Table of Contents

About this Course

This course has been designed specifically for delegates who have attended the Microsoft Office Excel 2010 Level 1 course or who have the equivalent knowledge. The objectives of this tailored course are the following:

- **Lesson 1: Calculating Data with Advanced Formulas**
  - Topic 1A: Apply Cell and Range Names
  - Topic 1B: Calculate Data Across Worksheets
  - Topic 1C: Use Specialized Functions
  - Topic 1D: Analyse Data with Lookup Functions

- **Lesson 2: Organizing Worksheet and Table Data**
  - Topic 2A: Create and Modify Tables
  - Topic 2B: Format Tables
  - Topic 2C: Sort or Filter Data
  - Topic 2D: Use Functions to Calculate Data

- **Lesson 3: Presenting Data Using Charts**
  - Topic 3A: Create a Chart
  - Topic 3B: Modify Charts
  - Topic 3C: Format Charts

- **Lesson 4: Analysing Data Using PivotTables, Slicers, and PivotCharts**
  - Topic 4A: Create a PivotTable Report
  - Topic 4B: Filter Data Using Slicers
  - Topic 4C: Analyse Data Using PivotCharts

- **Lesson 5: Inserting Graphic Objects**
  - Topic 5A: Insert and Modify Pictures and ClipArt
  - Topic 5B: Draw and Modify Shapes
  - Topic 5C: Illustrate Workflow Using SmartArt Graphics
  - Topic 5D: Layer and Group Graphic Objects

- **Lesson 6: Customizing and Enhancing the Excel Environment**
  - Topic 6A: Customize the Excel Environment
  - Topic 6B: Manage Themes
  - Topic 6C: Create and Use Templates

Both the Course and the Manual will give you '*Hands-On'* experience which is vital to your learning process within this course.

About this Manual

Within the Manual's contents, we have for simplicity, kept terminology to a minimum. Any terminology we have used is fully explained in easy to understand statements.

The Manual has been designed to provide you with a useful tool both in the classroom environment and as a Reference Book once the course is over.

At the beginning of each topic you will see a list of Module Objectives that detail exactly what the topic contains.

Each topic is graphically represented at the top of each page with some diagrams and/or text. Often these are condensed items for the particular topic. Within each topic are *'snapshots'* of dialog boxes you will see on your own screen as you go through the course. This will assist you when you go back over any particular topic as to what you should be viewing on your screen at any given time.

Whilst working with the Manual, you will see that when you are asked to click on something on your screen, the text will be in **bold**. For example:

'Click the **Ok** button'

In this instance, we would like you to click on the button, which says **Ok**. 

We are always interested in your comments on the Manual, Course and Tutor. We would ask, therefore, that you give your comments on your Course Evaluation Sheet at the end of the Course.

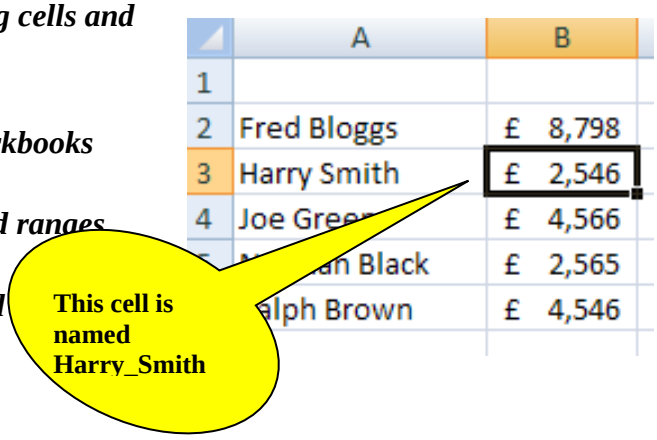
LESSON 1: Calculating Data with Advanced Formulas

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

- Apply Cell and Name Ranges
- Calculate Data Across Worksheets
- Use Specialised Functions
- Analyse Data with Logical and Lookup Functions

Apply Cell and Range Names

- **You will learn how to:**
  - ***The rules for naming cells and ranges***
  - ***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***



Topic 1A: Apply Cell and Range Names

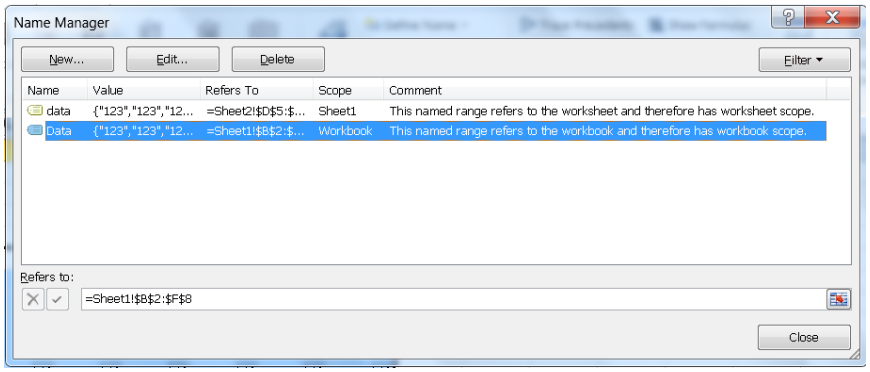
Background

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 then can be referred to using meaningful names. This is useful when creating complex formulas because we can remember the *name* of a range of cells which is easier that remembering their cell references.

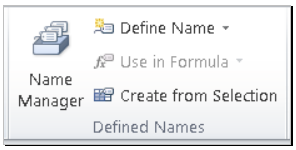
In previous versions of Excel, users could only use a *Name* once in the workbook because the range had *Workbook Scope*. Now you can use the same name more than once as long as you use *Worksheet Scope*.



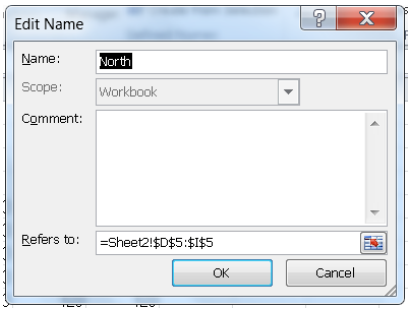
Rules for naming cells and ranges

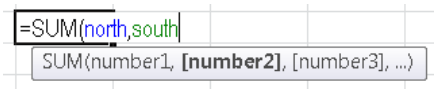
- Range names normally begin with a letter or underscore character
- Range names must **NOT** contain hyphens or spaces
- Range names have a limit of 255 characters
- Bear in mind that names of 10 – 15 characters in length will be visible in most drop-down menus.
- If you select a range that includes a label, Excel will suggest that name in the **Name** dialog box. You can either accept this name or overtype it with another name.

Defined Names Group

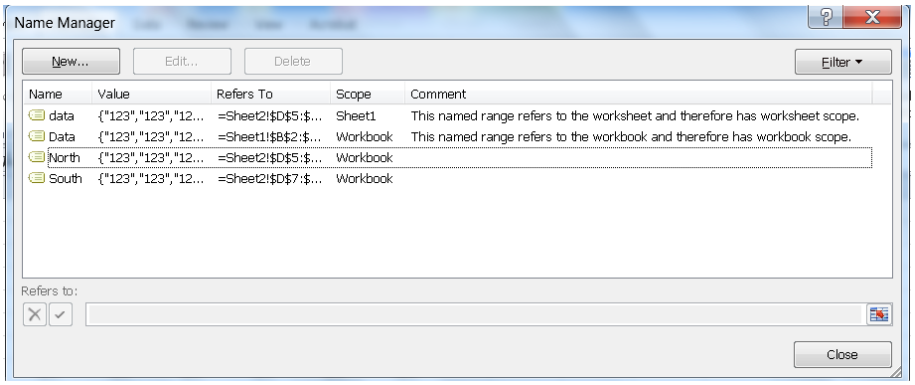


Naming a range option has been expanded in this version of Excel. You can still select some cells and name the range using the Name Range box above column A which will give **Worksheet Level** names. If you use the **Define Name** button, however the window has changed to give an option of entering a comment about the named range. This comment can then be seen if you are typing the named range in a formula.





The **Name Manager** displays quite a lot of information about the named range. Not only the Name, Value which cells it refers to but includes the Comment about the Named Range too. You will also see Scope mentioned here. Read the explanation of Scope on the next page. A defined name is indicated by a defined name icon like this one. 



- All names have a scope, either to a specific worksheet (also called *local worksheet level)* or to the entire workbook (also called the (*global workbook level)*. The scope of a name is the location within which the name is recognised without qualification. For example: If you have a defined name such as Qtr1, and its scope is Sheet1, then that name, if not qualified, is only recognised in Sheet1, but not in Sheet2 or Sheet3 without qualification.

To use a local worksheet name in another worksheet, you can qualify it by preceding it with the worksheet name, as the following example shows:
Sheet1!Qtr1.

If you have a defined name, such as Sales_Dept_Goals, and its scope is the workbook, then that name is recognised for all worksheets in that workbook, but not for any other workbook.

The **Define Name** button is the same as it was in previous versions of Excel with the added functionality of Applying a Name.

Auditing a Named Range

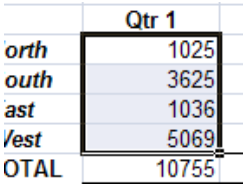
If you want to see an audit of the Named Range and its cell/Sheet references, on the **Formulas** tab, in the **Defined Named** group, click **Use in Formula**, click **Paste** and then in the **Paste Names** window, click **Paste List**.

East	='Sales 2006'!$B$6:$E$6
North	='Sales 2006'!$B$4:$E$4
South	='Sales 2006'!$B$5:$E$5
West	='Sales 2006'!$B$7:$E$7

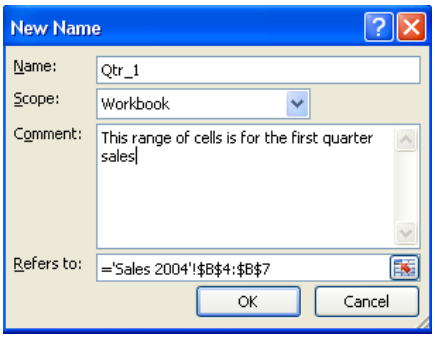
To name cells (Long method)

- Highlight and select the cell(s) to be named
- Open the **Formulas** tab and select the **Define Name button** 

- The **New Name** dialog box is displayed as shown

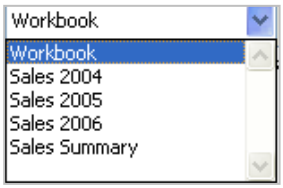


	Qtr 1
orth	1025
outh	3625
ast	1036
Vest	5069
OTAL	10755



- Enter the name you wish to give to the cell or range in the **Name** box
- In the **Scope** box click the drop down arrow and select from **Workbook** or select the worksheet the scope will be used for
- In the **Comments** box enter a comment if required.
- Click **OK** to complete the name definition

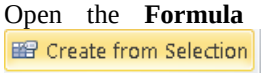
The name of the cells is displayed in the **Name Box** at the top left of the formula bar.



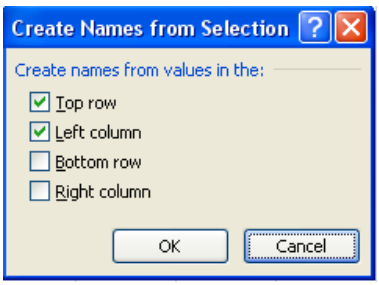
To name cells (short method)

- Highlight and select the cell(s) to be named
- Click in the **Name Box** with the mouse
- Type the name for your range.
- Either press **Enter** to keep the suggested name or enter the name you want to give to the cells(s) and press **Enter**
- The cell(s) now have a name
- By default the scope with be ***Workbook scope***

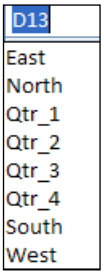
To name ranges based on cell values

- Highlight the range of cells to be named including the labels.
- Open the **Formula** tab and select the **Create from Selection** button 

- The **Create Names** dialog box appears
- Select **Top Row** and **Left Column** (Excel will use the labels from the top row Qtr 1, Qtr2, etc and the labels from left column North, South etc).
- Click **OK**
- If you look at the name box now it will show all the range names Excel has produced.



NOTE: You can select one or more options in the **Create Names** dialog box. If your labels were on the bottom row and the right column of your worksheet, you would choose the option **Bottom Row, Right Column**. Or, just select **Right Column** if the labels are on the right of the worksheet.



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.
- Excel will then highlight the named range on the worksheet

Using Named Ranges with Formulas

It is much easier to understand a formula such as:

=unit_price*no_of_units

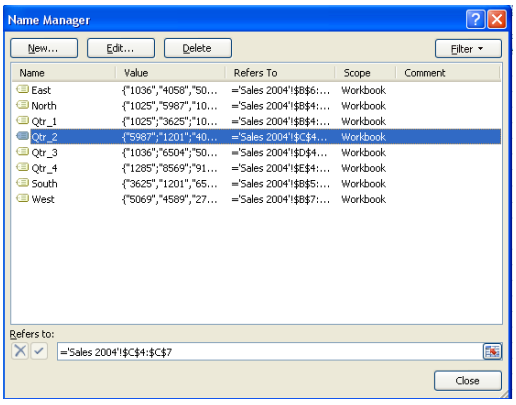
than a formula of the type shown below

=A9*B84 *OR*

=sum(North, South) *THAN* **=SUM(A3:E3,B4:E4)**

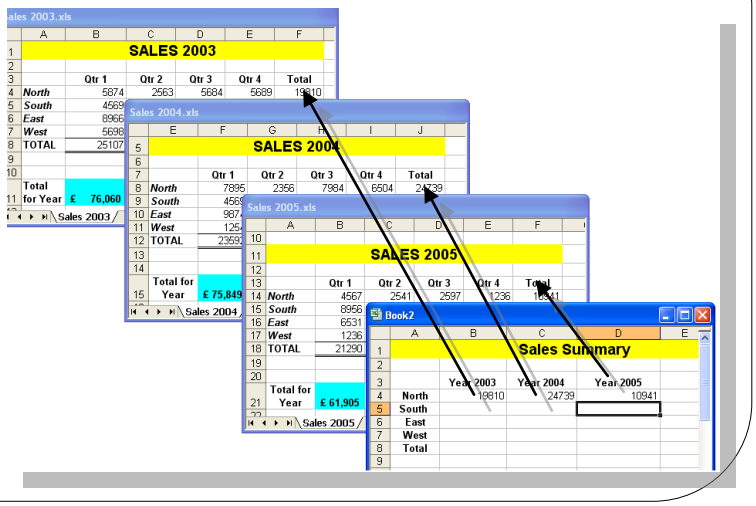
To delete named cells/ranges

- Open the **Formulas** tab, select **Define Name**,
- The **Name Manager** 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 **Close**.



Calculate Data Across Worksheets

- **Is a reference to a range spanning two or more sheets in a workbook**
- **Refers to the same cell or range on multiple sheets**
- **Can be used to refer to data in other workbooks**



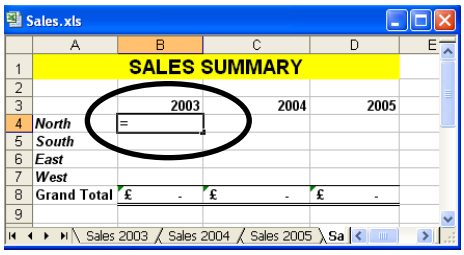
Topic B: Calculate Data Across Worksheets

Background

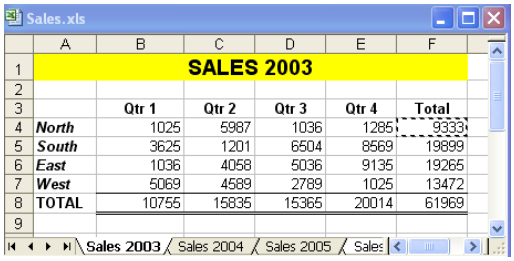
Often within Excel, it is necessary to refer to other worksheets or workbooks in a formula. This is called ***3D Cell Referencing***. Normally a 3D Cell Reference spans two or more sheets in a workbook and refers to the same cell. This type of reference is a good way of producing a summary of information.

3D Cell Reference within the same workbook

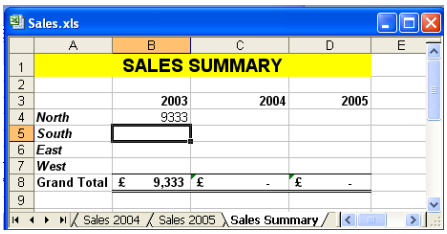
- Open the workbook you wish to use. *(We have used Sales.xls)*
- **Select the worksheet** you wish to display the answer
- **Click in the appropriate cell**
- Type an = (equals) to start the calculation



- Carefully click on the sheet tab (*we are using Sales 2003 sheet tab)*
- **Click on the cell you wish to refer to** (*in our case it is F4)*
- Press **Enter**



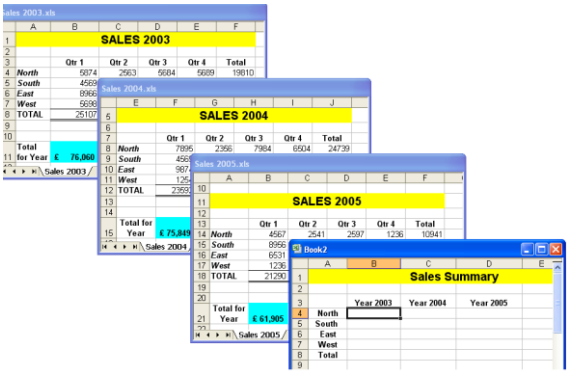
- The data is displayed
- Continue until all relevant section are complete
- If you read the formula from the Formula Bar you will see the how this was achieved **(='Sales 2003'!F4)**



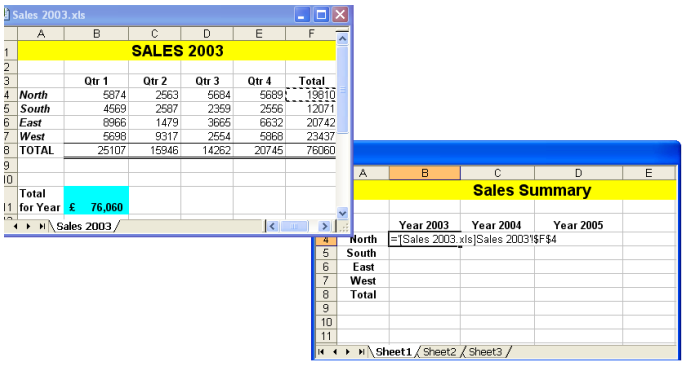
- = started the calculation **'Sales 2003!'** was the sheet referred to and **F4** was the cell referred to.

3D Cell References using different workbooks

- **Open all the workbooks you wish to use in the reference** (*We have used Sales 2003.xls, Sales 2004.xls and Sales 2005.xls. We have minimised each workbook to make this easier to understand)*



- **Open with workbook you wish to display the answer**
- Click in the appropriate cell
- Start the calculation with an =
- Click on the **View** tab and click **Switch Windows** select the workbook to refer to (*in our case it is Sales 2003.xls)*
- **Click on the appropriate cell** (*in our case this was cell F4)*



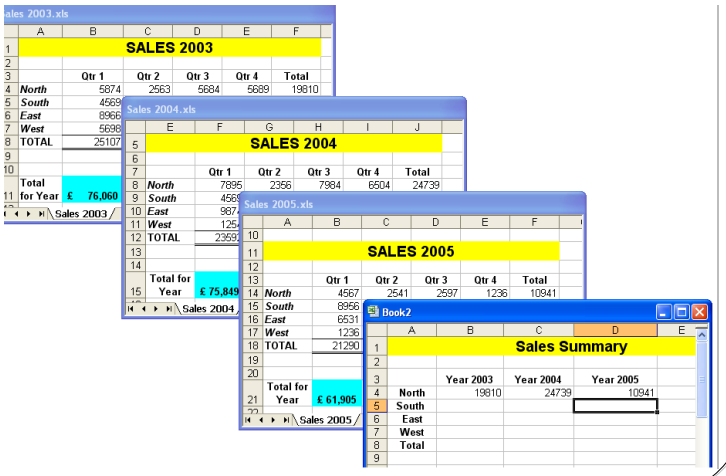
- Press **Enter** to return the data. Continue until all relevant data is gathered

Using a Copy and Paste Link

- Select the cell you want to link to
- **Copy** and select where you want to paste
- **Click** the down arrow on the **Paste** button and select **Paste Link**

Working with Links

- **When two or more workbooks are linked you should not move them to another folder or drive**
- **When opening a linked workbook, you must remember to say *yes* when asked if you want to keep the link**



Working with Links

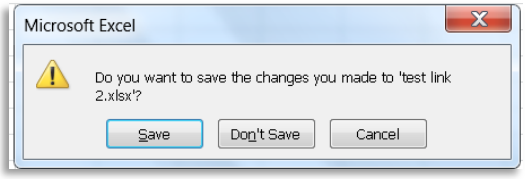
Background

Once you have linked two or more workbooks together, it's a good idea to keep them in the same place otherwise when you open one of them the link might be lost!

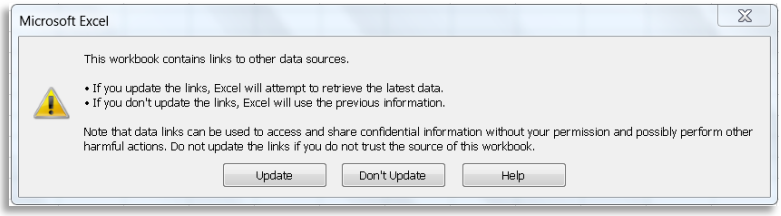
If you have simply linked two worksheets together then the same problem won't exist.

Managing Links

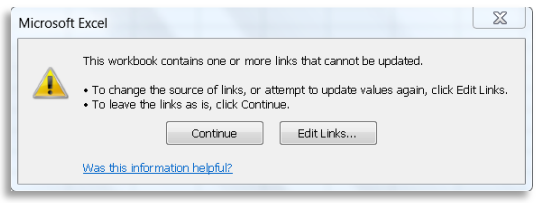
When you save a workbook which is linked to another, you may see a similar dialog box like the one below. If you want to save it with the link, you must click **OK**.



If you open a workbook which is linked to another you will see the dialog box below. You must click **Update** if you want to update the link. If you don't want to update the link, click **Don't Update**.

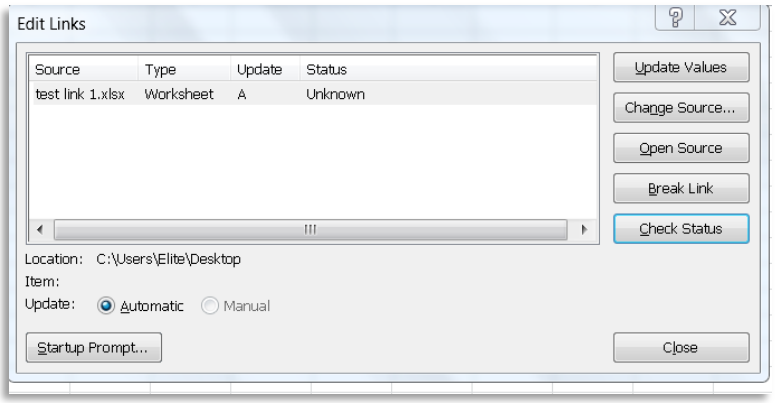


If you open a workbook which is linked to another where there is **a problem with the link** you may see the dialog box below. You may see this if the workbook is shared and the links cannot be updated.



Edit Links

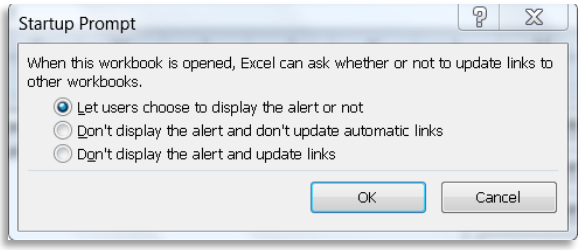
- In the destination workbook, click **Edit Links**  from the **Data** tab and you will see this dialog box. Here you can **Update Values, Change Source, Open Source, Break Link,** or **Check Status**



- If you click the **Update Values** you will be asked if you want to open the other workbook.
- If you click **Change source** you will be asked if you want to open the other workbook.
- If you click **Open source** you will be asked if you want to open the other workbook.
- If you click **Break Link** you will break the link with the other workbook.
- If you click **Check Status** you will be informed of the status of the workbook. Here you can see that the source of the other workbook was not found.

Change the StartUp Prompt

- Click the **StartUp Prompt** button and you will see the following dialog box where you can change any of the settings.

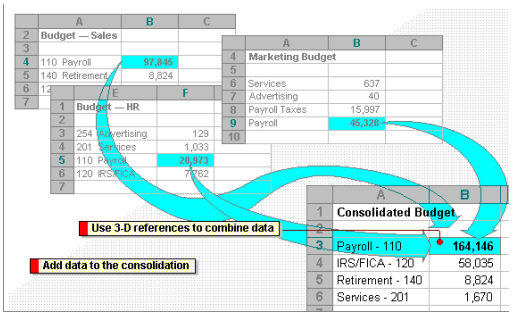


Remove Links

- In the **Edit Links** dialog box, click **Break Links**

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**

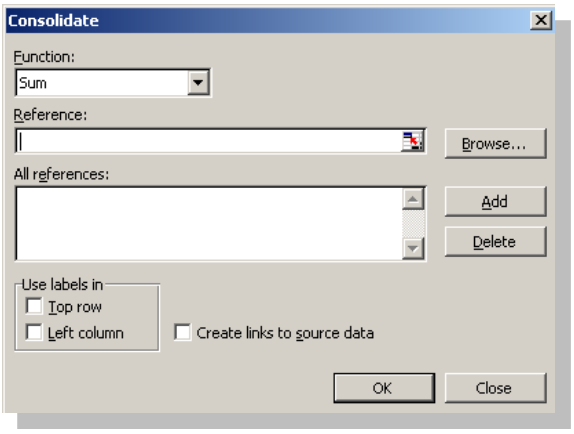


What is Consolidation?

Background	When you consolidate data, you specify the source areas of the data either in 3-D formulas or in the Reference box of the Consolidate dialog box. The source areas can be cell ranges on the same worksheet as the consolidation table, on different worksheets in the same workbook, or in different workbooks or Lotus 1-2-3 files
Consolidation by Position	**By position**, when the data in all source areas is arranged in identical order and location; for example, to combine data from a series of worksheets created from the same template.
Consolidation by Category	**By category**, when you want to summarize a set of worksheets that have the same labels but organizes the data differently. This method combines data that has matching labels from each worksheet.

Consolidating Rows and Columns

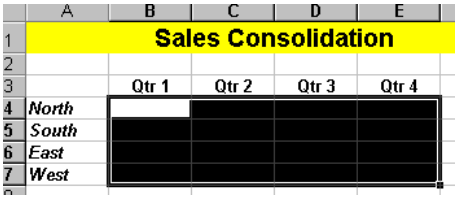
- **Select Data Consolidate from the Menu**



Consolidating Rows and Columns

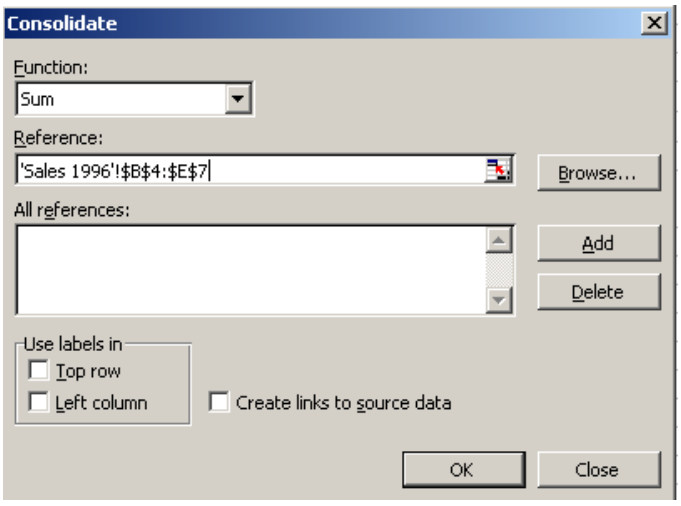
To consolidate data by Position over several worksheets or worksheet pages

- Highlight the cell(s) on a blank page, or a blank area of a worksheet where data is to be consolidated.



- Select **Consolidate** from the **Data** tab to display the **Consolidate** dialog box (see illustration above)

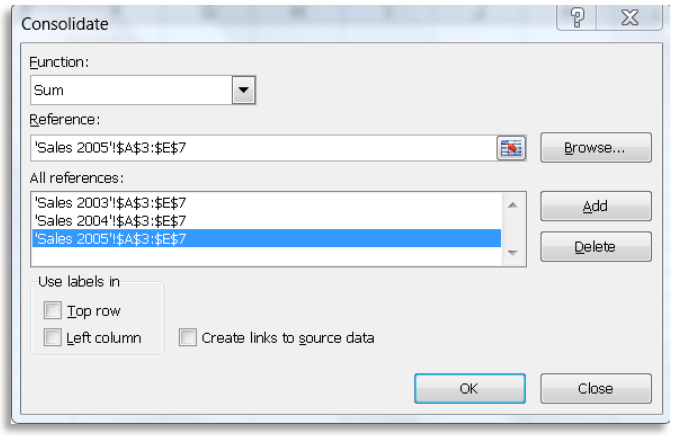
- Select the first area you wish to consolidate by clicking on the worksheet and dragging to highlight the area required. Do not include row and column text, only numeric data. Use the sheet tabs to change between worksheets



- 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.

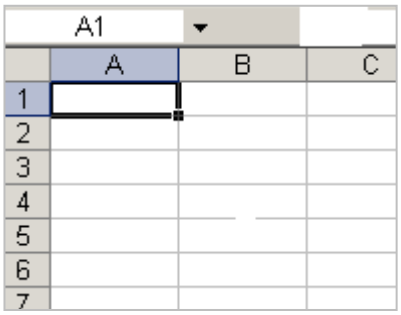
- Click **OK** to complete the consolidation.

		A	B	C	D	E
	1		**Sales Consolidation**			
	2					
	3		**Qtr 1**	**Qtr 2**	**Qtr 3**	**Qtr 4**
+	7	***North***	13487	10884	11617	9025
+	11	***South***	17150	12883	16281	16746
+	15	***East***	17441	16812	14733	13836
+	19	***West***	7559	9099	7320	6126
	20					

- To expand the consolidated group, click on the + to the left of the row numbers
- To contract the consolidated group, click on the – to the left of the row numbers
- To expand all the group together, click on the 2
- To contract all the group together, click on the 1

To Consolidate By Category selected rows and columns from several worksheets or workbooks

- Select a worksheet to have your data consolidated to



- Click in the top leftmost blank cell

- If you are consolidating from other workbooks, open the workbooks now and switch back to the workbook you wish to consolidate the data to.
- 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.

	A	B	C	D	E
1	**Sales 1996**				
2					
3		**Qtr 1**	**Qtr 2**	**Qtr 3**	**Qtr 4**
4	***North***	1025	5987	1036	1285
5	***South***	3625	1201	6504	9845
6	***East***	1036	4058	5036	9135
7	***West***	5069	4589	2789	1025
8	**TOTAL**	10755	15835	15365	21290
9					

- 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 to 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.**

Use Specialised Functions

- **A wide range of functions exist to assist with data manipulation**

- **Examples**
  - DATE()
  - DAY()
  - AVERAGE
  - SUMIF
  - PMT

Topic 1C: Use Specialised Functions

Date Functions

Users of spreadsheets are often required to carry out tasks based on dates. To do this Excel 2010 has a number of date related functions.

How are dates and times stored?

Excel 2010 stores dates as a serial number giving each day of the year a unique number. The numbering system starts with "Day 1" being the 1st January 1900, "Day 2" being the 2nd January 1900. Excel stores times as decimal fractions because time is considered a portion of a day.
Dates and times are values and, therefore, can be added, subtracted, and included in other calculations. Subtracting one date from another to find the answer. You can view a date as a serial value and a time as a decimal fraction by changing the format of the cell that contains the date or time to General format.

Two dates systems are supported by Excel: the 1900 and 1904 date systems. The default date system for Microsoft Excel for Windows is 1900. To change to the 1904 date system, click **Options** on the **Tools** menu, click the **Calculation** tab, and then select the **1904 date system** check box. The following table shows the first date and the last date for each date system and the serial value associated with each date.

Date System	First Date	Last Date
1900	January 1, 1900 (Serial Value 1	December 21, 9999 (Serial Value 2958465
1904	January 2, 1900 (Serial Value 1)	December 21, 9999 (Serial Value 2957003)

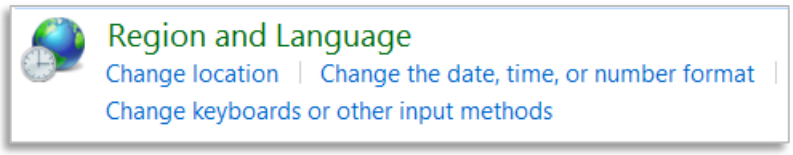
1. **Two-digit years** When you enter a date in a cell and you enter only two digits for the year, Excel interprets the year as follows:
2. The years 2000 through 2029 if you type **00** through **29** for the year. For example, if you type **5/28/19**, Excel assumes the date is May 28, 2019.

The years 1930 through 1999 if you type **30** through **99** for the year. For example, if you type **5/28/98**, Excel assumes the date is May 28, 1998.

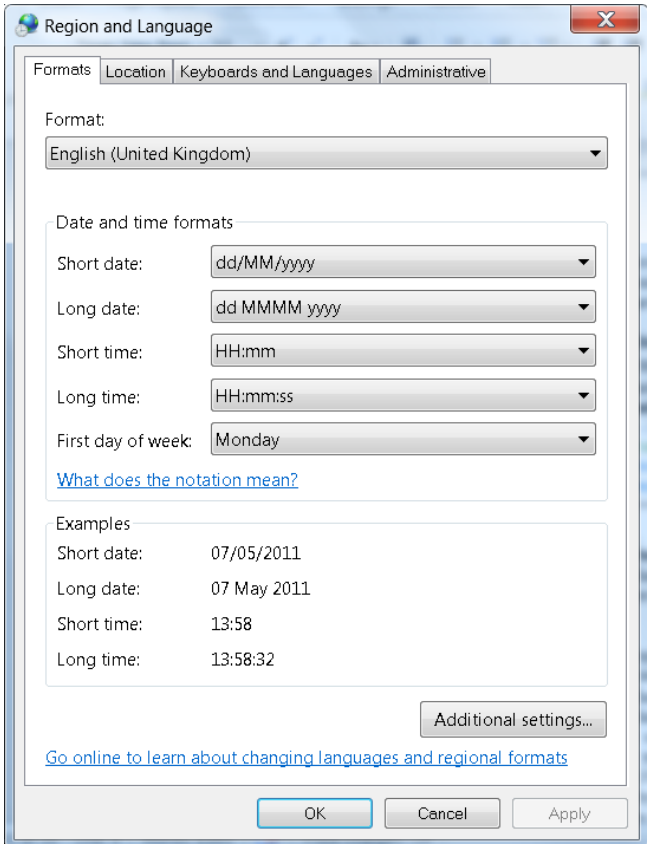
Change the way two digits are interpreted

If you are using Microsoft Windows 7 or Microsoft Windows XP, you may, without the assistance of your system administrator, change the way two-digit years are interpreted.

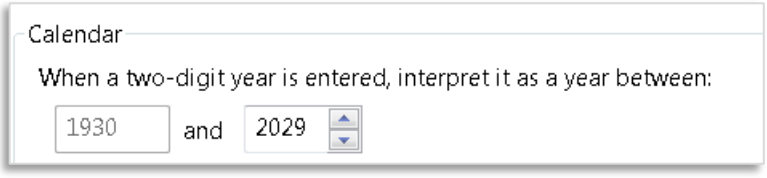
- On the Windows **Start** menu, click **Control Panel**.
- If you are using Windows 7, click the Clock, **Language & Region option** and then under **Region and Language,** click the **Change the date, time or number format** option.



- From the **Date and time formats** section, click the drop down arrows and select the format required.



- Click the **Additional settings** button and in the **Calendar** section under **When a two-digit year is entered, interpret as a year between** box; change the upper-limit for the century. As you change the upper-limit year, the lower-limit year automatically changes.



- This option specifies how some programs interpret two-digit years. The default time span is 1930 to 2029. For example, using the default, your beginning date is January 1, 1930 and your ending date is December 21, 2029. This means that a program that uses this option to interpret two-digit years will consider the years between (and including) 30 and 99 to be preceded by 19 and years between (and including) 00 and 29 to be preceded by 20. For example, 99 will be interpreted as 1999 and 01 will be interpreted as 2001. To change the time span, type the ending year. Four digit years are not affected by this option. Be aware that not all programs use this option.

Four-digit years To ensure that year values are interpreted as you intended, type year values as four digits (2001, rather than 01). By entering four digits for the years, Excel won't interpret the century for you.

Date Functions

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

To enter the current date unto a spreadsheet

To get the sheet to always show the current date uses 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

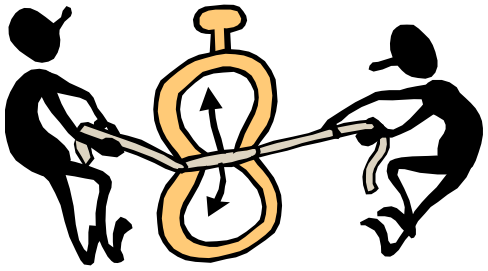
To show the day of the week (number 1 to 7) for a given date use the **WEEKDAY()** function.

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.

Time Functions

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



Time Functions

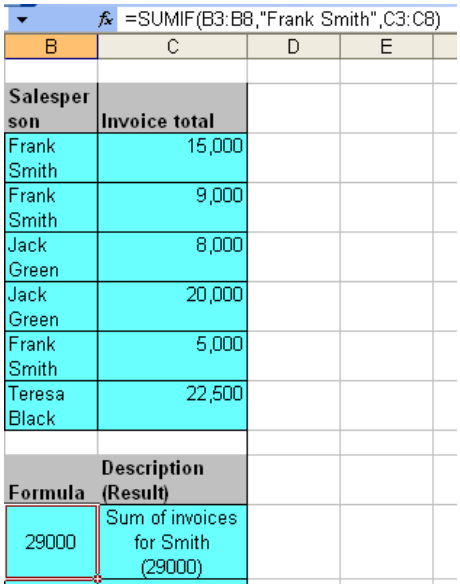
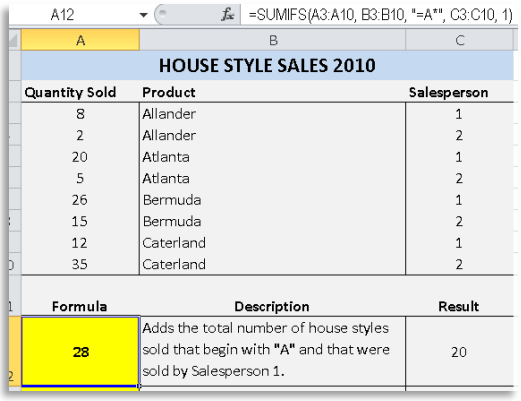
HOUR	Converts a serial number to an hour
MINUTE	Converts a serial number to a minute
NOW	Returns the serial number of the current date and time
SECOND	Converts a serial number to a second
TIME	Returns the serial number of a particular time
TIMEVALUE	Converts a time in the form of text to a serial number

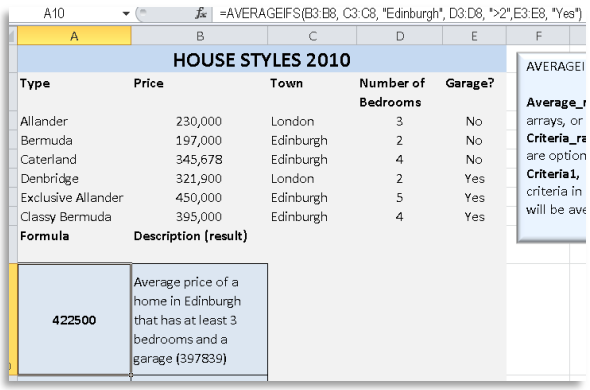
Statistical Functions

- *COUNT*
- *COUNTA*
- *COUNTBLANK*
- *SUMIF*
- *SUMIFS*
- *IFSUM*
- *COUNTIF*
- *AVERGEIFS*

Statistical Functions

Function Name	Use	Syntax and Sample
COUNT	Used to count how many numbers are in the list of arguments	**=COUNT(first cell:last cell, first cell:last cell…)** SALARY / BONUS 5000 0% 8750 2.5% 9000 2.5% 5% 8000 5% 8000 5% 5% 8500 0% 10000 0% =COUNT(E2:E10)
COUNTA	Used to count the number of cells that contain numbers and numbers within a list of arguments	**=COUNTA(first cell:last cell, first cell:last cell…)** A / B January Kevin Wallace 456.00 898.00 Jack Wilson 569.00 Bill Smith 789.00 Trevor McInally 469.00 Sandy Galbraith 245.00 Wendy Snow 598.00 123.00 Janet Gilhooley 569.00 James Scott 968.00 Jim Blakey 879.00 Adrian Whalley 569.00 =COUNTA(A3:A13)
COUNTBLANK	Used to count empty cells in a specified range of cells.	**=COUNTBLANK(first cell:last cell, first cell:last cell…)** B14 =COUNTBLANK(A2:B12) A / B / C January Katherine Gibson 898.00 569.00 Bill Smith 789.00 Trevor McInally 469.00 245.00 Wendy Snow 598.00 Carole Grant 123.00 Janet Gilhooley 569.00 James Scott 968.00 Jim Blakey Adrian Whalley 569.00 3

SUMIF	Used to add the number of cells within a range that meets the given condition	**=SUMIF(A1:A5,”>50”)** 
SUMIFS	Used to add the number of cells within a range that meets multiple criteria given	

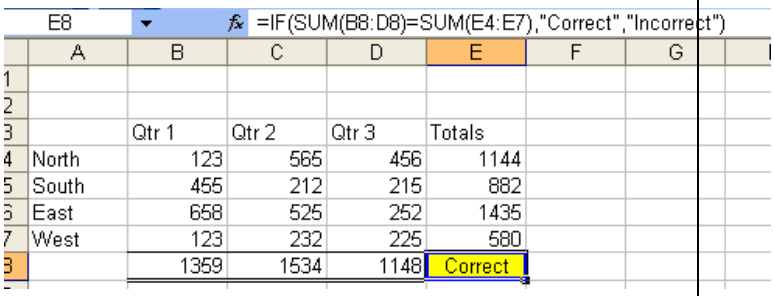
AVERAGEIFS	Used to determine the average number of the selected cells within a range that meets multiple criteria given	

A10 =AVERAGEIFS(B3:B8, C3:C8, "Edinburgh", D3:D8, ">2",E3:E8, "Yes")

HOUSE STYLES 2010

Type	Price	Town	Number of Bedrooms	Garage?
Allander	230,000	London	3	No
Bermuda	197,000	Edinburgh	2	No
Caterland	345,678	Edinburgh	4	No
Denbridge	321,900	London	2	Yes
Exclusive Allander	450,000	Edinburgh	5	Yes
Classy Bermuda	395,000	Edinburgh	4	Yes

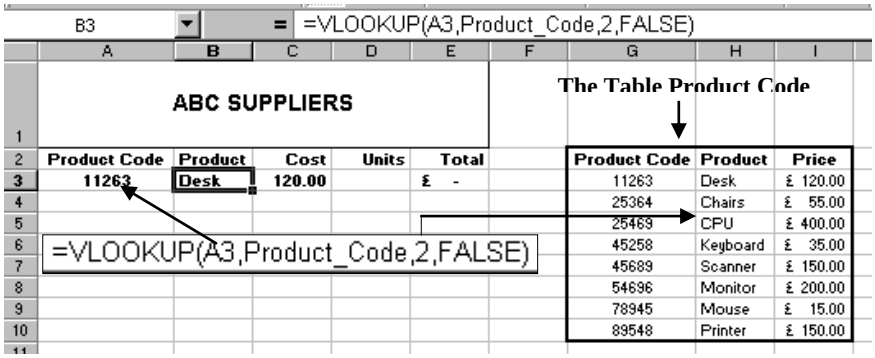
Formula	Description (result)
422500	Average price of a home in Edinburgh that has at least 3 bedrooms and a garage (397839)

IFSUM	Used to add the cells specified by a given condition or criteria	**=IF(SUM(B8:D8)=SUM(E4:E7),"CORRECT","INCORRECT")** 			

E8 =IF(SUM(B8:D8)=SUM(E4:E7),"Correct","Incorrect")

	A	B	C	D	E	F	G
1							
2							
3		Qtr 1	Qtr 2	Qtr 3	Totals		
4	North	123	565	456	1144		
5	South	455	212	215	882		
6	East	658	525	252	1435		
7	West	123	232	225	580		
8		1359	1534	1148	Correct		

Analyse Data with LOOKUP Functions



Topic 1D: Analyse Data with LOOKUP Functions

A Sample VLOOKUP

You would use VLOOKUP when the values that you are interested in are contained in a column (located to the left of the data). VLOOKUP is a Vertical Lookup.

VLOOKUP Syntax	The Syntax of the VLOOKUP function is as follows: **VLOOKUP(Lookup_Value,Table_Array,Column_index_number)**
Lookup_Value	In this function the Lookup_Value is the value that is looked up in the first **column** of a table
Table_Array	Table_Array is the location and range of the table to look up
Column_index_number	Column_index_number is the **number of columns** to go down the table to obtain the value to be returned

The above example shows how you can use two values to look values in a table. With a VLOOKUP Excel is looking for a column rather than a row.

The formula is written in cell B3. When the Product Code is entered in cell A3 Excel displays the Product in cell B2. Notice also how we have given the Product Table a name (Product_Code). This makes it easier when writing complicated formulas.

Normally the Table Array is on another worksheet so is hidden from view.

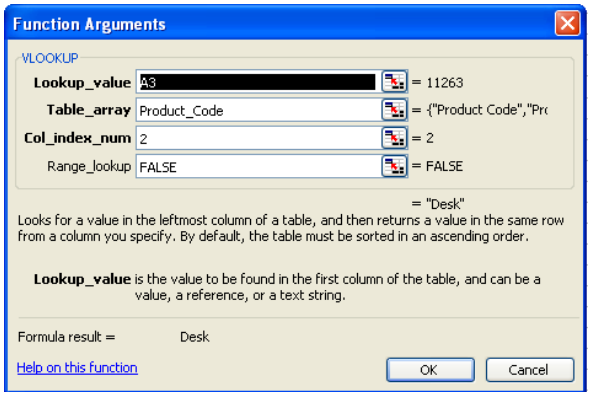
Have a look at the rest of the example below.

VLOOKUP often are linked to other cells where a *knock on* effect is used to lookup other data.

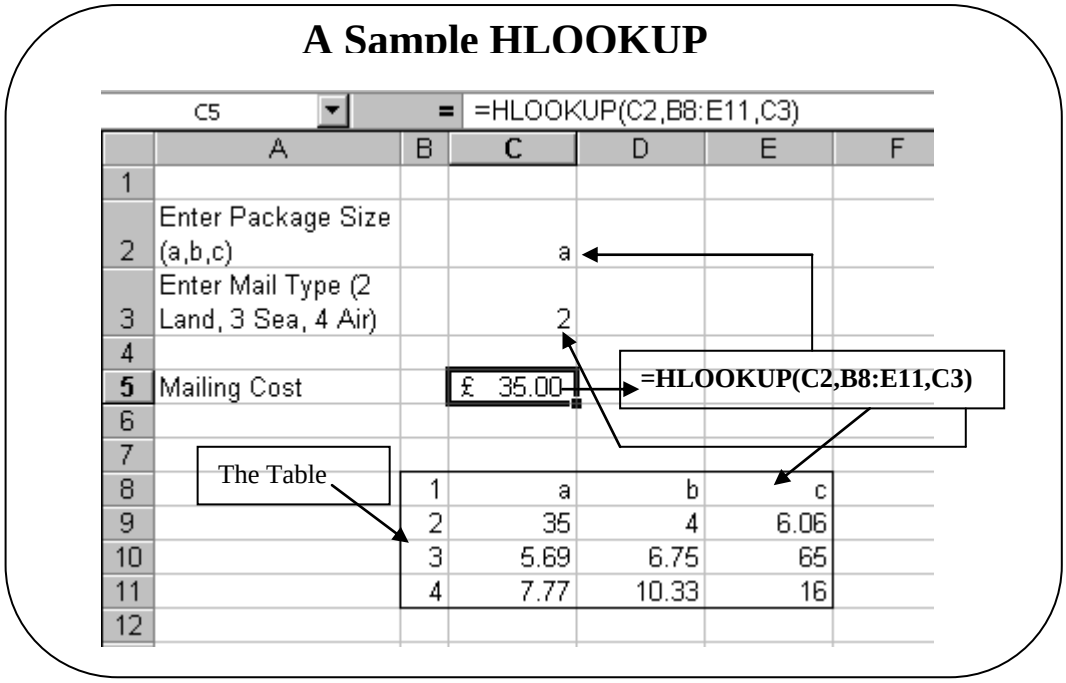
VLOOKUP can also be used alongside Validation Lists. We will have a look at this a little later.

To complete this example:

- Select cell **B3** and click on the **Paste Function** button on the **Standard Toolbar**.
- From the Category **Lookup & Reference** select **VLOOKUP**
- The first part of the Paste Function Wizard will appear
- In the **Lookup_Value** box type **A3** and press **Tab**
- In the **Table_Array** type **Product_Code** and press **Tab**
- In the **Col_index_num** box type **2**
- In the **Range_lookup** type **FALSE**
- Click **OK**



Cell C3 also has a VLOOKUP so that when a Product has been found in cell B2 the price is also inserted. **Try this in your own!**



A Sample HLOOKUP

A Sample HLOOKUP

The above example shows how you can use two values to lookup a value in a table. With a HLOOKUP Excel looks for the row number.

The function looks for the package type in row 1 or the table and then returns the mailing costs in the appropriate mailing type row.

You would use HLOOKUP when the values that you are interested in are contained in a row across the top of your data and you want to look down a particular number of rows.

HLOOKUP Syntax	The Syntax of the HLOOKUP function is as follows: **HLOOKUP(Lookup_Value,Table_Array,Row_Index_number)**
Lookup_Value	The Lookup_Value is the value that is looked up in the first **row** of a table
Table_Array	Table_Array is the location and range of the table to lookup
Row_index_number	Row_index_number is the **number of rows** to go down the table to obtain the value to be returned

To complete this example:

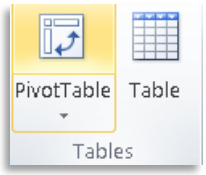
- Select cell **C5** and click on the **Paste Function** button
- From the Category **Lookup & Reference** select **HLOOKUP**
- In the **Lookup_Value** type **C2**
- In the **Table_Array** type **B8:E11**
- In the **Row_index_number** box type **C3** and click **OK**.

Lesson 2: Organising Table and Worksheet Data

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

- Create and Modify Tables
- Format Tables
- Sort or Filter Data
- Use Functions to Calculate Data

Create and Modify Tables



	A	B	C	D	E
1	NAME	EMPLOYEE NO	JOB TITLE	DEPARTMENT	SALARY
2	Parker J	0001	General Manager	General	35,000
3	Young D	0002	Sales Manager	Sales	25000
4	Howard J	0003	Parts Manager	Parts	25000
5	Smith A	0004	Service Manager	Service	25000
6	West P	0005	YTS	Service	5000
7	Brown P	0006	Sales Rep	Sales	8000
8	Laker D	0007	Mechanic	Service	9000
9	White B	0008	Mechanic	Service	9000
10	Brown G	0009	YTS	Service	5000

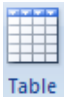
Tables include AutoFilter where column headers stay in view when you scroll through the data. Allows users to manage and analyse a group of related data easier. Columns and rows within the table will expand to accommodate more data when required. Tables were named Lists in Excel 2003 and 2007.

Topic 2A: Create and Modify Tables

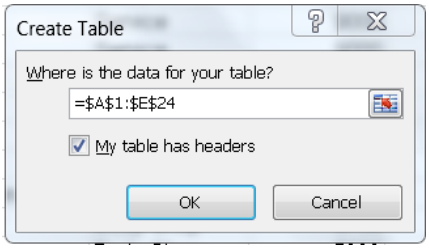
Background

Microsoft Office Excel 2010 now offers a new feature with Tables. This option replaces the List feature from Excel 2003. The Table option lets you take things a lot further with fantastic formatting, automatically include AutoFilter, expand the table as you wish and much more and enables the managing and analysing a group of related data easier. Cell Styles (*Home Tab)* can also be incorporated into your Table to create a more dramatic effect.

Inserting a Table

- Click anywhere inside your data **or** select the data you wish to turn into a table
- From the **Insert** tab, select the **Table** icon 

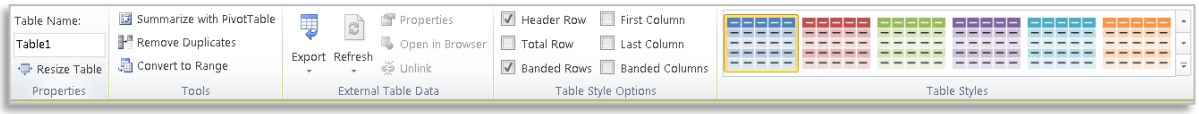
- You will be asked where the data is for your table. If this is not the correct range of data, reselect with your mouse.



- Also notice that there is a check box for Table headers. If your data has headers at the top of each column, click a tick in this box otherwise leave it blank. Click **OK**
- You will now see your table with default formatting and AutoFilter switched on

	A	B	C	D	E
1	NAME	EMPLOYEE NO	JOB TITLE	DEPARTMENT	SALARY
2	Parker J	0001	General Manager	General	35,000
3	Young D	0002	Sales Manager	Sales	25000
4	Howard J	0003	Parts Manager	Parts	25000
5	Smith A	0004	Service Manager	Service	25000
6	West P	0005	YTS	Service	5000
7	Brown P	0006	Sales Rep	Sales	8000
8	Laker D	0007	Mechanic	Service	9000
9	White B	0008	Mechanic	Service	9000
10	Brown G	0009	YTS	Service	5000
11	Brown G	0010	Sales Rep	Sales	8000
12	Laing M	0011	Valeter	Body Shop	8500
13	Boyd A	0012	Valeter	Body Shop	8500
14	Bald B	0013	Body Shop Manager	Body Shop	23000

When your table is displayed, you will notice that you are now on the **Design Tab** where you can give your table a name, format it or convert it back to a range, remove duplicates etc.



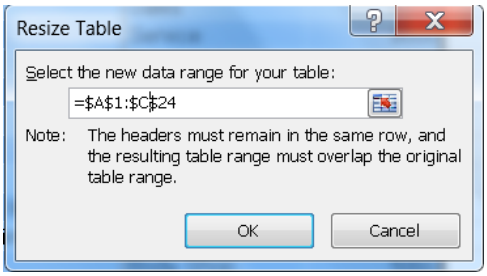
Name the Table

- Click in the **Properties** section of the **Design Tab** and under **Table Name** type the name of your table.

NOTE: Names must begin with a letter or underscore, do not contain a space or other invalid characters, do not conflict with an Excel built-in name or the name of another object in the workbook.

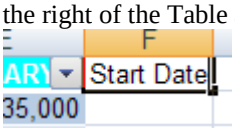
Resize the Table

- Click the **Resize Table** option in the **Properties** section of the **Design** tab
- Either scroll with the mouse to select more or less data or enter the range in the window presented and click **OK**

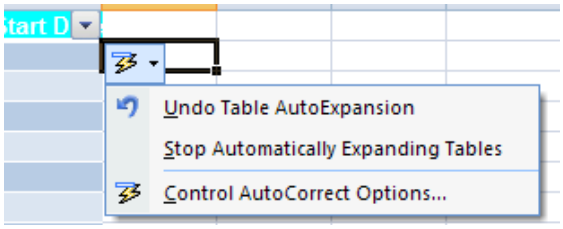


Add a new column to the right

- Click in the blank column to the right of the Table and enter a title

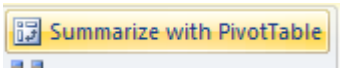


- Press **Enter**

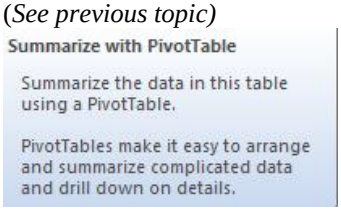


- Your new column will be inserted to the right and a Smart Tag will appear giving options

Tools – Summarize with Pivot Table Report

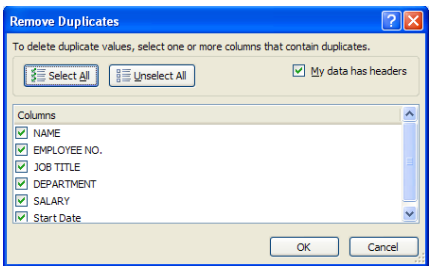


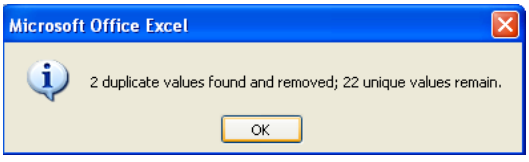
This option will create a PivotTable from your data (*See previous topic)*



Remove Duplicates

Another new feature within Microsoft Excel 2010 is the Remove Duplicates feature. Click this option and Excel will show you a list of all the headings where it will look for duplicate data. Just tick the columns required and click **OK**. If Excel finds duplicate data, it will remove the duplicate and leave a message similar to the one below.

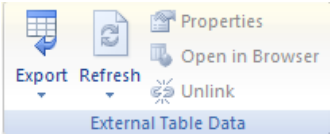




Convert to Range

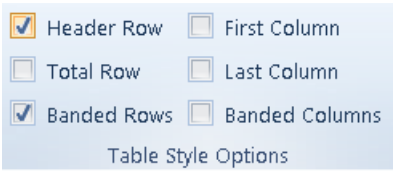
When you want to convert your data back to normal, just click the **Convert to Range** option within the **Tools** section.

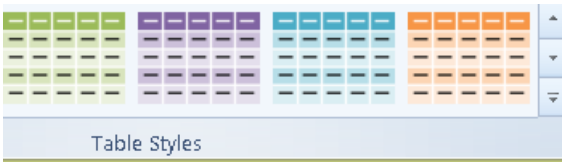
External Table Data Tools



The options with this section deal with **SharePoint 2007** and are discussed fully in our SharePoint 2007 course but here you can Export to SharePoint and once the data is exported, Refresh to include any new data. The **Properties**, **Open in Browser** and **Unlink** options are all inactive until the data is exported.

Format Tables





Tables can be formatted using the Table Style Options or Tables styles. This will give colour and banding to your data. Formats your table data so it's much easier to read.

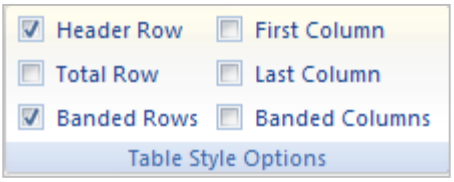
Topic 2B: Format Tables

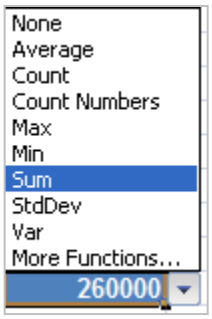
Background

Once you have your data within a table, you can format the table to look very different and much easier to read. Column and Row banding along with Light, Medium and Dark colouring will add a very different effect to your data.

Table Style Options

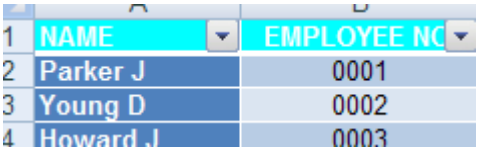
This option gives the opportunity to switch on or off **Header Rows, Tools Row, First Column, Last Column, Banded Rows** and **Banded Columns**. Any option ticked will display that particular option.



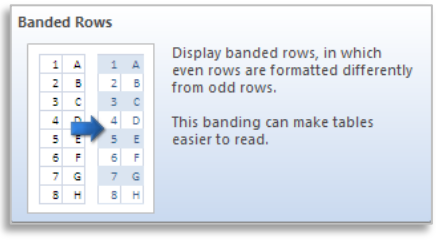


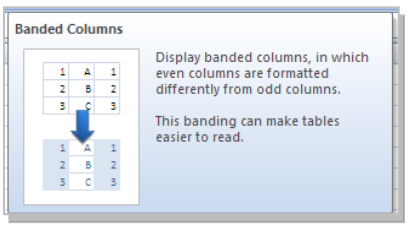
The **Totals Row** will give a new row to include the ability to **Total, Average, Sum** etc any single column by clicking the drop down arrow. If your column contains text, use the **Count** option to count the number of cells with text.

First Column and **Last Column** simply format the columns to be bolder than the rest so that they stand out more.



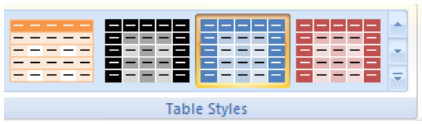
The **Banded Rows** and **Banded Columns** place bands over the data to make it easier to read.





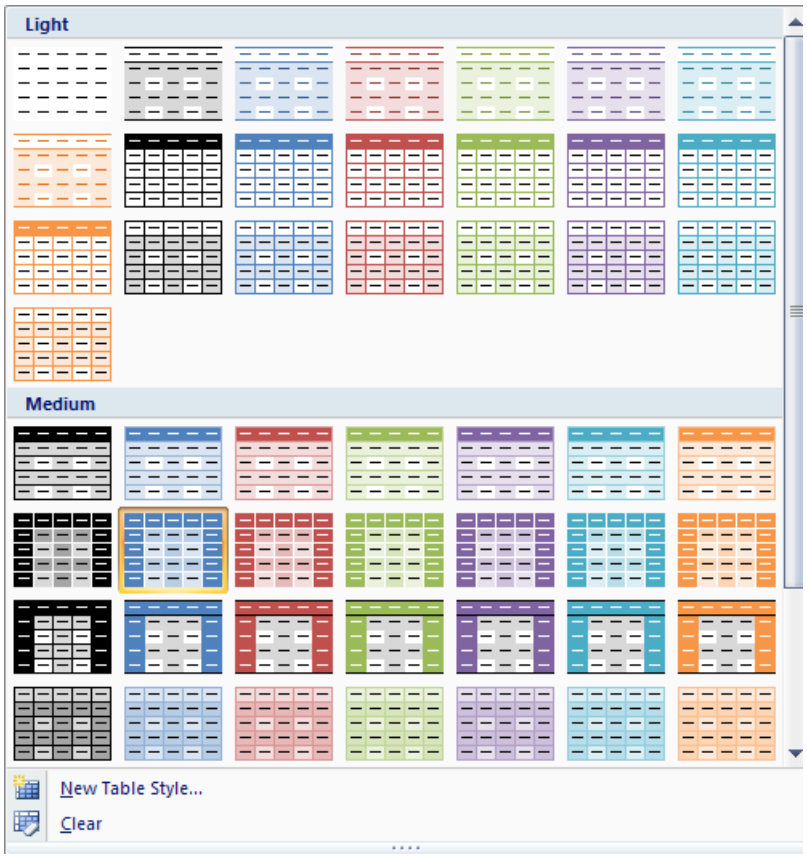
A	B	C	D	E
NAME	EMPLOYEE NC	JOB TITLE	DEPARTMENT	SALARY
Parker J	0001	General Manager	General	35,000
Young D	0002	Sales Manager	Sales	25000
Howard J	0003	Parts Manager	Parts	25000
Smith A	0004	Service Manager	Service	25000
West P	0005	YTS	Service	5000
Brown P	0006	Sales Rep	Sales	8000
Laker D	0007	Mechanic	Service	9000
White B	0008	Mechanic	Service	9000
Brown G	0009	YTS	Service	5000

Add Table Styles



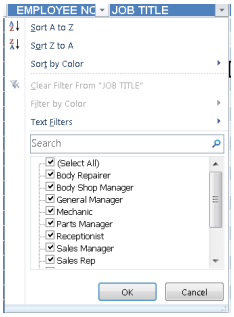
This option allows you to select from many different formats of table styles.

Click the **More** arrow at the bottom of the scroll bars to see more options. Resting your mouse pointer over any of the table formats will invoke the *on the fly formatting* to enable you to determine which style suits your particular data the most.



Sort or Filter Table Data

- **Sort A – Z**
- **Sort Z – A**
- **Sort by Color**
- **Or Filter data**



Topic 2C: Sort or Filter Table Data

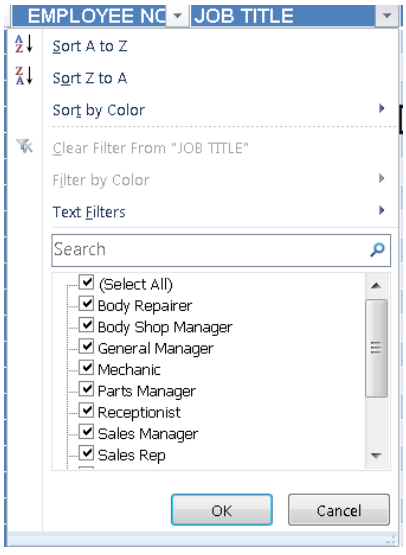
Background

When you have large amounts of data you wish to analyse, Sorting or Filtering your table data will give you just the information you need. Sorting will *Sort* information in a specific order i.e. Highest to Lowest, or A to Z. Filtering on the other hand will only show you the data you want to see. (You can also perform this type of Sorting and Filtering out with Table data. Select the **Data** tab and use the **Sort and Filter** group.) **Note:** You can sort up to 64 columns.

	A	B	C	D	E
	NAME	EMPLOYEE NC	JOB TITLE	DEPARTMENT	SALARY
	Parker J	0001	General Manager	General	35,000
	Young D	0002	Sales Manager	Sales	25000
	Howard J	0003	Parts Manager	Parts	25000
	Smith A	0004	Service Manager	Service	25000
	West P	0005	YTS	Service	5000
	Brown P	0006	Sales Rep	Sales	8000
	Laker D	0007	Mechanic	Service	9000
	White B	0008	Mechanic	Service	9000
	Brown G	0009	YTS	Service	5000
	Brown G	0010	Sales Rep	Sales	8000
	Laing M	0011	Valeter	Body Shop	8500

In the examples that follow we will use the internal Excel 2010 Table which shows a list of staff including their Departments, Job Title etc.

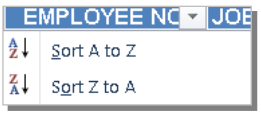
E Sort & Filter



The Sort & Filter options are available when you click the drop down arrow which appears to the right of each heading. You can sort more than 3 levels. In fact, you can sort on as many levels as the memory of your computer can cope with. Features such as offering sorting Ascending or Descending if the sort is on a text column or Smallest to Largest, Largest to Smallest if the sort is on a number column, or a Custom Sort. The added option to this is the AutoFilter. You can also sort Cell Color, Font Color or Cell Color icon. By ticking or untick the options within a column you can select just the data you require. Options with a tick will display, without the tick they will be hidden. If you untick **Select All,** you can then retick the headings you are looking for.

Sort Data A-Z or Z-A (text)

- Click on the **Filter Block** at the right of the column you wish to sort
- Select **Sort A to Z** or **Sort Z to A**

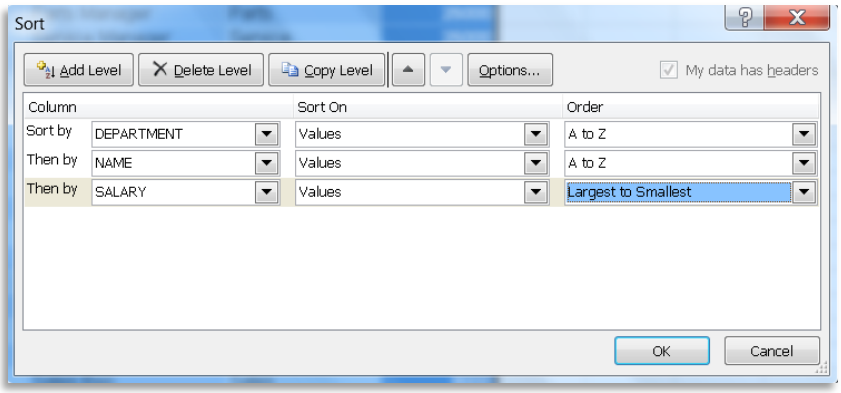


Sort Data A-Z or Z-A (numbers)

- Click on the **Filter Block** at the right of the column you wish to sort
- Select **Sort A to Z** or **Sort Z to A**

Custom Sort Explained

Using this option we can sort and group data we require. For example, we could Sort by Department which will group all those together. We could then sort by Name which would group all the names together and then finally sort by Salary. This would group all the Departments, Names or employees and their salary together.



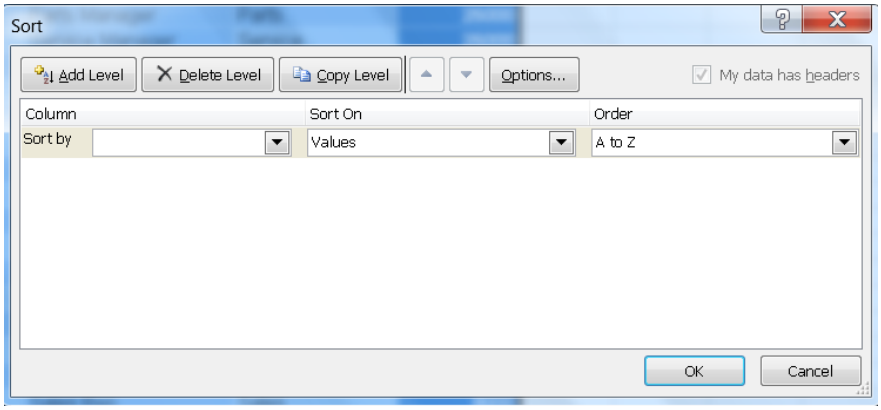
The result would look like this below.

A	B	C	D	E
NAME	EMPLOYEE NC	JOB TITLE	DEPARTMENT	SALARY
Bald B	0013	Body Shop Manager	Body Shop	23000
Boyd A	0012	Valeter	Body Shop	8500
Laing M	0011	Valeter	Body Shop	8500
Old A	0014	Body Repairer	Body Shop	8750
Parker A	0016	Body Repairer	Body Shop	8750
Webb R	0015	YTS	Body Shop	5000
Adler K	0023	Secretary	General	10000
Parker J	0001	General Manager	General	35,000
Parks S	0022	Receptionist	General	8500
Howard J	0003	Parts Manager	Parts	25000
Boyd J	0019	Sales Rep	Sales	8000
Brown G	0010	Sales Rep	Sales	8000
Brown P	0006	Sales Rep	Sales	8000
Old D	0020	Sales Rep	Sales	8000
Parks L	0021	Sales Rep	Sales	8000
White A	0018	Sales Rep	Sales	8000
Young D	0002	Sales Manager	Sales	25000
Brown G	0009	YTS	Service	5000
Laker D	0007	Mechanic	Service	9000
Smith A	0004	Service Manager	Service	25000

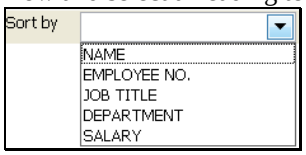
Perform a Custom Sort

- Click on the **Filter Block** at the right of the column you wish to sort
- Select **Sort by Color** then **Custom Sort…**

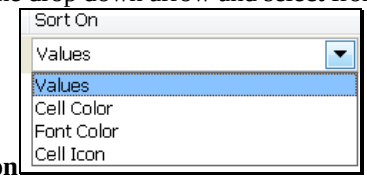
- Then **Custom Sort** and you will see the Sort dialog box



- Add the levels of sort you require by clicking the **Add Level** button
- In the **Sort by** section, click the drop down arrow and select a heading to sort on (*here you can see the headings in our table)*



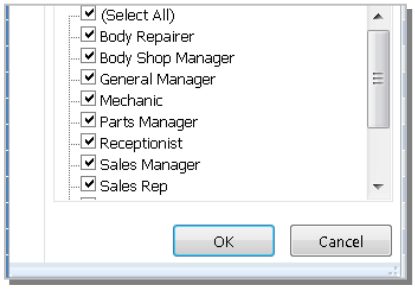
- In the **Sort On** section, click the drop down arrow and select from **Values, Cell Color, Font Color** or **Cell Icon**



- In the **Order** section, select from **A to Z** or **Z to A**
- **Add additional sorting levels as you require.**

Filter Table Data

- Click on the **Filter Block** at the right of the column you wish to filter
- Untick the boxes next to the headings you ***don't*** want to see
- Ticking the **Select All** tick box will take all the ticks off the boxes. You can then just tick the ones you require.
- Click **OK**
- Your data will be filtered.
- At the top of the block, notice that the filter icon has changed from this  to this  .



Stop filtering data

- Click the drop down arrow on the heading you filtered.
- Select **Clear Filter from**

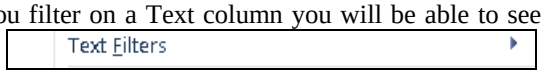
Switch Off/On AutoFilter in a Table

- From the **Data** tab, click the **Filter** 

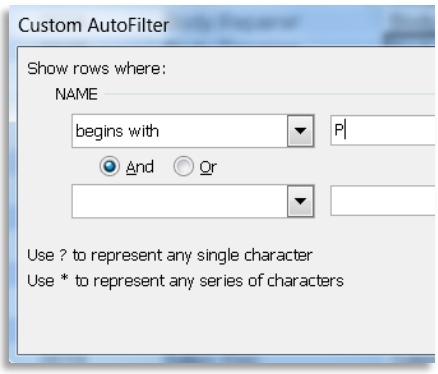
button. If it is colour ***Orange*** then the AutoFilter is on.

Text Filtering

- When you filter on a Text column you will be able to see the **Text Filters** option like this.

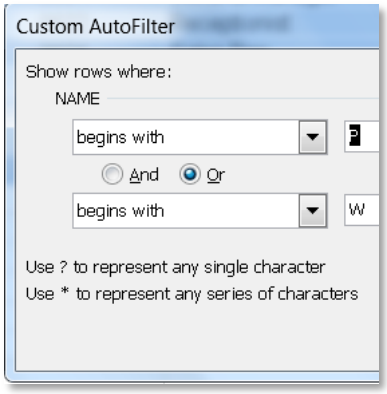


- Select from these options. Each option will present a dialog box whereby you can detail the criteria.
- Here we have detailed **Begins With…** on the **Name** field. The resulting dialog box would look like this.
- We have typed the letter **P** to enable us to find anyone whose surname starts with P.
- The result would be this:



A	B	
NAME	EMPLOYEE NC	JOB
Parker A	0016	Body
Parker J	0001	Gene
Parks S	0022	Rece
Parks L	0021	Sales

- You may also wish to use **And** or **OR** to expand the data you require.
- **And** will combine the data (i.e. two or more criteria that must both be met). Use **Or** when only one of multiple conditions are to be met
- Here we have enter **Or W**

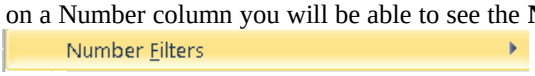


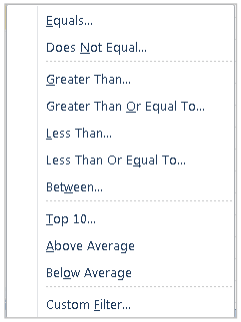
- The result would be this:

A	B	C	D	E
NAME	EMPLOYEE NC	JOB TITLE	DEPARTMENT	SALARY
Parker A	0016	Body Repairer	Body Shop	8750
Webb R	0015	YTS	Body Shop	5000
Parker J	0001	General Manager	General	35,000
Parks S	0022	Receptionist	General	8500
Parks L	0021	Sales Rep	Sales	8000
White A	0018	Sales Rep	Sales	8000
West B	0017	Mechanic	Service	9000
West P	0005	YTS	Service	5000
White B	0008	Mechanic	Service	9000

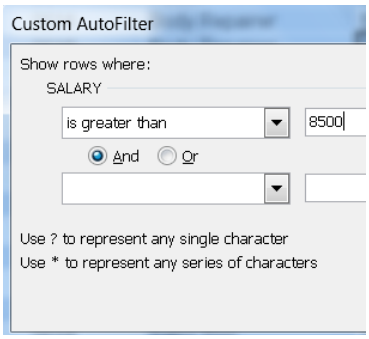
Number Filtering

- When you filter on a Number column you will be able to see the **Number Filters** option like this.



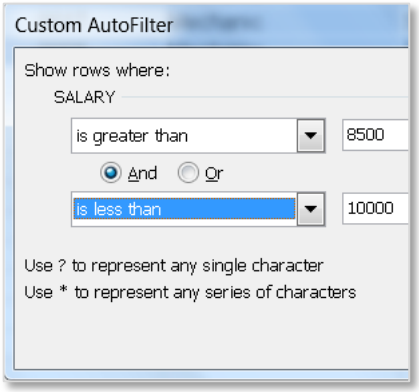


- Select from these options.
- Each option will present a dialog box whereby you can detail the criteria.
- Here we have detailed **Greater than…** on the **Salary** field. The resulting dialog box would look like this.
- We have typed the number **8500** to enable us to find anyone whose salary is more than 8500.
- The result would be this:



C	D	E
E	DEPARTMENT	SALARY
p Manager	Body Shop	23000
airer	Body Shop	8750
airer	Body Shop	8750
	General	10000
lanager	General	35,000
ager	Parts	25000
ıager	Sales	25000
	Service	9000
anager	Service	25000
	Service	9000
	Service	9000

- You may also wish to use **And** or **OR** to expand the data you require.
- **And** will combine the data (i.e. two or more criteria that must both be met). Use **Or** when only one of multiple conditions are to be met
- Here we have enter **And 10000**
- The result would be this:



	D	E
	DEPARTMENT	SALARY
	Body Shop	8750
	Body Shop	8750
	Service	9000
	Service	9000
	Service	9000

Convert Data back to normal

- Fromm the **Design** tab, and the **Tools** group of buttons
- Select **Convert to Range**
- You will be asked if you really want to do this
- Select **Yes**

Advanced Filtering

- **Use of the Advanced Filter allows for:**
- ***Multiple selections from the same field***
- ***Selections based on calculations***
- ***Selections across multiple fields***

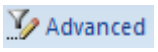
Advanced Filtering

Background

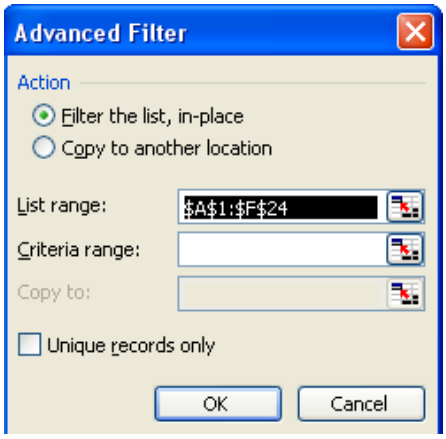
The use of AutoFilter techniques will cover most users' requirements when selecting information from an Excel database.

To use the Advanced Filter

The use of advanced filtering techniques allows you to select using multiple criteria for the same field (column), and to make selections based on complex formulae.

- Ensure that you have a number of blank rows above or below your list
- Ensure that your list has field (column) headers
- Create the filter criteria labels by copying the appropriate field headings to one of the blank rows (above the list).
- Under these criteria labels enter the criteria you wish to match when filtering your list.
- Ensure you have one blank row between the criteria details and the list
- Select a single cell in your list
- Open the **Data** tab and select the 

option
- Select the **Filter the list, in place** radio button to filter the list.



- Select **Copy to another location** to place the filtered list in another location
- Define the **List range** if it has not already been done automatically

- Define the **Criteria range**
- Define the **Copy to** cell, if the filtered list is to be copied to another location
- Check the **Unique records only** box if you require to see only unique records
- Click **OK** to complete and action the filter

Criteria for Advanced Filter

Single column criteria

The example will filter records of staff in the Sales Dept. who earn more than £8,000.

DEPARTMENT	SALARY
Sales	>8000

Multi-column criteria

The example will show records where staff in Sales are paid more than £8,000 and a Service Depts where staff are paid less that £20,000.

DEPARTMENT	SALARY
Sales	>8000
Service	<20000

To remove all Advanced Filters

- From the **Data** drop down menu select **Filters**
- Click on **Clear** 

to remove all filters and display all records.

Use Functions to Calculate Table Data

- **You can SUM the outermost column of your Table data using the Total Row option**
- **Alternatively you can SUBTOTAL filtered data**

Topic 2D: Use Functions to Calculate Table Data

Background

Excel Table Data has a built in feature whereby you can add up the outmost column of your Table. The default is to SUM but once the calculated row is there you can easily change it to Average, Min, Max etc.

You will also have the ability to calculate each column differently to the next i.e. SUM one column, MIN the next column and so on.

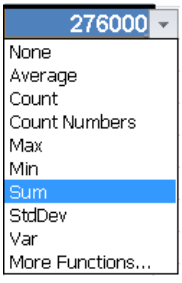
Using SUBTOTAL filtered data can also be accomplished simply using a few steps. This option will allow you to group your data also.

Total Row Table Data

- Click inside your Table
- Select the **Design** contextual tab
- Under **Table Styles Options**, tick **Total Row**
- A new row will be added to your table with the outermost column ***summed***

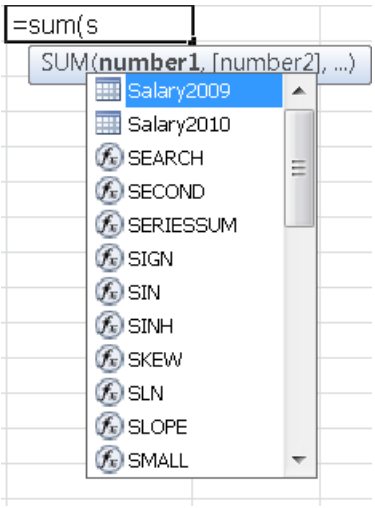
NAME	EMPLOYEE NO.	JOB TITLE	DEPARTMENT	SALARY
Webb R	0015	YTS	Body Shop	5000
Adler K	0023	Secretary	General	10000
Parker J	0001	General Manager	General	35,000
Parks S	0022	Receptionist	General	8500
Howard J	0003	Parts Manager	Parts	25000
Boyd J	0019	Sales Rep	Sales	8000
Brown G	0010	Sales Rep	Sales	8000
Brown P	0006	Sales Rep	Sales	8000
Old D	0020	Sales Rep	Sales	8000
Parks L	0021	Sales Rep	Sales	8000
White A	0018	Sales Rep	Sales	8000
Young D	0002	Sales Manager	Sales	25000
Brown G	0009	YTS	Service	5000
Laker D	0007	Mechanic	Service	9000
Smith A	0004	Service Manager	Service	25000
West B	0017	Mechanic	Service	9000
West P	0005	YTS	Service	5000
White B	0008	Mechanic	Service	9000
Total				276000

- Click the drop down arrow to select another function required. You can also select any other column along the Total row and select a different function.



Perform calculation from Table Data

- Let's suppose you have two tables of figures. Salaries for 2009 and Salaries for 2010 and you want to add these together.
- Select the first table and give it a name (Salary2009) using the **Design tab, Properties group, then Table Name**
- Select the second table and give it a name (Salary2010) using the **Design tab, Properties group, then Table Name**
- Select an empty cell and type **=sum(s** and you will be prompted for the table names below



Using SUBTOTAL - Totalling fields within a filtered database

- Use the **SUBTOTAL** not **SUM**
- **SUBTOTAL** ignores hidden records, whereas **SUM** does not

NOTE: if you use the AutoSum icon to total columns, then it will automatically use SUBTOTAL (rather than SUM), if the database is filtered

Manipulating filtered data

You can hide rows using the **Row/Hide** command under the **Format** menu. This is very different from cells not being displayed as a result of imposing AutoFilter criteria. Rows not visible after you have applied an AutoFilter criteria are not "Hidden'' in the Excel 2010 sense of the word -–they are just not displayed.

Everything you wanted to know…

about cells not displayed due to an AutoFilter criteria, but were afraid to ask

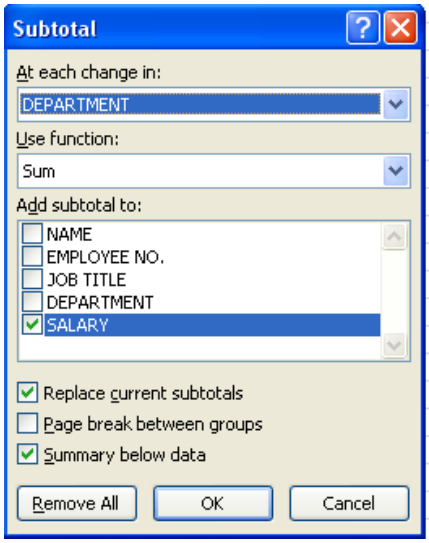
When you impose AutoFilter criteria, and, as a result, some rows are not displayed, you should note that the following points apply to those hidden rows.

- They are not included in **SUBTOTAL** functions (but are included in **SUM** functions)
- They are not printed (unlike manually hidden cells)
- They are not used to construct new chart information
- They remain unchanged if the **AutoFill** command is used
- They remain unchanged if you apply formatting commands
- They remain unchanged if you use the **Sort, Clear, Copy** or **Delete Row** commands.

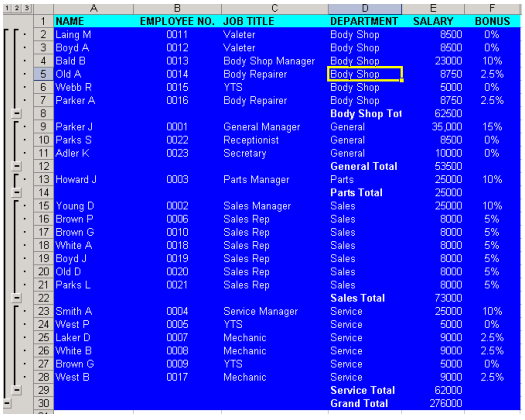
To use SUBTOTAL

Once you have filtered your data the next thing to decide is what order do you want your data to be presented in. Say for instance, you had a worksheet containing names, departments, salaries of your staff. Your Manager wanted to determine what the salary bill was for all staff. He wants you to prepare the data in Departmental order with the total salary totalled for each department. Firstly, you would sort the data with the Department field A-Z. Then start the SUBTOTAL.

- From the **Data** tab and the **Outline** group, select **SUBTOTAL** from the Outline group of buttons
- This will invoke the **SUBTOTAL** dialog box



- From the **At each change in** section, click the drop down arrow and select **Department** because this is the field you sorted A-Z.
- From the **Use function** section, click the drop down arrow and select **Sum**
- From the **Add subtotal to** section, click the drop down arrow and select **Salary** as this is the field you want to add up
- From the bottom section of the window, check **Replace current subtotals** to overwrite the previous subtotals
- Check **Page break between groups** if you have a large amount of data and want each department displayed on a worksheet of its own
- Check **Summary below data** which will give you the total at the end of each Department
- Click **OK**
- Your data will now be displayed by Department with a total at the end of each Department



	A	B	C	D	E	F
1	NAME	EMPLOYEE NO.	JOB TITLE	DEPARTMENT	SALARY	BONUS
2	Laing M	0011	Valeter	Body Shop	8500	0%
3	Boyd A	0012	Valeter	Body Shop	8500	0%
4	Bald B	0013	Body Shop Manager	Body Shop	23000	10%
5	Old A	0014	Body Repairer	Body Shop	8750	2.5%
6	Webb R	0015	YTS	Body Shop	5000	0%
7	Parker A	0016	Body Repairer	Body Shop	8750	2.5%
8				**Body Shop Tot**	62500	
9	Parker J	0001	General Manager	General	35,000	15%
10	Parks S	0022	Receptionist	General	8500	0%
11	Adler K	0023	Secretary	General	10000	0%
12				**General Total**	53500	
13	Howard J	0003	Parts Manager	Parts	25000	10%
14				**Parts Total**	25000	
15	Young D	0002	Sales Manager	Sales	25000	10%
16	Brown P	0006	Sales Rep	Sales	8000	5%
17	Brown G	0010	Sales Rep	Sales	8000	5%
18	White A	0018	Sales Rep	Sales	8000	5%
19	Boyd J	0019	Sales Rep	Sales	8000	5%
20	Old D	0020	Sales Rep	Sales	8000	5%
21	Parks L	0021	Sales Rep	Sales	8000	5%
22				**Sales Total**	73000	
23	Smith A	0004	Service Manager	Service	25000	10%
24	West P	0005	YTS	Service	5000	0%
25	Laker D	0007	Mechanic	Service	9000	2.5%
26	White B	0008	Mechanic	Service	9000	2.5%
27	Brown G	0009	YTS	Service	5000	0%
28	West B	0017	Mechanic	Service	9000	2.5%
29				**Service Total**	62000	
30				**Grand Total**	276000	

- You will even have a Grand Total at the bottom

To Hide/Display data sections

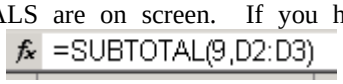
Let's say that your Manager has asked you to print off each Department separately so that he can give this to each Department Head. He does not want all the Department Heads to see each other's salary figure therefore, you will need to be able to hide sections then redisplay these when required.

- At the top left of the window you will notice a small grey box with the numbers **1,2,3** 
- Click the **1** to show only the Grand Total
- Click the **2** to show only the totals for each department and the grand total
- Click the **3** to show all data
- Alternatively, you can click the minus signs  to the left of each Department to collapse and expand each Department section

To remove SUBTOTALS

- From the **Data** tab, select **SUBTOTAL**
- This will invoke the **SUBTOTAL** dialog box
- Click the **Remove All** button

Changing Sum to Average, Minimum etc.

You can change the SUM function to AVERAGE, COUNT, MAX, MIN etc once your SUBTOTALS are on screen. If you have a look at the cell containing the formula 

you will notice that after the function SUBTOTAL, you will notice the number 9

Function_num (includes hidden values)	Function_num (ignores hidden values)	Function
1	101	AVERAGE
2	102	COUNT
3	103	COUNTA
4	104	MAX
5	105	MIN
6	106	PRODUCT
7	107	STDEV
8	108	STDEVP
9	109	SUM
10	110	VAR
11	111	VARP

- Click on the cell which contains the formula

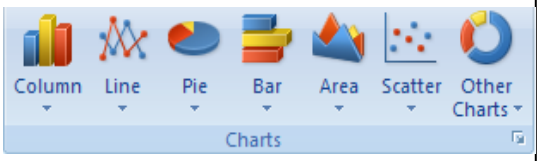
LESSON 3: Presenting Data Using Charts

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

- Create a Chart
- Modify a Chart
- Format Charts

Create a Chart

- **First select your data**
- **Then click on the Insert Tab**
- **Select your chart type Or**
- **Select your data and press F11**
- **Or Select your chart then add the data**



Topic 3A: Create a Chart

Background

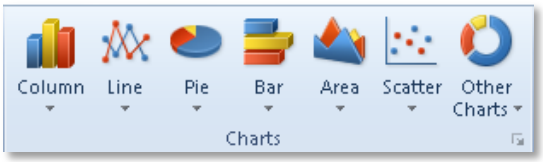
The way charts are created has changed in this new version of Excel. You can select your chart from the Insert tab without first having to select any data. You would then add the data required.

For delegates who have created charts in previous versions of Excel, the old ways still exist even down to the shortcut key F11 to create a new chart.

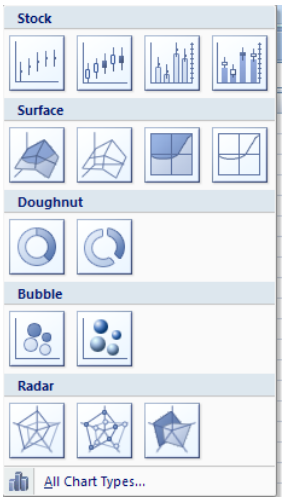
Note: Some of the charts which were in previous versions of Excel may not exist in Excel 2010. If you do require a chart which was in previous versions of Excel, open the old Excel document with the required chart and save the chart as a Template.

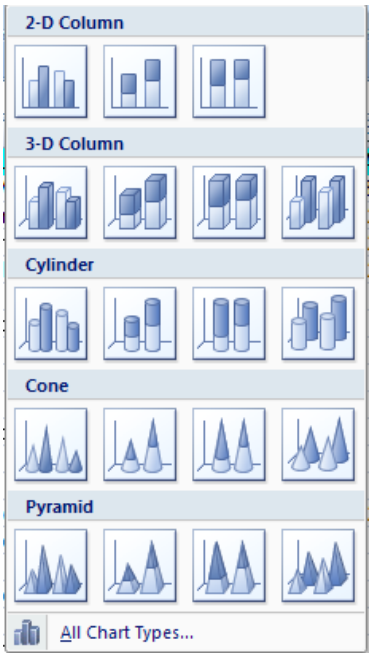
Create a Chart without selecting data

- Select the part of the worksheet where you want to store your chart.
- From the **Insert** tab, select from **Column, Line, Pie, Bar, Area, Scatter or Other Charts**.

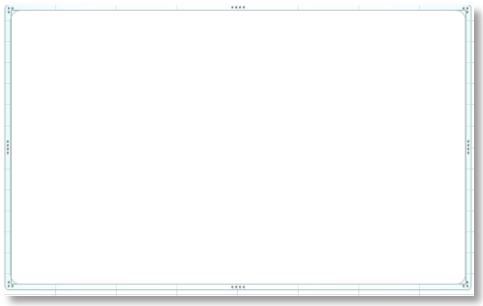


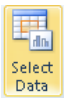
- Each has its own drop down arrow to make a selection from. This one is the Column Chart drop down.
- If you click the **Other Charts** option, you will see a list of other chart types to choose from.



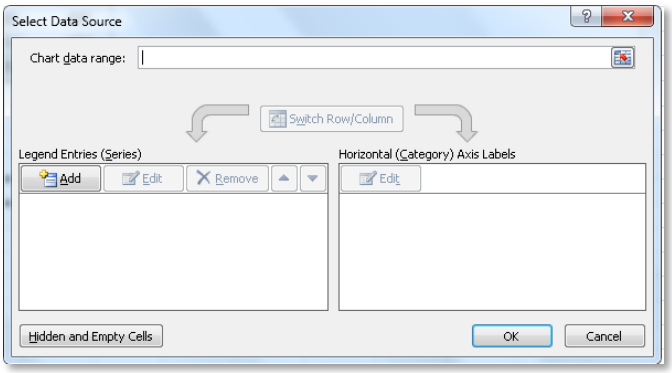


- You will now see a blank area on your worksheet which will hold the chart (*see illustration below)*

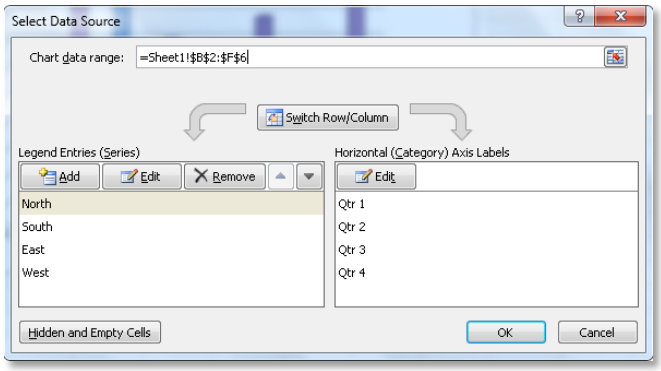


- You will also see a Contextual tab **Design**
- Select the **Select Data** button 

- **The Select Data Source** dialog box will be displayed like the one below.

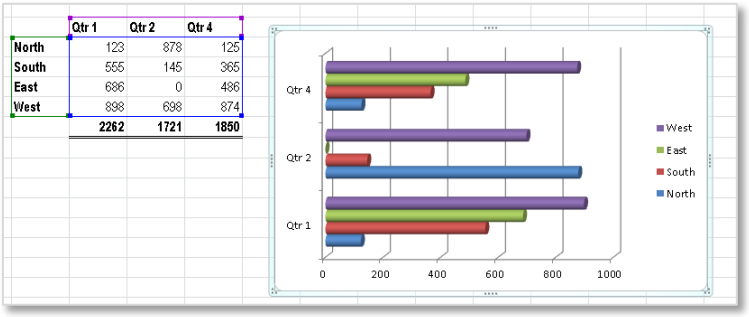


- Select the data to be added to the chart with your mouse and you will see the **Select Data Source** dialog box being populated automatically



Create a Chart AFTER selecting data

- Select the data you wish to chart
- From the **Insert** tab and the **Charts** group of buttons, select the chart required.
- You chart will be visible on the worksheet beside the data charted.

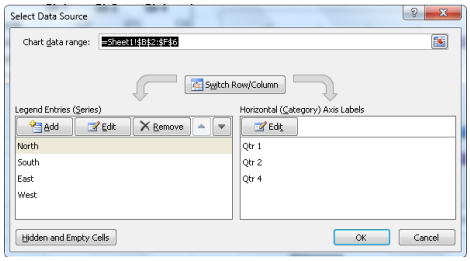


Shortcut to insert a Chart

- Select your data to chart and press **F11** on the keyboard. You will be presented with the default chart option.

Modify Charts

- **Switch Row and Column Data**
- **Add or remove data from your chart**
- **Edit the data within your chart**
- **Display empty cells as zeros or gaps**

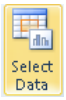


Topic 3B: Modify Charts

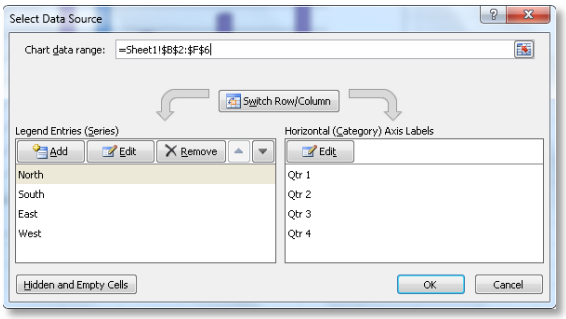
Background

Once your data has been charted you can still add, remove or change the way the data is presented. The Select Data Source dialog box will give you some of the options to do this.

Switch Row/Column Data

- Click in the chart you wish to change
- Click the **Select Data** button 

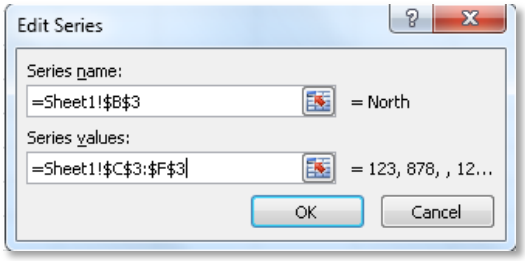
- The **Select Data Source** dialog box will be displayed



- Click the **Switch Row/Column** to arrange your data on the chart differently

Edit Series

- You can edit any part of the data by selecting the label you want to change and then clicking the **Edit** button

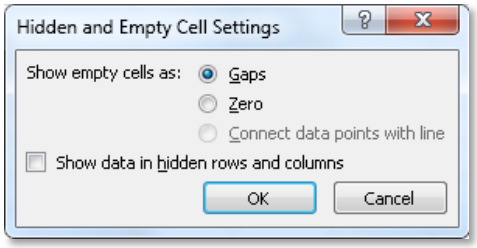


- In the **Edit Series** dialog box, select either **Series Name** or **Series Value** and change the selection. Click **OK** when done.

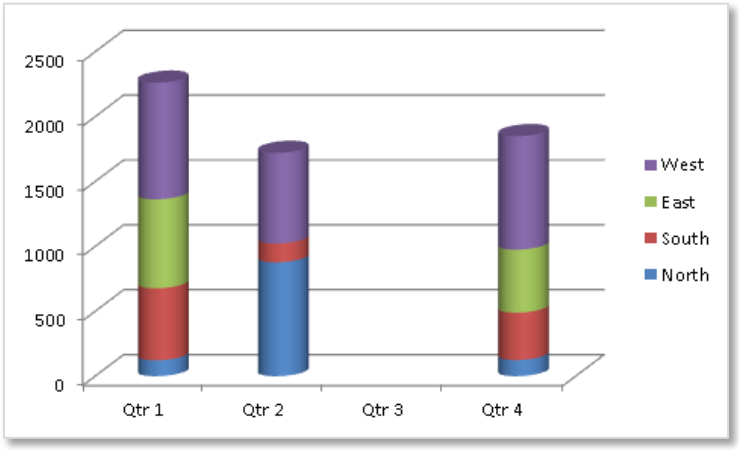
Hidden and/or Empty Cells

- If your data contains either hidden and/or empty cells you can manipulate this a little differently
- Click the **Hidden and Empty Cells** button

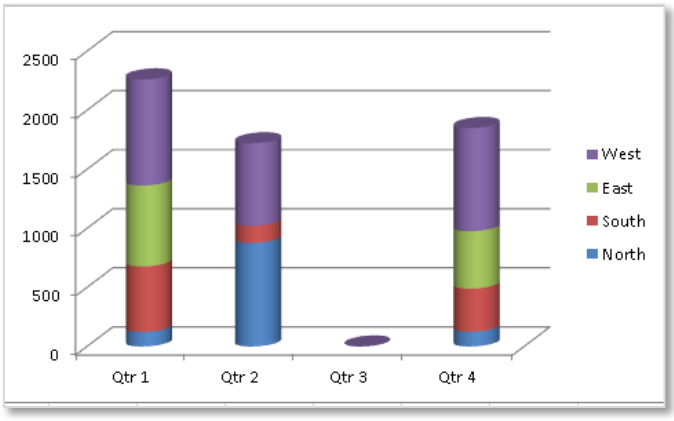
- The **Hidden and Empty Cells** dialog box will be displayed



- In the **Show empty cells as:** section, select **Gaps** if you want to see gaps in the chart where empty cells are like the illustration below.



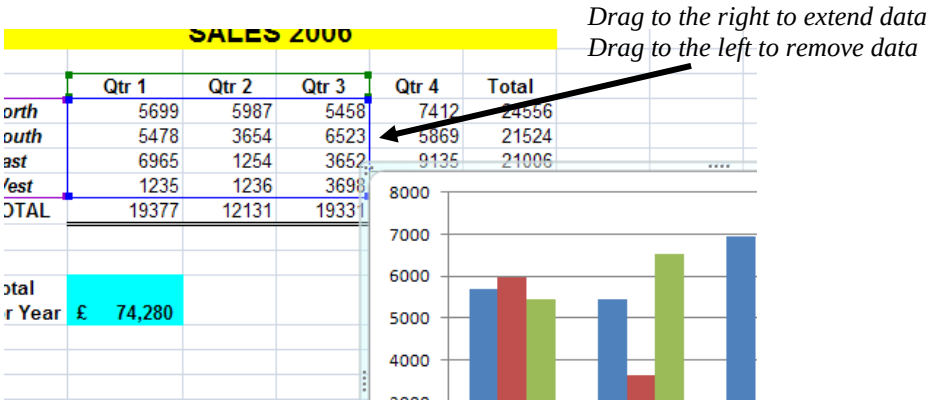
- Alternatively, if you want to see zeros where the empty cells are, select the **Zero** radio button and you chart will look like this. ***(Note: you will not be able to see the circle in Qtr3 like the illustration below until you click the OK button)***



- If you want to show data which is hidden in rows or columns then click the **Show data in hidden rows and columns** tick box

Add/Remove a Data Series in chart on same sheet

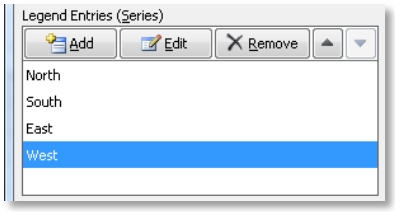
- Activate the chart by clicking on it once
- You will notice that the data has coloured lines around the series which has been plotted.



- To add another series, say Qtr3, drag the right hand corner of the blue box to extend the data
- Drag to the left to remove the data. The chart will be updated automatically.

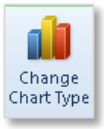
Remove Data

- From within the **Select Data Source** dialog box, Select the data label you want to remove
- Click the **Remove** button
- Click **OK** and you data will be removed.



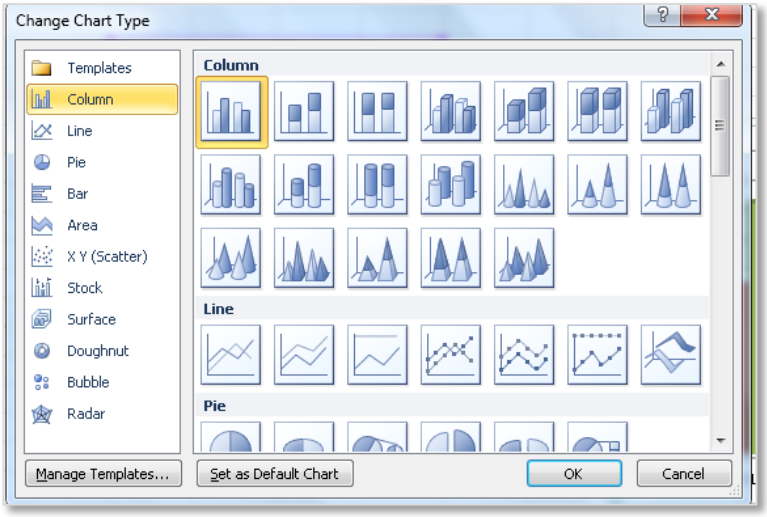
Change Chart Type

- If you feel that the chart you have chosen does not represent your data in the correct manner you can easily change the chart type.
- Select the chart you are unhappy with
- From the **Design** tab the **Type** group of buttons, click the **Change Chart Type**



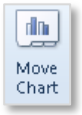
button

- You will be presented with a range of different charts like the ones below.

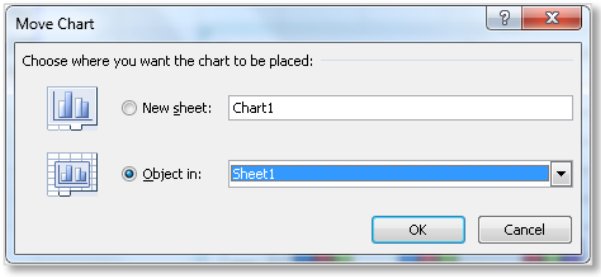


- From the list at the left, select the type of chart required
- From the range of charts displayed at the right, select the chart required and click **OK**

Move the Chart to another location in the workbook

- Select the chart and from the **Design** tab and the **Location** group of button, click the **Move Chart** 

button
- You will see a window like the one below to choose where you want to place the chart. Click in the radio button **New sheet** to place your chart in a new sheet. If you want to rename the sheet, click into the white box and type a name.



- If you want to move your chart to somewhere on a sheet, click the radio button **Object in** and from the drop down arrow at the right, select which sheet you want to place the chart in and click **OK**.

Change the Layout of your chart

Along with the Chart Tools and Design Tab, you are also given options for Layout Format to further modify your chart.

The options you see below are for the Layout Section. Some of these options are considered Formatting therefore they will be discussed in the Formatting section of this manual.

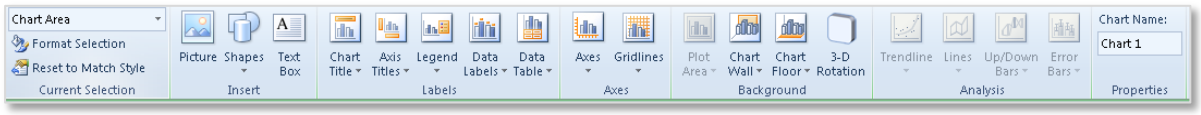
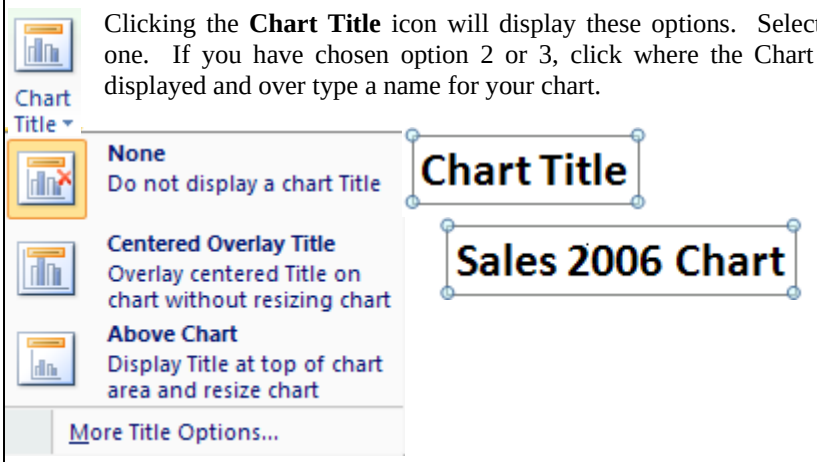


Chart Name

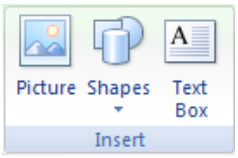
To give your chart a name, click in the **Chart Name** area in the **Properties** group and type the name for your chart. This will assist if you need to refer to it using the Selection Pane.

Labels – Chart Title

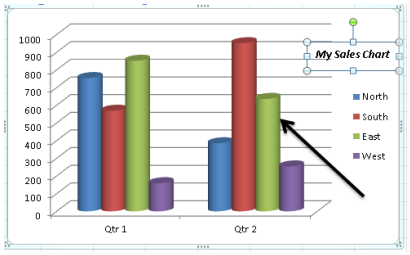
Clicking the **Chart Title** icon will display these options. Select the relevant one. If you have chosen option 2 or 3, click where the Chart Title Box is displayed and over type a name for your chart.



Picture, Shapes and Text Box Tools

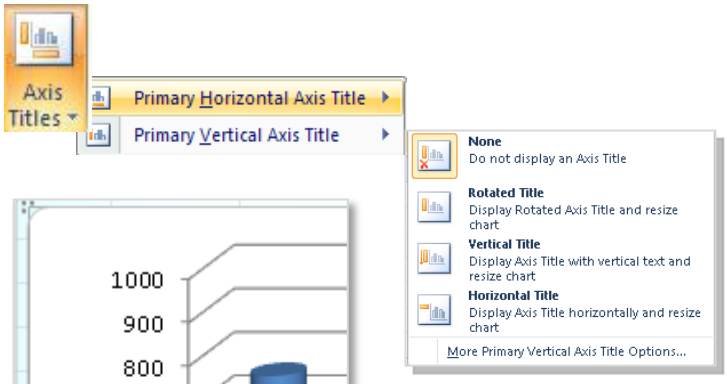


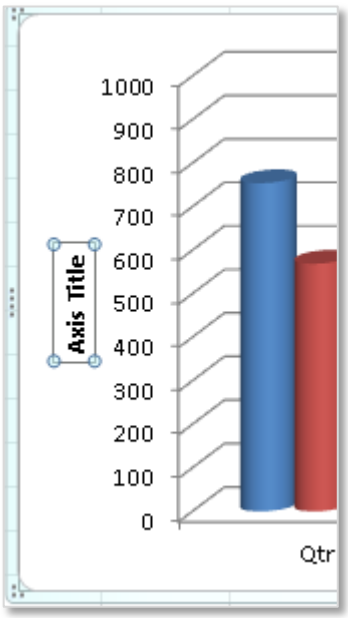
- From the **Insert Groups** you can insert a **Picture, Shape** or a **Text Box**.
- With your Chart selected, click the **Picture** button and select your picture
- The picture will replace the chart in the chart frame
- To draw a shape in your chart like an arrow, click the **Shapes** drop down arrow and select the shape required like an arrow
- Click somewhere in your chart and hold down your left mouse
- Drag on the chart to insert the shape.
- Formatting the shape can be accomplished using the **Format** contextual tab
- Inserting shapes and formatting them is discussed later in this manual.
- To insert a Text Box, click the **Text Box**
- Click somewhere in your chart and hold down your left mouse
- Drag on the chart to insert the shape.
- Type any text required inside the Text Box.
- Formatting the shape can be accomplished using the **Format** contextual tab



Axis Titles

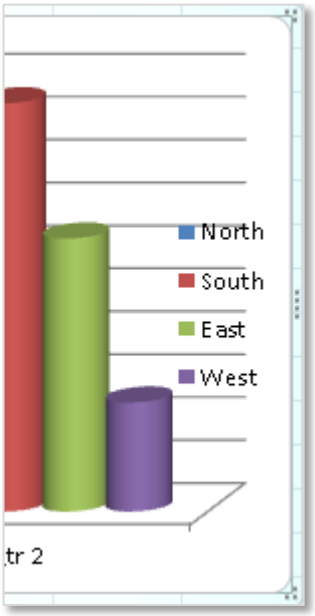
Axis Titles appear, depending on the chart type selected, normally at the bottom or left/right hand side of the chart. Using the new Axis Titles button these have been split to make them clearer and easier to use. Each option has its own specifications. A sample of the Rotated option is shown below.





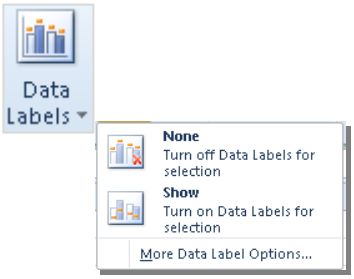
Legend

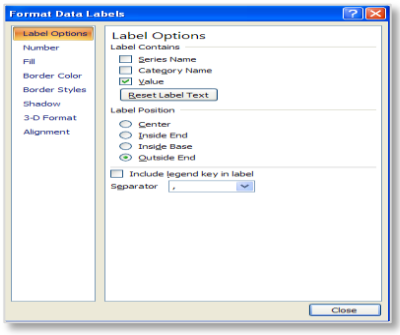
Legend, again depending on the type of chart chosen, appears to the side of the chart to inidcate exactly what the chart is plotting. A list of options is available when the Legend Button is selected. Below you see the **Overlay Legend at Right** option.



Data Labels

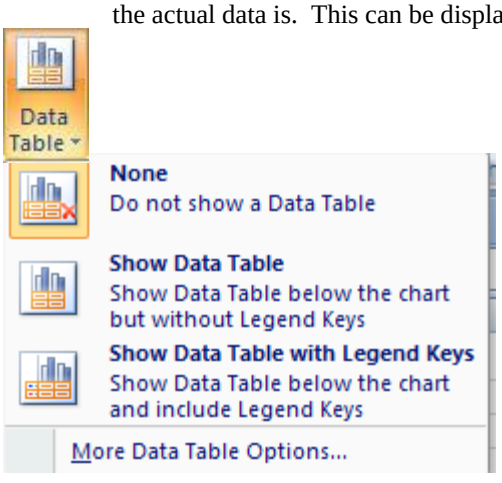
Data Labels can be displayed at the top of the column of the plotted series and when you click the Data Labels button you are given a simple option of on or off. Under the More Data Label Options there is, of course, more options to choose from as you see from the screen shot below. As you make your choices you will see the effect it will have on your chart.

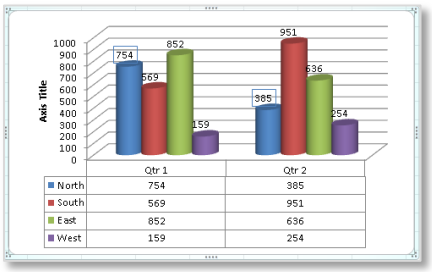




Data Table

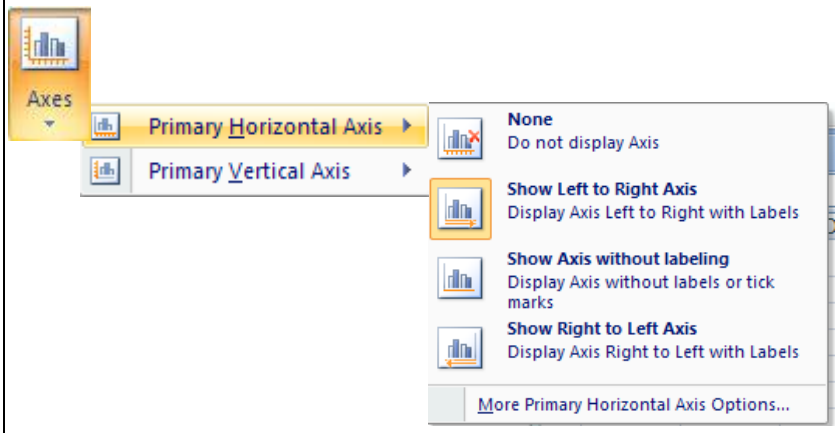
The Data Table can be displayed along with the chart to enable users to show where the actual data is. This can be displayed with or without Legend Keys.





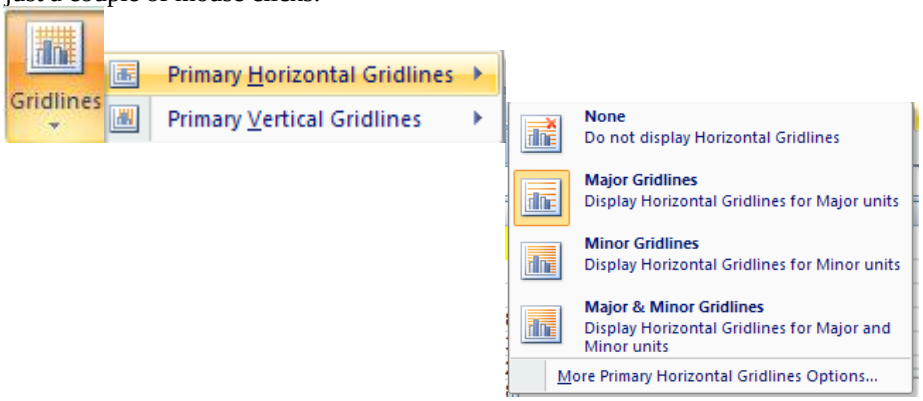
Axis

The Axis can be displayed to the left or right of the chart and with the new options, this is simple to change. One of these options are shown below. The pictures on the buttons will give you a guide to where they would be displayed.



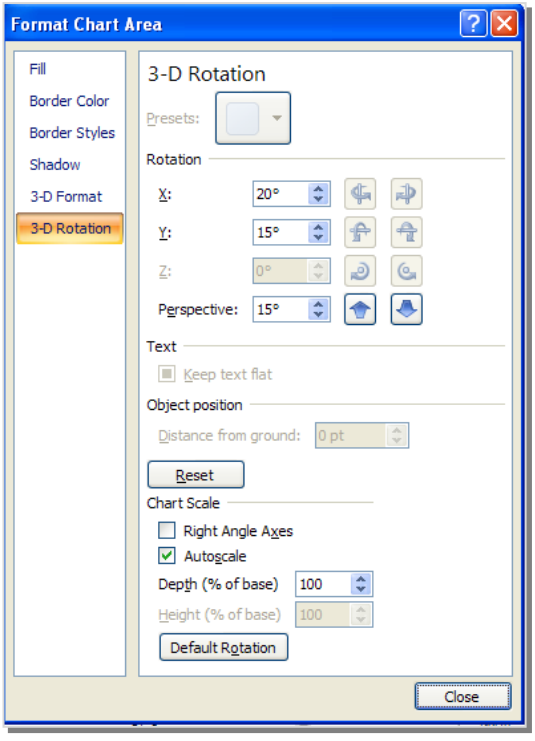
Gridlines

Gridlines are normally displayed, depending on the chart selected, on the walls and floor of the chart. These can be changed to display **Major** and **Minor gridlines** with just a couple of mouse clicks.



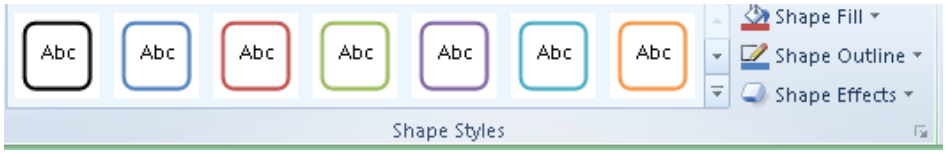
3-D Rotation

3-D Rotation option is available for any chart which is already in 3-D format. When the button is clicked users are presented with an options to change the rotation of their chart to suit their needs. As the options are selected, the changes can be seen on the chart.



Format Charts

- **Change the colours in your chart**
- **Change the Fill, Shape Outline or change the Shape Effects**



Topic 3C: Format Charts

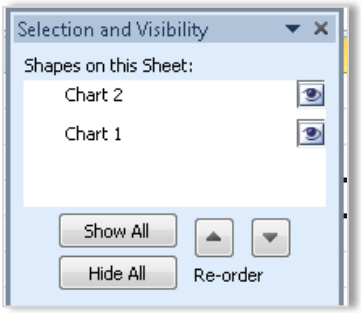
Background

Changing the format of your chart is very simple with this new version of Excel. You can change the formatting from the Design and Layout tabs and you also have a Formatting Tab with clear options of buttons to try. When you use any of the options, you will be able to see how the formatting would look with AutoPreview before you decide to change it!

Selecting Charts

- From the **Format** tab, the **Selection** group and then click the **Selection Pane** button 

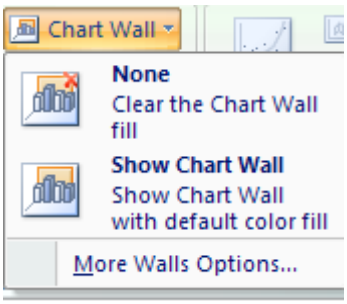
- A new **Selection and Visibility** pane will be seen at the right hand side of the window like the one you see here to the right.



- Select the chart by clicking on its name
- If you want to hide a chart, click the small eye to the right of the chart name
- To reorder the charts, select the chart name and use the **Reorder** buttons to reorder up or down
- To show or hide your charts, click the **Show All** or **Hide All** buttons
- To undock and float the **Selection and Visibility** pane, rest your mouse over the Title Bar until you see a four headed arrow then drag the pane to where you want it.
- To close the **Selection and Visibility** pane, click the small cross at the top right of the window.

Layout Tab - Chart Wall

The Chart Walls can be formatted to display a colour or left clear. The More Walls Options enables users to format the walls with fills, pictures etc.



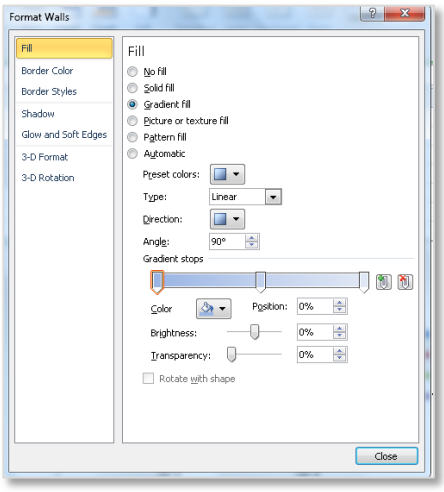
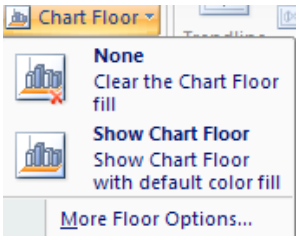
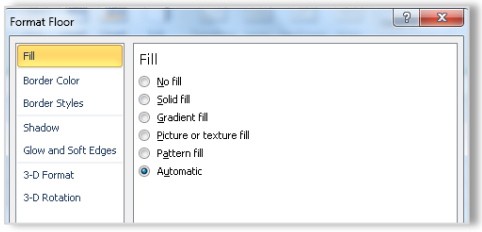


Chart Floor

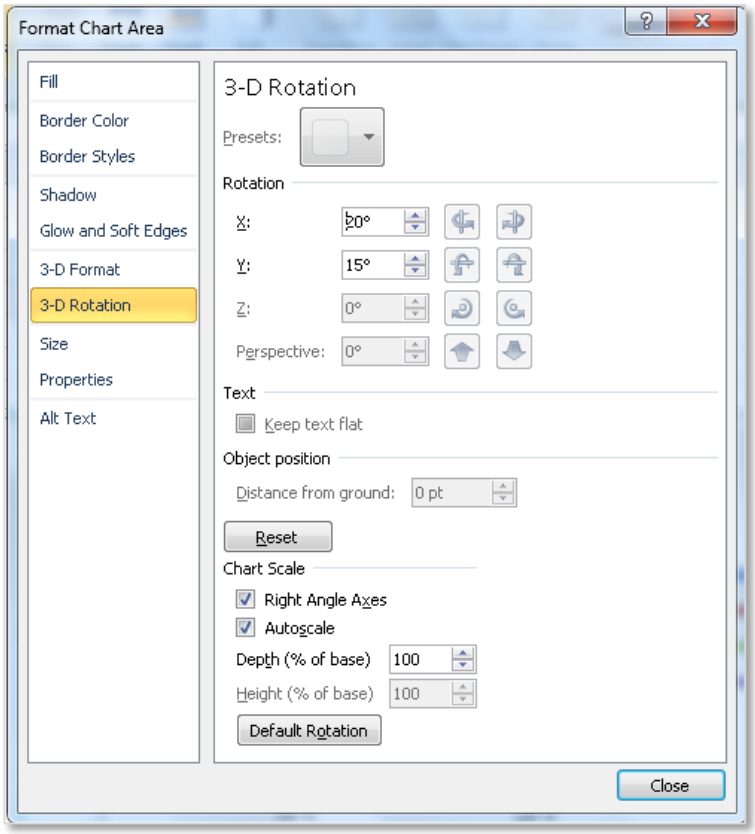
The Chart Floor can be formatted separately from the walls to enable users to quickly and easily display their chart as required. With this option users can either clear the floor colour or display a default colour fill. The More Floor Options allows for more details fills.





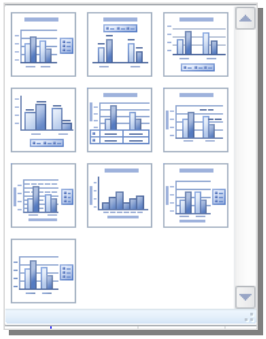
3-D Rotation

3-D Rotation option is available for any chart which is already in 3-D format. When the button is clicked users are presented with an option to change the rotation of their chart to suit their needs. As the options are selected, the changes can be seen on the chart.



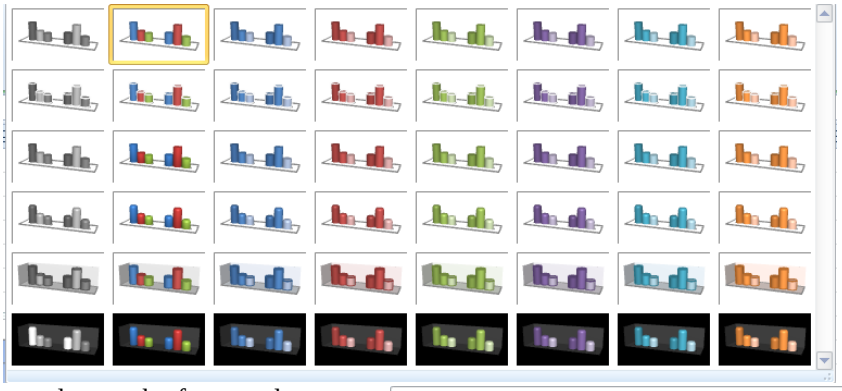
Design Tab – Chart Layout

You can change the layout of the current chart by selecting the **Design** tab, the **Chart Layouts** group and then **Chart Layouts** drop down arrow.



Design tab – Chart Styles

There are some very dramatic styles which can be applied to you chart but you must decide how you want to display the chart once created. For example, do you want to print the chart or show it on a presentation board. Some of the charts look better printed than on screen and vice versa. The choices of the styles are below.



Format tab – Shape Styles

Shape styles can be formatted on any shape in the chart. You just select the shape and choose which style you require.

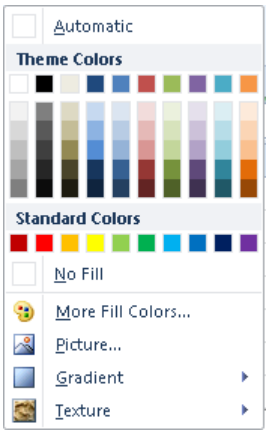
- Select the shape
- From the **Format** tab and the **Shape Styles** group of buttons, selecty the style required.

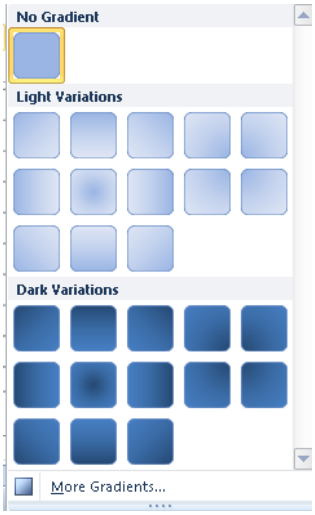
Shape Fill

You can format the fill of any shape in your chart using the **Shape Fill** button 

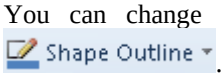
. Below are just some of the Gradients and Textures to select from.

- Select the shape and select from **Fill, Picture, Gradient** or **Texture**.



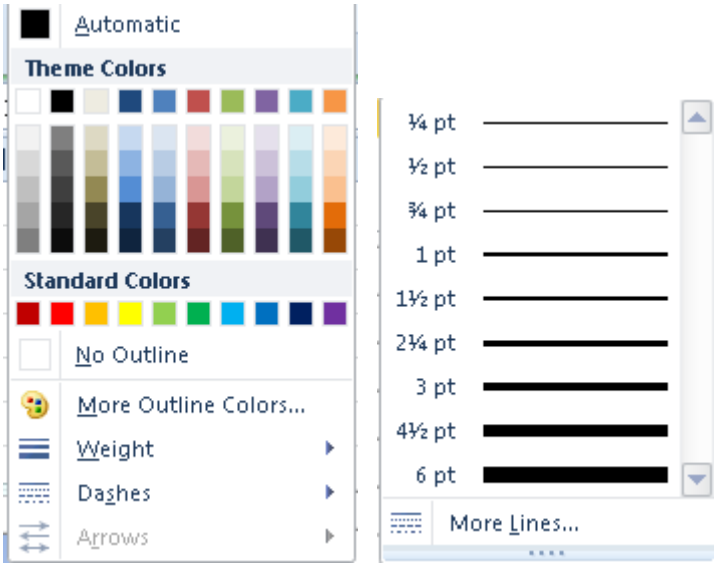


Shape Outline

You can change the outline of any shape using the **Shape Outline** button 

. Below are some of the options with **Weights**.

- Select the shape and select from **Colours, Weight,** or **Dashes**.

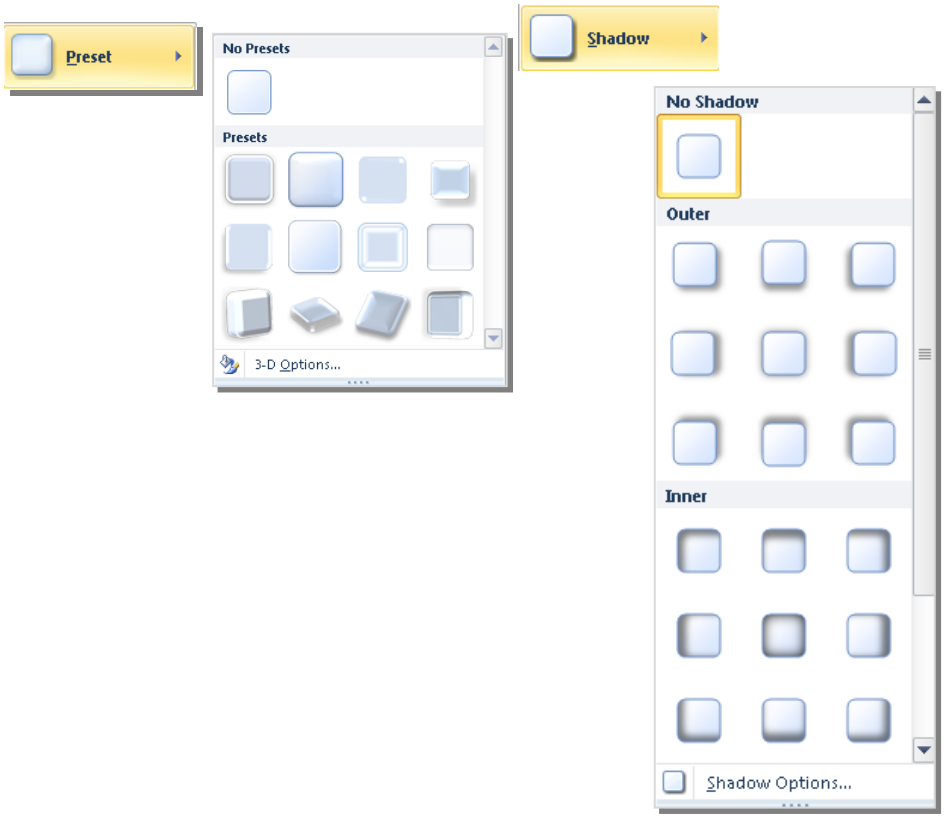


Shape Effects

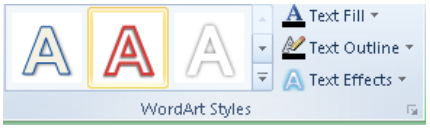
Using the **Shape Effects** button 

you can easily change the shape effect of any shape. Below are some of the options with **Preset and Shadow**.

- Select the shape and select from **Present, Reflection, Glow, Soft Edges, Bevel** and **3D Rotation**.



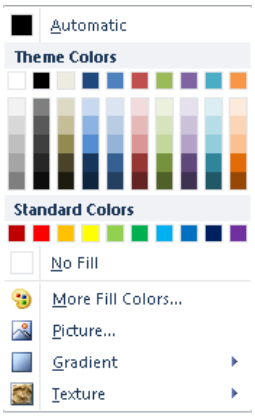
WordArt Styles



WordArd Styles will allow you to change the text in your chart using these buttons. The Large A options you see here will change your text to make it look like the options you see here on the buttons. If you click the drop down arrow you will see a whole range of options to select from

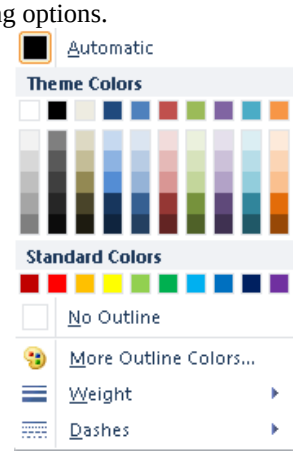
- To change the text fill, click the **Text Fill** button 

and select from the following options.



- To change the text outling, click the **Text Outline** button 

and select from the following options.



- To change the text effects, click the **Text Effects** button 

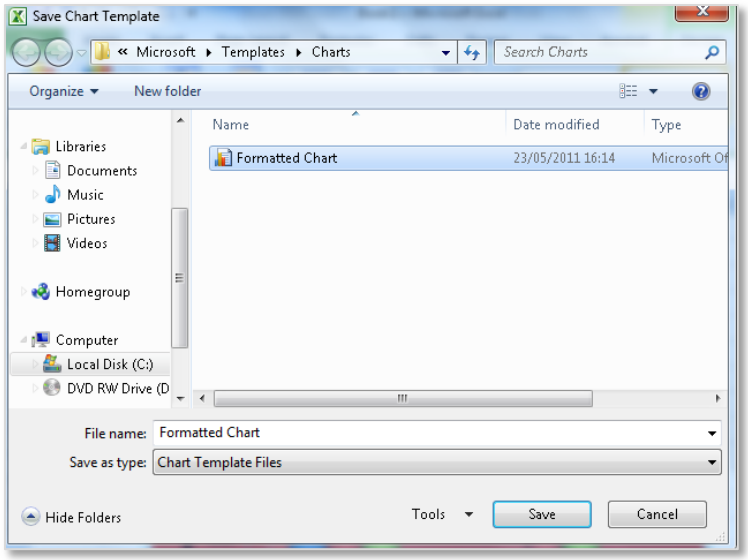
and select from the following options.

Save a Chart as a Template

When you have finished modifying and formattig you chart, you may wish to save your chart as a template to enable you to use it later. You can save many different templates for reuse and have one as a default but ***only one*** can be the default.

- Make all the modificaitions to your chart and keep it selected
- From the **Design** tab and the **Type** group of buttons, click the **Save as Template** button 

- The **Save Chart Template** dialog box will be displayed. Enter a chart name and ensure it goes into the **Charts** folder. Click **Save**.

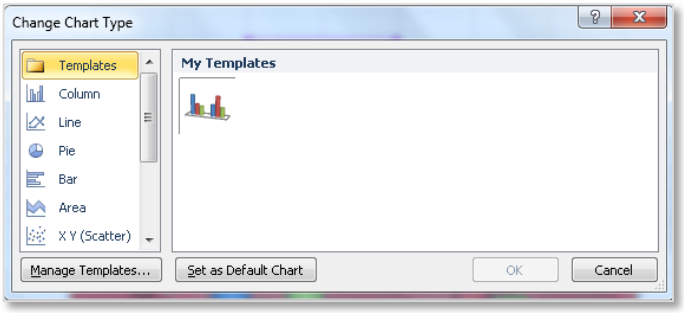


Apply template to other charts

- Select the chart you want to apply the templet to
- Click the **Change Chart Type** button 

from the **Design** tab and the **Type** group of buttons
- Click the **Template** folder 

at the top left of the window and you will see your chart



- Select your chart and click **OK**

Set the default chart

- Open the Template folder and select the chart you wish
- Click the **Set as Default Chart** and the next time you press F11 on the keyboard this will be the default chart.

LESSON 4: Analysing Data Using PivotTables, Slicers and PivotCharts

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

- Create a PivotTable Report
- Filter Data Using Slicers
- Analyse Data Using PivotCharts

What is a PivotTable?

- **Interactive Worksheet Table**
- **Data Analysis Tool**
- **Copy of the Original Data**

What is a PivotTable?

Background

Pivot Tables are used to summarize and analyse data and are constructed from existing tables of lists. It is in effect an interactive worksheet, the original data remains intact.

You use the **Pivot Table Wizard** to create a Pivot Table

You can create a Pivot Table from any of the following sources:

- A Microsoft Excel list or database
- An external database

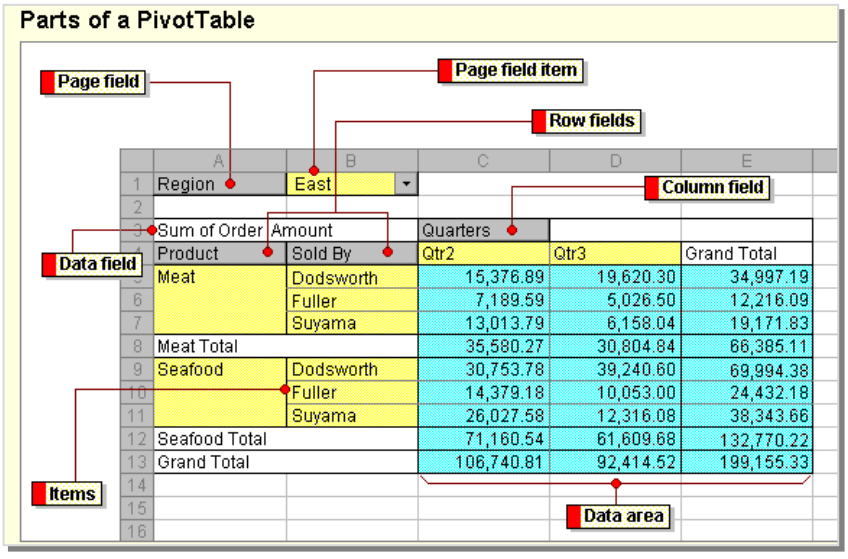
The sample illustrates the main features of a Pivot Table. If you view the above table along with its definition (below) you can see how it has been defined.

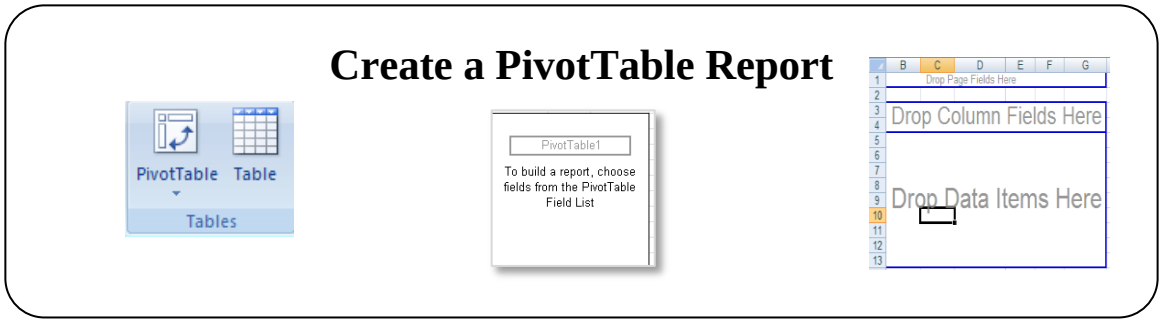
The **Page Area** – Allows you to show all or some of the data in terms of Sales persons. (The above table shows information for all salespersons).

The **Row Area** – Used to show items as row labels (Customers).

The **Column Area** – To show items as column labels/headers (Regions).

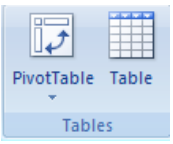
The **Data Area** – To summarize the values in the body of the table (Sum of Sales)





Topic 4A: Create a PivotTable Report

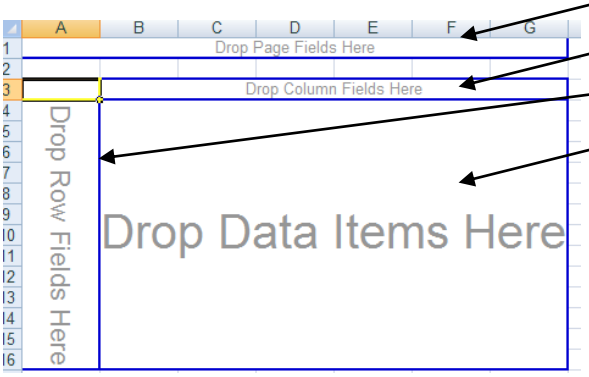
PivotTable

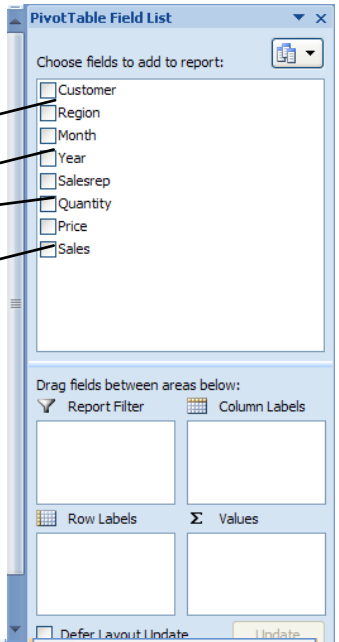


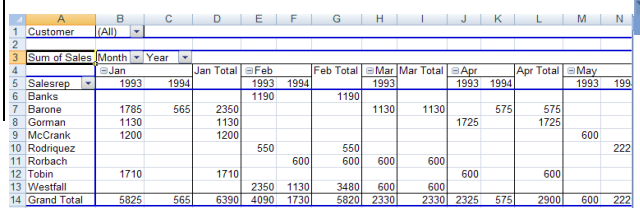
PivotTables have been greatly simplified from the 2003 version of Excel. Gone is the lengthy wizard and now we have a simple drop down arrow offering **PivotTable** or **PivotCharts**.

Once either of these options has been chosen Excel will offer a final window where you can make your final selections. Excel will automatically select the full range if you click in the main part of the data

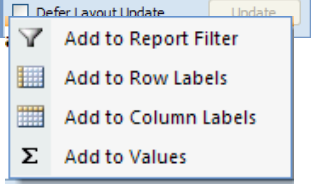
The only options for putting the PivotTable together now is a blank PivotTable. Gone is the option for the drag and drop fields over the dummy layout. Also layout of the PivotTable Field List has changed. This is docked to the right of the screen. Alternatively, you can right click over the field name in the PivotTable Field List and select where you wish to place it or click the tick box next to the Field Name and Excel will place it in a default area. If you don't like where the field was placed by default, you can just drag and drop it where required. By default, fields with numbers will be placed at the right while fields with text will be placed at the left.







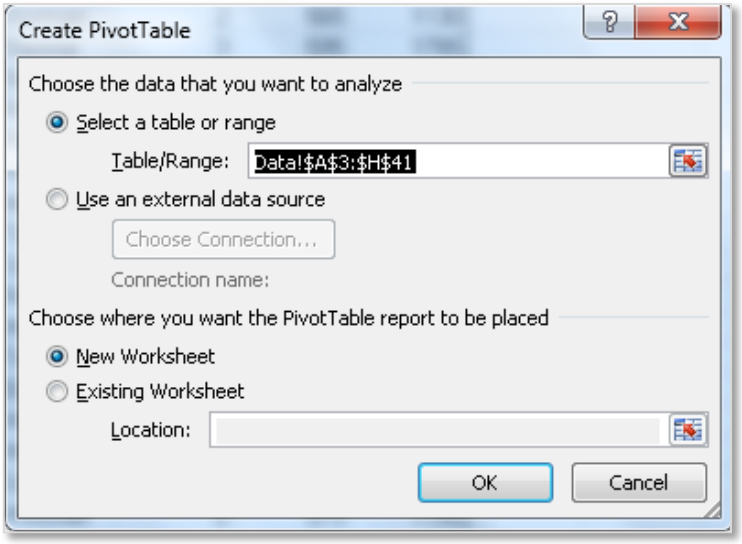
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Customer	(All)												
2														
3	Sum of Sales	Month	Year											
4		Jan		Jan Total	Feb		Feb Total	Mar	Mar Total	Apr		Apr Total	May	
5	Salesrep	1993	1994		1993	1994		1993		1993	1994		1993	199
6	Banks				1190		1190							
7	Barone	1785	565	2350				1130	1130		575	575		
8	Gorman	1130		1130						1725		1725		
9	McCrank	1200		1200									600	
10	Rodriquez				550		550							222
11	Rorbach					600	600	600	600					
12	Tobin	1710		1710						600		600		
13	Westfall				2350	1130	3480	600	600					
14	Grand Total	5825	565	6390	4090	1730	5820	2330	2330	2325	575	2900	600	222



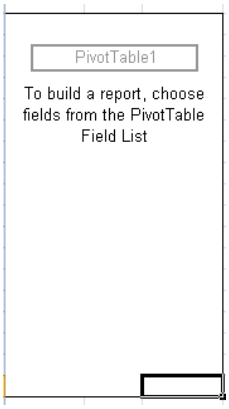
To Create a PivotTable

- Select the data and from the **Insert** tab and the **PivotTables** group of buttons, click the 

button and select either **Pivot Table** or **PivotChart**
- You will bow be presented with the **Create PivotTable** dialog box



  - In the **Choose the data you want to analyse** section, select either **Select a table or range** or if your data is coming from an external data source, click the **Use an external data source** option
  - In the **Choose where you want the PivotTable report to be placed** section select either a **New Worksheet** or an **Existing worksheet**. If you select the latter, you will need to select a location
  - Click **OK**
  - By default, Excel will display a small window to the left of your worksheet like the one you see below. It tells you to choose the fields from the PivotTable Field list.

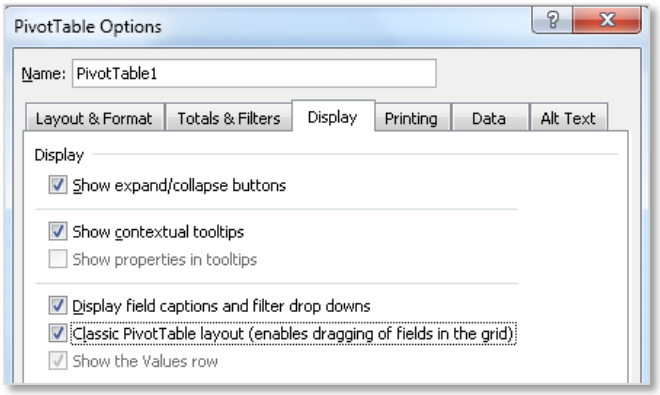


  - Using this method, you should drag the field into either **Reports Filter, Column Labels, Row Labels** or **Values**.
  - Anyone using PivotTables for the first time might be confused as to where the data will be added therefore some trial and error may ensue.
  - You can simplify the layout of the screen by changing the PivotTable1 box to a blank PivotTable or you can change the layout of the PivotTable Field List.

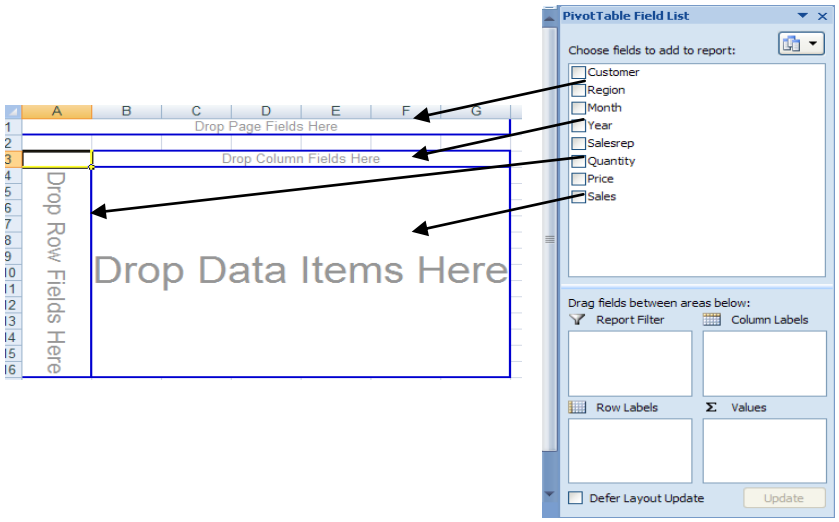
Change the PivotTable1 option box

- Click inside the PivotTable1 box
- From the **Options** tab and the **PivotTable** group, click the **Options** button 

drop down arrow.
- Select **Options** and the **PivotTable Options** dialog box will be displayed.



- Select the **Display** tab and then select **Classic PivotTable layout (enables dragging of fields in the grid)** tick box and click **OK**.
- You will now see a much simpler way of dragging the field blocks onto the grid.
- If anyone has created PivotTables using earlier versions of Excel, this is most likely to be the way they were created.



- Drag the fields from the **Choose fields to add to report** section onto the parts of the PivotTable you require.
- You will see the PivotTable developing as you go
- If you make a mistake simply drag the fields back off the PivotTable and start again
- Your data will now look something like this

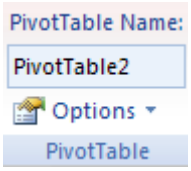
Customer	(All)												
Sum of Sales	Month												
Salesrep	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
Banks		1190							2100				3290
Barone	2350		1130	575				1190			1150		6395
Gorman	1130			1725							2260	1190	6305
McCrank	1200				600				595	1150	1695	1150	6390
Rodriquez		550			2220	550			1695		1800		6815
Rorbach		600	600			1200	3000			3000			8400
Tobin	1710			600									2310
Westfall		3480	600			600				600	1200		6480
Grand Total	6390	5820	2330	2900	2820	2350	3000	1190	4390	4750	8105	2340	46385

Add more fields

- Either drag the fields to where you require them from the **PivotTable** field list
- Or click in the PivotTable where you want the field and click the tick in the PivotTable fields list box next to the field required

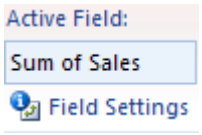
To Name your PivotTable

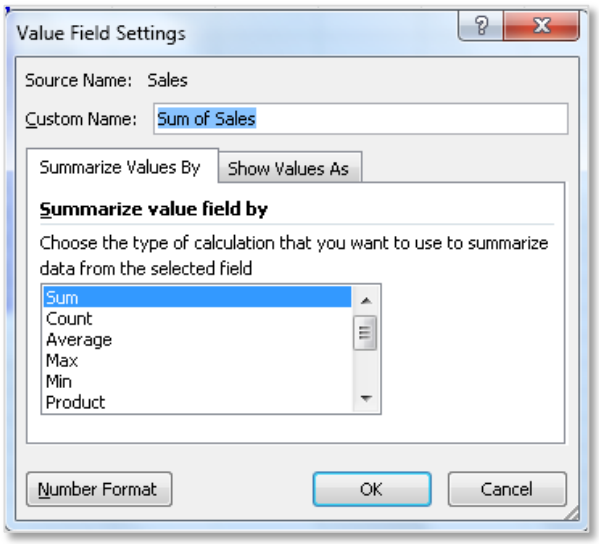
- Select the PivotTable and from the **PivotTable Tools** contextual tabs select the **Options** tab
- From the **PivotTable** group of buttons click in the PivotTable Name box and enter a name for your PivotTable



To change the Data section to Average, Min, Max etc

- Click on a field in the **Sum of Sales** section
- Then select **Field Settings** button
- The **Value Field Settings** dialog box will be displayed



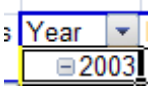


- In the **Summarize value field by** section, select from the list shown
- Click **OK**

To format the numbers

- Same as **Change the Data** but click the **Number Format** button
- The **Format Cells** dialog box will be displayed
- Select from the list
- Click **OK**

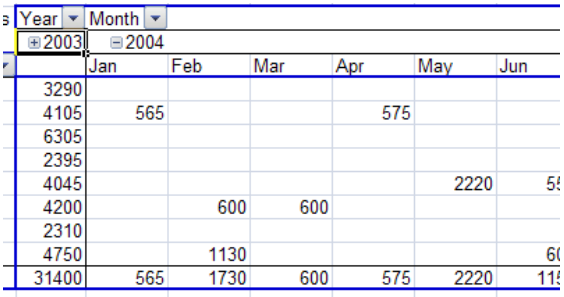
To Expand or Contract Data

- You can do this in two ways
- Either click the small minus 

at the left of the field which will condense the data from this

Customer	(All)										
Sum of Sales	Year	Month									
	2003										
Salesrep	Jan	Feb	Mar	Apr	May	Jun	Aug	Sep	Oct	Nov	Dec
Banks		1190						2100			
Barone	1785		1130				1190				
Gorman	1130			1725						2260	1190
McCrank	1200				600			595			
Rodriquez		550						1695		1800	
Rorbach						1200			3000		
Tobin	1710			600							
Westfall		2350	600						600	1200	
Grand Total	5825	4090	1730	2325	600	1200	1190	4390	3600	5260	1190

- To this



Year	Month					
⊞2003	⊟2004					
	Jan	Feb	Mar	Apr	May	Jun
3290						
4105	565			575		
6305						
2395						
4045					2220	5
4200		600	600			
2310						
4750		1130				6
31400	565	1730	600	575	2220	11

- Alternatively you can select the field and then click the **Expand Entire Field**

or **Collapse Entire Field** buttons

Customer	(All)		
Sum of Sales	Year	Month	
	⊞2003	⊞2004	Grand Total
Salesrep			
Banks	3290	1100	4390
Barone	4105	2290	6395
Gorman	6305		6305
McCrank	2395	3995	6390
Rodriquez	4045	2770	6815
Rorbach	4200	4200	8400
Tobin	2310		2310
Westfall	4750	1730	6480
Grand Total	31400	16085	47485

Group Data

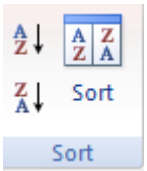
- Click in the field where you want to group your data and from the **Group** group of buttons, select either **Group Selection** or **Group Field**

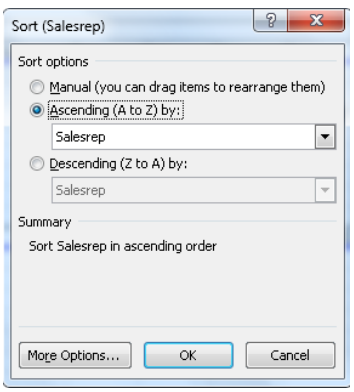
- You will be asked how you wish to group your data in the next dialog box

- Make your selections and click **OK**

Sorting data

- Click in the PivotTable where you want to sort
- Click either the **A-Z** button or the **Z-A** button
- If you want more soring options, click the **Sort** button and the **Sort** dialog box will be displayed

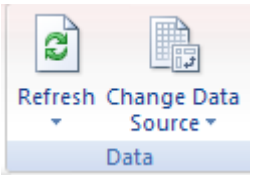




- Make your selections and click **OK**

Refresh Data

- If you wish to refresh data which has changed in the PivotTable original data, from the **Data** group of buttons, select the **Refresh** drop down arrow and click on **Refresh**



- If you add additional data you will need to click the **Change Data Source** button
- You will be asked for the new cell references
- Alter these and click **OK**

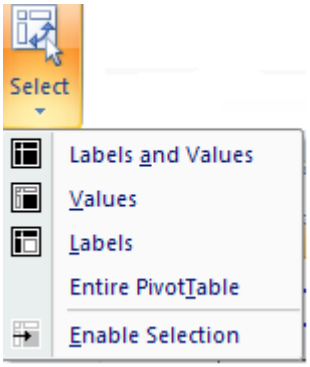
Clear the PivotTable of data

- Click in the **PivotTable** data

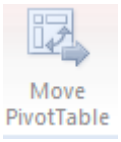
- From **Actions** group of buttons, select the button
- The **PivotTable** will now be empty

Select whole PivotTable, Labels or Value

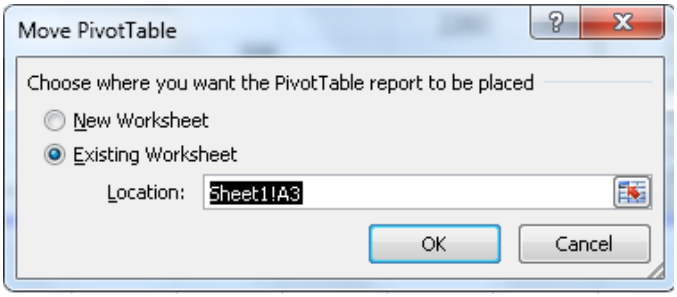
- Click in the **PivotTable** data
- You must first select the **Entire PivotTable** before any of the other items will be available
- Select the item you require from the list



Move the PivotTable

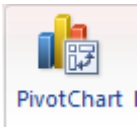
- Click in the **PivotTable** data 

button

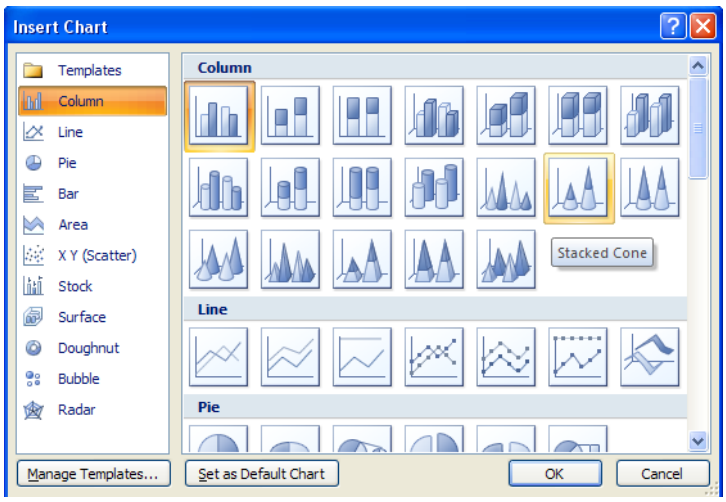


- You will now see the **Move PivotTable** dialog box
- Select either a **New Worksheet** or an **Existing worksheet**
- Click **OK**

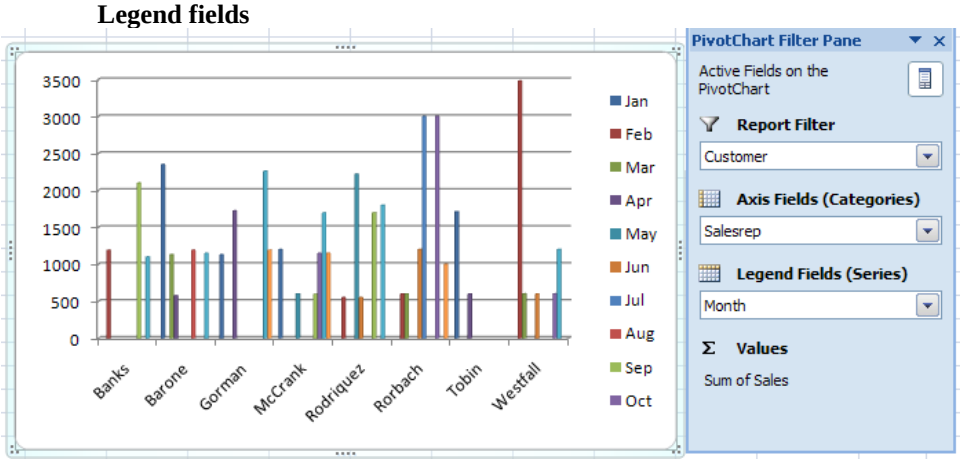
Make a PivotChart out of the PivotTable Data

- Click in the **PivotTable** data
- From the **Tools** group of buttons, selec the 

button
- You will now see the Chart dialog box



- Select the chart type and click **OK**
- You will now see the PivotChart along with the **PivotChart Filter Pane**
- If you wish to filter the data, select from either the **Report filter, Axis fields,** or **Legend fields**



- You will now be able to change the chart with the contextual tabs now given

Switch On/Off Field Headers

- Click somewhere in your **PivotTable** and from the **Show/Hide** group of buttons, click the 

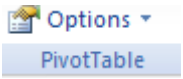
button
- The **Headers** will disappear or reappear.

Switch On/Off Field List

- Click somewhere in your **PivotTable** and from the **Show/Hide** group of buttons, click the 

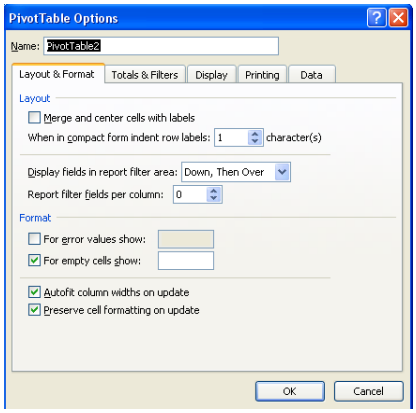
button
- The **Field List** will disappear or reappear.

PivotTable Options

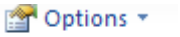
- Click somewhere in your **PivotTable** and from the **Show/Hide**
- From the **PivotTable** group of buttons, select the 

drop down arrow then **Options**

- A list of PivotTable Options will be displayed

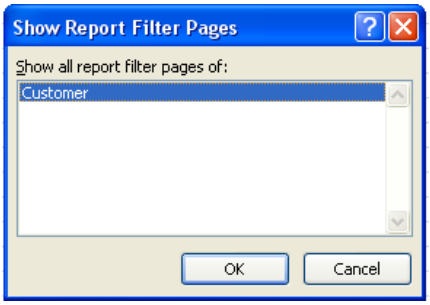


Show Page data on separate sheet

- Click somewhere in your **PivotTable** and from the **Show/Hide** 

- From the **PivotTable** group of buttons, select the 

drop down arrow then **Show Report Filter Pages**
- You will see a window displayed showing the fields on the Page section of the PivotTable

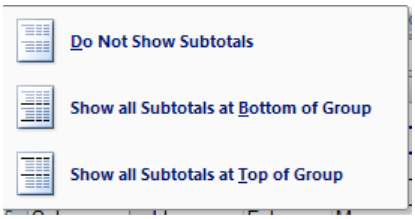


- Select the Fields required and click **OK**
- Each worksheet will contain a report on each Customer in this case

Display/Hide Subtotals

- Click somewhere in your **PivotTable** and from the **Design** tab and the **Layout** group of buttons, select the 

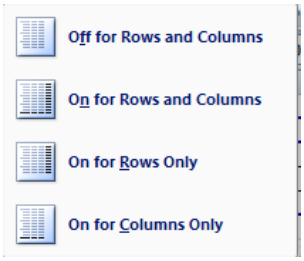
button
- Select from the list given



Display/Hide Grand Totals

- Click somewhere in your **PivotTable** and from the **Design** tab and the **Layout** group of buttons, select the 

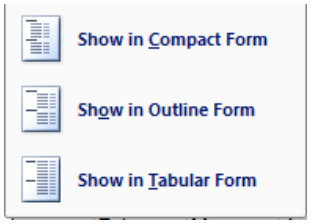
button
- Select from the list given



Changing the Report Layout

- Click somewhere in your **PivotTable** and from the **Design** tab and the **Layout** group of buttons, select the 

button
- Select from the list given



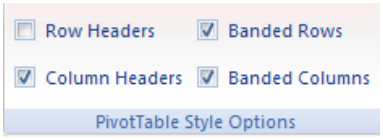
Insert/Remove Blank Rows

- Click somewhere in your **PivotTable** and from the **Design** tab and the **Layout** group of buttons, select the 

button
- Select from the list given

PivotTable Style Options

- **Row/Headers and Column/Headers** switches these to bold or not

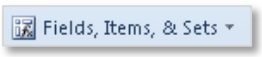


- **Banded Rows** and **Banded Columns** will give a light/dark row of column

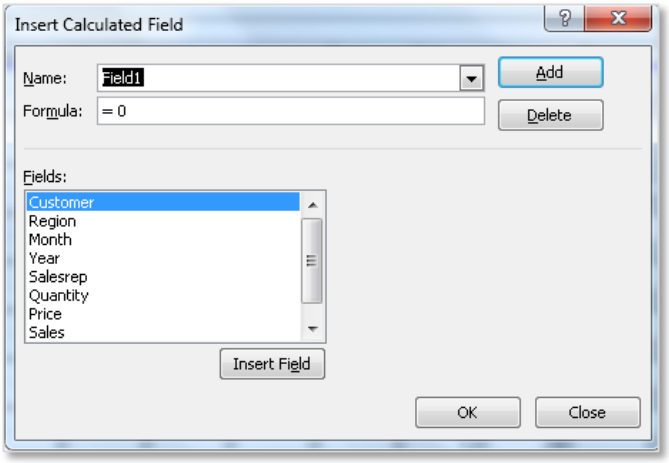
	A	B	C	D	E	F	G	H
1	Customer	(All)						
2								
3	Sum of Sales	Year	Month					
4		2003						
5	Salesrep	Jan	Feb	Mar	Apr	May	Jun	Aug
6	Banks		1190					
7	Barone	1785		1130				1
8	Gorman	1130			1725			
9	McCrank	1200				600		
10	Rodriquez		550					
11	Rorbach						1200	
12	Tobin	1710			600			
13	Westfall		2350	600				
14	Grand Total	5825	4090	1730	2325	600	1200	1

Add Calculated field

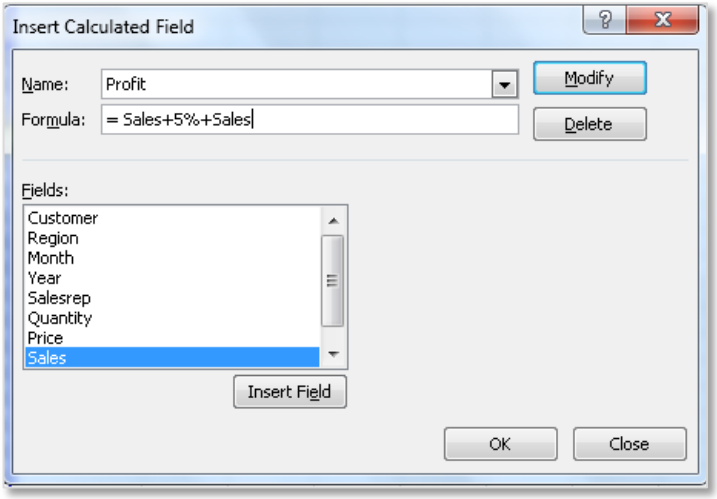
- In this example we have added a Profit field to the Sales field.
- Click somewhere in your **PivotTable** and from the **Options** tab
- Then from the **Calculations** group of buttons, select the **Fields, Items & Sets** button

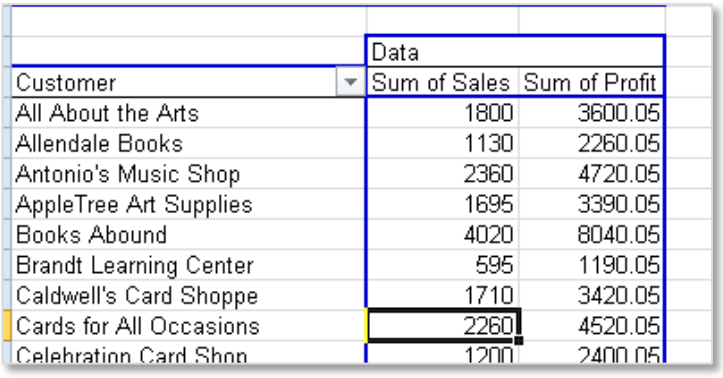


- Then the **Calculated Fields** option



- When the **Insert Calculated field** dialog box is shown, enter a name for the field in the **Name** box
- Enter the formula you want to use, then click the **Add** button
- You can see the results from the illustration below

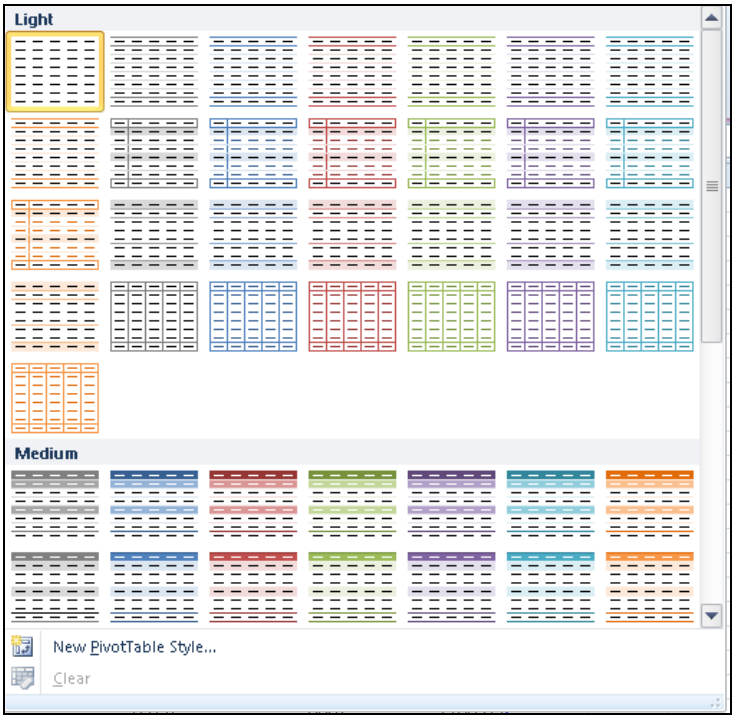




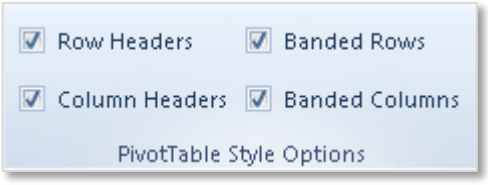
	Data	
Customer	Sum of Sales	Sum of Profit
All About the Arts	1800	3600.05
Allendale Books	1130	2260.05
Antonio's Music Shop	2360	4720.05
AppleTree Art Supplies	1695	3390.05
Books Abound	4020	8040.05
Brandt Learning Center	595	1190.05
Caldwell's Card Shoppe	1710	3420.05
Cards for All Occasions	2260	4520.05
Celebration Card Shop	1200	2400.05

Format a PivotTable

- Click somewhere in your PivotTable
- From the **Design** tab and the **PivotTable Styles** options select from **Light, Medium** or **Dark** formatting

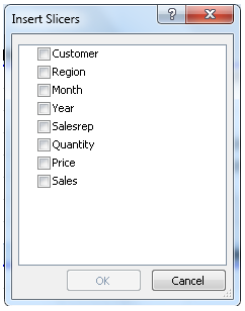


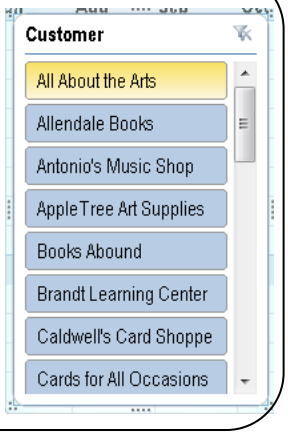
- From the **PivotTable Style Options** group you can colour **Row** or **Column Headers** along with **Banded Rows** and **Banded Columns** of colour to make the PivotTable easier to read.



Filter Data Using Slicers

- **Slicers enable users to *Slice* into their data for further analysis**
- **This makes filtering the PivotTable data much easier**



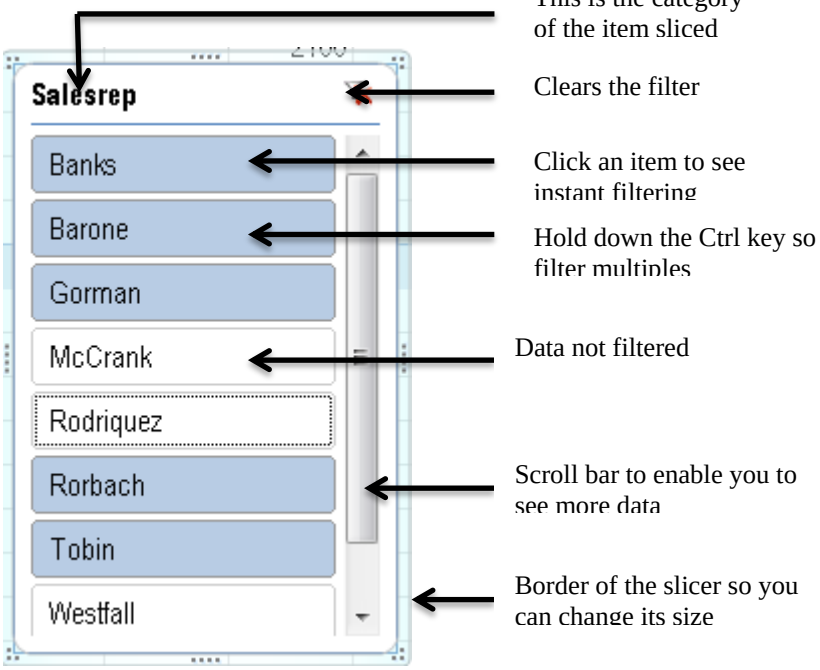


Topic 4B: Filter Data Using Slicers

Background

In this new version of Excel, filtering data within a PivotTable is now much easier with Slicers. Think of *slicing* into data to filter out just what you want. It's also much easier to see what and where the filter is doing with Slicers.

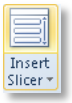
Have a look at the illustration below.



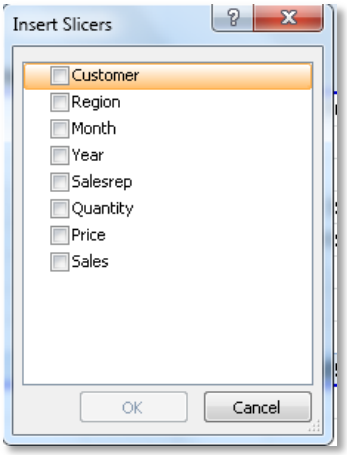
Note: It should be noted that previous Excel spreadsheets brought into Excel 2010 will not have the ability to use the Slicer. You must convert the spreadsheet up to the 2010 version using the File and Convert options. If Compatibility Mode is displayed on the Title Bar of the workbook the Slicer button will be *greyed out.*

Using the Slicer

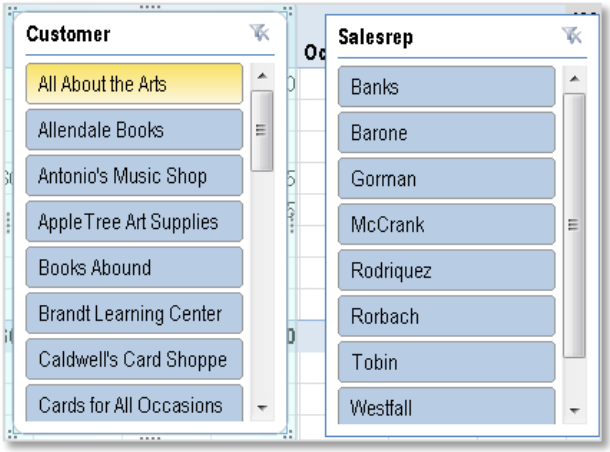
- Click within the PivotTable and from the **Options** tab and the **Sort and Filter** group, click the **Insert Slicer** button



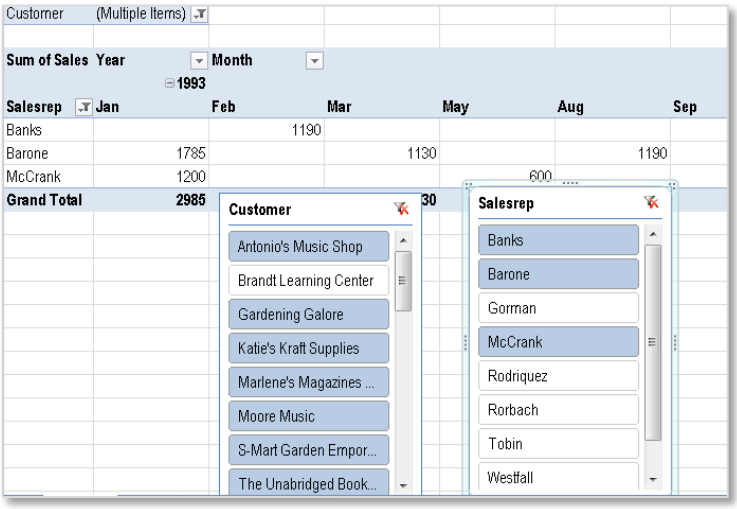
- The **Insert Slicer** dialog box will be displayed



- Select the Field(s) required and click **OK**
- We have chosen **Customer** and **Sales Rep**



- To filter out one customer or Sales Reps, click on one of the customer or Sales Rep names
- For multiples, hold down the **Ctrl** key and click on multiple customers or sales rep names



Stop the filtering

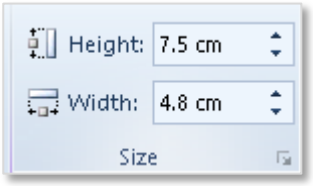
- Click on the small filter  button at the top right of the Slicer.

Move the Slicer

- Point to the border of the Slicer and when you see a **four headed arrow** hold down the left mouse button
- Drag the Slicer to the area required

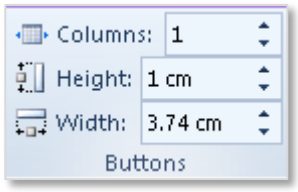
Grow or Shrink the Slicer

- Point to the border of the Slicer and when you see a **double headed arrow** hold down the left mouse button and drag to the required size
- Alternatively use the **Size** group to adjust the Height/Width



Grow/Shrink the buttons within the Slicer

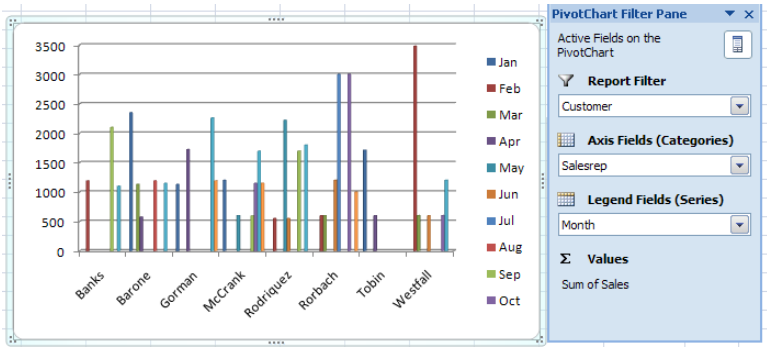
- From within the **Buttons** group, adjust the height, width or column size using the options provided.



Delete the Slicer

- Click on the border of the Slicer and press **Delete** on the keyboard

Analyse Data Using PivotCharts



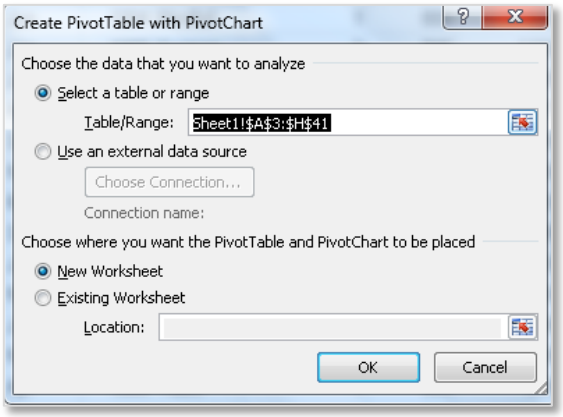
Topic 4C: Analyse Data Using PivotCharts

Background

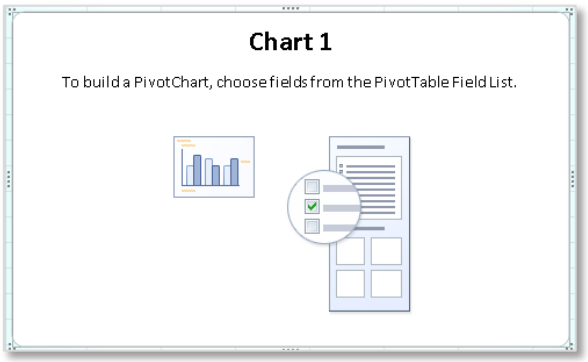
You can also view your PivotTable data as a chart. This will give your data a more graphical view. PivotCharts can be created from within the PivotTable itself or you can create a chart from the Insert tab.

Create a PivotChart

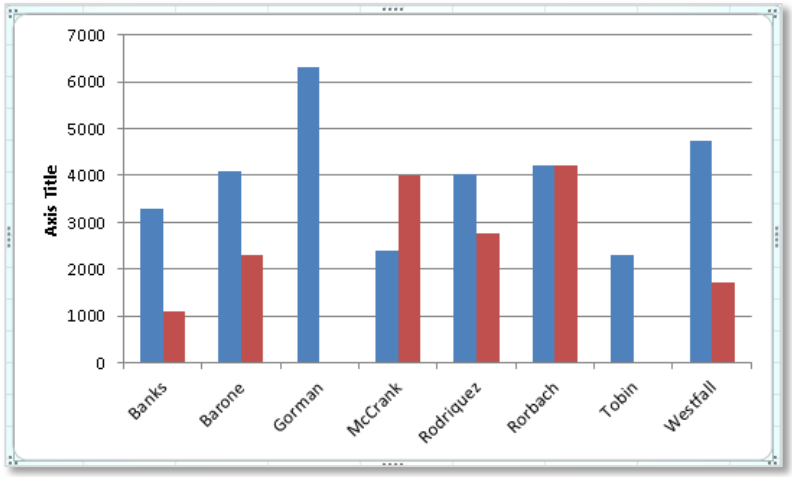
- From the **Insert** tab and the **Tables** group, click the drop down arrow of the PivotTable button and select PivotChart.
- The **Create PivotTable with PivotChart** dialog box will be displayed.



- Select the area you want for your PivotTable Chart and whether you want it on a **New Worksheet** or **Existing Worksheet** and click **OK**
- The **Chart 1** dialog box will be displayed where you can enter the fields. *(See Create a PivotTable pg 68)*



- Your PivotChart will be created along with your PivotTable

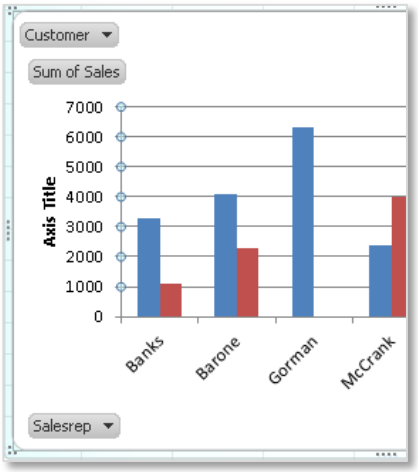


- A set of 4 contextual tabs will be displayed with which to manipulate your

PivotTable

- The **Design, Layout** and **Format** tabs are exactly the same for PivotCharts as they are for normal charts
- The **Analyze** tab looks like this:

- In the **ActiveField** section you can see the name of the active field selected in the Chart
- Click the **Expand Entire Field** to show more data or **Collapse Entire Field** to show less data
- Click **Insert Slicer** to inser a slicer and analyse your data with filters
- Click **Refresh** to refresh from the existing data which may have been updated
- Click **Clear** to clear the chart and start again
- Click the **Field List** button to show or hide the field list
- Click the **Field Buttons** to show buttons on the chart like the one below

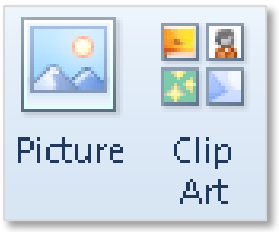


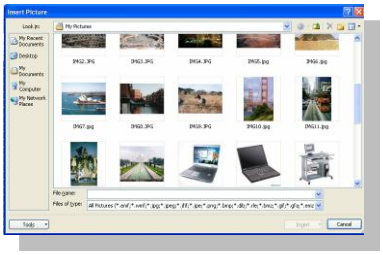
LESSON 5: Inserting Graphic Objects

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

- Insert and Modify Pictures and ClipArt
- Draw and Modify Shapes
- Illustrate Workflow Using SmartArt Graphics
- Layer and Group Graphic Objects

Insert and Modify Pictures and ClipArt





Illustrations Group offers Picture and ClipArt, options.

Topic 5A: Insert and Modify Pictures and ClipArt

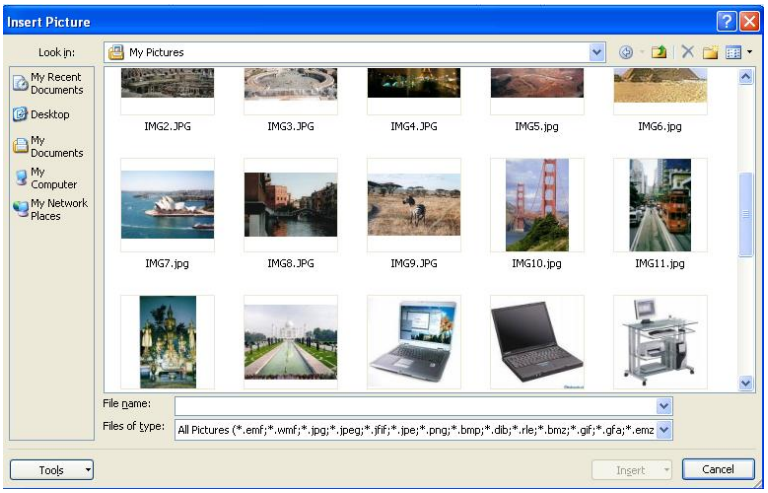
Background

The Illustrations Tab offers ways of adding Pictures, ClipArt, Shapes and SmartArt top your worksheets to enhance your data or display your data in a completely different way. Picture, ClipArt and Shapes have been around in previous versions of Excel but the SmartArt option is completely new. SmartArt tends to be used more widely in PowerPoint where most of the options are the same as Excel.

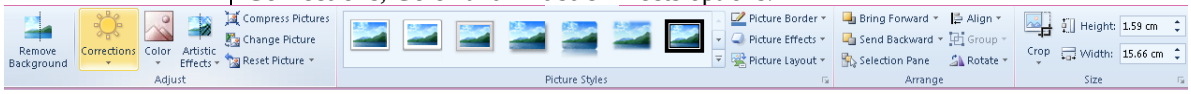
Insert a Picture

Click the Picture icon 

and you will be presented with a window from where you can select your picture. Click the picture required then click the **Insert** button

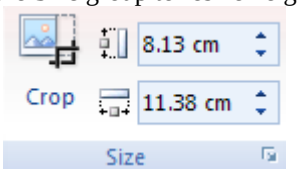


Once your picture is on your worksheet, you will see the **Picture Tools Formatting Gallery**. Some of the options we have looked at previously in this workshop. Try the **Corrections**, **Color** and **Artistic Effects** options.



Resize a Picture

- To resize the picture, click and drag the corners or use the **Size Tools** width and height sections or use the **Size** group to resize height and width.

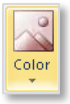


Use Corrections

- Use the **Corrections** button in the **Adjust** group to **Sharpen and Soften**, or change the **Brightness and Contrast**.

- As you rest your mouse over the options, you will see the photograph changing
- When you are happy with the result, just click the option required.

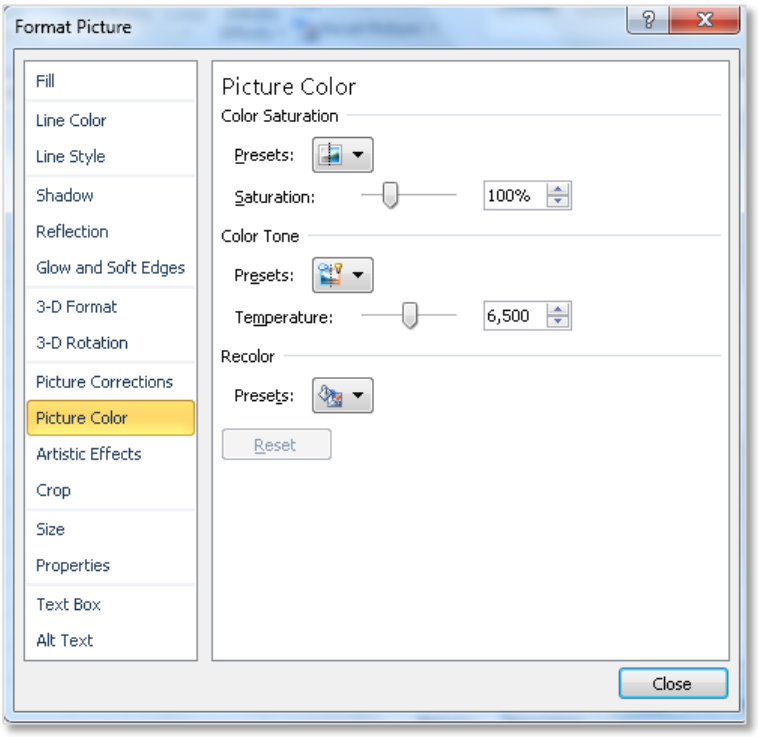
Use Color



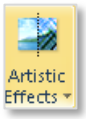
- Use the **Color** button in the **Adjust** group to **recolour** your photograph

- Select from **Color Saturation**, **Color Tone** or there are **More Variations** at the bottom of the window.
- As you rest your mouse over the options, you will see the photograph changing
- When you are happy with the result, just click the option required.

- From the **Picture Color Options** at the bottom of the window, you can change more aspects of the photograph.



Use Artistic Effects



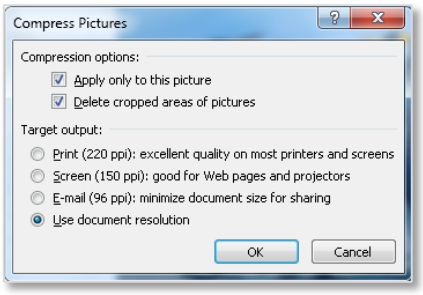
- Use the **Artistic Effects** button in the **Adjust** group to completely change the way your photograph looks
- You can select from effects like **Plastic Wrap** or **Glass** or many more.

- As you rest your mouse over the options, you will see the photograph changing
- When you are happy with the result, just click the option required.

Compress Pictures

- From the **Adjust** group, click the **Compress Pictures** button 

- This option will enable you to compress just this picture or all pictures in your workbook
- Under **Compression Options** you can apply compression to only this picture and/or delete any cropped areas of the picture.



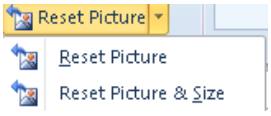
- You can decide what the target output will be too and select from **Print, Screen** or **Email**
- Just select the options required and click the **OK** button

Change the Picture

- Click the **Change Picture** button 

to select another picture in place of the one you currently have

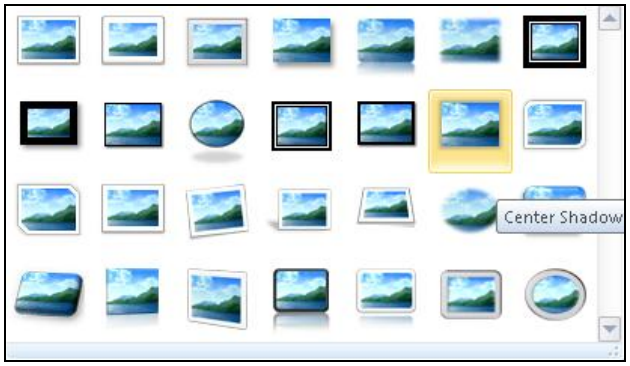
Reset Picture

- The **Reset Picture** button 

offers two options
- **Reset Picture** or **Reset Picture & Size**
- These options will allow you to reset the picture back to normal if you have made a mistake and want it back to how it was when you inserted it into your workbook.

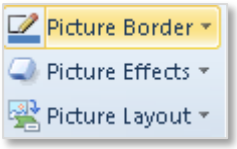
Picture Styles

- Click the **Picture Styles** group you can change the way the picture looks with frames, bevels and reflections
- Just hover your mouse over the options to see what the effect looks like

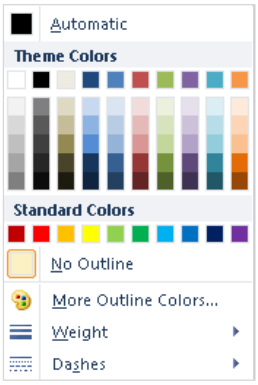


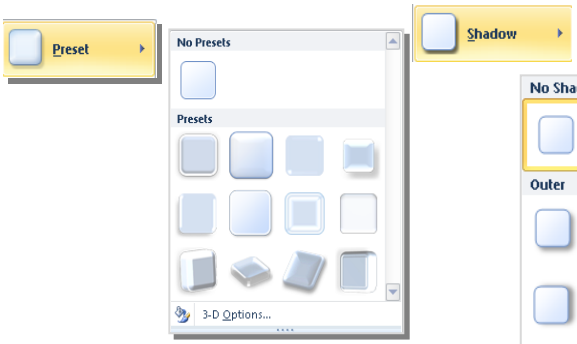
- When you see the one you require just click the mouse on the option.

Picture Border, Picture Effects, Picture Layout

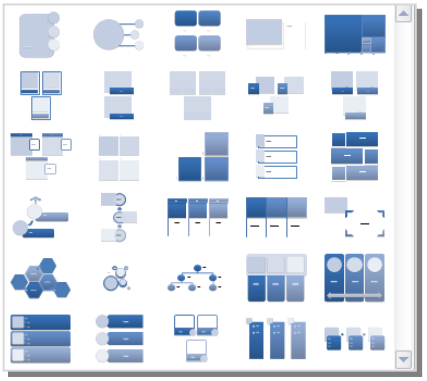


- **Picture Border** will give you options to change the border of the picture and its frame
- With the picture selected click the drop down arrow next to the **Picture Border** button and select from the list below
- **Picture Effects** will give you options to change the effect.
- Select the shape and select from P**resent, Reflection, Glow, Soft Edges, Bevel and 3D Rotation.**



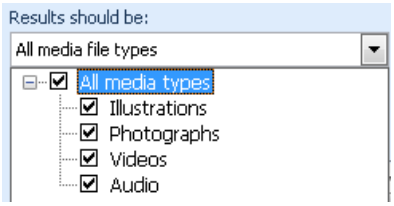


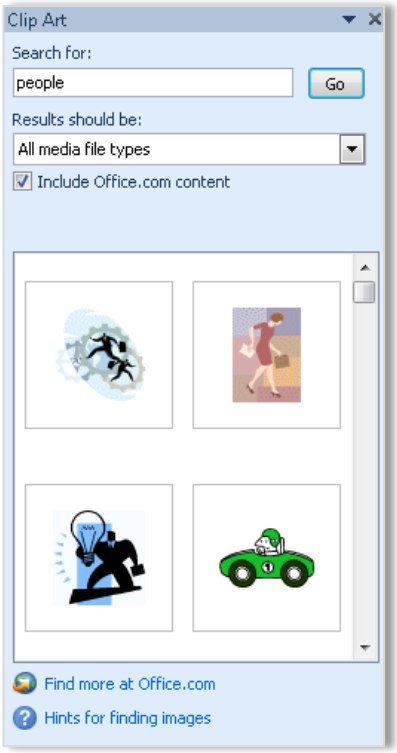
- **Picture Layout** will give you the option to turn your picture into a SmartArt object
- Rest your mouse over the options to determine which one you require.
- You will see the auto preview to enable you to select just the right one.



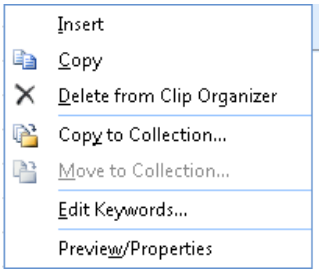
Using ClipArt

- On the Insert tab, select the ClipArt button  and select from one of the following WordArt templates
- In the **Search for** section, enter something you wish to search for. *Here we searched for People.*
- In the **Results should be** section click the drop down arrow and tick where you wish to search





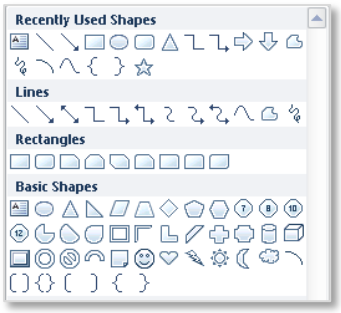
- Click the **Go** button
- When you see an image you require, rest your mouse over the picture and click the drop down arrow



- Choose **Insert**
- To delete a piece of ClipArt, select the ClipArt and press **Delete** on the keyboard
- You will now have a **Format** tab to change the ClipArt which has the same options as the Picture Format tab.

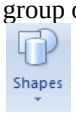
Draw and Modify Shapes

- **There are many shapes to choose from to enhance the look of your spreadsheet**
- **Just select the shape, select a place on the worksheet, hold down your left mouse and drag**
- **The shape will appear**

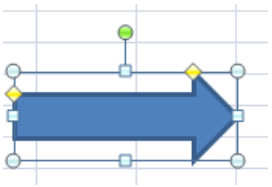


Topic 5B: Draw and Modify Shapes

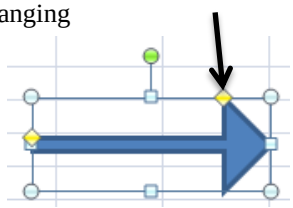
Draw AutoShapes

- From the **Insert** tab select the **Illustrations** group of buttons
- Click the down arrow on the **Shapes** button 

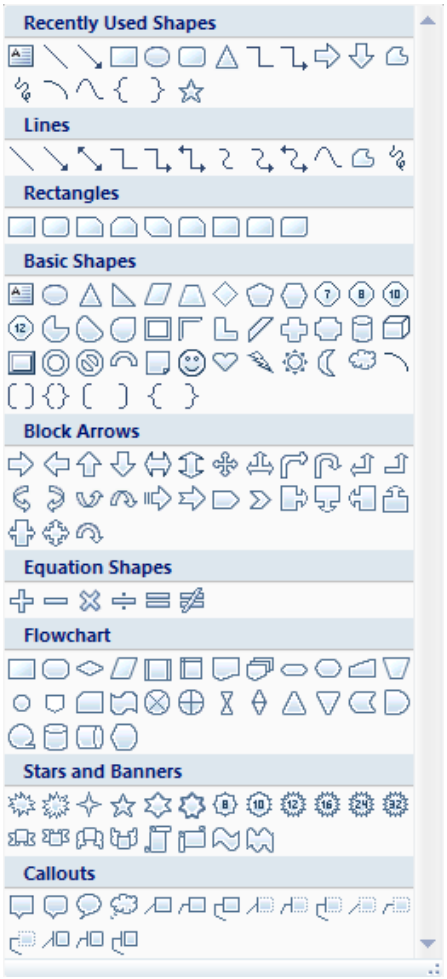
and you will be presented with a selection of different shapes to choose from.
- Click on the shape and then on the worksheet, drag the mouse and the shape will appear
- Let your mouse go once the shape if the right size
- Click away from the shape
- The shape will be embedded onto the worksheet
- Here we have inserted a simple arrow



- Most of the shapes have a yellow node to assist with changing the shape slightly
- Just drag the node to see the shape changing

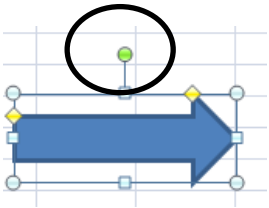


- To produce a symmetrical shape, hold the Shift key down as you drag to make the shape



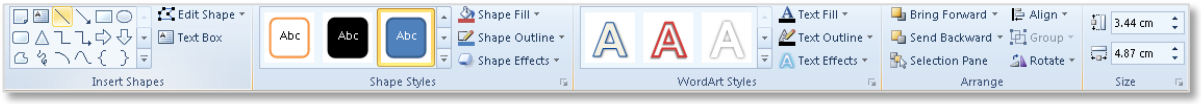
Rotate Objects

- Point your mouse over the small green circle and drag with the mouse.

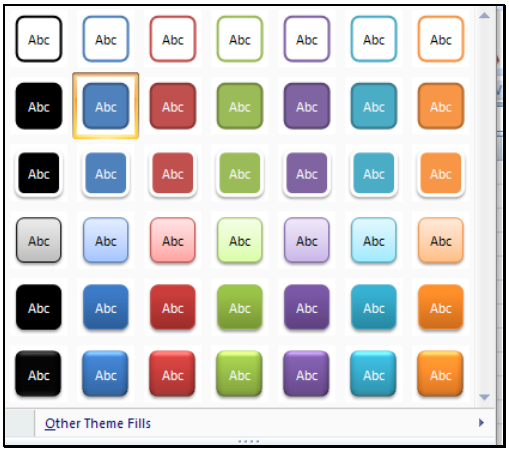


Formatting Graphic Objects

- A set of contextual tabs are given to assist with the formatting of any graphic object inserted into the worksheet.

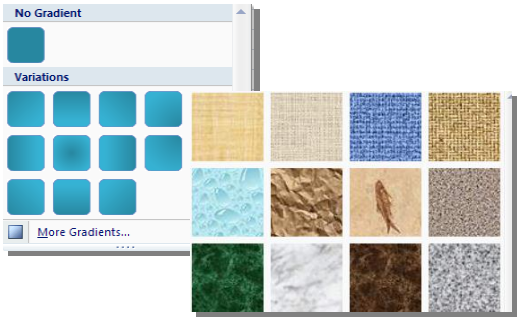


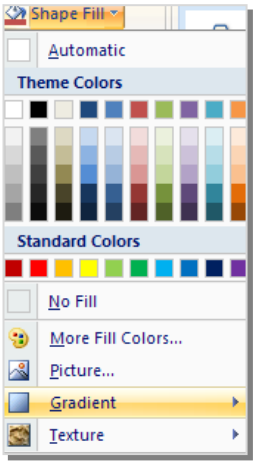
- Select the graphic you wish to format
- To change the shape style, click any of the options in the **Shape Styles** section



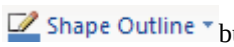
Change the Shape Fill

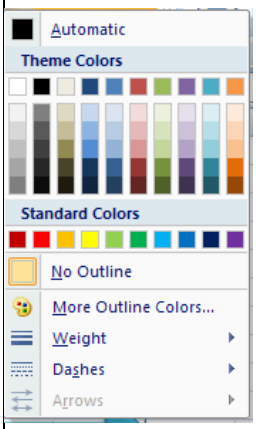
- Select the **Shape Fill** downward arrow and select either a **Colour**, **Picture**, **Gradient** or **Texture**
- This is what a Gradient and texture would look like:



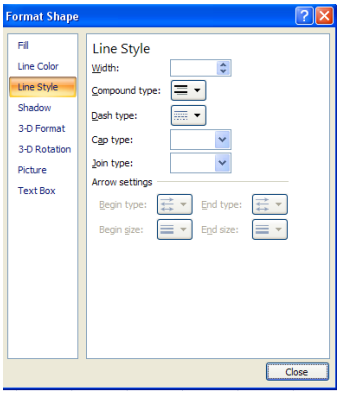


Change the Shape Outline

- With the shape selected, click the **Shape Outline**  button on the **Format** contextual tab. A list of options will be displayed.



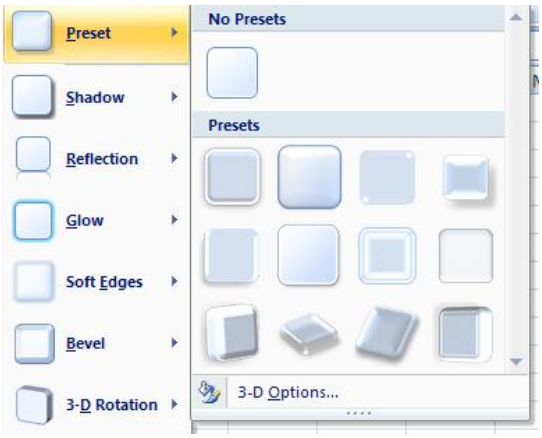
More Outlines Colors will display a window like the one below.



Change the Shape Effects

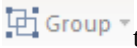
- With the shape selected, click the **Shape Effects** 

button on the **Format** contextual tab. A list of options will be displayed.



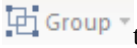
- Select from **Preset, Shadow, Reflection, Glow, Soft Edges, Bevel, 3-D Rotation**

Group Objects

- Select two or more objects by holding down the **Shift key** on the keyboard
- From the **Format** contextual tab, and the **Arrange** group of buttons, select the **Group** button 

then **Group**

Ungroup Objects

- Select the objects in the group
- From the **Format** contextual tab, and the **Arrange** group of buttons, select the **Group** button 

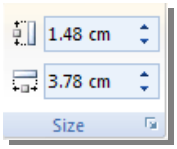
then **Ungroup**

Move an Object

- Select the object with the mouse and while the mouse pointer looks like a 4 headed arrow, drag to where required.
- Alternatively, cut and paste the object

Resize an Object

- Select the object with the mouse
- Rest your mouse over one of the circles on the corner of the object
- When your mouse turns to a double headed arrow drag away from the object to make it larger and towards the object to make it smaller.
- OR click the **Height** and/or **Width** options from the **Size** group of buttons.



Clone an Object

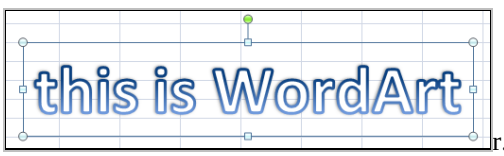
- Select the object and press **Ctrl + D** on the keyboard
- **Or copy** and **paste** the object
- **OR** select the object and hold down the **Ctrl** key and drag with the mouse. Let the mouse button go first.

Using WordArt

- On the **Insert** tab, select the **WordArt** button 

and select from one of the following WordArt templates

- Type the words required and your WordArt will appear



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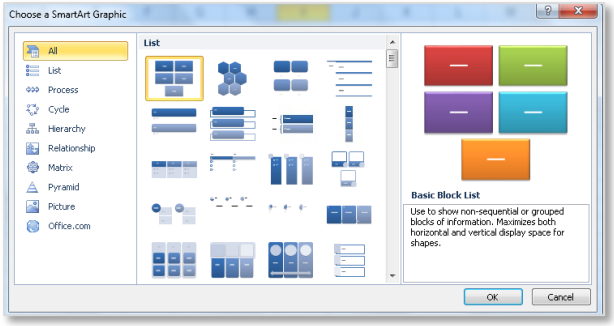
- Use the Format contextual tabs to manipulate your WordArt

Illustrate Workflow Using SmartArt Graphics

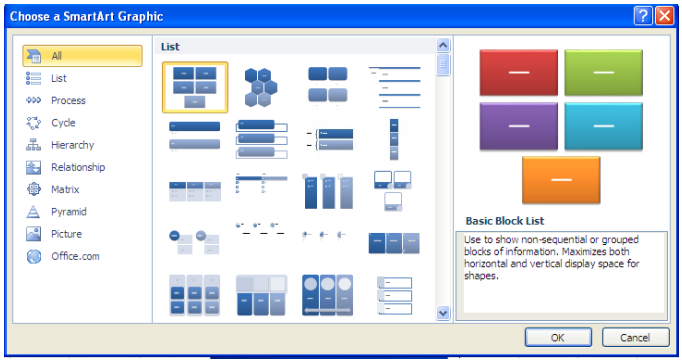
- **Select from List, Process, Cycle, Hierarchy, Relationship, Matrix, Pyramid, Picture to illustrate workflows**



Topic 5C: Illustrate Workflow Using SmartArt Graphics

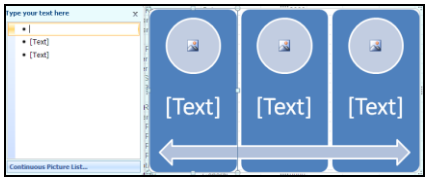
Background

This option will display your data in a completely different way by using shapes. These SmartArt graphics are include **List, Process, Cycle, Hierarchy, Relationship, Matrix, Pyramid and Picture** options. New to Excel 2010 are **Picture** and **Office.com**. There are also more graphics in some of the other options. You must decide how you want to display your data and simply select the shape set required.



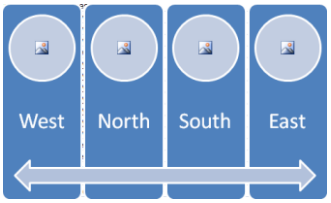
Create SmartArt

- From the **Insert** tab click the **SmartArt** button
- You will then see the **Choose a SmartArt Graphic** window (*See illustration above)* which gives the list of shapes in its entirety.
- Click with the mouse over the shape required, a preview pane at the right will give a description of what this should be used for.
- Depending on the option you select, you will see a section at the left for you to enter your text.



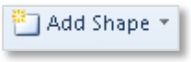
- Alternatively you can enter text straight into the text area in the SmartArt itself
- A new Gallery will also be presented to enable you to change the layouts, colours, select quick styles or reset the graphic back to its original format. *On the fly formatting* is available for Layouts, Change Colors and SmartArt Styles.

- In the illustration below, you can see that we can also insert pictures in the shapes along with text.



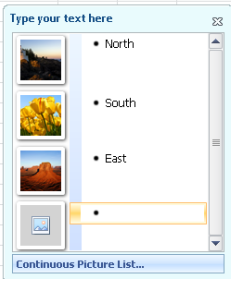
- Click inside the circle and select you picture

Add a Shape

- Select the **Design** tab and the **Create Graphic** group of buttons.
- Click where you want the new shape to go then click the **Add Shape** 

button.
- The shape will be added.
- Alternatively you can click the drop down arrow on the **Add Shape** button and select from 

- If you have the text panel showing to the right of the SmartArt, just click into the last bullet point where you want the new shape to go and press **Enter**. Your new shape will be added to the SmartArt.



Show or Hide the Text Pane

- With your SmartArt selected
- Select the **Design** tab and the **Create Graphic** group of buttons.
- Click the **Text Pane** 

button
- If the button has an orange background then the Text Pane will be visible.

Promote/Demote a shape

- To Promote a shape, select the shape
- Select the **Design** tab and the **Create Graphic** group of buttons.
- Click the **Promote** 

button
- To Demote a shape, select the shape
- Click the **Demote** 

button

Change the flow from right to left

- Select the shape
- Select the **Design** tab and the **Create Graphic** group of buttons.
- Click the **Right to Left** 

button

Move selected shape up or down

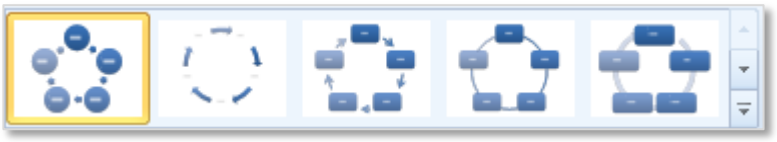
- Select the shape
- Select the **Design** tab and the **Create Graphic** group of buttons
- Click the **Move Up** 

or 

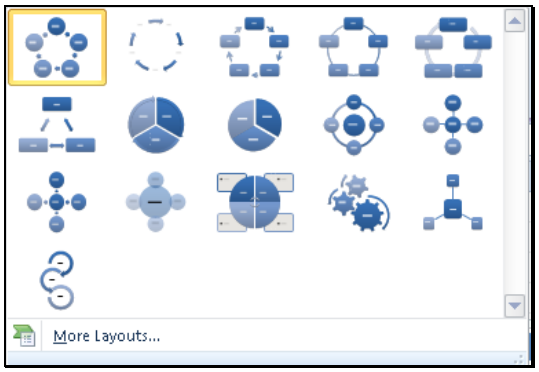
Move Down buttons

Change the shape layout

- Select the whole SmartArt by clicking on the border of the SmartArt
- Select the **Design** tab and the **Layouts** group of buttons.



- You will see a small sample of selected layouts
- If you click the drop down arrow on the right corner, more layouts will be displayed

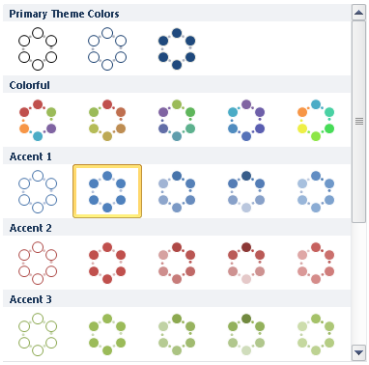


- Rest your mouse over the layouts and AutoPreview will show you what the shape would look like if you selected it.
- When you find a suitable layout, click inside the layout button and your SmartArt will change

Recolour the SmartArt

- Select the whole SmartArt by clicking on the border of the SmartArt
- Select the **Design** tab and the **SmartArt Styles** group of buttons.
- Click the **Change Colors** 

button drop down arrow to see a range of different colour schemes

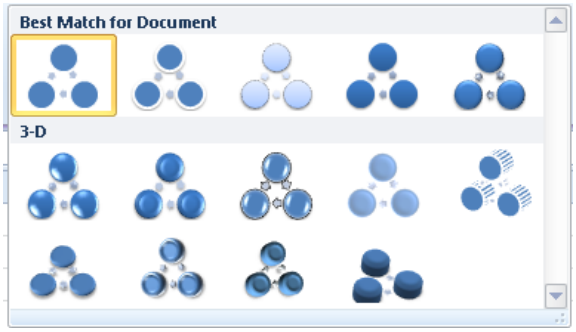


- Rest your mouse over the one you like. Click on the layout required.

Change the SmartArt Style

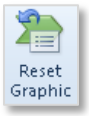
- Select the whole SmartArt by clicking on the border of the SmartArt
- Select the **Design** tab and the **SmartArt Styles** group of buttons.

- Rest your mouse over the one you like. Click on the layout required.
- If you click the drop down arrow on the right of the **SmartArt Styles** group you will see more styles to select from



Reset the Graphic

- To discard all of the formatting changes made to the graphic
- Select the whole SmartArt by clicking on the border of the SmartArt
- Select the **Design** tab and the **Reset** group of buttons.



- Click the **Reset Graphic** button

Convert the SmartArt to a shape

- With this option you can convert the SmartArt graphic to a shape so the any part of it can be changed or deleted without affecting the rest of the graphic
- Select the whole SmartArt by clicking on the border of the SmartArt
- Select the **Design** tab and the **Reset** group of buttons.

- Click **Convert to Shapes** button

Change a Shape

- You can select any part of the SmartArt and change its shape to something else
- Select the part of the SmartArt by clicking it
- Select the **Format** tab and the **Shapes** group of buttons.

- Click the **Change Shape** button
- Select one of the shapes and your SmartArt shape will change

Make a shape larger or smaller

- To make a shape larger
- Select the part of the SmartArt by clicking it
- Select the **Format** tab and the **Shapes** group of buttons
- Click the **Larger** 

button
- To make the shape smaller, click the **Smaller** 

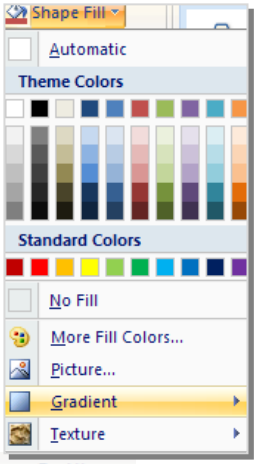
button

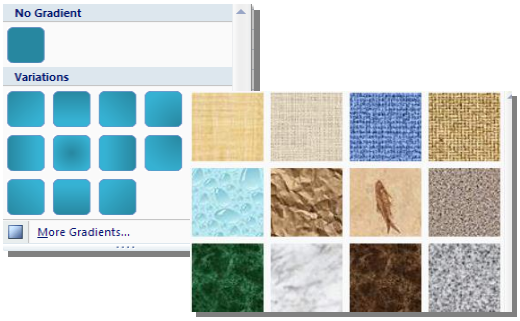
To Change the Shape Style

- Select the part of the SmartArt by clicking it
- Select the **Format** tab and the **Shape Styles** group of buttons
- Rest your mouse pointer over one of the styles to see what effect it has on your shape
- Click the one required

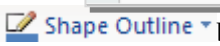
Change the Shape Fill

- Select the **Shape Fill** downward arrow and select either a **Colour, Picture, Gradient** or **Texture**
- This is what a Gradient and texture would look like:

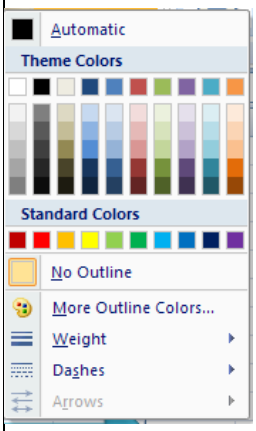




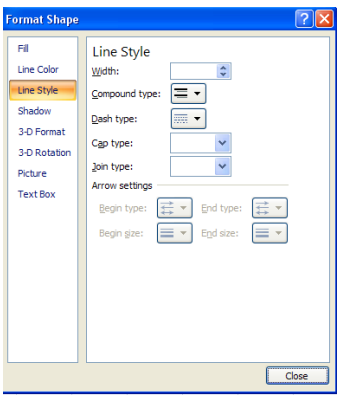
Change the Shape Outline

- With the shape selected, click the **Shape Outline** 

button on the **Format** contextual tab. A list of options will be displayed.



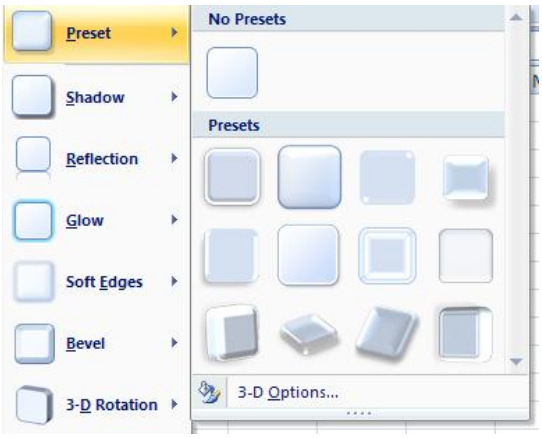
More Outlines Colors will display a window like the one below.



Change the Shape Effects

- With the shape selected, click the **Shape Effects** 

button on the **Format** contextual tab. A list of options will be displayed.



- Select from **Preset, Shadow, Reflection, Glow, Soft Edges, Bevel, 3-D Rotation**

Using WordArt to change look of words

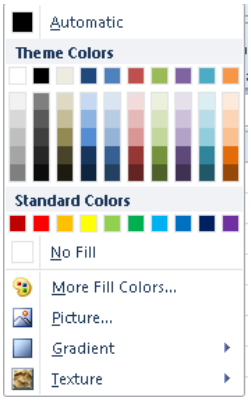
- With the shape selected, on the **Format** tab, select the **WordArt** button 

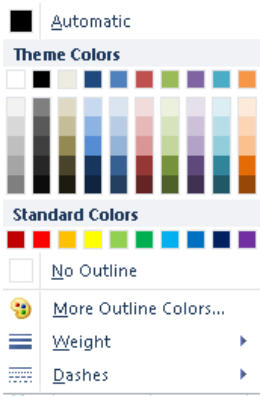
and select from one of the following WordArt templates

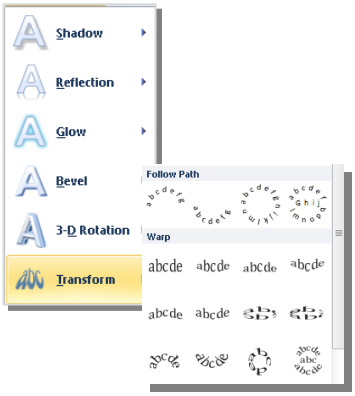
Text Fill, Text Outline and Text Effects

- You can add different fills, outlines and effects to your shape's text using these options
- Just remember to select the shape before you try any of them

Text Fill: **Text Outline:** **Text Effects:**

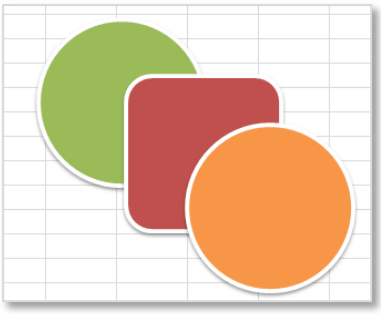






Layer and Group Graphic Objects

- **Graphic objects can be *layered* or *stacked* according to the order you require**
- **Group objects together if you want to move or copy more than one at a time**



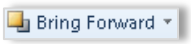
Topic 5D: Layer and Group Graphic Objects

Background

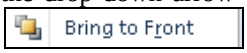
There may be times when you want to order your graphics in a particular way. One graphic at the front, one in the middle, and one at the back, for instance like the illustration above. This is called the **Stacking Order** or **Layering**. Once the objects have been layered or stacked, you might want to *group* them together to keep their shape.

When shapes are inserted into Excel, the first graphic placed on the spreadsheet would by default be at the bottom of the stack. Each additional object will be stacked on top. You can change the stacking order with a couple of clicks of the mouse.

Change the stacking order

- Select the object you wish to change the stacking order of
- From the **Format** tab and the **Arrange** group of buttons select **Bring Forward** 

button to bring the object one place towards the front of the stack
- Click the **Send Backward** 

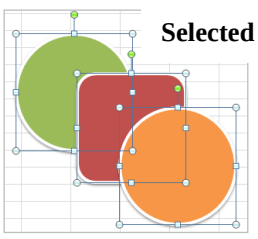
button to send the object one place backwards towards the back of the stack.
- To send an object **all the way to the front of the stack**
- Click the drop down arrow on the **Bring Forward** button and select **Bring to Front** 

- To send an object **all the way to the back of the stack**
- Click the drop down arrow on the **Send Backward** button and select **Send to Back** 

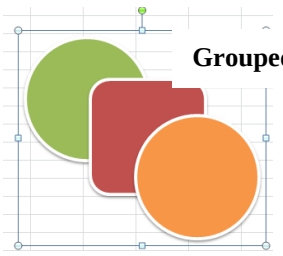
Group Objects

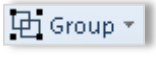
- Select the first object
- Hold down your **Shift** key and select the second object
- Continue until all the objects you want to group are selected

Selected Graphics



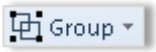
Grouped Graphics

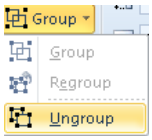


- From the **Format** tab and the **Arrange** group of buttons, click the **Group** 

button.

Ungroup Objects

- Select the grouped object
- From the **Format** tab and the **Arrange** group of buttons, click the **Group** 

button drop down arrow.
- Click **Ungroup** 

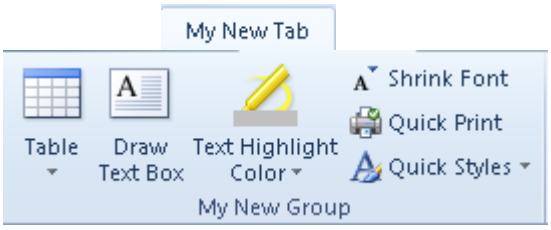
LESSON 6: Customizing & Enhancing the Excel Environment

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

- Customize the Excel Environment
- Manage Themes
- Create and Use Templates

Customise the Excel Environment

- **Add your own tab to the Ribbon**
- **Add groups of buttons to your tab**



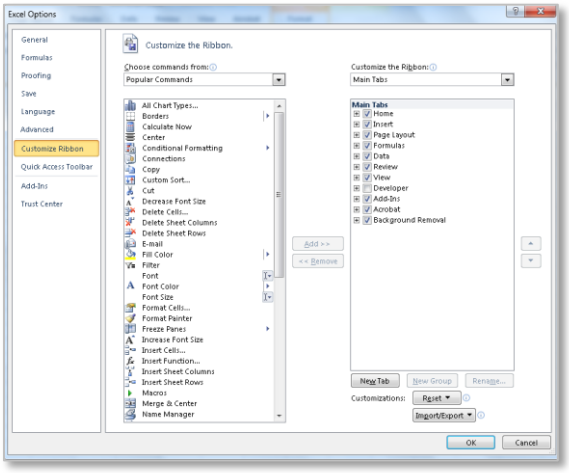
Topic 6A: Customize the Excel Environment

Background

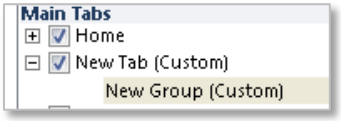
In the Level 1 course you learned how to customise the Quick Access Toolbar. In this Level 3 course we will now look at customising the Ribbon to add a new Tab with buttons groups and buttons you would use most often.

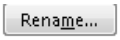
Add a New Tab to the Ribbon

- Select the **File** tab and then **Options.**
- Then select **Customise the Ribbon** and you will see the **Excel Options** dialog box.

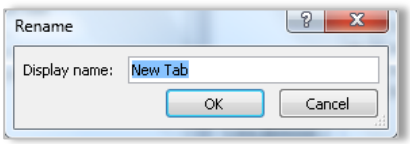


- From the panel at the left, select **Customize Ribbon**
- The left pane will show you some of the popular buttons in Excel and on the right you will see which tabs and groups are on the Ribbon
- Click somewhere on the list to determine where you want the tab. i.e. click **Home** if you want your new tab to go next to the Home tab on the Ribbon.
- At the bottom right of the window click the **New Tab** button and you will see where you tab will be located. We have put ours after the Home tab.

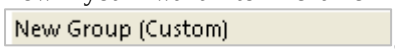


- Click on the **New Tab (Custom)** button then click the **Rename** button 

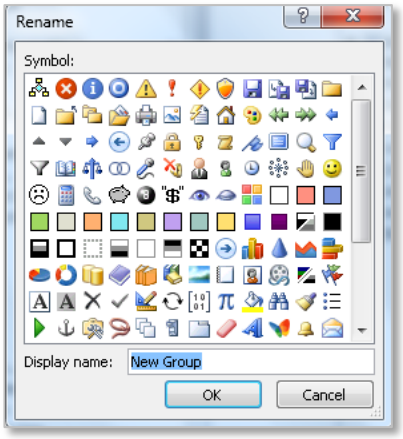
- You will be asked to rename your tab like the dialog box you see below



- Enter a name and click **OK**

- Now you want to rename the Group so click where it says 

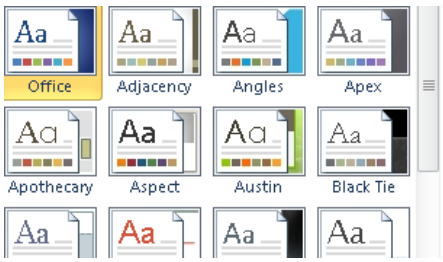
and again click the **Rename** button.



- You will see the **Rename** dialog box.
- Enter the name for your group of buttons and click the **OK** button
- Keep the group name selected and from the left hand side of the window click on the button you want to add to your group then click the **Add** button.
- Continue until you have all the groups and buttons within the groups you require.
- Click **OK** out of the **Excel Options** window and you should see your new tab with its new groups of buttons.

Manage Themes

- **Themes enable you to portray your company image through colour schemes**
- **These change graphics like SmartArt to keep the colour scheme the same throughout your workbook**



Topic 6B: Manage Themes

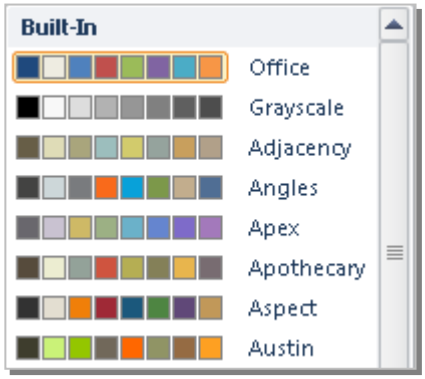
Background

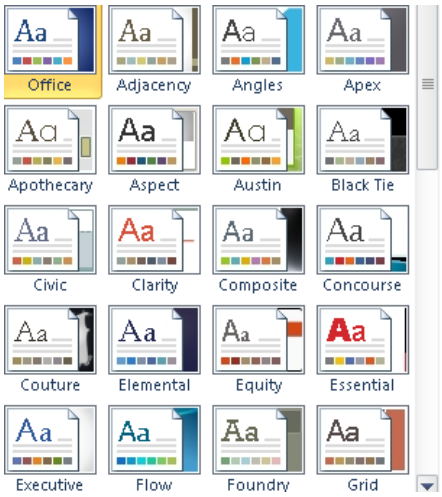
The **Page Layout** Tab offers features like **Themes, Page Setup, Page Background, Paragraphs** and **Arrange** options. Each with its own group. The theme will affect things like the colour scheme in your SmartArt Graphics which will help in portraying your company's corporate image. You can use the existing Themes, amend them to suit or create a completely new theme of your own.

Themes

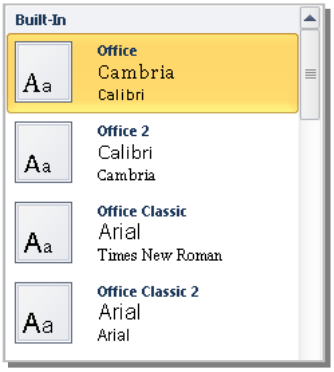
The **Themes** option allows for your document to be formatted with different themes. These are a range of colour and borders which would be applied to Headers/Footers, Graphical objects etc. The **Themes** button offers a drop down.

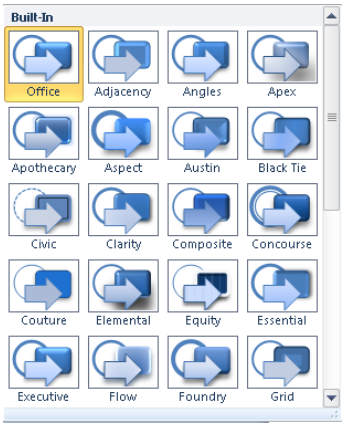
- To apply a Theme, click the **Theme** drop down arrow and select one of the Themes on the list.
- You can also select a range of colours in the Theme by clicking the **Colors** drop down menu.





- You may also want to change the Fonts in the Theme. Click the **Fonts** drop down menmu in the **Themes** group.
- Lastly you may want to change the Effects to a more bevelled or embossed format.
- Click the **Effects** drop down arrow and select from the list.



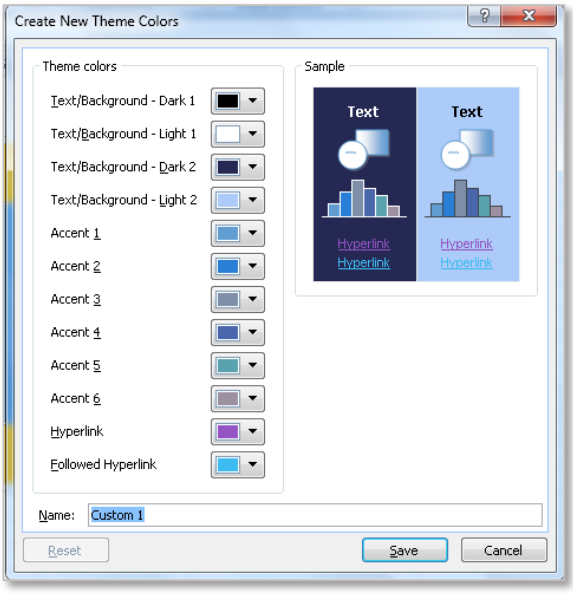


Apply a Theme

- From the **Page Layout** tab select the **Themes** group of buttons.
- Click the **Themes** button drop down arrow and select the required theme.
- From the **Colours** drop down list, select a colour scheme.
- From the **Font** drop down list, select a font.
- From the **Effects** drop down list, select a suitable effect

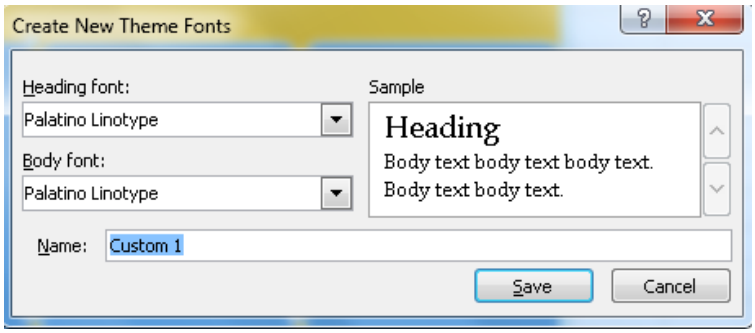
Create your own Theme

- Insert a graphic like a SmartArt graphic.
- Keep it selected.
- Change the background fill and then click the **Theme** button drop down arrow
- Click **Save Current Theme** and give it a name
- Your theme will be stored in the Themes folder
- From the **Colours** drop down arrow Click **Create New Theme Color** and you will see options to change the colours of certain parts



- Select the options required and click **Save**
- Your colour scheme will be saved

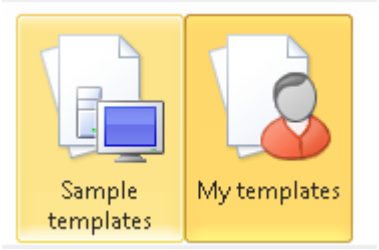
- In the **Fonts** drop down arrow, click **Select New Theme Fonts** and you will see the **Create New Theme Fonts** dialog box



- From the **Heading Font** box, click the drop down arrow and select a font for the heading
- In the **Body font** box, , click the drop down arrow and select a font for the body
- Click the **Save** button

Create and Use Templates

- **Templates save time and effort creating the same workbook over and over again**
- **Templates can be inserted into any workbook**



Topic 6C: Create and Use Templates

Background

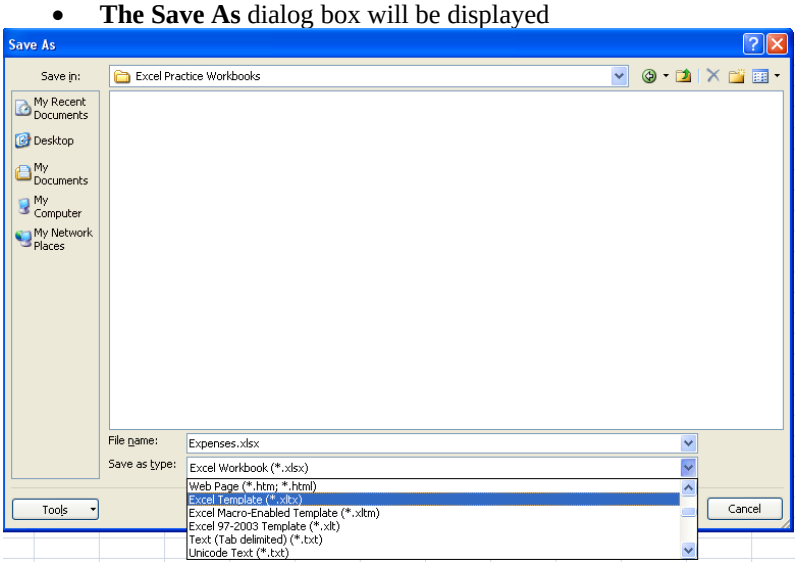
Templates save the time and effort of having to recreate spreadsheets over and over again. For example, An Expenses Template could be created once and the document used each month and saved as a separate file.

Templates usually contain all the main structure of your workbook i.e. formulae, formatting, page numbers, macros, headers and footers etc.

Once Templates are created you can insert them into any workbook.

Create a Template in Excel

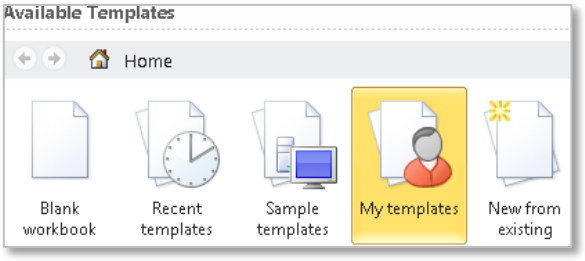
- Construct your workbook with all the formatting, formulae etc you require
- From the **File tab**, select **Save As**
- **The Save As** dialog box will be displayed



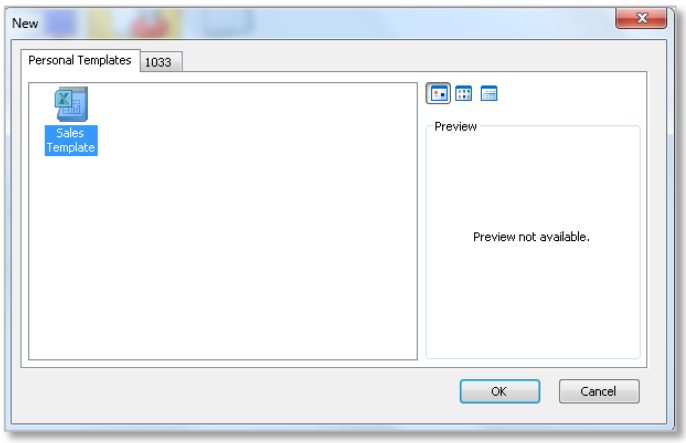
- In the **Save as Type** section, select **Excel Template.xltx**
- Enter a name for your Template
- Click the **Save** button
- Ensure your Template is stored in the default Templates folder or you will not see it when you select **File tab, New, My Templates**

Create a Workbook from a User Defined Template

- From the **File tab** , select **New**
- From the **Available Templates** section at the right of the screen, select **My Templates**



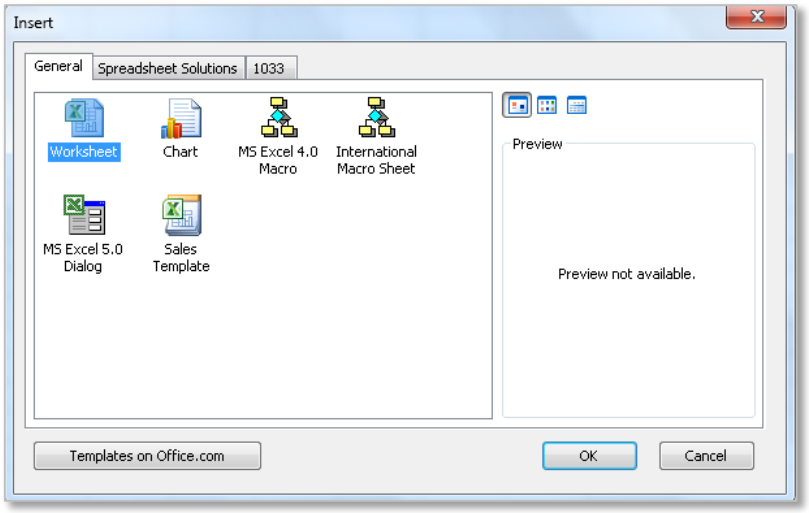
- The **Templates** window will be displayed



- Select the template required and click the **OK** button

Inserting a Template into a Workbook

- Open the workbook where you want to place the template
- Right click a sheet tab and select **Insert** from the pop up menu



- Select the template required and click **OK**