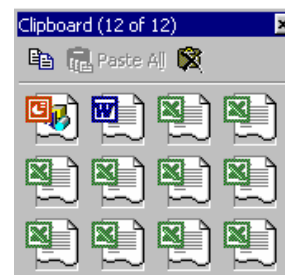
#### To view the Clipboard toolbar

- If the Clipboard toolbar is not displayed, then you can display it by clicking on the **View** drop down menu, selecting **Toolbars**, and then selecting **Clipboard**.

Icons on this toolbar include **Copy**, **Paste All** and **Clear Clipboard**.

#### Pasting multiple items from the Clipboard

- If the Clipboard toolbar is not displayed, then you can display it by clicking on the **View** drop down menu, selecting **Toolbars**, and then selecting **Clipboard**.
- Icons on this toolbar include **Copy**, **Paste All** and **Clear Clipboard**. If you move the mouse over one of the icons held within the Clipboard toolbar, then you will see the first 50 characters displayed. If the item is a picture, then the pictures will be labeled in the order in which they were copied to the Clipboard.



## Copying Data Using Drag and Drop

	A	B	C	D	E	F	G	H
1								
2								
3								
4		1	5	3				
5		2	3	7				
6		3	6	4				
7		4	7	3				
8		5	8	5				
9								
10								
11								
12								

Move to the selected area's border

- Drag and drop moves
- Ctrl+Drag and drop copies

## Copying Data Using Drag and Drop

### To move and copy data to another worksheet

- Select the cell or range that contains the data to be copied.
- Press and hold the **Alt** key and drag any edge of the selected range to the required worksheet tab.
- Place the range where required and release the mouse button.
- To copy the data carry out the above procedure holding down both the **Ctrl** and **Alt** keys.

### To copy data to another workbook

- Open the other workbook.
- Select the **Window** menu and choose **Arrange**.
- Choose **Tiled** and click on the **OK** button.
- Select the cell range you wish to copy.
- Press and hold the **Ctrl** key and drag any edge of the selected range to the required position in the destination workbook.
- Release the mouse button.

**To copy data over several cells (fill)**

- Select the cell or range that contains the text entry.
- Click and drag on the bottom-right corner of the selected cell or range.
- The corner has a small box in it and the mouse pointer will change to a plus sign.
- Drag the selection up, down, left, or right to copy the entry over several cells.
- Release the mouse button when you have finished.

**To use the Clipboard to copy an object between pages, workbooks, or programs**

- Click on the object to select it and choose **Copy** from the **Edit** menu (or press **Ctrl+C**, or click on the **Copy** icon on the **Standard** toolbar).
- Move to a different application, or move to the new sheet or workbook.
- Select a location for the top left-hand corner of the object.
- From the **Edit** menu, choose **Paste** (or press **Ctrl+V**, or click on the **Paste** icon on the **Standard** toolbar).

**To copy an object to a different location on the sheet**

- Click on the object to select it.
- Click and drag the object while holding down the **Ctrl** key. The copy will move with the mouse pointer as you drag.
- Place the object in a new location and release the mouse button.

**To insert new cells to make space for the copied data**

- Select the cell or range you wish to copy.
- Click and drag on the border edge of the selected range while holding down the **Ctrl** and **Shift** keys.
- As you drag, the insert indicator shows you where the copied cells will be inserted. A vertical indicator shows that the cells to the right will be moved to make room, a horizontal indicator shows that cells below will be moved to make room.
- When you release the mouse button, the copy will be inserted into the worksheet at the desired location. Existing data will move to make space for the copied data.

## Copying Columns and Rows

- **Make sure that you know how:**
  - To copy a numeric value down a column
  - To copy a column of text into a row
  - To copy a formula across several cells in a column or row

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## Copying Columns and Rows

### To copy a numeric value down a column

- In the first cell of the column, enter the first numeric value or formula.
- Select the second cell in the column.
- To copy the data in the selected cell, press **Shift+Ctrl+”**
- Press **Enter** to insert the value into the selected cell.

**NOTE:** If there is already a formula in the original cell, the copied version will only contain the value for the formula. If you want to copy the whole formula, press **Ctrl + ’** (*Apostrophe*).

### To copy a column of text into a row

- Select the range of data you wish to copy and transpose.
- From the **Edit** menu, choose **Copy** (or press **Ctrl+C**, or click on the **Copy** icon on the **Standard** toolbar).
- Highlight the cell where you want to place the range.
- Select **Paste Special** from the **Edit** menu, to display the **Paste Special** dialog box.
- Select the **Transpose** check box and select **OK**.

### To copy a formula across several cells in a column or row

- Insert the formula which you require in the first cell of the row or column.
- Select the cell which contains the formula you want to copy.
- Click on the bottom right-hand corner of the cell border, the mouse pointer will change to a plus sign. Drag the selection over the row or down the column.

## Review Questions



### Review Questions - How Would You ...

1.	Align data between the left and right sides of a cell?
2.	Move numbers away from the right edge of a cell?
3.	Align data between the top and bottom of a cell?
4.	Change the "read" orientation of data in cells?
5.	Display multiple lines of data in a cell?
6.	Indent data within a cell?
7.	Rotate text to any angle?
8.	Center a heading over multiple columns?
9.	Center data within a cell?
10.	Change the font which is used in a cell or range?
11.	Change the default font of the current workbook?
12.	Change the default font in all new workbooks?
13.	Change the font attributes for selected cells and numbers?
14.	Change number formatting in Excel 2003 using the Formatting toolbar?



15.	Apply a custom format to numbers in a cell or range?
16.	Format a number as a percentage?
17.	Round numbers using a numeric format?
18.	Establish a fixed number of decimal places for cell formats?
19.	Round a number to a certain number of decimal places?
20.	Remove decimal values from numbers?
21.	Set decimal places for all numeric values on the workbook?
22.	Change the width of a column?
23.	Set the column width to match the data automatically?
24.	Change the width of multiple columns?
25.	Set new default column widths?
26.	Change the height of a row?
27.	Automatically change a row height?
28.	Delete the contents of a cell or range?
29.	Delete data without removing the underlying cell formats?
30.	Delete rows and columns?
31.	Delete cells or ranges?
32.	Delete objects?
33.	Delete worksheets?
34.	Apply a border to cells or ranges?
35.	Remove a border from cells or ranges?
36.	Change the style and color of borders?
37.	Automatically format a table?
38.	Copy data to a different location on the same page?
39.	Use the Clipboard to copy data to other programs?
40.	Move and copy data to another worksheet?
41.	Copy data to another workbook?
42.	Copy data over several cells (fill)?
43.	Use the Clipboard to copy an object between pages, workbooks, or programs?
44.	Copy an object to a different location on the sheet?
45.	insert new cells to make space for the copied data?
46.	Copy a numeric value down a column?

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# Formulas, Functions and Named Ranges

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## Learning Module Objectives

**When you have completed this learning module you will have seen how to:**

- Enter a formula
- Enter a cell or range reference by pointing
- Enter functions directly into the worksheet cell
- Sum numbers automatically
- Use the SUM function
- Use the Paste Function to enter a function
- Name cells (long method)
- Name cells (short method)
- Navigate workbooks using named ranges
- Create named ranges based on cell values
- Delete named cells/ranges
- Use named ranges within formulas

## Formulas

- Allow calculations to be made using the data contained within the spreadsheet
- Preceded by an equals sign (=)
- Examples:

=1+4  
=A2+B2  
=A1\*9



## Formulas

### To enter a formula

- Place the cursor in the cell where the formula will appear.
- Enter an = (equal) sign.
- Enter the expression that will produce the result you want. This can consist of operands, values, variables, and symbols which represent mathematical procedures such as + or - to add and subtract, e.g. A5+E5.
- When the formula is complete, press **Enter**. The result of the formula will be calculated and displayed in the cell.
- You can display the formula itself in the **Formula** bar at the top of the screen by placing the cell pointer on the cell.
- If there is an error in a formula, an error message is displayed which will begin with a # sign.

### To enter a cell or range reference by pointing

- Enter the formula up to the point of the cell or range reference, e.g. to enter the formula =E2+E5, only enter the equal (=) sign.
- Move the cell pointer to the first cell reference using the arrow keys. The formula will track your progress and enter the current address into the formula.
- Press **Enter** to complete the formula when you have reached the cell you require.

## Operator Evaluation Order Within Excel 2003

- The order of the operators is vital, they are executed in the following order:

AND, OR, NOT functions

+ or - (unary)

^

\* or /

+ or -

&

= < > <= >= <>



## Operator Evaluation Order Within Excel 2003

### Background

In Microsoft Excel 2003 operators are executed in this order:

AND, OR, NOT functions

+ or - (unary)

^

\* or /

+ or -

&

= < > <= >= <>

**NOTE:** When using Lotus 1-2-3, the exponentiation operator (^) is evaluated before the negation operator (-), whereas in Microsoft Excel 2003, negation is evaluated first. This will produce different results in the same complex formula, when these operands are used in both products!

## Functions

- **Special commands used in formulas to perform mathematical processes**
  - Can be used to make complex operations simple, and also extend the power of Excel 2003
  - Excel 2003 contains a built-in list of worksheet functions which are categorized to make it easy to search for the ones you need
  - You can also define your own functions for calculations you often use in the User Defined category

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## Functions

### To enter functions directly into the worksheet cell

- Select the cell into which the formula will be entered.
- Insert an equal (=) sign to begin the formula. The formula toolbar buttons will appear.
- Enter the name of the function, followed by an opening parenthesis, any arguments required for the function, and closing parenthesis.
- Press **Enter**. If there are no errors in the formula, the result of the function will be entered in the cell. If you activate the cell again, the function will be displayed in the formula bar.

**NOTE:** If you cannot find an error in a function you can use the **Paste Function** to debug it. Highlight the problem cell and click on the **Paste Function** icon on the formula bar or **Standard** toolbar.

## Functions (Continued)

- A function must be typed in, using the correct syntax
- They can only be used in formulas, so every function must begin with an equals (=) sign
- They always include parentheses after them
- You may need to enter a value between the parentheses, or they may be left empty

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### Functions (continued)

## Using the SUM Function



- To total a column of figures
  - Select the cell you want to contain the sum formula
  - Click the AutoSum icon on the Standard toolbar
  - A Sum formula will be created by Excel 2003, along with the range it thinks you want to sum
  - If the range is correct, press ENTER



B	
	4
	5
	6
	7
	8
	9
	<b>=SUM(B4:B9)</b>

## Using the SUM Function

### To sum numbers automatically

- Select the cell you want to contain the sum formula.
- Click the **AutoSum** icon on the **Standard** toolbar. Excel 2003 will create a sum formula, along with the range it thinks you want to sum.
- If the range is correct, press **Enter**. If it is incorrect, select the range you want to sum and press **Enter**.

### To use the SUM function

- Select the cell where you want to place the formula.
- Type **=SUM(**
- Highlight the range you wish to sum.
- Press **Enter**.

## Other Commonly Used Functions

- **Commonly used functions include:**

- AVERAGE
- COLUMNS
- COUNT
- MAX
- MIN
- ROUND
- SUM

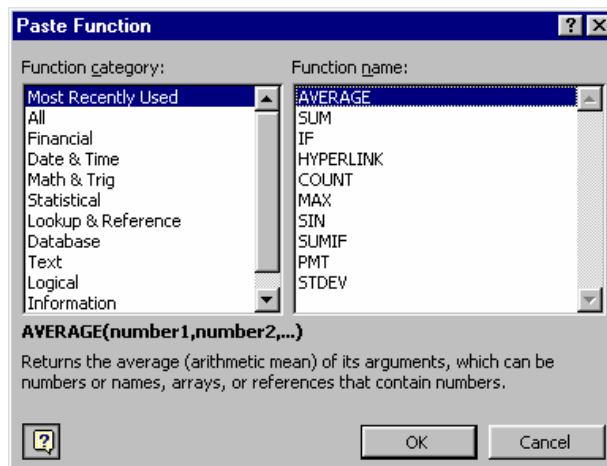


## Other Commonly Used Functions

Function Name	Use
<b>AVERAGE</b>	Used to determine the average number of the selected cells.
<b>COLUMNS</b>	Used to return the number of columns within a reference.
<b>COUNT</b>	Used to count how many numbers are in the list of arguments.
<b>COUNTA</b>	Used to count how many non-empty cells are in the list of arguments.
<b>COUNTIF</b>	Used to count how many non-empty cells are in the list of arguments based on a condition.
<b>MAX</b>	Used to return the maximum number from a list of arguments.
<b>MIN</b>	Used to return the minimum number from a list of arguments.
<b>ROUND</b>	Used to round off numbers to a specified number of decimal points.
<b>SUM</b>	Used to add the contents of selected cells.
<b>PRODUCT</b>	Used to multiply the contents of selected cells
<b>IF</b>	Used to return results based of specified ranges on a TRUE/FALSE condition
<b>HLOOKUP</b>	Used to look for data in a range horizontally
<b>VLOOKUP</b>	Used to look for data in a range vertically
<b>PMT</b>	Used to return a value for a periodic amount to be paid or received
<b>SIN/COS</b>	Used to find the sine or the cosine of a angle

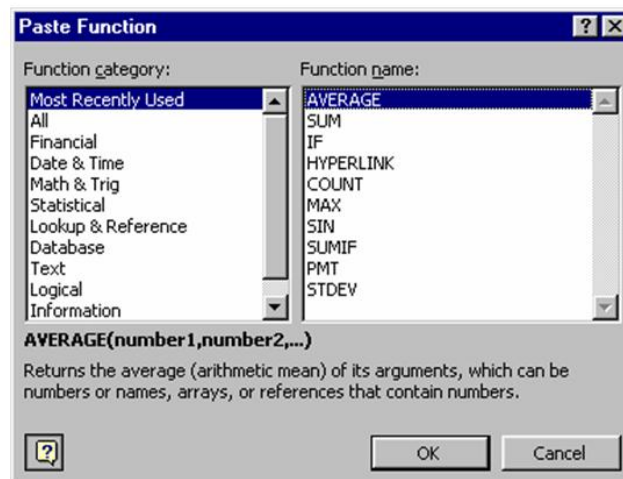
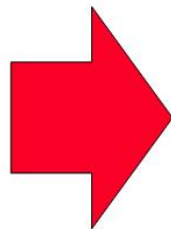


**Commonly used functions, as displayed within the Paste Function**



## Using Paste Function

- An easy way to create and apply functions!



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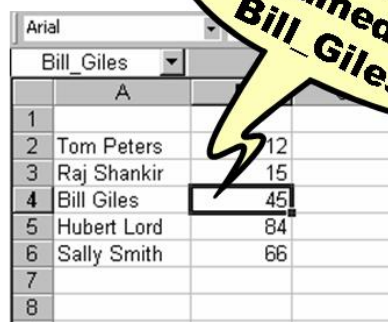
## Using Paste Function

### To use the Paste Function to enter a function

- Select the cell where you want the formula to appear and insert an equal (=) sign to start the formula.
- Enter any expression that appears before the function.
- Click the **Paste Function** button on the **Standard** toolbar to display the **Paste Function** dialog box when you are ready to enter the function.
- From the **Function category** list box, choose a function category.
- From the **Function name** list box, choose the function you require. Use the down arrow to select other functions and select the **OK** button.
- A second **Paste Function** dialog box appears containing the function's arguments. Use the **Tab** key to move through the various arguments.
- When all the arguments are satisfied, click the **OK** button to enter the function into the cell.
- If you want to make changes, do so in the formula bar. Press **Enter** to complete the entry.

## Naming Cells and Ranges

- **Ensure you know**
  - The rules for naming cells and ranges
  - Relative vs. Absolute references
  - How to name cells
  - How to navigate workbooks using named ranges
  - How to create named ranges based on cell values
  - How to delete named cells/ranges



Bill_Giles		
	A	
1		
2	Tom Peters	12
3	Raj Shankir	15
4	Bill Giles	45
5	Hubert Lord	84
6	Sally Smith	66
7		
8		

## Naming Cells and Ranges

### Background

We have seen that cells can be referred to by their location references:

- For single cells - C1 AA23 IV16 A1
- For a range of contiguous cells - A1:A6 B3:X3 B16:F20
- For a range of non-contiguous cells - A2,F6,H2 B7,D2:D8,F4:H7,R5

It is also possible to name cells and ranges so that they can be referred to using meaningful names.

### Rules for naming cells and ranges

- Range names normally begin with a letter or underscore character.
- Range names must NOT contain hyphens or spaces.
- Range names have a limit of 255 characters.
- Bear in mind that names of 10 – 15 characters in length will be visible in most drop-down menus.

**Relative vs. Absolute references**

Depending on the task you want to perform in Excel, you can use either relative cell references, which are references to cells relative to the position of the formula, or absolute references, which are cell references that always refer to cells in a specific location. If a dollar sign precedes the letter and/or number, such as \$A\$1, the column and/or row reference is absolute. Relative references automatically adjust when you copy them, and absolute references don't.

**Relative references** When you create a formula, references to cells or ranges are usually based on their position relative to the cell that contains the formula. In the following example, cell B6 contains the formula =A5; Microsoft Excel finds the value one cell above and one cell to the left of B6. This is known as a relative reference.

	A	B
5	100	
6	200	=A5
7		

When you copy a formula that uses relative references, Excel automatically adjusts the references in the pasted formula to refer to different cells relative to the position of the formula. In the following example, the formula in cell B6, =A5, which is one cell above and to the left of B6, has been copied to cell B7. Excel has adjusted the formula in cell B7 to =A6, which refers to the cell that is one cell above and to the left of cell B7.

	A	B
5	100	
6	200	=A5
7		=A6
8		

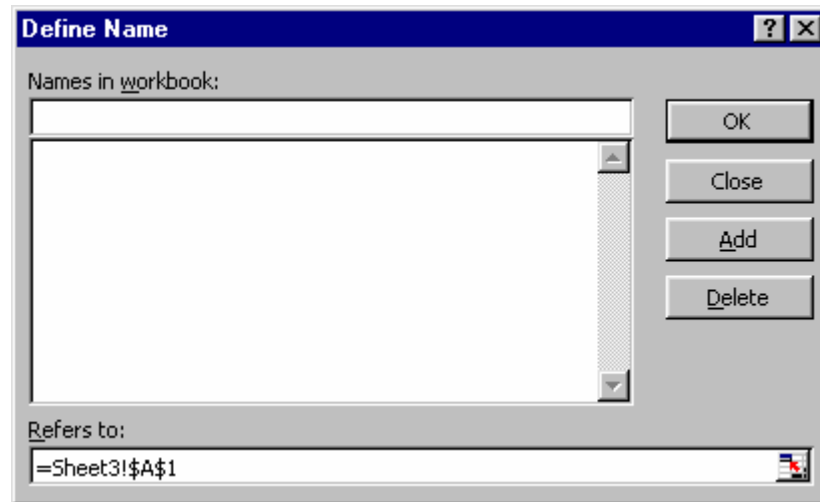
**Absolute references** If you don't want Excel to adjust references when you copy a formula to a different cell, use an absolute reference. For example, if your formula multiplies cell A5 with cell C1 (=A5\*C1) and you copy the formula to another cell, Excel will adjust both references. You can create an absolute reference to cell C1 by placing a dollar sign (\$) before the parts of the reference that do not change. To create an absolute reference to cell C1, for example, add dollar signs to the formula as follows:  
=A5\*\$C\$1

**Mixed reference** Contains both relative and absolute portions of the address, such as =\$B3. When you copy this formula, only the row reference will adjust.

**Switching between relative and absolute references** If you created a formula and want to change relative references to absolute (and vice versa), select the cell that contains the formula. In the *Formula Bar*, select the reference you want to change and then press F4. Each time you press F4, Excel toggles through the combinations: absolute column and absolute row (for example, \$C\$1); relative column and absolute row (C\$1); absolute column and relative row (\$C1); and relative column and relative row (C1). For example, if you select the address \$A\$1 in a formula and press F4, the reference becomes A\$1. Press F4 again and the reference becomes \$A1, and so on.

**To name cells  
(long method)**

- Highlight and select the cell(s) to be named.
- Open the **Insert** menu and select the **Name** option.
- Select the **Define** option.
- The **Define Name** dialog box is displayed as shown below.



- Enter the name you wish to give to the cell or range.
- Click **Add** to add the name to the list of named ranges.
- Click **OK** to complete the name definition.
- The name of the cell is displayed in the **Name Box** at the top left of the formula bar.
- Highlight and select the cell(s) to be named.
- Click in the **Name Box** with the mouse.
- Enter the name you want to give to the cell(s) and press **Enter**.
- The cell(s) now have a name.

**To name cells  
(short method)****To navigate  
workbooks  
using named  
ranges**

It is possible to navigate to named cells and ranges in a single workbook.

- Having defined a set of named cells/ranges, click the down arrow to the right of the **Name Box** and select the named cell/range you wish to go to from the drop down list that appears.



### To create named ranges based on cell values

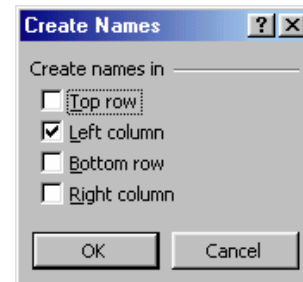
It is possible to automatically name cells/ranges using text labels that exist within the worksheet.

We will use the example sheet shown right to aid the description of this activity.

**NOTE:** The **Name Box** displays the reference J4 for the selected cell.

- Highlight the cell range to be named and include the labels (I2:J6).
- Open the **Insert** menu, select **Name**, and select **Create**.
- The **Create Names** dialog box is displayed and makes an educated guess at the position of the text labels (in this case the left column).
- Click **OK** to complete.
- Check the **Name Box** for the cells to see the effect of this activity.

	J4	=	45
	I	J	K
1			
2	Tom Peters	12	
3	Raj Shankir	15	
4	Bill Giles	45	
5	Hubert Lord	84	
6	Sally Smith	66	
7			



	Bill_Giles	=	45
	I	J	
1			
2	Tom Peters	12	
3	Raj Shankir	15	
4	Bill Giles	45	
5	Hubert Lord	84	
6	Sally Smith	66	
7			

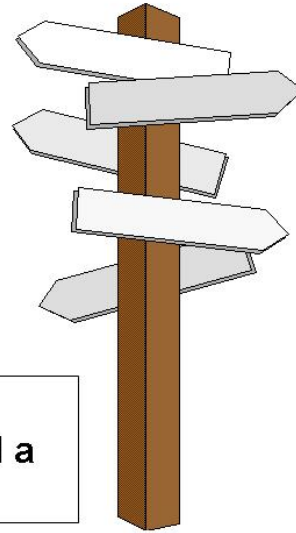
### To delete named cells/ranges

- Open the **Insert** menu, select **Name**, and select **Define**.
- The **Define Name** dialog box is displayed.
- Select the range name you wish to delete.
- Click the **Delete** button to remove that name from the available list.
- When you have deleted the names required click **OK** to exit.

## Using Named Ranges With Formulas

- Use named ranges within your formulas
- Easier to understand
- Easier to modify at a later date!

Named ranges make it much easier to find your way around a spreadsheet!



---

## Using Named Ranges With Formulas

It is much easier to understand a formula such as:

**=unit\_price\*no\_of\_units**

than a formula of the type shown below!

**=A9\*B84**

## Review Questions



### Review Questions - How Would You ...

1.	Enter a formula?
2.	Enter a cell or range reference by pointing?
3.	Enter functions directly into the worksheet cell?
4.	Sum numbers automatically?
5.	Use the SUM function?
6.	Use the Paste Function to enter a function?
7.	Name cells (long method)?
8.	Name cells (short method)?
9.	Navigate workbooks using named ranges?
10.	Create named ranges based on cell values?
11.	Delete named cells/ranges?
12.	Use named ranges within formulas?



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# Introducing Charts

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## Learning Module Objectives

**When you have completed this learning module you will have seen how to:**

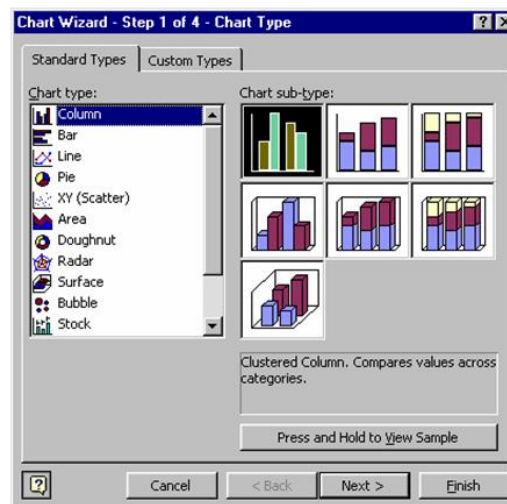
- Use the Chart Wizard to create a chart
- Move a chart
- Re-size a chart
- Delete a chart
- Use the Chart Type icon

## Creating a Chart



- First select your data
- Then click on the Chart Wizard icon
- Follow through the process one step at a time

Or use the Insert Chart command located under the Insert drop down menu



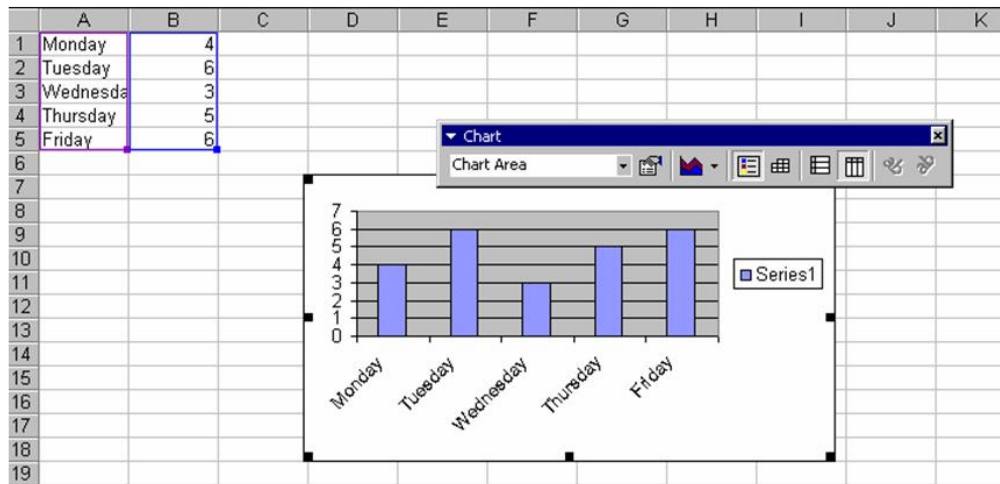
## Creating a Chart

### To use the Chart Wizard to create a chart

- Select the cells you want to include in a chart. If you want to highlight a non-contiguous range, highlight the first range with the mouse, and hold down the **Ctrl** key and click on any other cells.
- On the **Standard** toolbar, click on the **Chart Wizard** icon.
- Step 1 of the **Chart Wizard** dialog box is displayed.
- Continue making your choices via the Chart Wizard until you reach the final step of the **Chart Wizard**.
- Select **Finish** and the chart will appear on your screen.

## Manipulating Charts

- Make sure that you know how:
  - To move a chart and to delete a chart



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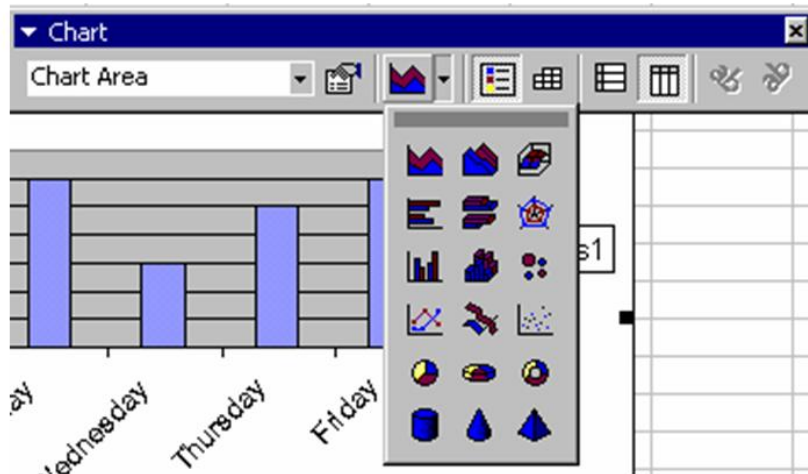
Excel 2003 - Slide No. 55

## Manipulating Charts

- To move a chart**
- Click on the chart you wish to move, so that small rectangular black selection handles are displayed around the border of the chart. This indicates that the chart is selected.
  - Place the mouse pointer on the black border surrounding the chart and drag the chart to a new location.
  - Release the mouse button when you have placed the chart where you want it.
- To re-size a chart**
- Move the mouse to one of the corner selection handles (the small square black boxes) and drag and drop. The chart is re-sized in the same way that any graphic is re-sized within the Microsoft suite of applications.
- To delete a chart**
- Click on the chart you wish to delete to select it and press **Delete**. The chart will be deleted.

## Changing the Chart Type

- Use the Chart Type button to change the type of chart being displayed



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Excel 2003 - Slide No. 56

## Changing the Chart Type


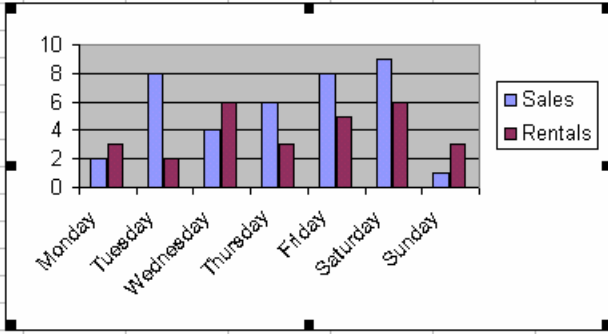

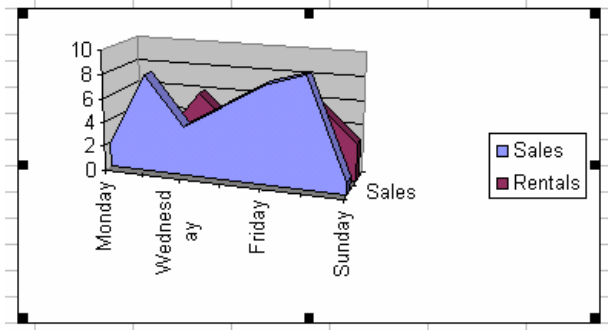

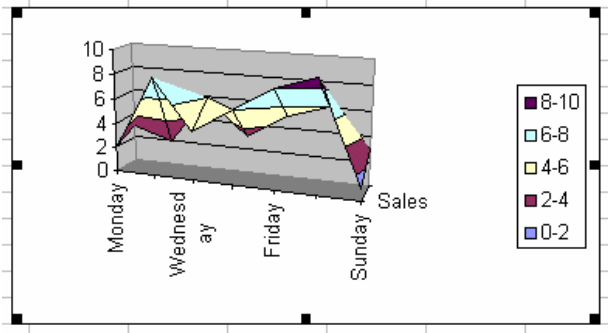

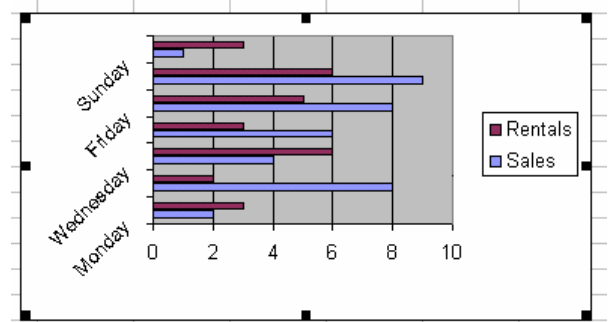
### To use the Chart Type icon


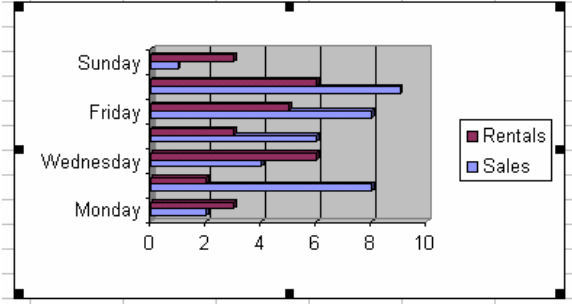

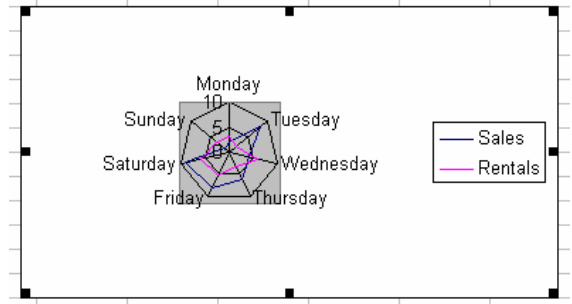

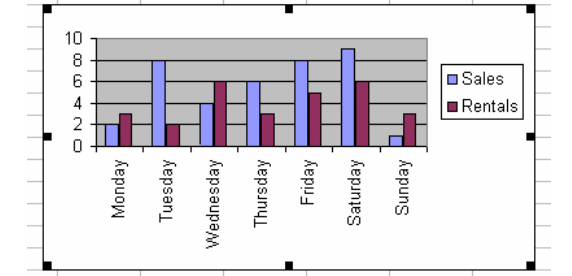

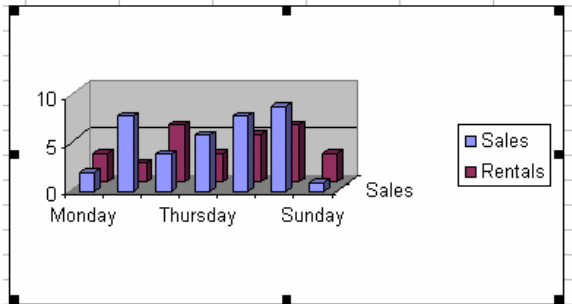
- Click on the chart to select it, and click on the drop down arrow next to the **Chart Type** icon on the **Chart** toolbar.
- Select the new chart type you require.
- Clicking on the **Chart Type** icon will display a drop down containing a range of chart types, from which you can selected the required format.


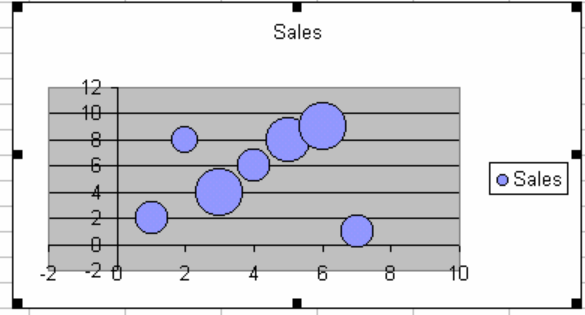

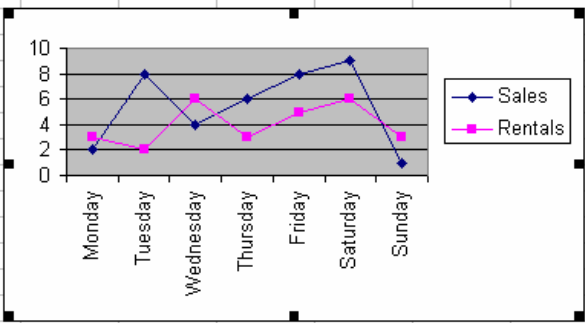

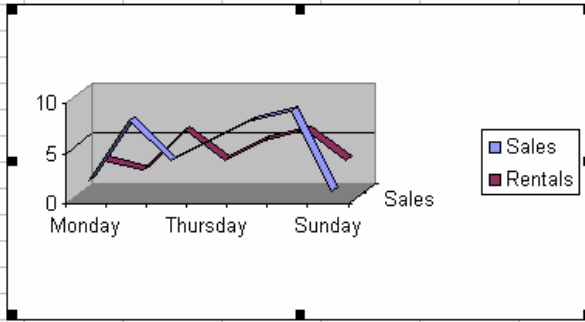

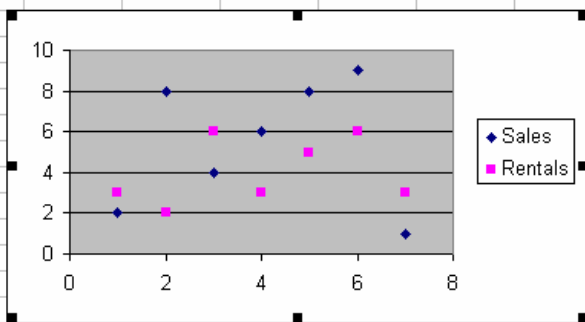



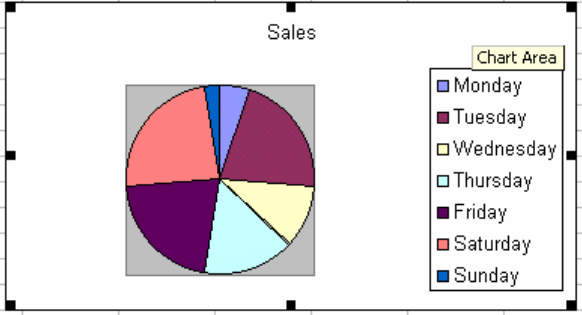

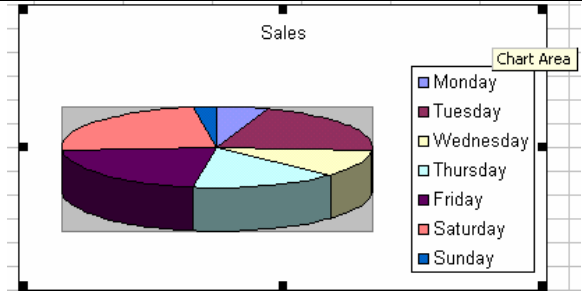

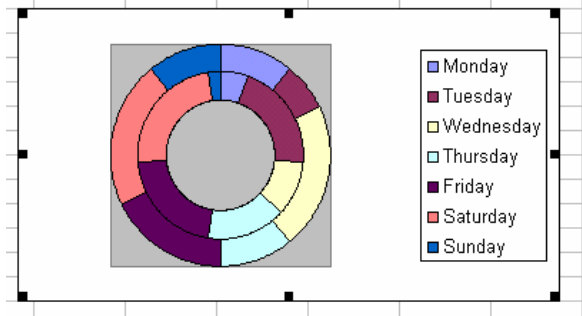

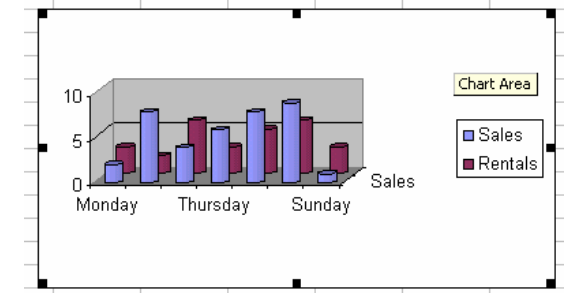
The following examples were created using the data below.

	Sales	Rentals
Monday	2	3
Tuesday	8	2
Wednesday	4	6
Thursday	6	3
Friday	8	5
Saturday	9	6
Sunday	1	3


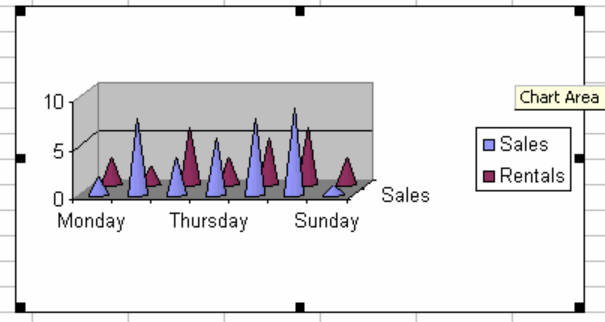

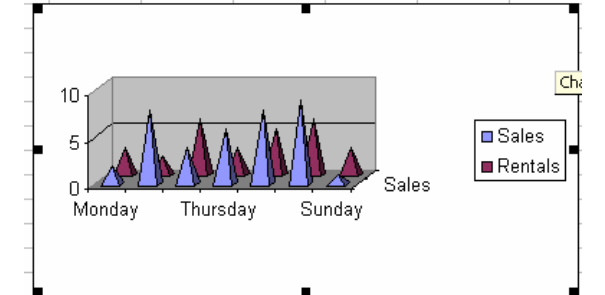
Icon	Title	Effect																								
	<p><b>Area Chart</b></p>	 <table border="1"> <caption>Data for 2D Area Chart</caption> <thead> <tr> <th>Day</th> <th>Sales</th> <th>Rentals</th> </tr> </thead> <tbody> <tr> <td>Monday</td> <td>2</td> <td>3</td> </tr> <tr> <td>Tuesday</td> <td>8</td> <td>2</td> </tr> <tr> <td>Wednesday</td> <td>4</td> <td>6</td> </tr> <tr> <td>Thursday</td> <td>6</td> <td>3</td> </tr> <tr> <td>Friday</td> <td>8</td> <td>5</td> </tr> <tr> <td>Saturday</td> <td>9</td> <td>6</td> </tr> <tr> <td>Sunday</td> <td>1</td> <td>3</td> </tr> </tbody> </table>	Day	Sales	Rentals	Monday	2	3	Tuesday	8	2	Wednesday	4	6	Thursday	6	3	Friday	8	5	Saturday	9	6	Sunday	1	3
Day	Sales	Rentals																								
Monday	2	3																								
Tuesday	8	2																								
Wednesday	4	6																								
Thursday	6	3																								
Friday	8	5																								
Saturday	9	6																								
Sunday	1	3																								
	<p><b>3-D Area Chart</b></p>	 <table border="1"> <caption>Data for 3-D Area Chart</caption> <thead> <tr> <th>Day</th> <th>Sales</th> <th>Rentals</th> </tr> </thead> <tbody> <tr> <td>Monday</td> <td>2</td> <td>3</td> </tr> <tr> <td>Tuesday</td> <td>8</td> <td>2</td> </tr> <tr> <td>Wednesday</td> <td>4</td> <td>6</td> </tr> <tr> <td>Thursday</td> <td>6</td> <td>3</td> </tr> <tr> <td>Friday</td> <td>8</td> <td>5</td> </tr> <tr> <td>Saturday</td> <td>9</td> <td>6</td> </tr> <tr> <td>Sunday</td> <td>1</td> <td>3</td> </tr> </tbody> </table>	Day	Sales	Rentals	Monday	2	3	Tuesday	8	2	Wednesday	4	6	Thursday	6	3	Friday	8	5	Saturday	9	6	Sunday	1	3
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Thursday	6	3																								
Friday	8	5																								
Saturday	9	6																								
Sunday	1	3																								
	<p><b>3-D Surface Chart</b></p>	 <table border="1"> <caption>Data for 3-D Surface Chart</caption> <thead> <tr> <th>Day</th> <th>Sales</th> <th>Rentals</th> </tr> </thead> <tbody> <tr> <td>Monday</td> <td>2</td> <td>3</td> </tr> <tr> <td>Tuesday</td> <td>8</td> <td>2</td> </tr> <tr> <td>Wednesday</td> <td>4</td> <td>6</td> </tr> <tr> <td>Thursday</td> <td>6</td> <td>3</td> </tr> <tr> <td>Friday</td> <td>8</td> <td>5</td> </tr> <tr> <td>Saturday</td> <td>9</td> <td>6</td> </tr> <tr> <td>Sunday</td> <td>1</td> <td>3</td> </tr> </tbody> </table>	Day	Sales	Rentals	Monday	2	3	Tuesday	8	2	Wednesday	4	6	Thursday	6	3	Friday	8	5	Saturday	9	6	Sunday	1	3
Day	Sales	Rentals																								
Monday	2	3																								
Tuesday	8	2																								
Wednesday	4	6																								
Thursday	6	3																								
Friday	8	5																								
Saturday	9	6																								
Sunday	1	3																								
	<p><b>Bar Chart</b></p>	 <table border="1"> <caption>Data for Horizontal Bar Chart</caption> <thead> <tr> <th>Day</th> <th>Sales</th> <th>Rentals</th> </tr> </thead> <tbody> <tr> <td>Monday</td> <td>2</td> <td>3</td> </tr> <tr> <td>Tuesday</td> <td>8</td> <td>2</td> </tr> <tr> <td>Wednesday</td> <td>4</td> <td>6</td> </tr> <tr> <td>Thursday</td> <td>6</td> <td>3</td> </tr> <tr> <td>Friday</td> <td>8</td> <td>5</td> </tr> <tr> <td>Saturday</td> <td>9</td> <td>6</td> </tr> <tr> <td>Sunday</td> <td>1</td> <td>3</td> </tr> </tbody> </table>	Day	Sales	Rentals	Monday	2	3	Tuesday	8	2	Wednesday	4	6	Thursday	6	3	Friday	8	5	Saturday	9	6	Sunday	1	3
Day	Sales	Rentals																								
Monday	2	3																								
Tuesday	8	2																								
Wednesday	4	6																								
Thursday	6	3																								
Friday	8	5																								
Saturday	9	6																								
Sunday	1	3																								

	<p><b>3-D Bar Chart</b></p>	
	<p><b>Radar Chart</b></p>	
	<p><b>Column Chart</b></p>	
	<p><b>3-D Column Chart</b></p>	

	<p><b>Bubble Chart</b></p>	 <p>Sales</p>
	<p><b>Line Chart</b></p>	 <p>Sales Rentals</p>
	<p><b>3-D Line Chart</b></p>	 <p>Sales Rentals</p>
	<p><b>X-Y Scatter Chart</b></p>	 <p>Sales Rentals</p>

	<p><b>Pie Chart</b></p>	
	<p><b>3-D Pie Chart</b></p>	
	<p><b>Doughnut Chart</b></p>	
	<p><b>3-D Cylinder Chart</b></p>	



	<b>3-D Cone Chart</b>	 <p>Chart Area</p> <p>Sales</p> <p>Rentals</p> <p>Monday Thursday Sunday</p>
	<b>3-D Pyramid Chart</b>	 <p>Chart Area</p> <p>Sales</p> <p>Rentals</p> <p>Monday Thursday Sunday</p>

## Review Questions



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### Review Questions - How Would You ...

1.	Use the Chart Wizard to create a chart?
2.	Move a chart?
3.	Re-size a chart?
4.	Delete a chart?
5.	Use the Chart Type icon?

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# Printing

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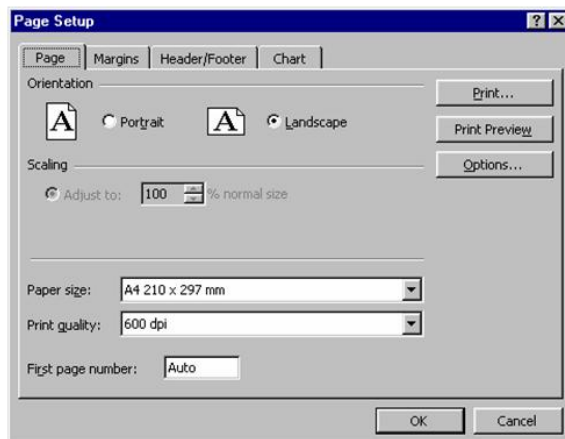
## Learning Module Objectives

**When you have completed this learning module you will have seen how to:**

- Change Page Setup options
- Set print quality
- Change the margins
- Change header and footer margins
- Change margins in Print Preview
- Change the way the data is centered on the page
- Center your printed output on a page
- Use standard headers and footers
- Create custom headers and footers
- Change sheet options
- Select a printer
- Change the printer settings
- Set the print area
- Print column or row titles on every page
- Print sideways
- Preview a worksheet
- Print multiple worksheets
- Print a number of files at the same time

## Page Setup

- From the File menu, choose Page Setup to display the Page Setup dialog box



### Options include:

- Orientation
- Page numbering
- Paper size
- Print quality
- Scale of the page

## Page Setup

### To change Page Setup options

- From the **File** drop down menu, choose **Page Setup** to display the **Page Setup** dialog box.
- Click on the **Page** tab.

Make changes to any of the following:

To change this:	Do this:
<b>Orientation</b>	Select Portrait or Landscape by clicking the option button in the <b>Orientation</b> area.
<b>Page numbering</b>	To begin page numbering with a different number, select the <b>First page number</b> text box and enter the number you want to use.
<b>Paper size</b>	Display the <b>Paper size</b> drop-down list box and select the size you require.

### To set print quality

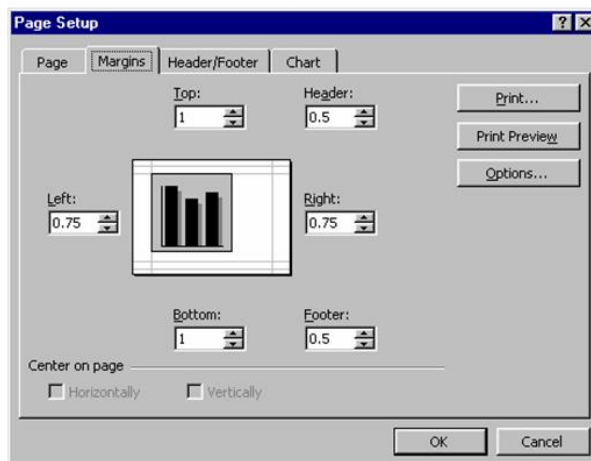
- Display the **Print quality** drop-down list box and choose the quality you require.

### To set the scale of the page

- Choose the **Adjust to** option button.
- Enter a percentage to scale in the **Adjust to** spin box, or choose the **Fit To** option and enter the dimensions of the pages in the tall and wide spin boxes.
- Select **OK**.

## Margins

- From the **File** menu, choose **Page Setup** to display the **Page Setup** dialog box
  - Select the **Margins** tab



### Options include:

- Changing the margins
- Changing header and footer margins
- Changing margins in Print Preview

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Excel 2003 - Slide No. 60

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## Margins

### To change the margins

- From the **File** menu, choose **Page Setup** to display the **Page Setup** dialog box.
- Select the **Margins** tab and click on the margin spin box you want to change, **Top**, **Bottom**, **Left**, or **Right**.
- Click on the spin box arrows to change the settings and select **OK**.

### To change header and footer margins

- From the **File** menu, choose **Page Setup** to display the **Page Setup** dialog box and click on the **Margins** tab.
- Choose the **Header** or **Footer** spin box and change the margin settings using the spin box arrows.
- Select **OK**.

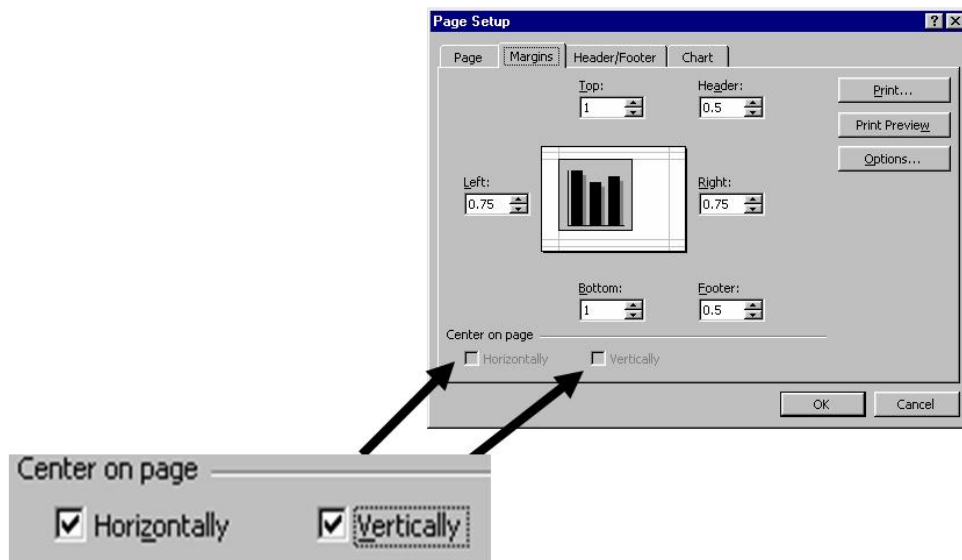
### To change margins in Print Preview

- From the **File** menu, choose **Print Preview** to display the **Print Preview** window and click on the **Margins** button. Dotted guidelines will appear to indicate each margin.
- Click and drag the margin guideline you wish to change to a new location.

### To change the way the data is centered on the page

- From the **File** menu, choose **Print Preview** to display the **Print Preview** window.
- Click on the **Margins** button and dotted guidelines will appear to indicate each margin.
- Click on **Setup** to display the **Page Setup** dialog box.
- Select the **Margins** tab and click on **Horizontally** and/or **Vertically** check boxes in the **Center on page** section of the dialog box.
- Select **OK**.

## Centering a Report on the Page



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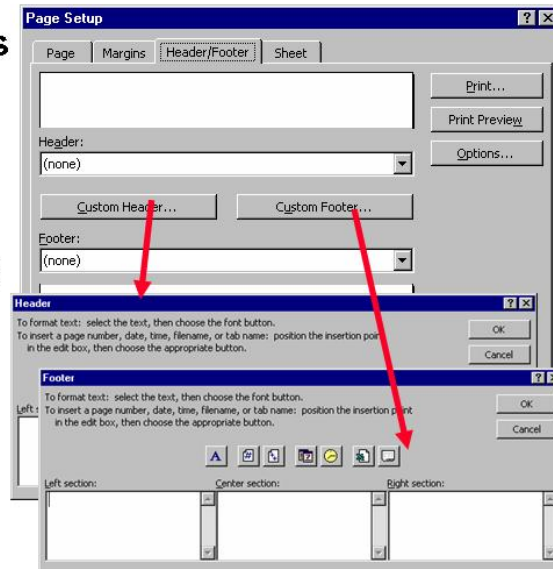
## Centering Printed Output

### To center your printed output on a page

- From the **File** menu, choose **Page Setup** to display the **Page Setup** dialog box.
- Select the **Margins** tab.
- Click the **Horizontally** and/or **Vertically** check boxes in the **Center on page** area. An example of how your selection will print is displayed on the preview page.
- The print block will be centered between the margins which you establish.
- When you have selected your options, choose the **Print** button to display the **Print** dialog box.
- Choose **OK** to print the report.

## Headers and Footers

- Use the default headers and footers
- Select headers and footers from the lists provided by Excel 2003
- Create your own custom headers and footers



**Note: Excel 2003 automatically inserts the name of your file in the header area and the page number in the footer area**

## Headers and Footers

### To use standard headers and footers

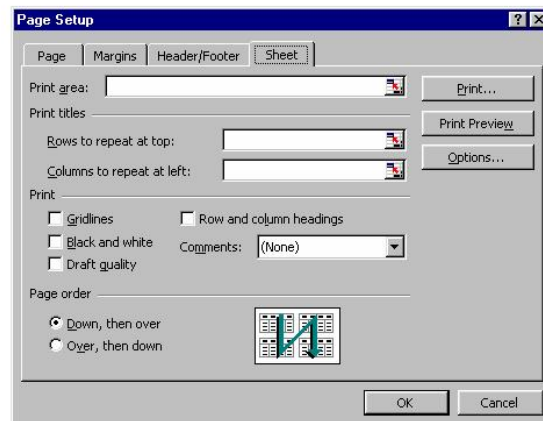
- Excel 2003 provides standard header and footer options which can be selected from the drop down menus in the **Page Setup** dialog box. From the **File** menu, select **Page Setup** to display the **Page Setup** dialog box. Make sure the **Header/Footer** tab is displayed.
- Click on the **down arrow** to the right of the **Header** list box to reveal a list of available headers.
- Click on the header required to select it.
- Click on the **down arrow** on the right of the **Footer** list box to reveal a list of available footers.
- Click on the footer required to select it.
- Click on **OK** to accept the header and footer and close the dialog box.

### To create custom headers and footers

- From the **File** menu select **Page Setup** to display the **Page Setup** dialog box. Make sure the **Header/Footer** tab is displayed.
- Click on the **Custom Header** or **Custom Footer** button to display the **Header** (or **Footer**) dialog box. In the **Left section** box, enter any data you want to appear at the left margin of the header or footer. In the **Center section** box, enter any data you want to appear at the center of the header or footer.
- In the **Right section** box, enter any data you want to appear at the right margin of the header or footer. You can also add the date and time to your header or footer using the **Date** and **Time** icons, include file and sheet names in the header or footer using the **File** and **Sheet name** icons, and determine which pages the header and footer will appear on using the **Page** buttons. When you have finished, click on **OK** to close the dialog box. Your new header (or footer) will be displayed in the **Page Setup** dialog box in the **Header** or **Footer** list box. Choose **OK** to close the **Page Setup** dialog box.

## Sheet Printing Options

- Allows you to set:
  - The print area
  - Print titles
  - Print options including gridlines, comments, draft quality, black and white as well as row and column headings
  - Printer order, i.e. down the page or across the page



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## Sheet Printing Options

### To change sheet options

- From the **File** drop down menu, click on the **Page Setup** command to display the **Page Setup** dialog box.
- Select the **Sheet** tab and then make changes to any of the following:

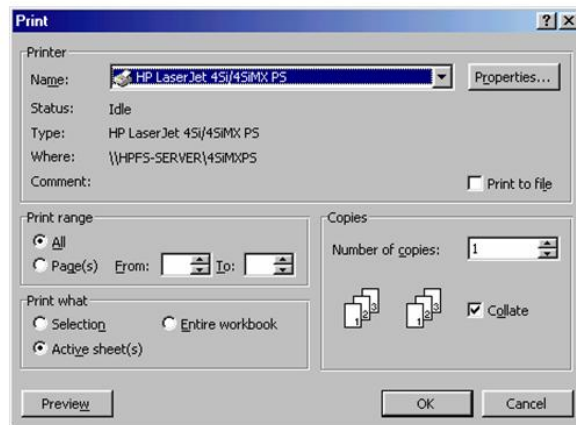
To change this:	Do this:
Columns or rows to repeat	<ul style="list-style-type: none"> <li>• Click on the icon in the right of the <b>Rows to repeat at top</b> text box in the <b>Print titles</b> area and drag over the rows you wish to repeat at the top of the page. Click on the icon in the right of the <b>Columns to Repeat at Left</b> text box, and drag over the columns you wish to repeat at the left of the page.</li> </ul>
Elements that will print	<ul style="list-style-type: none"> <li>• Select the elements you wish to print, i.e. <b>Gridlines, Comments, Draft Quality, Black and White, Row and Column Headings.</b></li> </ul>
Order of pages to print	<ul style="list-style-type: none"> <li>• Select <b>Down, then over</b>, or <b>Over, then down.</b></li> </ul>
Print range	<ul style="list-style-type: none"> <li>• In the <b>Print Area</b> text box, enter the worksheet range you want to print, or click on the icon in the right of the <b>Print Area</b> text box and drag through the worksheet areas you wish to print.</li> </ul>

- Select **OK**.



## Choosing a Printer and Changing Settings

- From the File menu, select Print to display the Print dialog box
  - Choose the Properties button to display the Printer Properties dialog box
  - From the Printer list box, choose the printer you wish to use



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## Choosing a Printer and Changing Settings

### To select a printer

- From the **File** menu, select **Print** to display the **Print** dialog box.
- From the **Printer Name** list box, choose the printer you wish to use.
- Select **OK**.

### To change the printer settings

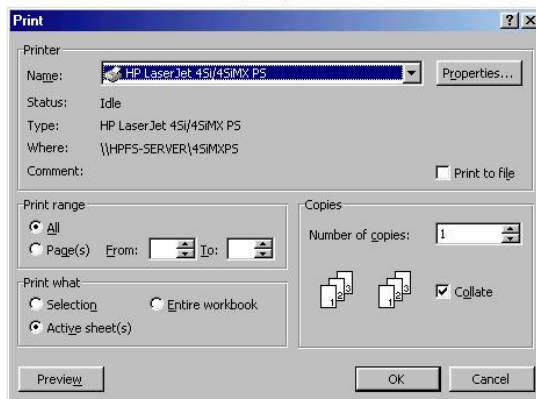
- From the **File** menu, choose **Page Setup** to display the **Page Setup** dialog box.
- Choose the **Options** button to display the **Properties** dialog box for the printer.
- Change the options required. The options will vary depending on what type of printer you have.
- Select **OK**, and then select **OK** to close the **Page Setup** dialog box.

### To set the print area

- From the **File** menu, choose **Page Setup** to display the **Page Setup** dialog box.
- Select the **Sheet** tab.
- In the **Print area** text box, enter the print area, or select the worksheet range by clicking in the **Print area** text box and dragging through the worksheet to select the areas you wish to print.
- Select **OK**.

## Printing a Worksheet

- From the **File** menu, select **Print**
- Or press **Ctrl+P**
  - Which displays the **Print** dialog box



Note that clicking on the **Print** icon **WILL NOT** display the **Print** dialog box, but will send the job directly to the printer



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## Printing a Worksheet

### To print

- From the **File** menu, select **Print** to display the **Print** dialog box.
- Select what you want to print in the **Print what** area, i.e. **Selection**, **Active sheet(s)**, or **Entire workbook**.
- Specify the number of copies you want to print in the **Number of Copies** spin box.
- In the **Page range** area, select whether you want to print **All** pages in a range, or enter the starting and ending page numbers in the **From** and **To** spin boxes.
- Select **OK**.

### To print column or row titles on every page

- From the **File** menu, choose **Page Setup** to display the **Page Setup** dialog box.
- Select the **Sheet** tab.
- Click the **Rows to repeat at top** text box and then select the rows you want to repeat by dragging over the rows in the worksheet. Click on the **Columns to repeat at left** text box and select the columns to repeat in the same way.
- Select **OK**.

### To print sideways

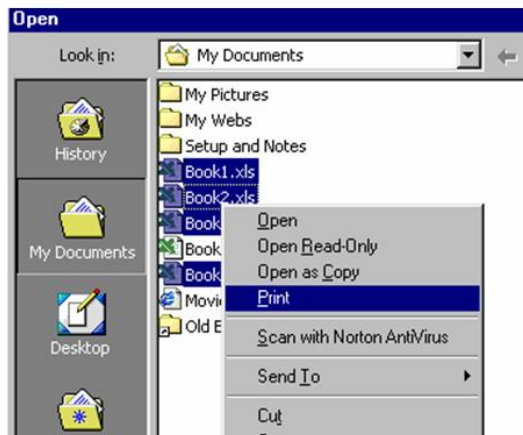
- From the **File** menu, choose **Page Setup** to display the **Page Setup** dialog box.
- Click the **Page** tab and click on **Landscape** in the **Orientation** area.
- Select **OK**.

### To preview a worksheet

- From the **File** menu, select **Print Preview** to display the preview window for the sheet.
- Select the **Close** button when you have finished.

## Printing Multiple Files

- Choose Open from the File menu and select files to be printed (Ctrl and Click)



In the example shown, 4 files have been selected

Right click and select Print from the pop-up menu

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## Printing Multiple Files

To print a number of files at the same time

- Click on the **File** drop down menu.
- Click on the **Open** command.
- While holding down the **Ctrl** key select the files to be printed.
- Right-click on the files to display a pop-up menu.
- Select the **Print** command from the pop-up menu.

## Review Questions



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### Review Questions - How Would You ...

1.	Change Page Setup options?
2.	Set print quality?
3.	Change the margins?
4.	Change header and footer margins?
5.	Change margins in Print Preview?
6.	Center your printed output on a page?
7.	Use standard headers and footers?
8.	Create custom headers and footers?
9.	Change sheet options?
10.	Select a printer?
11.	Change the printer settings?
12.	Set the print area?
13.	Print column or row titles on every page?
14.	Print sideways?

15.	Preview a worksheet?
16.	Print multiple worksheets?
17.	Print a number of files at the same time?



# **EXERCISE PACK**

## **EXCEL 2003**

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## Installing the Sample Files

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### Installing the sample files

- Use the Windows Explorer to copy **Excel 2003 samples** from your exercises diskette, just below the **My Documents** folder.



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## A First Look at Excel 2003

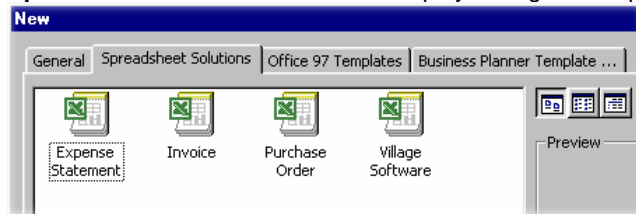
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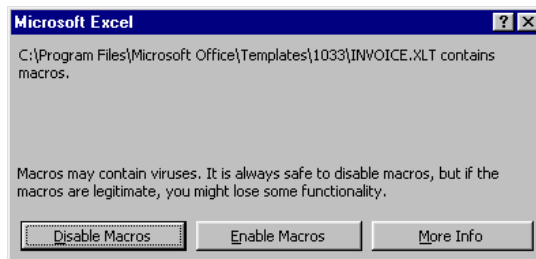
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### Creating and Opening Workbooks

- Start Excel and notice that it starts with a new default workbook. Then close Excel.
- Start Excel and create a new workbook file using some of the templates installed on your computer such as the **Invoice** or **Purchase Order** templates. To do this click on the **File** drop down menu, and then click on the **New** command. The **New** dialog box will be displayed and clicking on the **Spreadsheet Solutions** tab should display a range of templates for you to experiment with.



**NOTE:** You may see a dialog box as illustrated below, in which case click on **Enable Macros**.



**Note that you may need access to the MS Office Installation disk if these templates have not been pre-installed on your computer.**

Experiment for a while using other templates that may be installed on your computer and then close your files without saving your changes.

### Entering Data

- Create a new workbook.
  - Enter the number **1** in cell **A1**. Press **Enter** and in the cell **A2** enter the number **2**, and press **Enter**. Continue until to have entered the numbers **1-10**. **NOTE:** Be sure to press the **Enter** key after you have entered the number **10**.
  - Are the numbers within each cell aligned to the right of the left?
  - Click on cell **B1** and this time enter the **apostrophe** character, followed by the number **1**. Press **Enter**. This time is the number aligned to the left or right? Why?
  - Click on the cell **E2** and enter your **first name**, followed by the **Enter** key. Remember that you always need to press the Enter key to confirm your data entry. Is the text aligned to the right or the left?
  - In cell **E3** enter the current date by pressing **Ctrl+;** (followed by the **Enter** key).
  - Enter the current time, press **Ctrl+:** (followed by the **Enter** key).
- Note:** To achieve this you would actually depress the following three keys **Ctrl+Shift+:**

### Entering data into a range of cells

- Click on cell **B13**. Depress the mouse button (and keep it depressed). Drag the mouse pointer to cell **E16**. Release the mouse button and a small rectangular block of cells will remain highlighted (this is called a range of cells).
- Type in the number **1** and press **Enter**. Continue typing in more numbers, **2, 3, 4** etc and look what happens when you reach the bottom of the selected area.
- Close your workbook without saving your changes.

## Entering the same data into a range of cells

- Create a new workbook.
- Click on cell **B1**. Depress the mouse button (and keep it depressed). Drag the mouse to cell **J3**.
- Type in the number **25** and press **Ctrl+Shift+Enter**. What happens?

## AutoCorrect

- Open the **Tools** menu and select the **AutoCorrect** command. Use the scroll bars to move through the items listed in the **Replace** and **With** section. As you can see if you enter (c) this will automatically be replaced by a © symbol. Close the dialog box.
- Type the following into your worksheet and observe what happens when you press the **Enter** key.
  - (c)
  - (r)
  - (tm)
  - accross
  - DAve
  - monday
- Close the workbook without saving your changes.

## Adding an item to the AutoCorrect list

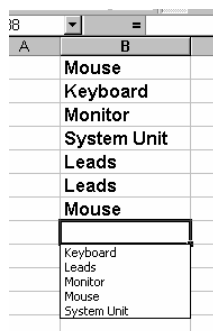
- Create a new workbook.
- Open the **Tools** menu and select the **AutoCorrect** option.
- Add a new AutoCorrect item to the **Replace** section called **NDU** and in the **With** section enter the words **NDU Computer Training**.
- Click on the **Add** button. Then click on the **OK** button to close the dialog box.
- Once you have done this try entering **NDU** into your worksheet and look what happens when you press the **Enter** key.
- Close the workbook without saving your changes.

## AutoComplete

- Open a file called **LIST**.
- Position the active cell at **B6**.
- Enter the letter **L**. What do you see? Press the **Enter** key. What happens?
- Experiment with seeing the effect of entering the letter **M**, followed by the letter **o**, followed by the letter **u**. What happens when you get to the **u**? Press the **Enter** key. What happens?

## Using the Pick List

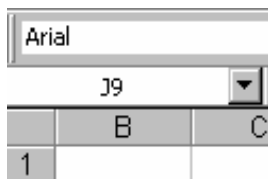
- If not already there, move to the cell directly below the bottom of the list.
- Right click to display a pop-up menu and from this menu select **Pick From List**.



- Click on the word **Keyboard** from this list. What happens?

## Navigating in the Worksheet

- Enter the cell reference **J9** into the **Name Box** (at the top, left of the screen, as illustrated). When you press the **Enter** key you will jump to the cell you entered.



- Close the workbook, without saving your changes.

## Navigating in the Worksheet using the keyboard

- Open the workbook called **NAVIGATE** and experiment with using the following keys to navigate within the worksheet.

Press this:	To move:
→	One cell to the right.
←	One cell to the left.
↓	One cell down.
↑	One cell up.
<b>Ctrl + →</b>	To the right-hand edge of the current region.
<b>Ctrl+ ←</b>	To the left-hand edge of the current region.
<b>Ctrl + ↓</b>	To the bottom edge of the current region.
<b>Ctrl + ↑</b>	To the top edge of the current region.
<b>Home</b>	To the first cell in the row.
<b>Ctrl+Home</b>	To the first cell in the worksheet.
<b>Ctrl+End</b>	To the lowest right-hand cell in the worksheet that contains a data entry.
<b>Page Down</b>	One screen down.
<b>Page Up</b>	One screen up.
<b>Alt+PgDn</b>	One screen to the right.
<b>Alt+PgUp</b>	One screen to the left.

## Moving between worksheets

- Click on the **Old data** tab to switch to another worksheet contained within the Workbook file.
- Experiment with using **Ctrl+PgDn** to move to the next sheet and **Ctrl+PgUp** to move to the previous sheet in your workbook.

## Selecting Items Within Excel 2003

- Click on the **Current data** tab to view the current data worksheet.
- **Experiment with selecting a range of cells by dragging the mouse.**  
Click on cell **A5**. Depress the mouse key and keep it depressed. Drag the mouse to cell **F11** and release the mouse button. The range **A5** to **F11** will remain selected.
- **Experiment with selecting a row.**  
Click on the '3' to the left of '**Part numbers**', as illustrated. This should select the row.

	A	B
1		Sal
2		
3	Part numbers	Jan
4		
5	Northern region	
6	4858	
7		

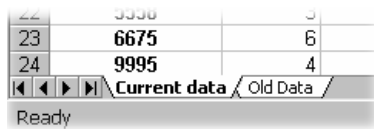
- **Experiment with selecting a column.**  
Click on the 'B' column header, as illustrated. This should select the column.

	B
	Sales figur
	Jan

- **Experiment with selecting non-contiguous cells, rows and columns.**  
Select cell **A6** and while keeping the **Ctrl** key depressed, also click on cells **A9** and **A13**. Release the **Ctrl** key and the three cells should remain selected.  
**NOTE** The last cell i.e. A13 may not be highlighted but is it still selected!  
  
Select row **6** and while keeping the **Ctrl** key depressed select row **19**. Release the **Ctrl** key and the two rows should remain selected.  
  
Select column **C** and while keeping the **Ctrl** key depressed select column **H**. Release the **Control** key and the two columns should remain selected.
- **Experiment with selecting an entire worksheet.**  
Click on the intersection of the column and row headers and this should select the entire sheet.

	A
1	

- **Experiment with selecting several sheets.**  
Click on the **Current Data** worksheet tab and while depressing the **Control** key click on the **Old Data** tab. When you release the **Control** key the two sheets will remain selected.
- Click on either sheet tab to just select a single sheet again.



- **Experiment with selecting all sheets.**  
Click on a sheet tab using the right-hand mouse button to display the shortcut menu and click on **Select All Sheets**.
- Close the workbook without saving your changes.

## Inserting and Deleting Cells, Rows and Columns

- Open a file called **SALES FIGURES**.
- **Inserting a row into a worksheet.**  
Select row **4** and right click over the selected row to display a pop-up menu and select **Insert**.
- **Inserting a column into a worksheet.**  
Select the column **B** and right click over the selected column to display a pop-up menu and select **Insert**.
- **Deleting a row.**  
Select row **4** and right click over the selected row to display a pop-up menu and select **Delete**.
- **Deleting a column.**  
Select the column **B** and right click over the selected column to display a pop-up menu and select **Delete**.
- Close the file without saving your changes.

## Saving Workbooks

- Create a workbook, enter some data and then save a workbook as **SAVED-01**.
- Save a backup copy of the workbook, using the **Save As** command to save the file with a different file name **SAVED-02**.
- **Experiment with saving summary information with a workbook.** From the **File** menu, select **Properties**. Enter the required information in the **Properties** dialog box. Select **OK** to save the information within the file.

## Using the Spelling Checker

- Open a file called **EXSPELL**.
- Spell check this worksheet, using the **F7** keyboard shortcut.
- Close the file without saving your changes.





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## A Closer Look at the Excel 2003 Screen

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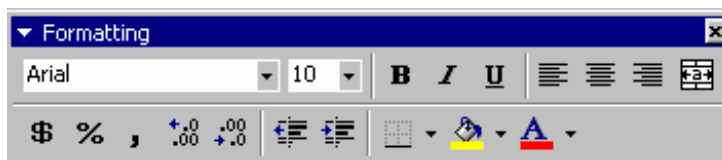
### The Standard Toolbar

- Examine the **Standard** toolbar and make sure that you can identify the function of each icon. At this stage you may not understand the function of each icon, just try to get a feel for what is available via the use of this toolbar! You may want to use the Office Assistant available within Excel to obtain more information on some of the features that you are unfamiliar with!



### The Formatting Toolbar

- Examine the **Formatting** toolbar and make sure that you can identify the function of each icon. At this stage you may not understand the function of each icon, just try to get a feel for what is available via the use of this toolbar! You may want to use the Office Assistant Help to obtain help on some of the features that you are unfamiliar with!



### Selecting Worksheet Views

- Open a file called **DATATBL**.
- Make a note of the "**zoom percentage**" that you are using.
- Experiment with using the zoom controls.
- Re-set the zoom to the original value.

### Undo and Repeat

- Try performing a few actions within a workbook, such as entering and deleting data and experiment with using the Undo and Redo commands.
- Close the file without saving your changes.

### The Office Assistant

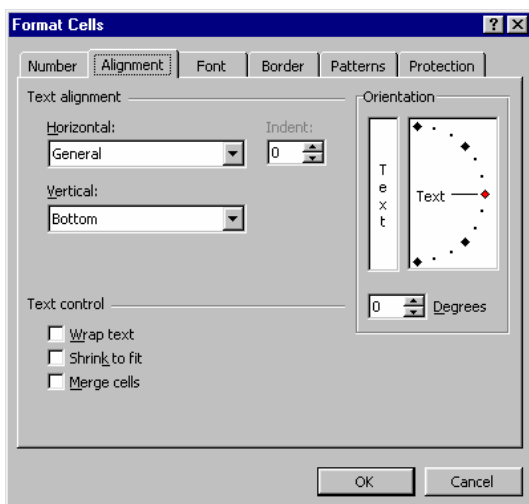
- Re-start Excel and make a note of **Today's Tip** (this may not display by default on your PC).
- **Hide the Office Assistant.** Right click on the Office Assistant, and from the pop-up menu displayed, select **Hide**.
- **Re-display the Office Assistant.** Click on the **Office Assistant** icon located within the **Standard Toolbar**.



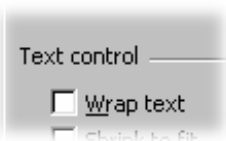
## Formatting and Customizing Data

### Alignment Formatting Options

- Open a file called **ALIGN**.
- **Experiment with aligning data between the left and right sides of a cell.** To do this select cells **B5** to **B11**, click on the **Format** drop down menu and select **Cells**. From the dialog box displayed, select **Alignment**. Experiment using the **Horizontal** and **Vertical** alignment.

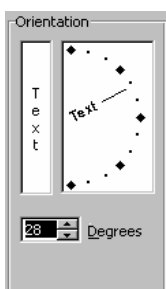


- Experiment with wrapping multiple lines of data in a cell. Use cell **B2** for this.



### Data Indentation and Orientation

- **Experiment with indenting data within a cell.** Indent the information in cells **B5** to **B11**. First select the cells, then right click to display the pop-up menu, and from the list displayed, select **Format Cells**. This will display the **Format Cells** dialog box. Select the **Alignment** tab. Select **Left (Indent)** from the **Text alignment / Horizontal** list, and then use the spinner controls to add the required indent. Select **OK**.
- **Experiment with rotating text to any angle.** Rotate the information in cells **C4** to **F4** by **45** degrees. Select the cells that you wish to apply the rotation formatting to.
- Right click to display the pop-up menu, and from the list displayed, select **Format Cells**. This will display the **Format Cells** dialog box. Select the **Alignment** tab. From the **Orientation** section either enter the exact amount of rotation required into the **Degrees** box, or drag the **Text** dial to give the desired level of rotation. Select **OK**.

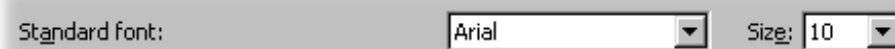


## Centering a Heading

- **Centering headings**  
Center "**Total value of sales this month**" over multiple columns from cells **B2** to **F2**.  
To do this select the cells and on the **Formatting** toolbar, click the **Merge and Center** icon.

## Using Fonts

- **Experiment with changing the font which is used in a cell or range.**  
Change the font used in cells **B5** through to **B11**.
- **Experiment with changing the default font.**  
First make a note of the font type and size that is being used within your worksheet.  
From the **Tools** menu, choose **Options** to display the **Options** dialog box. Select the **General** tab and choose a different font from the **Standard font** drop down list box. Select a font size from the **Size** drop down list box.



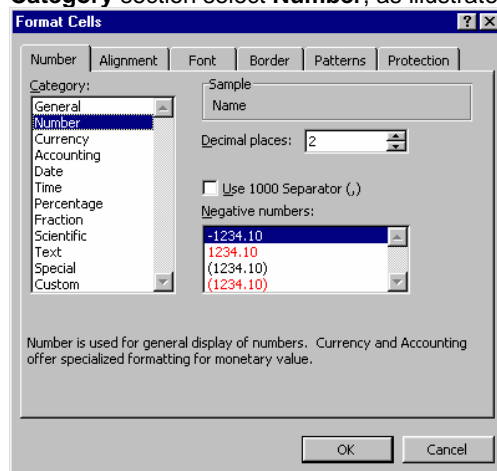
Select **OK**. Close and re-start Excel for these changes to take place. Enter data into a new workbook and confirm that the font is indeed different!

Set the font default back to its original setting.

- Close your workbook without saving any changes that you have made.

## Formatting Numbers

- Open the Excel file **ALIGN** and experiment with changing number formatting in Excel 2003 using the Formatting toolbar.
- **Experiment with rounding numbers using a numeric format.** Select the cells **C5** to **E11**. Right click to display a pop-up menu and select **Format Cells**. Select the **Number** tab and from the **Category** section select **Number**, as illustrated.



In the **Decimal places** section of the dialog box, change the value to **0** and click on the **OK** button. Observe the changes that this makes. Then reset the value back to 2 decimal places.

- Experiment with setting the number of decimal places displayed using these icons.



- Close the file without saving your changes.

## Formatting Columns and Rows

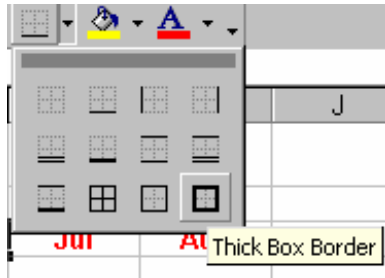
- Open the **SALES FIGURES** file.
- **Experiment with changing the width of a column.** Find the right-hand border of the column you wish to change and follow it to the top of the worksheet into the area of the column heading. When the mouse pointer is moved in this area, it changes to a thick crosshair. Click on the right-hand column heading border and drag the mouse to the left to reduce the column, or to the right to increase the column size.
- **Experiment with setting the column width to match the data automatically.** Double click on a border to make the column change to fit the data in it. The column will be as wide as the largest entry in it.
- **Experiment with changing the width of multiple columns to match the data.** Click on the heading (column letter) of the first column you want to change, and drag to highlight the other columns. Double click on the right-hand border of the column heading of any of the highlighted columns. The column widths will change to match their largest entry.
- **Experiment with setting new default column widths.** From the **Format** menu, choose **Column Standard Width** to display the **Standard Width** dialog box. Enter a new width for standard columns (measured in characters). Select **OK**.
- **Experiment with changing the height of a row.** Select the row(s) you wish to change.
- From the **Format** menu, select **Row** and choose **Height** from the **Format Row** menu. The **Row Height** dialog box is displayed. Enter the value you want (from 0-409) in the **Row Height** text box. The value represents the row height in points. Select **OK**.

## Deleting Cells, Formats, Objects and Worksheets

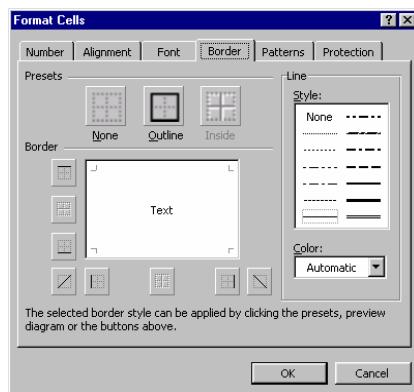
- **Experiment with deleting the contents of a cell or range.** Select the cell or range that you want to delete. Press the **Delete** key.
- **Experiment with deleting rows and columns.** Click on the row number or column letter to highlight the rows and/or columns you want to delete. From the **Edit** menu, choose **Delete**. The row or column will be deleted and the other rows or columns will move to account for the deletion.
- **Experiment with deleting worksheets.** Switch to the worksheet you wish to delete. From the **Edit** menu, select **Delete Sheet**. A dialog box will appear to warn you that this action will permanently remove the selected sheets. Click on **OK** to remove the worksheet, or choose **Cancel** to cancel the operation.
- Close the file without saving your changes.

## Adding, Editing and Removing Borders

- Experiment with applying a border to cells or ranges.** Open the **SAMPTBL** file. Select the cell range **B4 to F12** (By clicking on cell **B4** and while depressing the **Shift** key clicking on the cell **F12**). Click on the down arrow next to the **Borders** icon located in the **Formatting** toolbar and you will see a drop down menu, as illustrated. Click on the **Thick Box Border**. A border will be applied to the select range. Click on a different part of the worksheet to de-select the range and allow you to more easily see the effect.



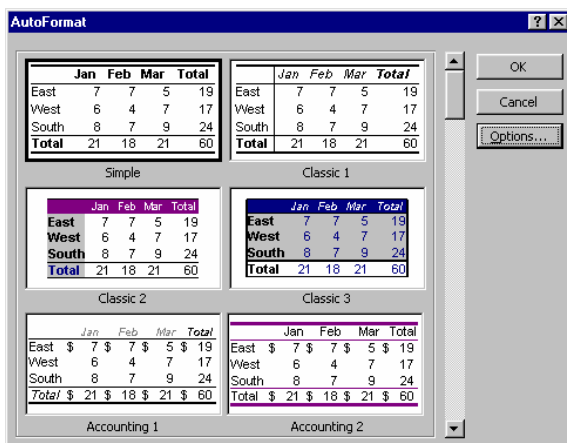
- Experiment with removing a border from cells or ranges.** Re-select the cell range **B4 to F12** and use the **Border** icons to remove the border you have just applied.
- Experiment with applying other type of border to this range of cells.
- Experiment with changing the style and color of borders.** Instead of using the **Borders** icon, re-select the range and then click on the **Format** drop down menu, select **Cells** and from the dialog box displayed select the **Border** tab, as illustrated. From here you can experiment with applying different line styles and colors to your border.



- Close the file without saving your changes.

## Using AutoFormat

- Open the file called **SAMPTBL**.
- Experiment with AutoFormat to automatically format this table. To do this click within the data, then click on the **Format** drop down menu and select the **AutoFormat** menu. Experiment!



**NOTE:** Remember that you can scroll down within the AutoFormat dialog box to display more choices of AutoFormat styles. You can also experiment with clicking on the **Options** button within the AutoFormat dialog box.

- Close the file without saving your changes.

## Moving Data

- Open the file called **DATATBL**.
- Experiment with copying data to a different location on the same page. Select the cell range **B4 to F11**. Move the mouse pointer at the edge of the selected box (until it changes to an arrow shape). Depress the mouse button and while keeping the button depressed drag the mouse downwards until you see a small yellow pop-up message displaying **B9:F16**. Release the mouse button and the data will be moved to the new location.
- Click on the **Undo** icon to reverse the move.

## Copying Data

- Select the cell range **B4 to F11** and this time **copy the information** to a new location using the "drag and drop" technique outlined above (to copy rather than move depress the **Ctrl** key while you drag and drop!)
- **Experiment with using the Clipboard to copy and move data.**  
 To **Copy** to the Clipboard select a range and press **Ctrl+C**,  
 To **Cut** to the Clipboard select a range and press **Ctrl+X**,  
 To **Paste** from the Clipboard location the insertion point at the point that you wish to paste the information to and then press **Ctrl+V**
- Close the file without saving your changes.

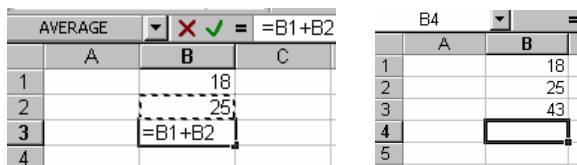




# Formulas, Functions and Named Ranges

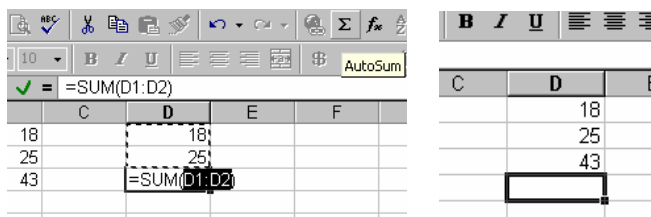
## Formulas

- Create a new workbook.
- In cell **B1** enter the number **18**  
In cell **B2** enter the number **25**  
In cell **B3** enter the formula **=B1+B2**  
When you press the **Enter** key you will see the result.



## Using the SUM Function

- In cell **D1** enter the number **18**
- In cell **D2** enter the number **25**
- Select cell **D3** and click on the **AutoSum** icon and press **Enter**.



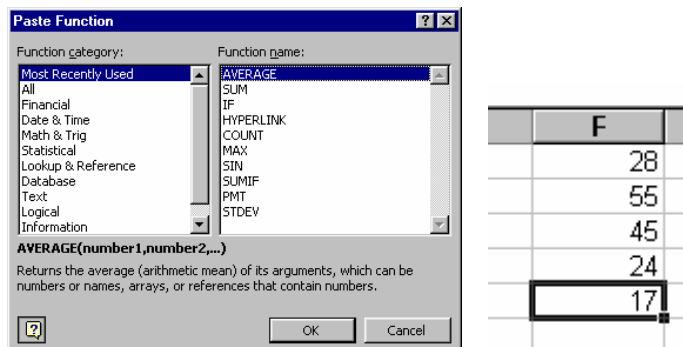
## Using Paste Function

- Enter a new column of numbers and experiment with using the **Paste Function** to enter functions. For instance use **Paste Function** to get the average value of a column of numbers. Also experiment to find the maximum and minimum value in the column of figures.

**Thus** to average a column of numbers ...

- In cell **F1** enter the number **28**
- In cell **F2** enter the number **55**
- In cell **F3** enter the number **45**
- In cell **F4** enter the number **24**
- In cell **F5** enter the number **17**

Select cell **F6** and click on the **Paste Function** icon, which will display a dialog box, as illustrated. Make sure that **AVERAGE** is selected in the **Function name** section. Then click on the **OK** button. Click on the **OK** button once more and the average will be displayed.



- Use a similar technique to find the **maximum** and **minimum** number within the column.
- Close the file without saving your changes.

## Naming Cells and Ranges

- Open the file called **DATATBL**. We will name all the data in the range **C5:C11** as cars.
- Select the cells **C5** to **C11** as illustrated.

	Name	Cars	Var
	Jone	2	
	Sue	5	
	James	3	
	Karen	2	
	Dave	6	
	Lou	3	
	Rob	2	

- Just above the "A" header, you should see the reference **C5** (or **C11** if you selected from the bottom upwards!), type in the word **cars**, and press **Enter**. You will now see a screen similar to that below, where the selected range has been marked by the range name cars.

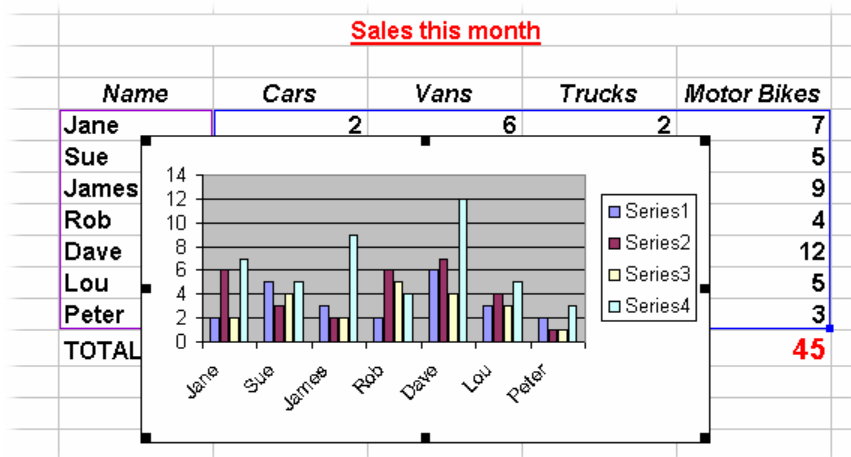
cars = 2			
	A	B	C
1	Sales this month		
2			
3			
4			Cars
5		Name	2
6		Jone	5
7		Sue	3
8		James	2
9		Karen	6
10		Dave	3
11		Lou	2

- Using **Go To** which will verify that the range has been correctly identified. Click on any cell outside the selected range to de-select the range. Click on the **Edit** drop down menu and select the **Go To** command, and in the dialog box displayed select **cars**. When you click on the **OK** button you should see the cars range is selected for you
- Another way of achieving the same results is to click on any cell outside the selected range to de-select the cars range. Then in the **Name Box** directly type in the name cars and press **Enter**.
- Close the file without saving your changes.

## Introducing Charts

### Creating a Chart

- Open a file called **SAMPTBL**.
- Click on cell **B5** and while depressing the **Shift** key click on cell **F11**. This will select a contiguous block of data that excludes the totals.
- Click on the **Chart Wizard** icon. This will display a dialog box. Click on the **Finish** button that will create a default bar chart to represent the data, as illustrated.



### Moving, Re-sizing and Deleting Charts

- **Experiment with moving a chart.** Click on the chart you wish to move, so that small rectangular black selection handles are displayed around the border of the chart. This indicates that the chart is selected. Place the mouse pointer on the black border surrounding the chart and drag the chart to a new location. Release the mouse button when you have placed the chart where you want it.
- **Experiment with re-sizing a chart.** Move the mouse to one of the corner selection handles (the small square black boxes) and drag and drop. The chart is re-sized in the same way that any graphic is re-sized within the Microsoft suite of applications.
- **Experiment with deleting a chart.** Click on the chart you wish to delete to select it and press **Delete**.

### Changing the Chart Type

- Experiment with using the **Chart Type** icon to change the type of chart you have produced. Click on the chart to select it, and click on the drop down arrow next to the **Chart Type** icon on the **Chart** toolbar. Select the new chart type you require.
- Close the file without saving your changes.

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# Printing

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## Page Setup

- Open the file called **DATATBL**.
- **Experiment with changing Page Setup options.** From the **File** drop down menu, choose **Page Setup** to display the **Page Setup** dialog box.

## Margins

- Experiment with changing the margins.
- Experiment with changing header and footer margins.
- Experiment with changing margins in Print Preview.

## Centering Printed Output

- Experiment with changing the way the data is centered on the page when printed.

## Headers and Footers

- **Experiment with creating headers and footers.** Excel 2003 provides standard header and footer options which can be selected from the drop down menus in the **Page Setup** dialog box. From the **File** menu, select **Page Setup** to display the **Page Setup** dialog box. Make sure the **Header/Footer** tab is displayed. Click on the **down arrow** to the right of the **Header** list box to reveal a list of available headers. Click on the header required to select it. Click on the **down arrow** on the right of the **Footer** list box to reveal a list of available footers. Click on the footer required to select it. Click on **OK** to accept the header and footer and close the dialog box.

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# Extra Slides

## Creating New Styles Based on Existing Cell Formatting

- You may define selected, formatted characters as new styles
- Use the **Style** command located under the **Format** menu

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### Creating New Styles Based on Existing Cell Formatting

#### To create a style based on existing formatting within a cell

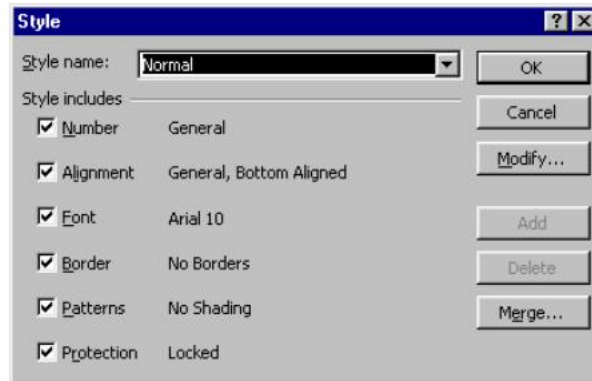
- Select the cell which contains the format you want to use repeatedly.
- From the **Format** menu, choose **Style** to display the **Style** dialog box.
- Type a name into the **Style name** drop-down list box and click on the **Add** button.
- Close the dialog box by clicking on the **OK** button.

#### To apply a style to selected cells

- Select the cell(s) that you wish to apply a style to.
- From the **Format** drop down menu select the **Style** command to display the **Style** dialog box.
- Click on the down arrow in the **Style name** part of the **Style** dialog box and select the required style.
- Select **OK**.

# What are Styles?

- Styles are sets of information about how a spreadsheet is formatted



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## What are Styles?

### Background

A collection of cell formatting information is often referred to as a style. If formatting information is assigned to cells using styles it is possible to easily update the appearance of a sheet by modifying the styles.

Change one style and all cells that have that style assigned to them will reflect the changes made.

The information held in a style includes the following formatting details:

Number  
Font  
Alignment  
Border  
Patterns  
Protection

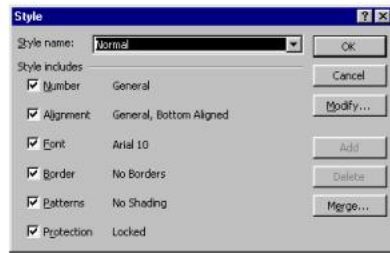
You have the choice when defining styles to exclude any of the above as you wish.

Excel comes with a number of styles pre-defined, by default all cells have the **Normal** style assigned to them.

It is possible to copy styles from one Workbook to another.

## Creating and Using Styles

- From the **Format** menu, select **Style** to display the **Style** dialog box
- Type the style name in the **Style name** drop-down list



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## Creating and Using Styles

- To create a style** Select a cell formatted with the attributes you require. From the **Format** menu, select **Style** to display the **Style** dialog box. Type the style name in the **Style name** drop down list. Select the **Modify** button to change any of the attributes. The **Format Cells** dialog box will be displayed. Click on the **Number**, **Alignment**, **Font**, **Border**, **Patterns** and **Protection** tabs and make any changes required. Select **OK** to return to the **Style** dialog box. Select **OK**.
- To use a style** Select the range you wish to format. From the **Format** menu, select **Style** to display the **Style** dialog box. Select the style from the **Style name** drop down list box. Select **OK**.
- To edit a style** From the **Format** menu, select **Style** to display the **Style** dialog box. Select the style you want to change from the **Style name** drop down list box. Click the **Modify** button. Make the changes required by clicking on the various tabs, and choose **OK** to return to the **Style** dialog box. Select **OK**. All the cells which are formatted with this style will be updated to reflect the changes.



## OLE - Embedding vs. Linking

- **Embedding**
  - **Data is copied from one application to another**
  - **Changes made to the original data do not effect the copy of the data in the second application**
  - **The copied data in the second application may be edited without affecting the original data**
- **Linking**
  - **Data from one application is linked to a copy of the data which is displayed in the second application**
  - **If the original data is edited changes are reflected in the copy of the data in the second application**

---

## OLE - Embedding vs. Linking

### Background

Object Linking and Embedding (OLE) is an advanced feature that is useful for transferring data from one application to another.

### What is embedding?

When you embed data from one application into another application, essentially a copy of the information is placed in the second application. If you double click on this embedded object then you can edit it, without affecting the original copy of the data.

There are two types of OLE, referred to as OLE 1 and OLE 2; Excel 2003 uses OLE 2. When you double click on an OLE 2 embedded object, you stay in the application that the object was embedded in while the required control/editing tools “come to you” from the original OLE compliant application that was used to create the object.

### What is linking?

Linking solves the problem you have with embedding, of having to change each copy of the information independently. A link can be created between two worksheets (the dependent worksheet that will use the data and the source worksheet that contains the original data). Each time you change the data in the source worksheet the data in the dependent worksheet linked to it will also be updated. This enables you to use the same data in multiple worksheets with the knowledge that it will all be updated simultaneously.

## Linking Data From Other Worksheets

- Data on different worksheets may easily be linked together
- Data may be linked between different programs!

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## Linking Data From Other Worksheets

### To link data from other worksheets

- Highlight the cell in the first worksheet to which data in the second worksheet will be linked.
- Type in an equal (=) sign to start a formula entry.
- Move to the second worksheet by clicking the sheet tab.
- Select the cell in the second worksheet which contains the data you want to link.
- Press **Enter**. This results in a linking formula in the first worksheet which follows the syntax **=Sheet!Cell**,  
- where **Sheet** is the name of the external worksheet and **Cell** is any cell in the worksheet.

### To link data from other workbooks

- Open both the workbooks you want to link and then using the **Window** menu, select the first workbook that will contain the linking formula. This formula will refer to a cell in the second workbook.
- If it is not already active, use the tab to select the worksheet and select the cell which will contain the formula.
- Type in an equal (=) sign to start the formula.
- Move to the second workbook using the **Window** menu.
- If it is not already active, select the worksheet and click on the cell containing the data you want to link.
- Press **ENTER**. This results in a linking formula containing an external source reference to the second workbook.

### To update links

- From the **Edit** menu, select **Links** to display the **Links** dialog box.
- Click on the link reference you wish to edit or update in the **Source file** list box.
- Select the **Update Now** button to update the link.
- You can change the link reference by clicking the **Change Source** button in the **Link** dialog box, or open the source worksheet by clicking on the **Open Source** button. Then select **OK**.

## What is Consolidation?

- This feature allows you to select blocks of data from several different worksheets, or different pages of the same workbook, and combine their values into a single, summary range in a workbook
- This saves time, and is easier than cutting data from several worksheets and pasting into one, single worksheet

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## What is Consolidation?

### To consolidate data over several worksheets or worksheet pages

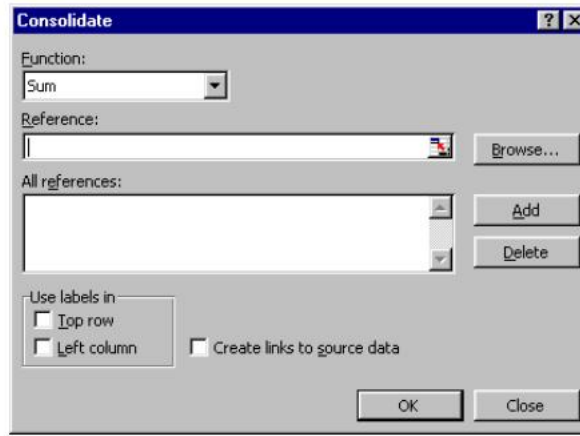
Highlight a cell on a blank worksheet page, or a blank area of a worksheet. Select **Consolidate** from the **Data** menu to display the **Consolidate** dialog box. Select the first area you wish to consolidate by clicking on the worksheet and dragging to highlight the area required. Do not include row and column text, only numeric data. Use the sheet tabs to change between worksheets. The selection will appear in the **Reference** text box.

**Note:** Any formulas in the source area will only be used as values, i.e. only values in the cells will be used in the consolidation.

Click on the **Add** button when you have highlighted the required range. Continue highlighting and adding the remaining areas in the consolidation. From the **Function** drop-down list, select the function you require. The default is **Sum** which will add the data across the selected range. If you want the summary report to create linking formulas to the source data automatically, select the **Create links to source data** check box. Select **OK** to complete the consolidation.

## Consolidating Rows and Columns

- Select Data Consolidate from the menu



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## Consolidating Rows and Columns

### To consolidate selected rows and columns from several worksheets or pages

Insert the row or column text you want to consolidate from the source ranges in a blank worksheet page, or on a blank area of the worksheet. Ensure that you type the text exactly as it appears in the source data ranges.

Highlight the row or column labels you entered.

Select **Consolidate** from the **Data** menu to display the **Consolidate** dialog box.

Select the first area you wish to consolidate by clicking on the worksheet and dragging to highlight the area required. Make sure you include row and column text in the source areas, as well as numeric data. Use the sheet tabs to change between worksheets.

The selection will appear in the **Reference** text box. **Note:** Any formulas in the source area will only be used as values, i.e. only values in the cells will be used in the consolidation.

Click on the **Add** button when you have highlighted the required range.

Continue highlighting and adding the remaining areas in the consolidation.

From the **Function** drop down list, select the function you require. The default is **Sum** which will add the data across the selected range.

If you want the summary report to create linking formulas to the source data automatically, select the **Create links to source data** check box.

If row text was entered at the first step, select the **Top row** check box in the **Use labels in** area. If column text was entered, select the **Left column** check box.

To complete the consolidation, select **OK**.

## The Date Functions

- A wide range of functions exist to assist with date manipulation

- Examples

- DATE()
- DAY()
- MONTH()
- TODAY()
- WEEKDAY()



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## The Date Functions

### Background

Users of spreadsheets are often required to carry out tasks based on dates. To do this Excel 2003 has a number of date related functions.

### How are dates stored?

Excel 2003 stores dates as a serial number giving each day of each year a unique number.

The numbering system starts with “Day 1” being the 1st January 1900, “Day 2” being the 2nd January 1900.

<b>DATE</b>	Returns the serial number of a particular date.
<b>DATEVALUE</b>	Converts a date in the form of text to a serial number.
<b>DAY</b>	Converts a serial number to a day of the month.
<b>DAYS360</b>	Calculates the number of days between two dates based on a 360-day year.
<b>EDATE</b>	Returns the serial number of the date that is the indicated number of months before or after the start date.
<b>EOMONTH</b>	Returns the serial number of the last day of the month before or after a specified number of months.
<b>MONTH</b>	Converts a serial number to a month.
<b>NETWORKDAYS</b>	Returns the number of whole workdays between two dates.
<b>TODAY</b>	Returns the serial number of the current date.
<b>WEEKDAY</b>	Converts a serial number to a day of the week.
<b>WORKDAY</b>	Returns the serial number of the date before or after a specified number of workdays.
<b>YEAR</b>	Converts a serial number to a year.
<b>YEARFRAC</b>	Returns the year fraction representing the number of whole days between start_date and end_date.

**To enter the current date into a spreadsheet**

To get the sheet to always show the current date use the **TODAY()** function which will return the serial number for now. When formatted as a date this will show the current date.

**To separate the year from a date**

To separate the year from a date use the **YEAR()** function. If you have two dates entered you can use the YEAR() function to calculate the number of years between each date.

**To separate the month from a date**

To find the month of the year (number 1 to 12) for a given date use the **MONTH()** function.

**To show the day of the week**

To show the day of the week (number 1 to 7) for a given date use the **WEEKDAY()** function.

**To show the day of the month**

To show the day of the month (number 1 to 28,29,30,31) for a given date use the **DAY()** function.

## Mathematical Date Functions

- **Make sure that you know how:**
  - **To calculate the difference between two dates in days or weeks**
  - **To add days or weeks to a date**
  - **To add months to a date**
  - **To find out the last day of the month**

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## Mathematical Date Functions

### To calculate the difference between two dates in days or weeks

- In cell A1 (or any other cell) enter the first date.
- In cell A2 (or any other cell) enter the second date.
- In cell A3 (or any other cell) enter the formula **=A2-A1** to calculate the difference between the second date and the first date.
- This formula calculates the difference between the two dates in days. To calculate the difference in weeks use:  
**=(A2-A1)/7.**

### To add days or weeks to a date

- In cell A1 (or any other cell) enter a date.
- In cell A2 (or any other cell) enter the following formula: **=A1+120**. This adds 120 days to the date.
- To add weeks to a date, multiply the number of weeks by seven to calculate the number of days, i.e. **=A1+(10\*7)** adds ten weeks to the date.

### To add months to a date

- In cell A1 (or any other cell) enter a date.
- In cell A2 (or any other cell) enter the following formula:  
**=DATE(YEAR(A1),MONTH(A1)+1,DAY(A1))**
- If you change the **+1** value to **+2** or **+3**, you will add two months or three months on respectively.

### To find out the last day of the month

- In cell A1 (or any other cell) enter a date.
- In cell A2 (or any other cell) enter the following formula:  
**=DATE(YEAR(A1),MONTH(A1)+1,1)-1**
- This will give you a date that represents the last day of the month found in cell A1.

## Time Functions

- A range of functions exist to assist with manipulation of Time
- Examples
  - HOUR
  - MINUTE
  - NOW
  - SECOND
  - TIME
  - TIMEVALUE



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## Time Functions

<b>HOUR</b>	Converts a serial number to an hour.
<b>MINUTE</b>	Converts a serial number to a minute.
<b>NOW</b>	Returns the serial number of the current date and time.
<b>SECOND</b>	Converts a serial number to a second.
<b>TIME</b>	Returns the serial number of a particular time.
<b>TIMEVALUE</b>	Converts a time in the form of text to a serial number.



## Drawing Lines, Boxes, Ovals and Arcs

- You can use the drawing buttons to add drawing objects to your worksheets inside Excel
  - These buttons allow you to create ovals, rectangles, freehand lines, and polygons




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## Drawing Lines, Boxes, Ovals and Arcs

### To display the drawing toolbar

- Click on the **Drawing** icon located within the **Standard** toolbar  


**OR** right click over any toolbar that is visible and then from the pop-up list displayed select the **Drawing** toolbar.

### To draw lines, boxes, ovals, and arcs

- Click on the icon you wish to select on the **Drawing** toolbar, i.e. click on the **Oval** icon, to draw an oval.
- Move to the position on the worksheet that you wish to draw the object.
- Depress the left mouse button and drag the mouse to create the size of object you require.
- Release the mouse button when the object is the desired length or shape.

### To move an object around a page

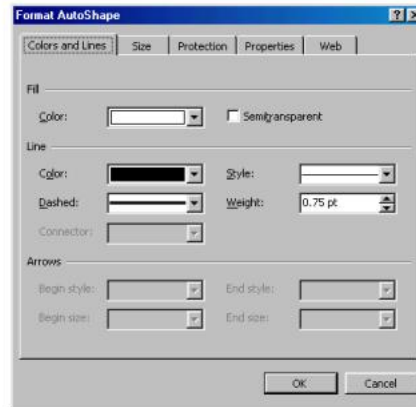
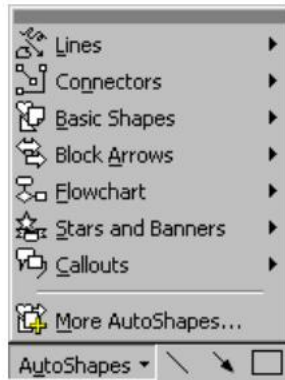
- Click on the object and hold down the mouse button.
- Drag the object to a new location and release the mouse button.

### To copy objects

- Click on the object and hold down the mouse button whilst pressing the **Ctrl** key.
- As you drag the object a copy of it will move with the mouse.
- Release the mouse button to copy the object.

## Using AutoShapes

- From the Drawing toolbar select AutoShapes



Once the AutoShape has been created, double click on it to format it

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## Using AutoShapes

### To insert an AutoShape object into your Worksheet

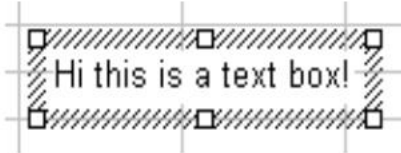
- If necessary display the **Drawing** toolbar.
- Click on **AutoShapes** within the **Drawing** toolbar, which will display a pop-up menu.
- From the pop-up menu displayed select the category of AutoShape that you are interested in, such as **Lines**, **Connectors** etc.
- Then from the sub-category displayed click on the actual AutoShape that you require.
- Position the mouse pointer on the worksheet at the location that you wish to insert the AutoShape.
- Depress the left mouse button and drag, until the AutoShape is the desired size.
- Then release the mouse button and the AutoShape will appear.

### To format AutoShape objects

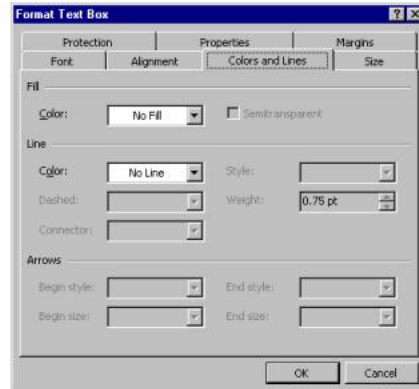
- Double click on the AutoShape that you wish to format. This will display the **Format AutoShape** dialog box, which contains five tabs, **Colors and Lines**, **Size**, **Protection**, **Properties** and **Web**.
- Select the required options and then click on the **OK** button to close the dialog box and apply your selections.

## Creating Text Boxes

- Click the Text Box icon within the Drawing toolbar



**Double click on the borders to open the Format Text Box dialog box**



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## Creating Text Boxes

### To create a text box

- If necessary display the **Drawing** toolbar.
- Click the **Text Box** icon located in the **Drawing** toolbar.
- Position the mouse pointer at the location within the worksheet that you wish to insert the text box.
- Depress the left mouse button and drag over the worksheet to draw the text box.
- Release the mouse button when the text box is the desired shape and size.
- Enter the text that you wish to be displayed with your newly created text box.

### To edit text in a text box

- Place the insertion point within the text box (by clicking once).
- Select the text that you wish to format.
- Use any editing or formatting features that you wish to apply to the selected text.
- Click outside the text box.

### To delete a text box

- Click on the text box.
- Then move the mouse pointer to any edge of the text box (you will see that the cursor changes shape when you align the mouse pointer with the edge of the text box) and click once.
- Press the **Delete** Key.

### To insert text into a text box

- Click on the text box to select it and simply enter your text.

# Pictures

- From the Insert menu, select Picture



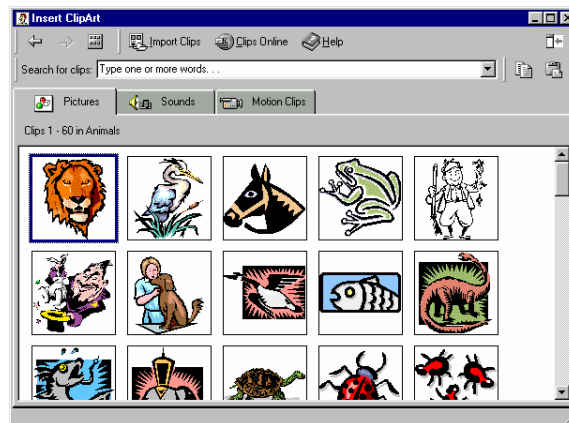
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## Pictures

To insert clipart

- Click on the **Insert Clip Art** icon, located in the **Drawing** toolbar. You may see a small dialog box reminding you that there is much more clip art available on the Microsoft Office CD-ROM installation disk. If you do see this informational dialog, press **OK** to continue.
- A gallery of clipart will be displayed.
- Select the group that matches your requirements, such as Academic or Animals. In the screen dump below, the **Animals** clipart has been selected.



- Click on the picture that you wish to insert, a pop-up menu will be displayed.
- Click on the **Insert clip** icon (the icon at the top of the menu) and the picture will be inserted into the worksheet.

### The Picture toolbar

- When you insert a picture into an Excel worksheet, the **Picture** toolbar is normally displayed automatically. Use the Excel on-line help for further information about using this toolbar.



### To move a picture

- Click once within the picture to select it.
- Drag the picture to a new location.

### To re-size a picture

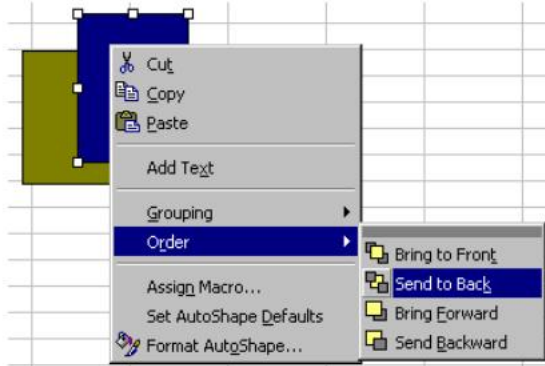
- Click on the picture to select it.
- Click on one of the black selection handles, and drag the arrow to re-size the picture.

### To delete a picture

- Click on the picture to select it and press the **Delete** key.

## Bring to Front/Send to Back

- Right click on a selected object, and select from the Order sub-menu



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## Bring to Front/Send to Back

**To control how pictures are layered on top of each other**

- If you have inserted more than one picture then you may want these pictures to slightly overlap each other. The question then is which picture is in front and which picture is displayed behind the other picture?
- Click on a picture to select it.
- Right click to display a pop-up menu.
- From the pop-up menu displayed, click on the **Order** command and from the sub-menu displayed, select the required option, i.e.

**Bring to Front**  
**Send to Back**  
**Bring Forward**  
**Send Backward**