



Microsoft Office Training Series

Excel

Introduction



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Welcome to Your Excel Introduction Training Course

- You will feel more confident using Excel and be able to create a spreadsheet from scratch.
- Understanding built in calculation and formula functionality will allow you to be more productive in your work and home Excel environments.
- Spreadsheets that you create will be easier to use and look more presentable.
- You will be able to present your data visually using charts and Sparkline's



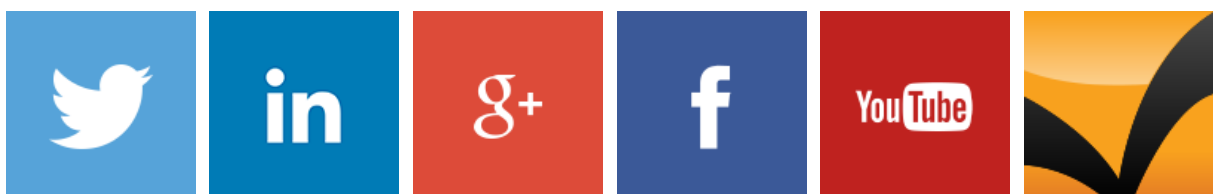
Microsoft Office Training Series



Professional Development Series

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Unit 1: Getting Started

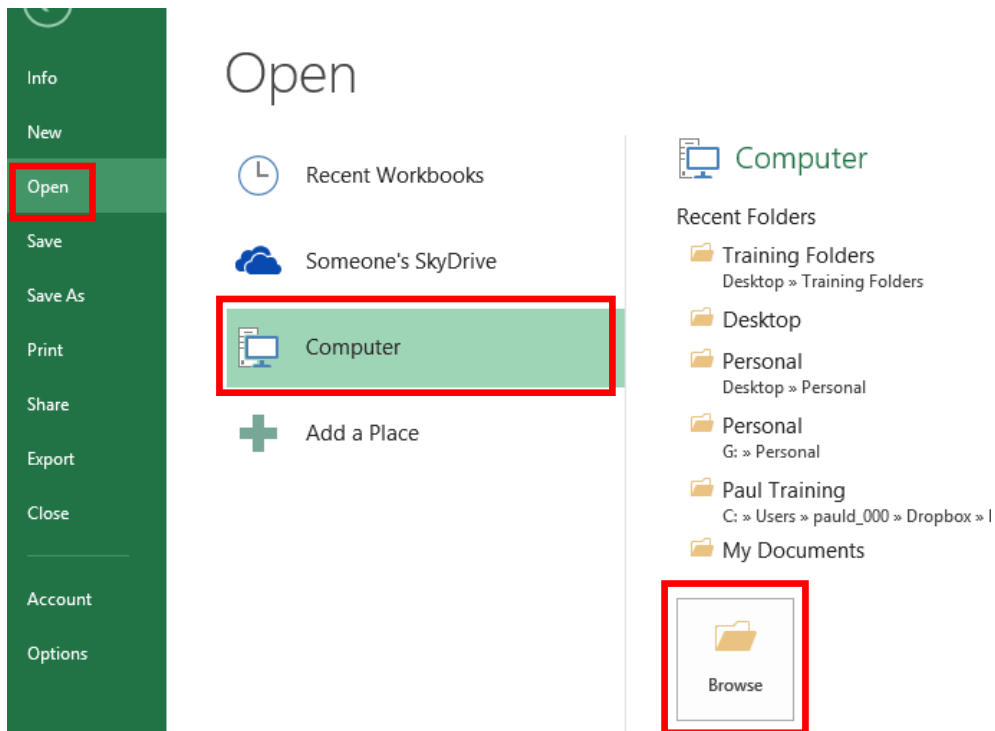
In this unit you will learn how to:

- What Microsoft Excel is
- How to open Microsoft Excel
- How to interact with Excel
- How to close Excel
- How to create a new workbook
- How to open a workbook
- How to close a workbook
- About the active cell
- How to select cells
- How to use the Help screen

Opening Microsoft Excel

There are a number of ways to open the Excel program. First, look for the Excel icon on your desktop () and double click it. The Excel screen should open for you.

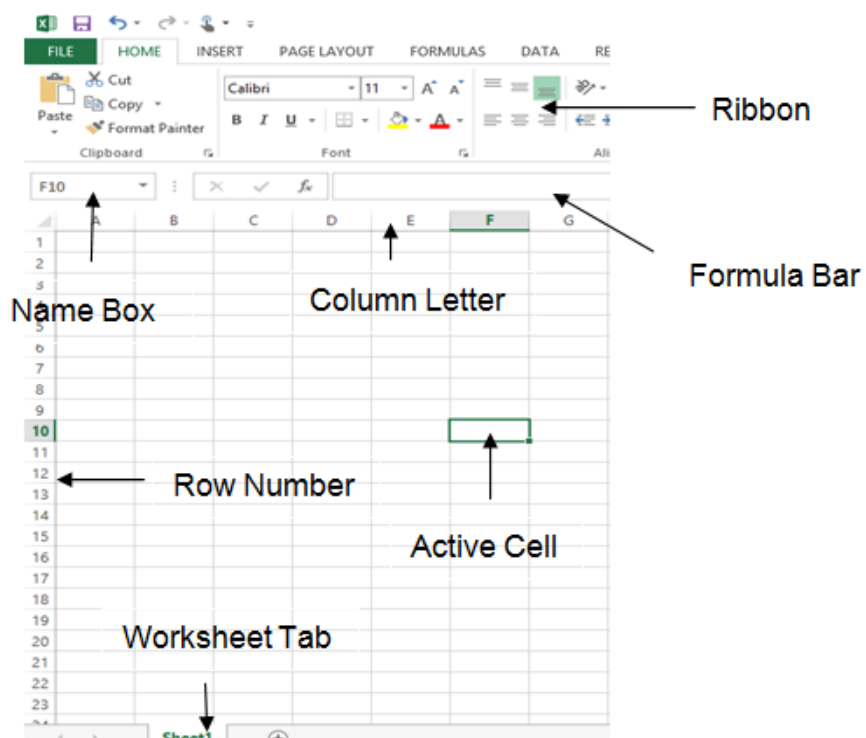
If you cannot find the Excel icon, click the Start button on the bottom left corner of your desktop to display the Start menu, then choose:



Programs/All Programs → Microsoft Office → Microsoft Office Excel or Microsoft Office Excel 2016

Interacting with Excel

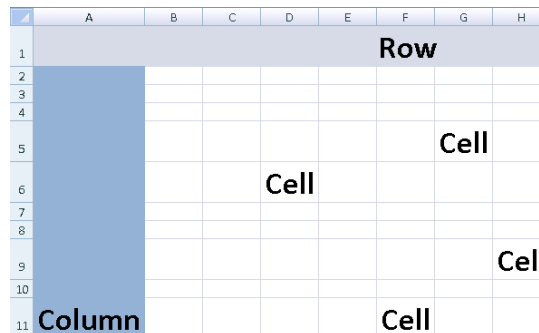
Once you open Excel, you should see an Excel screen (also called a user interface) like the one shown below.



Columns, Rows, Cells, and Ranges

Columns, rows, and cells are the most fundamental components of a work sheet.

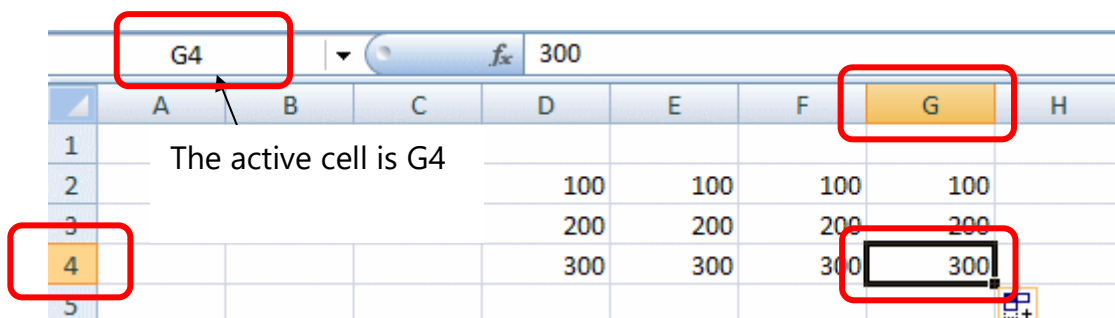
A **column** is a vertical series of adjacent cells from top to bottom. A **row** is a horizontal series of cells from left to right. A **cell** is a single rectangle anywhere in the grid area of a worksheet.



The Active Cell

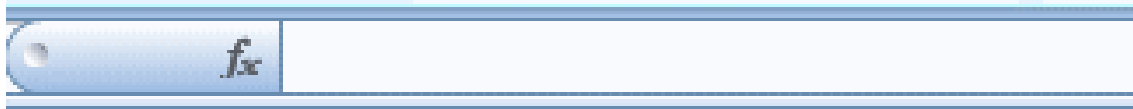
Every cell in your spreadsheet has a name or reference that can be formed by a letter-number combination, e.g. A5, D6.

When you select a cell in an Excel worksheet, it becomes enhanced with a thicker border. The cell you have chosen is now the **active cell**, and its name or reference is the cell **column** letter followed by the cell **row** number. In this image, cell **G4** is the active cell.



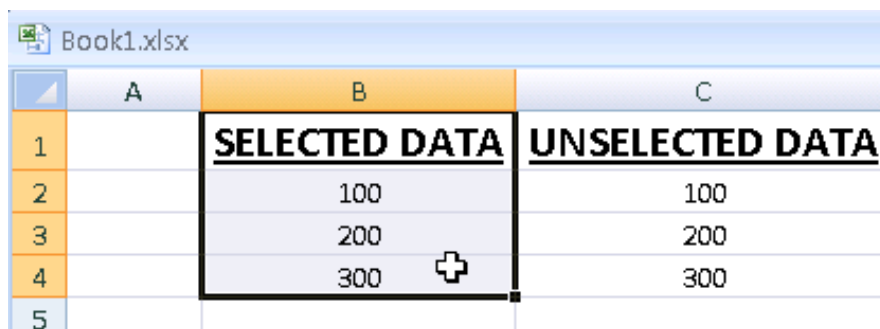
The column letter and row number of the active cell are displayed in the Name Box near the upper left corner of the Excel grid.

If you enter text or numbers into the Formula Bar (shown below), the text or number that you type will also be entered into the active cell.



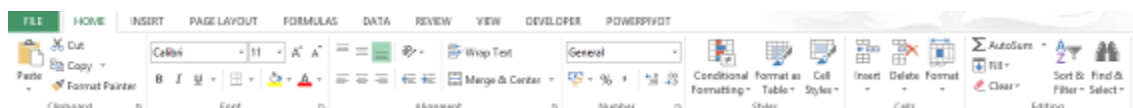
Selecting Cells

To select a group of cells, place your mouse pointer in the centre of a cell. When the pointer turns into a thick white shaded cross, hold the left mouse button down and drag the pointer across the row or down the column of cells you want to select. In this image, the cells B1 to B4 have been selected.



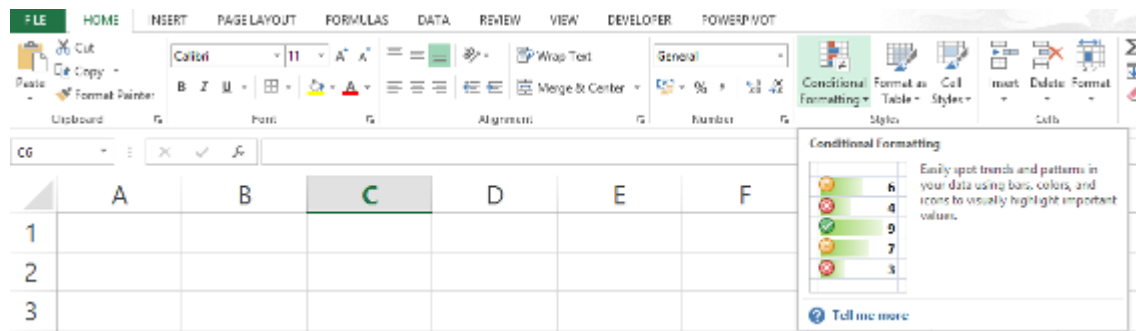
The Ribbon

This part of the Excel interface is what allows you to control, format, and edit the data stored in the Excel grid area of the spreadsheet. This is also where the tools that help you analyse, interpret, organise, and present your data are found. Each ribbon is separated into groups with the group name shown at the bottom. Each group contains buttons which can be used as tools to performing functions, e.g. in the 'Home' ribbon below, examine the 'Font' group. Use these buttons to change some types of formatting of the contents of a cell.



If you left click one of the labeled tabs above the Ribbon (Home, Insert, Page Layout, Formulas, Data, Review, View), you will see the buttons and controls in the Ribbon change according to the tab you click on.

If you let your mouse pointer hover on a button or control, you will see a shaded box appear. This box, also known as a 'Screen Tip', will show you the name and a brief description of the button or control in question.



The Quick Access Toolbar



The Quick Access toolbar is located at the top left of the Excel window (to the right of the Excel Logo) and contains by default three buttons, namely, Save, Undo and Redo. The purpose of this toolbar is to provide you with quick access to buttons which may not be on any of the ribbons.

There are three ways to add more buttons to the Quick Access toolbar: -

1. Click the drop-down arrow on the right hand side of the Quick Access toolbar and select whichever buttons you desire to use.
2. Right-click any button on one of the ribbons and click 'Add to Quick Access toolbar'.
3. Click the drop-down arrow and select 'More Commands'
 - a. Select a button from the left-hand panel and click 'Add' or double-click to place the button into the Customise Quick Access toolbar section.
 - b. Buttons can be re-arranged by using the up/down arrows on the right

The Quick Access toolbar can be shown above or below the ribbon. The File Menu (Backstage)

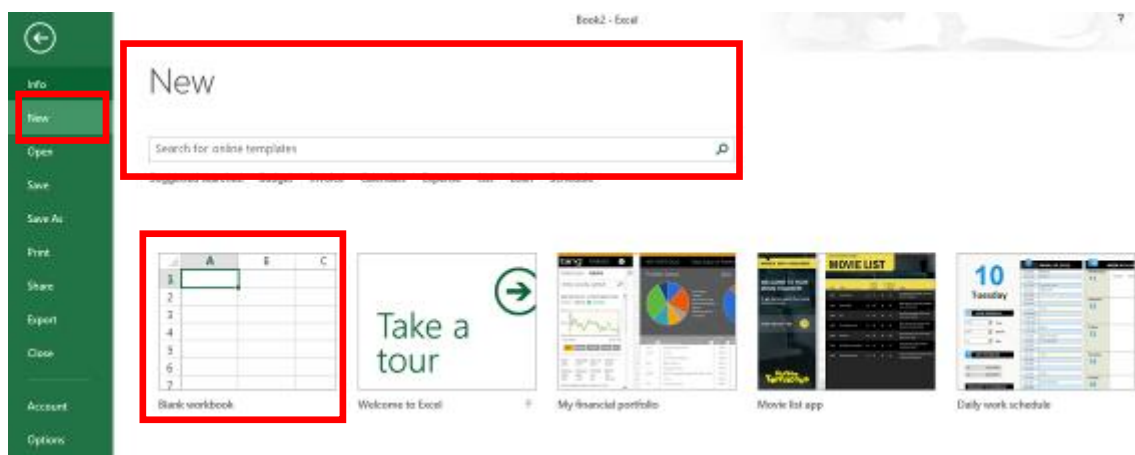
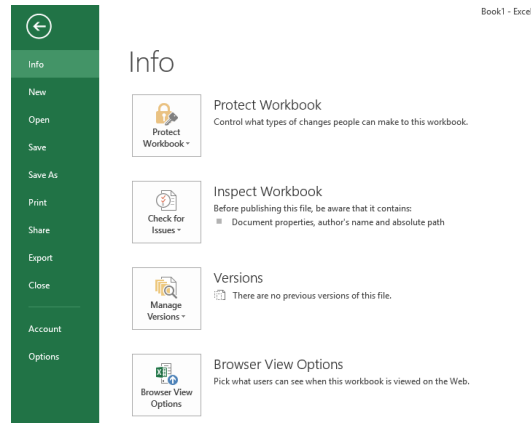
You can display the 'Backstage' menu by clicking File Tab on left of the screen.



Creating a New Workbook

Once Excel is open, you can create additional new workbooks by clicking on the File Tab and clicking the 'New' button then click 'Create'.

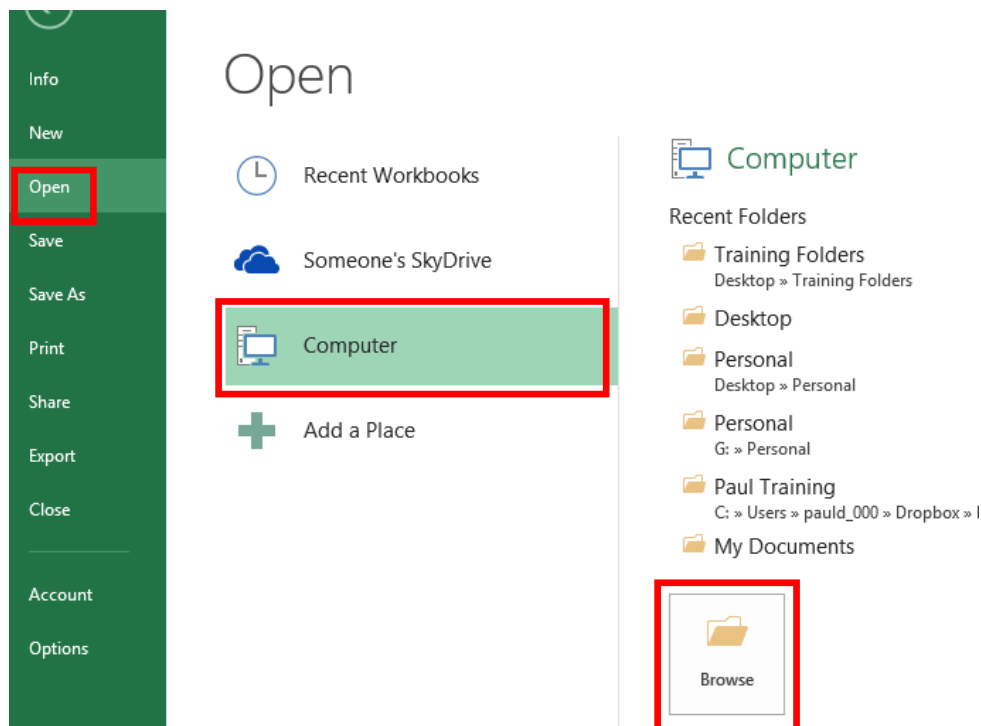
You can also create a new workbook by using the shortcut keys **Ctrl + N**.



Opening a Workbook

To open a workbook, display the **File > Backstage menu** and either:

- Choose **Open** or
- Choose a workbook from the **Recent Documents** list.
- You can also use the shortcut keys **Ctrl + O**.



Closing a workbook is different from saving a workbook. If you have not made any changes to the workbook, just left click the lower X in the upper right corner of the workbook.

Close workbook



Closing Excel

To close Excel and all open Excel files, click the top X in the upper right corner of the Excel screen.

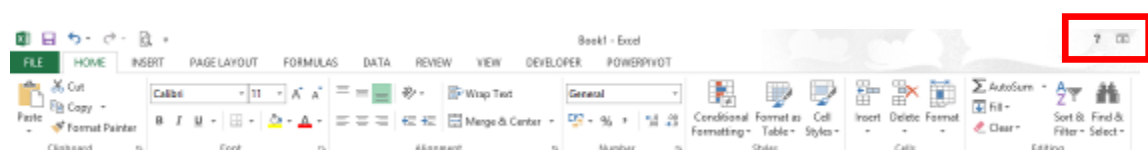
Close Excel program



Excel 2013 & 2016 only have one X in the upper corner

Using the Help Screen

If you find that you need help with a given topic in Excel, you can access the Excel Help Screen by clicking on the question mark button in the upper right corner of the Excel screen.



You can also display the Help Screen by pressing **F1** on your keyboard.

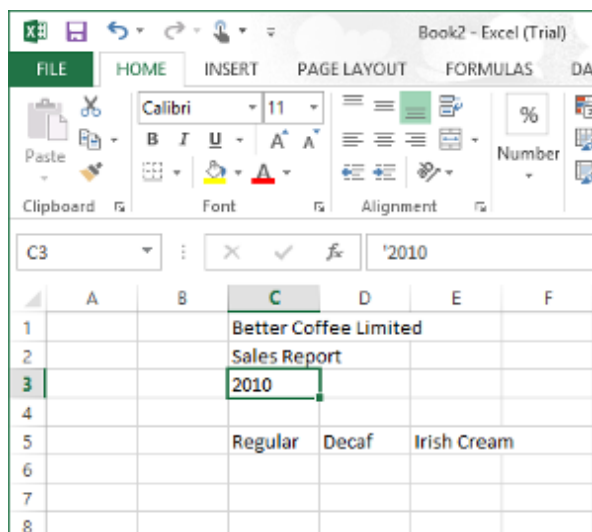
Unit 2: Entering and Editing Data

In this section you will learn how to:

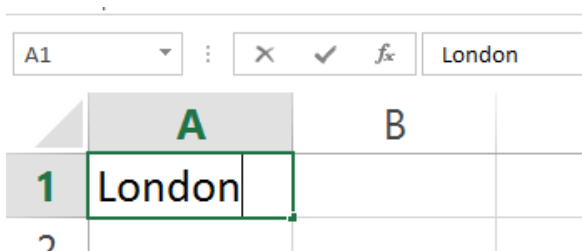
- Create worksheet labels
- Enter and delete data
- Use the AutoFill feature
- Use AutoComplete
- Work with basic formulas
- Save an Excel workbook

Entering and Editing Data

Now that you understand the basics of columns, rows, ranges, and labels, it is time to start working with data. One way to enter data into an Excel worksheet is to click on the cell you want to use (making it the active cell) and enter the information directly into it. When you type something in the active cell, what you type will also be displayed into the formula bar.



If you type text, numbers, or formulas in the Formula Bar and press Enter, the data or formula you typed will be entered into the active cell. When you enter data in the formula bar, you will see an X and a check mark next to the data entry field. If you click the X (cancel), the data in the formula bar will be cleared. Clicking the check mark will enter the data just like pressing the Enter key.



	A	B	C	D	E	F	G	H	I
1	Time Out Holidays								
2	Sales report								
3		Qtr1			Qtr2			Qtr3	
4	Name	Actual	Target	Difference	Actual	Target	Difference	Actual	Target
5	Sandra	63654	62000		44846	50000		82844	66000
6	Pam	84884	77000		66858	68000		45577	75000
7	Julian	84084	77000		72252	74000		86329	82000

Handy hint:

Values should be entered in without currency symbols or commas as these can be applied using number formats later on.

Using Undo and Redo

Anyone can make mistakes, especially when creating a complex worksheet. Excel provides a way of backtracking over, or undoing incorrect or unintended actions.

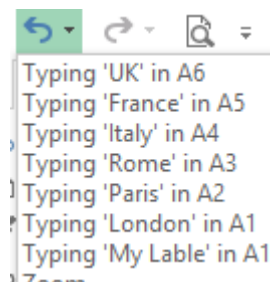
To undo an action, click the Undo button on the Quick Access Toolbar. This will undo the very last action you performed. The shortcut combination of CTRL + Z performs the same action.



If you want to redo an action (perform an action that you undid with Undo), you can click the Redo button on the quick access toolbar.



You can also click the downward pointing triangle to show a list of recent actions. You can select actions from this list and then click the selected item to delete it and any other actions above it in the list.



Editing labels and values

There are various ways to edit (make changes to) labels and values that have been entered into a spreadsheet.

The Formula Bar can be used to edit the contents of a cell. Select the cell to be edited, and click in the formula bar to edit.



To edit directly inside a cell:

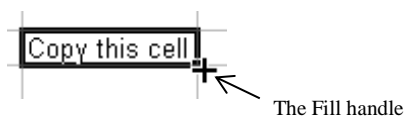
- Double-click directly on the cell and use the arrow keys or click to move the cursor
- Press the F2 key – the cursor appears at the right end of the cell contents

AutoFill and AutoComplete

When working with spreadsheets, it is often the case that you must repeat data in a large number of cells. Excel helps you do this efficiently by automating some basic and repetitive tasks for you.

Using AutoFill

The Fill handle is a useful tool in Excel. Positioning your cursor over the bottom-right corner of the active cell brings the Fill handle up on your screen.



The Fill handle can be used to quickly enter:

- Quarters (Quarter 1, Quarter 2 etc.)
- Days of the week
- Months of the year

What is AutoComplete?

AutoComplete will help you enter data by completing what you type, based on similar data in adjacent cells in the same column. If you enter the name John in a cell, and then type the letter J in the cell immediately below it, AutoComplete will

fill in the letters 'ohn' completing the word John. You simply need to press Enter to accept the substitution. If you have two words with the same first letter in a column of adjacent cells, John and Jack for example, and you type a J, AutoComplete will wait until you type a second letter to discern the most likely match to complete the entry.

Salesperson	Product	Units Sold
John		
John		

Deleting and replacing data

To clear cell content:

- Select a single cell or range of cells and press the **Delete** key; or
- Right-click on the cell and select the Clear Contents option

To replace the contents of a cell:

- Select the cell and begin typing - or
- Use Find and Replace to make the same replacement multiple times (On the Home Ribbon – Editing group – Find and Select button - Replace or **Ctrl + H**)

FlashFill

Excel notices patterns in the user's data entry and then auto completes the remaining data so there's no need to use formulas or macros to do this. Data gets filled in automatically. Flash Fill is like a data assistant that quickly finishes your work for you!

Employee	First Name	Initials	Surname	Initials	Surname
Alan Burns	Alan			AB	
Sheryl Ruben	Sheryl			SR	
George Dabarrett	George			GD	
Nora Hodgedon	Nora			NH	
Raymond Blue	Raymond			RB	
Ed Spence	Ed			ES	
Pete Rush	Pete			PR	
Jay Laflare	Jay			JL	
Raymond Dempsey	Raymond			RD	
Patrice Queen	Patrice			PQ	

For example the Flash Fill feature will automatically complete a list of surnames after starting to type the second surname. It recognises patterns and predicts what data to fill in for you. Start typing the initials and Flash Fill fills the list for you.

Flash Fill also recognises text case. After typing a name in upper case, clicking Flash Fill on the Data Ribbon fills all the rest of the names in upper case.

Using Formulas in Excel

Formulas are used to perform calculations in a spreadsheet, including addition, subtraction, multiplication and division.

The main advantage of using formulas is that unlike a value that stays the same unless you edit it, the result of a formula will automatically recalculate itself in response to values in the spreadsheet being changed.

Formulas can be easily recognised in a spreadsheet as all formulas begin with an equals sign =.

Basic Mathematical Operators

To build formulas in Excel, you will have to use the basic mathematical operators as shown in the following table.

()	Brackets	^	Exponent
+	Addition	*	Multiplication
-	Subtraction	/	Division

Order of calculations – BEDMAS or BODMAS

In formulas where there is more than one operator, for example, an addition and a multiplication, Excel will not necessarily calculate the result by reading the formula from left to right.

Excel will follow a set rule for the order in which it performs calculations. BEDMAS or BODMAS are acronyms you can use to help you remember the order in which Excel will perform calculations.


Letter	Stands for	Calculation order
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B	Brackets	1 st
E or O	Exponents or Order	2 nd
D	Division	3 rd
M	Multiplication	
A	Addition	4 th
S	Subtraction	

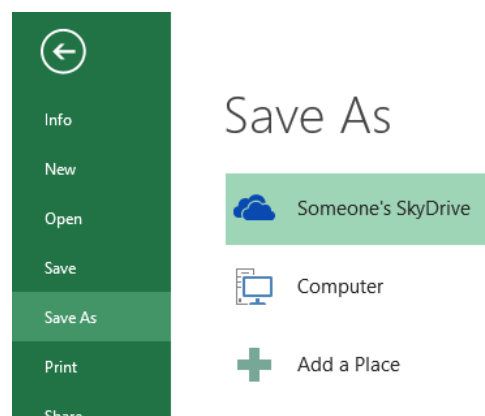
Formula					Formula result would be:
	A	B	C	D	
1	1	2	3	=A1+B1*C1	
	A	B	C	D	
1	1	2	3	=(A1+B1)*C1	

Saving a Workbook

One way to save an Excel Workbook is to choose the Save As option from the Excel Office menu.

Another way to save your workbook is to click the Save button  on the Quick Access toolbar.

You can also use the shortcut keys **Ctrl + S**



About Excel File Types

Excel 2016, 2013, 2010, and Excel 2007 use the same file types which are different from the file types of previous versions of Excel. You should have no problems using Excel to open and work with files created with earlier versions of Excel. When you are saving a workbook file with Excel 2013 or Excel 2016, you can specify Excel 97-2003 Workbook as the file type by using the Save As type drop list in the Save As dialogue box. This can be helpful if you are worried about compatibility with earlier versions of Microsoft Office.

Unit 3: Modifying a Worksheet

In this section you will learn how to:

- Move and copy data
- Move and copy formula
- Identify relative and absolute references in a formula
- Create an absolute reference in a formula
- Inserting and deleting ranges
- Use Smart Tag options

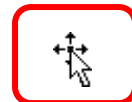
Moving and Copying Data

Moving involves physically transferring data from one location to another, whereas **copying** refers to duplicating data so that it appears in more than one location.

Dragging and Dropping Cells

To move data from one cell to another using your mouse:

- Select a cell by clicking on it, making it the active cell.
- When you see the thick black border around the cell, move your mouse pointer over one edge of the border. You will see your pointer turn into a four-headed arrow.
- Hold your left mouse button down and drag the cell contents to a new location.



If you select a group of cells, the selection will be surrounded by a thick black border. You can mouse drag a selection by grabbing this border, just as you dragged a single cell.

How to Cut, Copy, and Paste Cells

By right-mouse click:

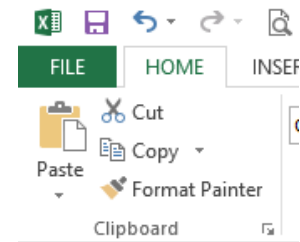
- Select the data, then right-click for cut and copy options
- Select the destination cell for the data, then right-click for the paste option

Using the Clipboard group

The clipboard button group is at the far left of the Home Ribbon.

This group of buttons relates to the tasks of cutting, copying, and pasting items from one location to another.

The clipboard is the place where copied items are stored until they are needed.



Paste Buttons



The Paste button will paste the most recently cut or copied item from the clipboard to the location starting at the active cell. Items on the clipboard can be text, numbers, cell selections, and more. The clipboard can store up to 24 copied items. (Shortcut key: **Ctrl + V**)

The bottom paste button (with the small down pointing arrow) will display a menu of paste options when clicked.

Cut Button

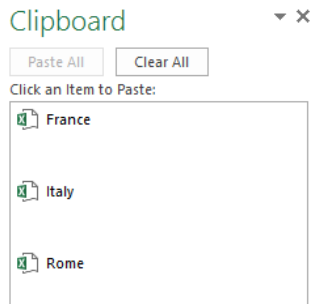


This button will remove the selected item from its original location and place it on the clipboard for future use. (Shortcut key: **Ctrl + X**)

Copy Button



This button will copy a selection or other item from the spreadsheet to the clipboard. Unlike cut, copy will not remove the selection or item from its original location in the spreadsheet. (Shortcut key: **Ctrl + C**)



When you cut or copy items, they are saved to the clipboard.

You can view the items on your clipboard at any time by clicking the Home tab to display the Home Ribbon, and then clicking the small arrow at the bottom right of the clipboard button.

You can clear all the items from the office clipboard by clicking the Clear All button, or you can paste all of the items on the clipboard by using the Paste All button.

Moving and copying formulas

In order to understand what happens when formulas are moved or copied, it is important to know about relative cell references and absolute cell references and understand how each type of reference behaves in a formula when moved or copied.

Relative cell references

In Excel, a specific cell can be named or referred to with a cell reference. A simple cell reference is just the letter at the top of the cell's column, paired with the number at the left of the cell's row. Cell A1, for example, is the first cell in the top left corner of the Excel grid (first column letter, A, and first row number, 1).



In the image above, Cell A2 contains the value 500 while cell B2 contains the value 250. Cell C2 contains a formula (=A2+B2, visible in the formula bar) that adds these two numbers by using their respective cell references.

If you use your mouse to drag the cell containing the formula (C2) down to fill part of the column (using the Fill handle), you will see zeros in the cells that you drag the formula to.

You should also notice that the formula for cell C8 (the active cell) can be read from the formula bar as =A8+B8. But remember, the original formula in C2 (the cell we filled from) was =A2+B2. The formula has changed to reflect the relative positions of the cells. The formula in cell C2 adds the two

	C2	:	X	✓	<i>f_x</i>	=A2+B2
		A	B	C		
1	A Number	A Number	The Sum			
2	500	250	750			
3			0			
4			0			
5			0			
6			0			
7			0			
8			0			

cells to its immediate left. Each cell that this formula has been filled to, will contain a formula that adds the two cells to its immediate left.

In other words, the formula adopts cell references that are relative to its position in the worksheet. This maintains the same relative positioning of the original formula. This results in zeros in the locations where the cells to the immediate left of the formula are empty.

This is called a relative cell reference, meaning that if the formula is copied (dragged, filled, or copied) the cells involved will change to reflect the formula's new position.

Absolute cell references

In the example below, we have mouse dragged a formula with absolute references to fill the six cells beneath it. Notice that this time, the value of 750 is in each cell, and the formula contained in the active cell, C8, contains dollar signs. These dollar signs tell Excel that the references in the cell are absolute: no matter where the formula is copied or filled to, it will always use the same cell references.

	C2	:	X	✓	<i>f_x</i>	=\$A\$2+\$B\$2
	A	B	C			
1	A Number	A Number	The Sum			
2	500	250	750			
3			750			
4			750			
5			750			
6			750			
7			750			
8			750			

The original formula at cell C2 is $=\$A\$2+\$B\2 . When this formula is copied or dragged or filled anywhere on the worksheet, the formula will retain the same cell references because they are marked with dollar signs.

You can create an absolute reference by pressing the **F4** key once, immediately after the cell reference has been entered into the formula.

Inserting and Deleting Ranges

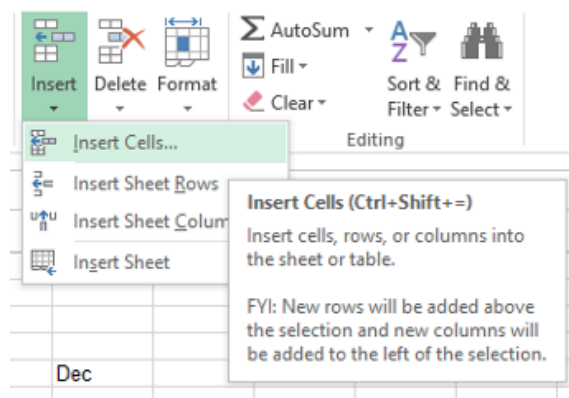
Quite often once you have created a spreadsheet you will want to modify it by adding or deleting rows or columns of data.

Inserting cells, columns, and rows

To insert a column in a worksheet:

- Click the Insert option from the menu. A new column is inserted to the left of the selected column or right-click on the letter at the top of the column. A drop down menu will be displayed.

This procedure is essentially the same for inserting rows. To insert a row, just right-click on the row number and choose Insert from the menu. A new row is inserted above the selected row.

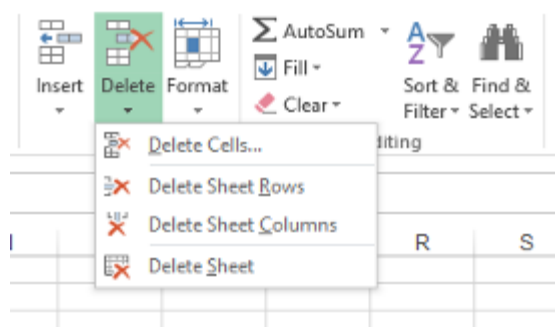


Deleting columns and rows

To **delete a column**, right-click on the letter at the top of the column and choose 'Delete' from the drop-down menu.

To **delete a row**, right-click on the number at the left of the row, and choose 'Delete' from the drop-down menu.

The Cells group on the Home Ribbon also gives you control over inserting and deleting a cell or group of cells.



Unit 4: Using Functions

In this section you will learn how to:

- Identify common functions
- Insert a function into a formula
- Use the SUM, AVERAGE, MAX, MIN and COUNT functions

What are Functions?

In Excel, a function can be described as a built in tool for performing mathematical or logical tests. Quite often, you may need to perform operations in your worksheets that involve many cells, like totaling a lengthy column of numbers or averaging a large group of data. Excel's functions can help you with these tasks.

Excel has a wide range of functions. For example, you can use functions to find totals, averages, counts, minimum (smallest) and maximum (highest) amounts.

SUM	Calculates the sum for a range of cells.
AVERAGE	Returns the average for a range of numbers.
MAX	Returns the largest number from a range of numbers.
MIN	Finds the minimum number in a range of numbers.
COUNT	Will count the number of cells in a list that contain numbers.

Using AutoSum

It is often useful to have totals or sums for the rows and columns of numbers in your worksheet. AutoSum can easily add all of the numerical data in a column or row.

- Select the cell immediately below the column of data (or immediately beside the row of data)

- Click the Formulas tab
- Click AutoSum* button in the Function Library group.
- The column or row of data to be summed will now be enhanced by an animated border. Notice that you can see the range to be summed in the active cell.
- Press Enter and the total will be displayed in the cell.

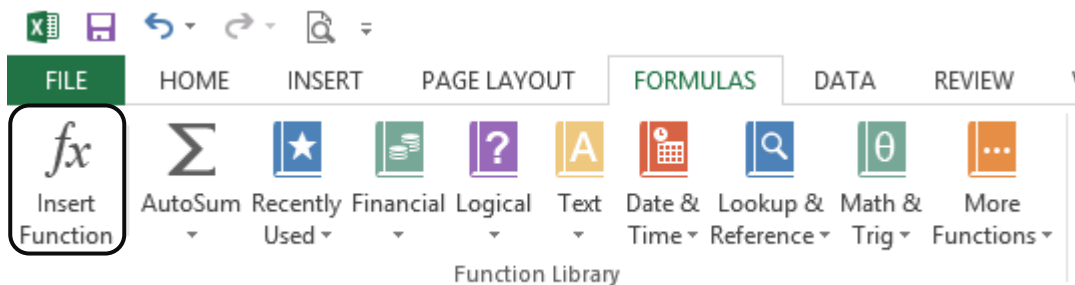
* The AutoSum button can also be found on the 'Home' ribbon in the 'Editing' group

The screenshot shows the Microsoft Excel interface. The 'Formulas' ribbon is active, displaying the 'Function Library' group. The 'AutoSum' button (represented by a sigma symbol) is highlighted. A tooltip for 'Sum (Alt+=)' is visible, stating: 'Automatically add a quick calculation to your worksheet, such as a sum or average.' Below the ribbon, a worksheet is shown with columns A and B. Column A contains a list of dates from 'Jul-11' to '10', and column B contains corresponding numerical values. The last row (row 12) is highlighted in green and contains the word 'Total' in column A and the formula '=SUM(B2:B11)' in column B. The formula bar at the top right shows the active formula: '=SUM(B2:B11)'.

	A	B
1	Jul-11	google.co.uk
2	1	492987
3	2	311464
4	3	449325
5	4	365662
6	5	459435
7	6	403108
8	7	406215
9	8	424633
10	9	337958
11	10	331173
12	Total	=SUM(B2:B11)

The Function Library

Excel contains an extensive library of functions that you can call upon to help you solve problems. These tools are available in the Function Library button group, on the **Formulas ribbon**.

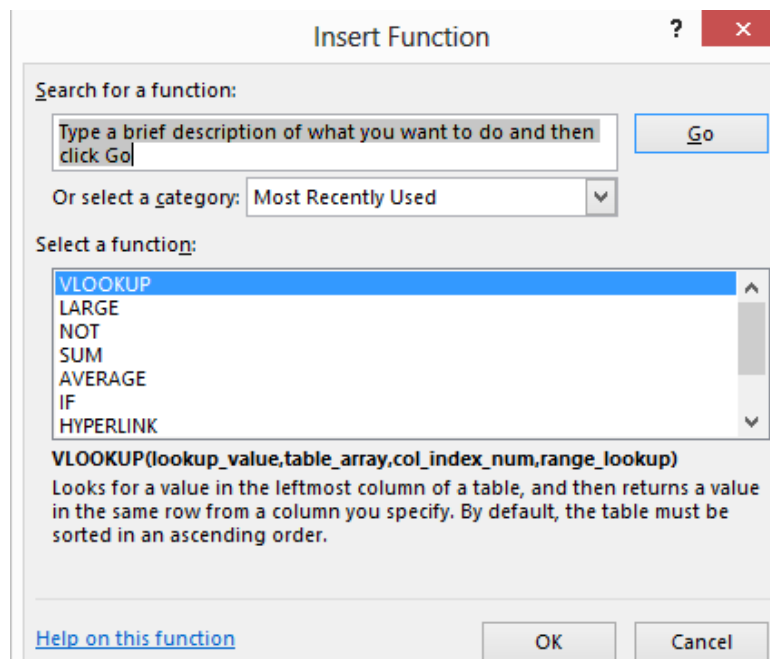


The first and largest button is Insert Function. This button will open a dialogue box allowing you to search for and insert hundreds of functions.

You can also click the small fx button next to the formula bar to display the Insert Function box.



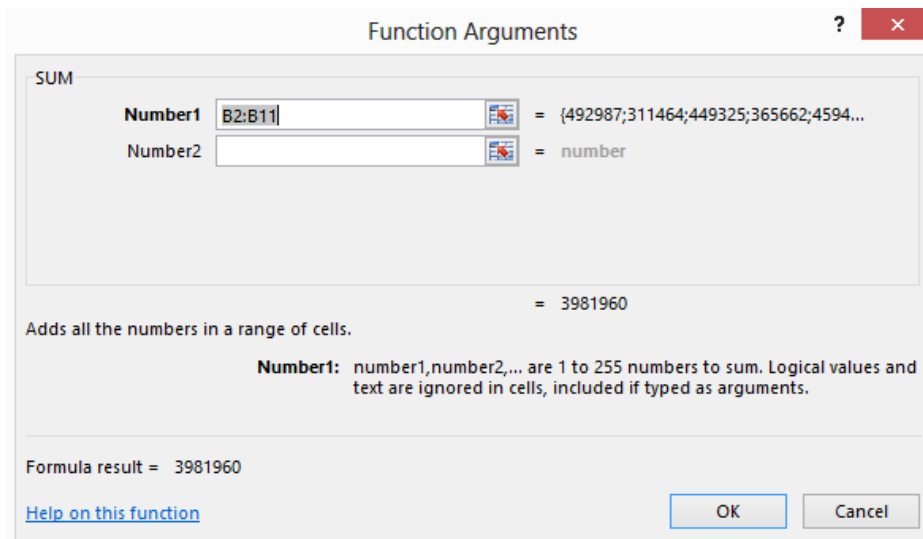
Clicking the Insert Function button activates the Insert Function dialogue box and provides access to the large range of functions available in Excel.



Once the Insert Function dialogue box is open:

- Select the function you wish to use from the available list and click OK **or**
- Type the name of the function you wish to use in the Search for a function area, press Enter, select the function when it appears in the list and click OK.

In the Function Arguments dialogue box, click the top button with the red arrow, then select the range of cells to enter into the formula from the spreadsheet, click OK.

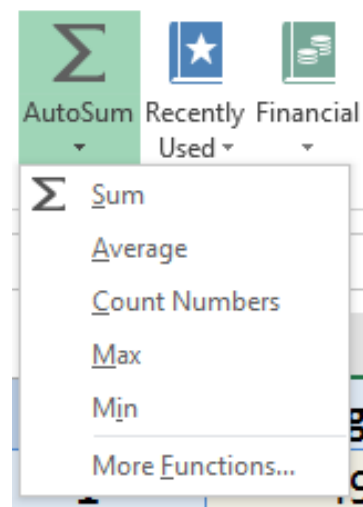


Using the AutoSum dropdown list

The AutoSum button dropdown arrow provides access to common functions, and the Insert Function dialogue box.

To insert a function using the AutoSum list:

- Select the cell where the formula is to appear in the spreadsheet
- Select the function you wish to use from the AutoSum list
- Check the formula to ensure it is accurate – edit the formula if necessary
- Press Enter to confirm the formula and display the formula result.



Entering functions manually

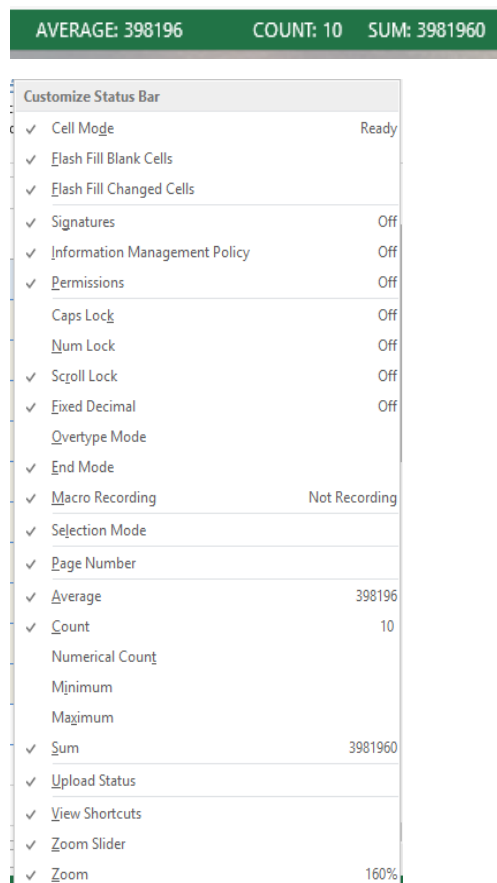
All the common functions follow the same basic structure:

=function_name(cell:cell) or =function_name(cell,cell,cell)

Therefore, formulas containing functions can be typed directly into a cell in the spreadsheet. After pressing the = (equals button) start typing a function name. Immediately after entering the first character of the name, Excel provides you with a list of function names beginning with that letter. Locate the function name you require and double click on it. Excel will then insert the name together with the opening bracket. All you then have to do is to complete the function requirements and press enter. The closing bracket is automatically inserted for you and the result of the formula is entered into the selected cell.

Using AutoCalc

The AutoCalc feature in the status bar at the bottom-right of the Excel window can be used to find the result of using particular functions on cells that have been selected in the spreadsheet.



To use the AutoCalc feature:

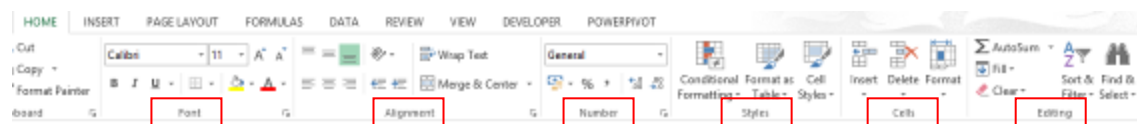
- Select the range of values that you wish to find the total/average/minimum/maximum/count of
- Right-click in the status bar and choose the relevant function(s) from the menu to view the result in the status bar area.

Unit 5: Formatting Worksheets

In this section you will learn how to:

- Apply font formats to a worksheet
- Alter alignment
- Apply number formats to a worksheet
- Add patterns and colour to a worksheet
- Add borders to a worksheet
- Change column width and row height

The Home Ribbon



Common formatting features can be found in the Font, Alignment, Number, Styles, Cells, and editing groups on the Home Ribbon (above).

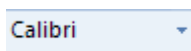
Font

The font button group lies on the Home Ribbon next to the clipboard group.

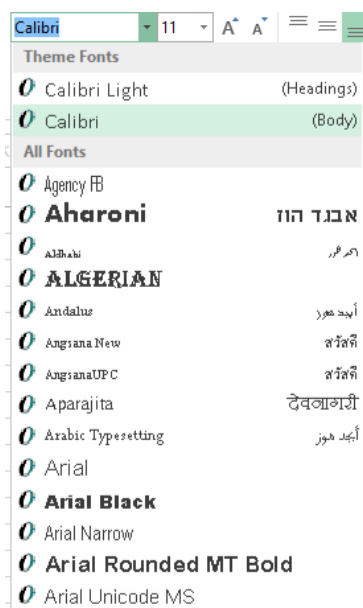


These buttons allow you to change a font's type, size, color, and style. The following table provides a brief description of the functions of these buttons

The Font Face Button



This button allows you to change the type of font. Clicking the small down pointing arrow will allow you to select from a large list of available fonts. The scroll bar at the side of the font list will allow you to view all of the fonts available.



The Font Size Button



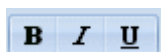
Use this button and its associated list of sizes to change the font size. You can also enter a size directly by clicking on the area that displays the current size and then entering a new number.

Increase And Decrease Font Size Buttons



These buttons will increase and decrease the font size of a selected cell or cells by increments of one from size 8 to 12 and thereafter in increments of 2.

Bold, Italic, and Underline Buttons



These buttons will apply bold, italicized, or underlined effects to a cell or selection of cells.

Borders



Clicking the small arrow on this button will display a list of borders that you can apply to a cell or selection of cells.

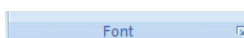
Fill Color and Font Color



The fill color button (paint bucket) will fill the background of a cell or selection of cells with the specified color. The arrow next to the button displays a palette of color options.

The font color button (letter A) will color the text in a cell or selection of cells with the color that is specified. The arrow will display a palette of color options.

Font Group Button

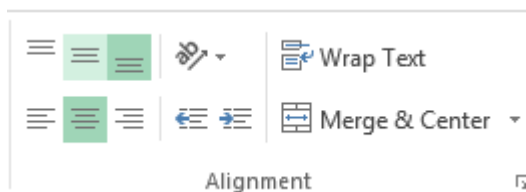


Clicking the small arrow at the right of this button will display the font tab of the Format Cells dialogue box, which provides numerous options related to cell formatting.

Alignment

The buttons in the alignment group control how data (text or numbers) appears in spreadsheet cells.

The following table provides brief descriptions of the alignment buttons.



Horizontal Alignment



The Align Left button will align the data in a cell or a selection of cells to the left edge of the cells. The Align Center button will align cell data in the center of the cells. The Align Right button will align cell data to the right edge of the cells.

Decrease and Increase Indent



These buttons will increase or decrease the amount of indent for the data in a cell or group of cells. The button with the left pointing arrow decreases the indent, while the button with the right pointing arrow increases the indent.

Vertical Alignment



These buttons align your data relative to the top, middle, and bottom of the cells.

Text Orientation

This button will rotate the text in a cell to various positions.



Wrap Text

If there is too much data for the length of a cell, the wrap text button will display the data on multiple lines so that it is visible.



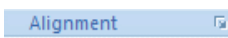
Merge and Center

This button will merge multiple selected (empty) cells into one larger cell. Data in the new large cell will be centered.



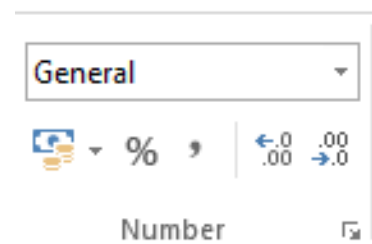
Alignment Group

Clicking the small arrow on this button will display the alignment tab of the Format Cells dialogue box.



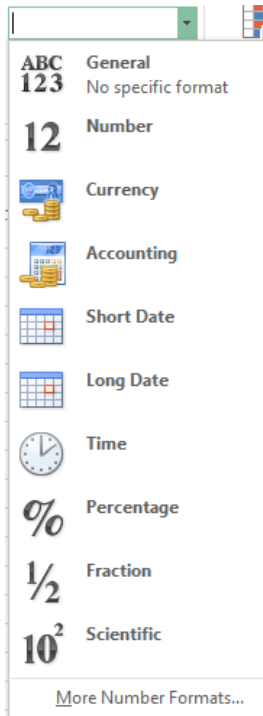
Number

The number button group controls how numerical values are displayed in cells. In Excel, numbers can have different formats including general (no specific format), number, currency, accounting, short date, long date, time, percentage, fraction, scientific and text.



Let's take a look at each command in this group.

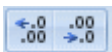
Number Format List Use this list to choose what format will be applied to a cell or selection of cells.



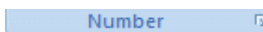
Currency, Percent, and Comma Use these buttons to select a type of currency, a percent, or a comma separated number format for a cell or group of cells.



Increase/Decrease Decimal Places These buttons will increase or decrease the amount of decimal places shown for a cell or selection of cells.



Number Group Clicking the small arrow at the right of this button will display the Number tab of the Format Cells dialogue box.



Format Painter

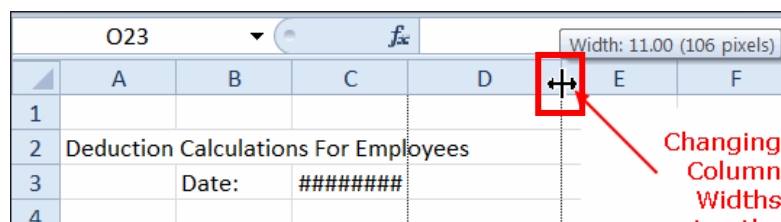


The Format Painter button on the Clipboard group will copy a specific format from one area, which can then be applied to another area. For example, you can select a group of cells and then click the format painter button to copy their format. You will then see a small paint brush next to your mouse pointer. When you select another different group of cells, the copied format will be applied (painted) to them.

If you wish to apply the same formatting to different sections of your spreadsheet using Format Painter, then you must first select the formatted cell/s, double-click the button and then click on whichever cells require changing. When you have finished, clicking the Format Painter button or pressing the Escape key will release Format Painter.

Changing the Size of Rows or Columns

To change the size of a column, place your mouse pointer on the line that divides the column letters at the top of the column you want to change. For example, if you wanted to change the size of column B, you would place your mouse pointer on the line separating B and C. Your mouse pointer will turn into a vertical line with a small arrow on either side.



When you see this pointer you can change the column size by holding the left mouse button and dragging the column edge to the left or right. Also, when your cursor is in this position, double-clicking will automatically change the column width to match whichever cell contains the most data.

To change the size of a row, place your pointer on the line separating the row numbers at the left of the worksheet. When you see the pointer with a vertical line and an arrow on either side, drag the edge of the row to change the size.

Unit 6: Printing Workbooks

In this section you will learn how to:

- Use Print preview
- Use the Print dialogue
- Use the Page Setup dialogue
- Use Quick Print

Working with Print Preview

Print Preview allows you to view how your spreadsheet will look when it prints, before printing it off.

Opening Print Preview

To open Excel's Print Preview screen, either click the 'Print Preview' button on your Quick Access Toolbar or click the 'File' menu and click the 'Print' section in the Backstage area. This will display the Print button, Printer selection button and a Settings area.

←

Info

New

Open

Save

Save As

Print

Share

Export

Close

Account

Options

Print

Copies: 1

Printer: Send To OneNote 2013 Ready

Printer Properties

Settings

Print Active Sheets
Only print the active sheets

Pages: 1,2,3 to 1,2,3

Collated

Portrait Orientation

A4
21 cm x 29.7 cm

Normal Margins
Left: 1.78 cm Right: 1.78 cm

No Scaling
Print sheets at their actual size

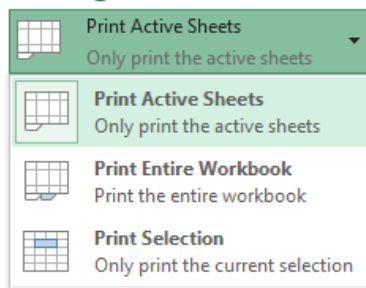
Page Setup

Excel Introduction - Excel

Jul11	google.co.uk	facebook.com	google.com	youtube.com
1	412087	412016	211403	404478
2	211484	412035	412035	412035
3	412035	412035	412035	412035
4	211484	211484	211484	211484
5	412035	211484	211484	412035
6	412035	211484	211484	412035
7	412035	211484	211484	412035
8	412035	211484	211484	412035
9	211484	211484	211484	211484
10	211484	211484	211484	211484
11	211484	211484	211484	211484
12	211484	211484	211484	211484
13	211484	211484	211484	211484
14	211484	211484	211484	211484
15	211484	211484	211484	211484
16	211484	211484	211484	211484
17	211484	211484	211484	211484
18	211484	211484	211484	211484
19	211484	211484	211484	211484
20	211484	211484	211484	211484
21	211484	211484	211484	211484
22	211484	211484	211484	211484
23	211484	211484	211484	211484
24	211484	211484	211484	211484
25	211484	211484	211484	211484
26	211484	211484	211484	211484
27	211484	211484	211484	211484
28	211484	211484	211484	211484
29	211484	211484	211484	211484
30	211484	211484	211484	211484
31	211484	211484	211484	211484
Total				
Average				
Max				
Count				

From the 'Settings' area you can choose the following settings:

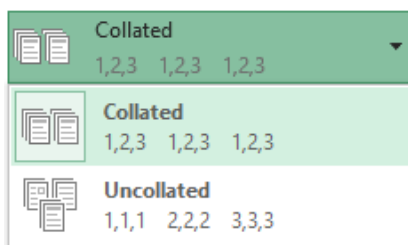
What to Print



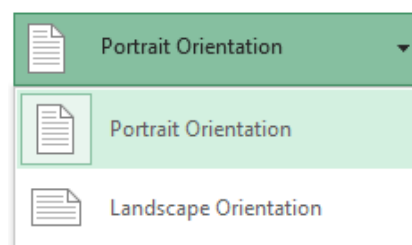
Pages to Print

Pages: to

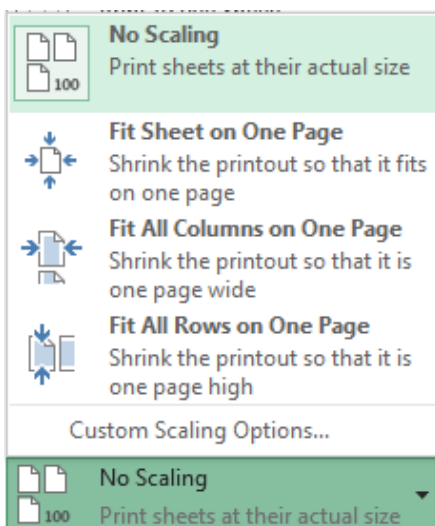
Collated Style



Paper Orientation

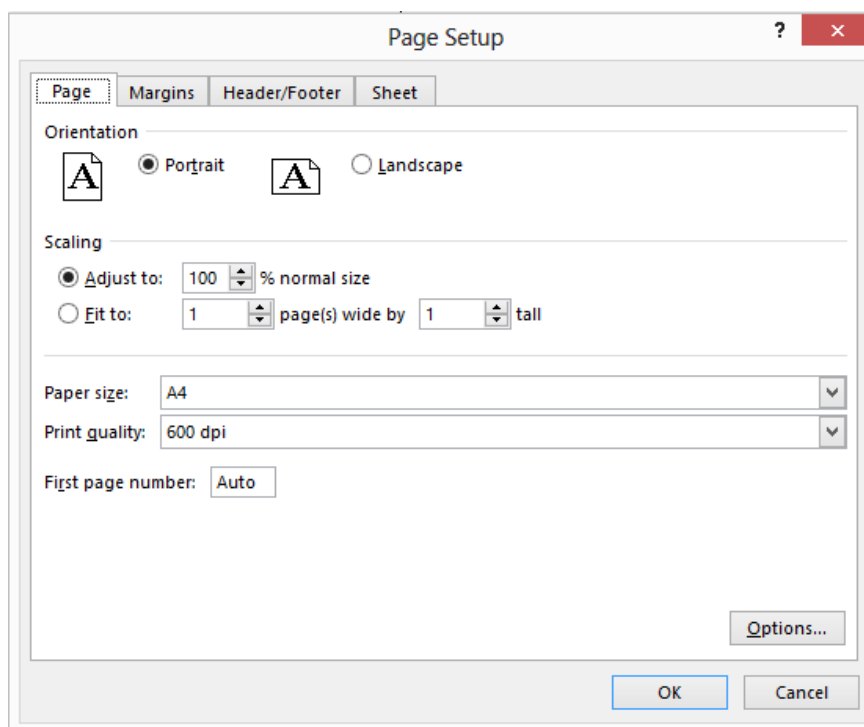


Scaling



Using Page Setup

Here's what the Page Setup dialogue looks like.

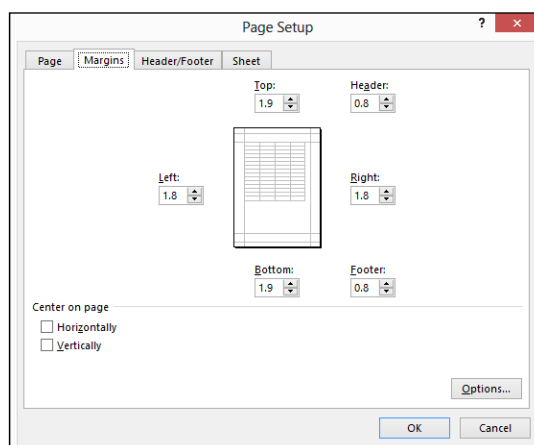


The Page tab

Under the **Page** tab, you can change page orientation (portrait or landscape), print scale, paper size and print quality settings.

The Margins tab

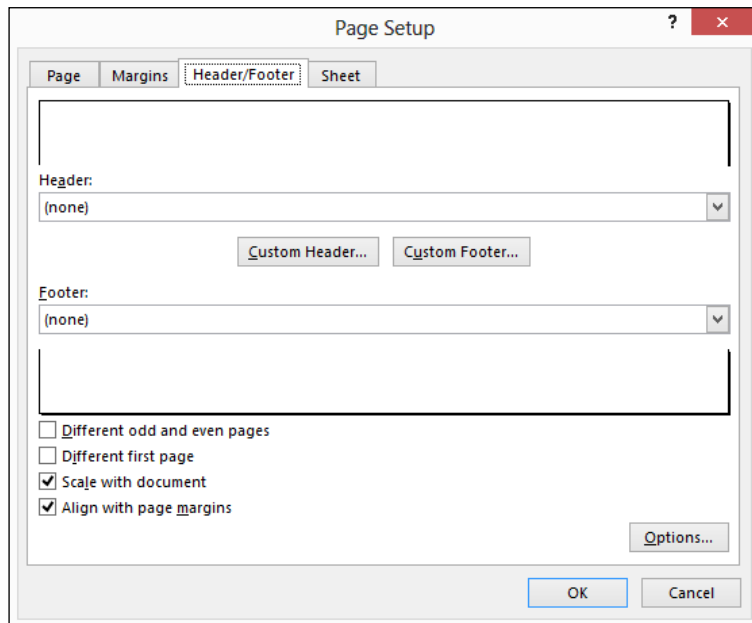
Under the **Margins** tab, you can specify how to centre your page (horizontally or vertically) and you can directly enter values for the margins in the fields provided.



The Header/Footer tab

Under the **Header/Footer** tab, you can choose headers and footers that will be visible on the top (header) and bottom (footer) of each printed page. You can select preset headers and footers by clicking on them in drop lists located beneath the header, and above the footer, preview fields.

If you click the Custom Header or Custom Footer buttons, you will see a dialogue box like the one shown below.



You can use this box to design a custom header by entering text in the provided fields. You can also format the text and enter page numbers, dates, and times by using the buttons above the text fields.

The Sheet tab

Under the **Sheet** tab you will find a control that will let you define a Print Area (a selection of cells from your workbook). If you define a Print Area, this is what Excel will print by default from the sheet if the Print button is clicked.

Printing options

In Excel, you have the option to produce hard copies of your spreadsheet with or without changing print settings prior to printing.

Quick Printing

If you click the Quick Print item on the Quick Access Toolbar, you will immediately send your workbook to the default printer, with no special formatting or page setup.

Quick printing is also quite appropriate for small selections or ranges from a larger spreadsheet. You can select a print region (a selection of cells) by dragging your mouse and then click Quick Print. When you do this, only the region you selected will be printed.

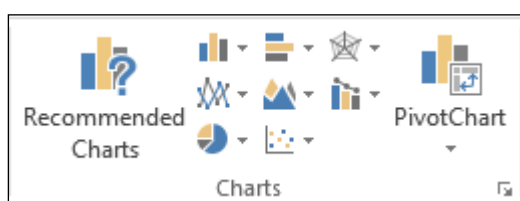
Unit 7: Working With Charts

In this section you will learn how to:

- Create a chart in Excel
- Modify a chart
- Enhance a chart using various chart formatting features

Creating a Chart

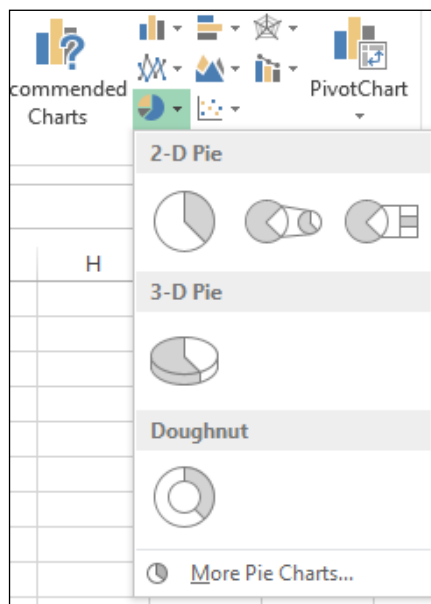
Excel provides a series of chart buttons and controls on the **Insert** Ribbon.



Before you create a chart, first consider the type of chart that you require. Pie charts and bar charts are good for showing comparisons. Line graphs can be useful for showing trends and plotting relationships between variables. If you want a really visually interesting chart, consider a three dimensional type.

To create a chart:

- Select the data that you want to base your chart on.
- Select the Insert tab to display the Insert Ribbon.
- On the Insert Ribbon, click the relevant chart type button to show a menu of various ways to display your chart.

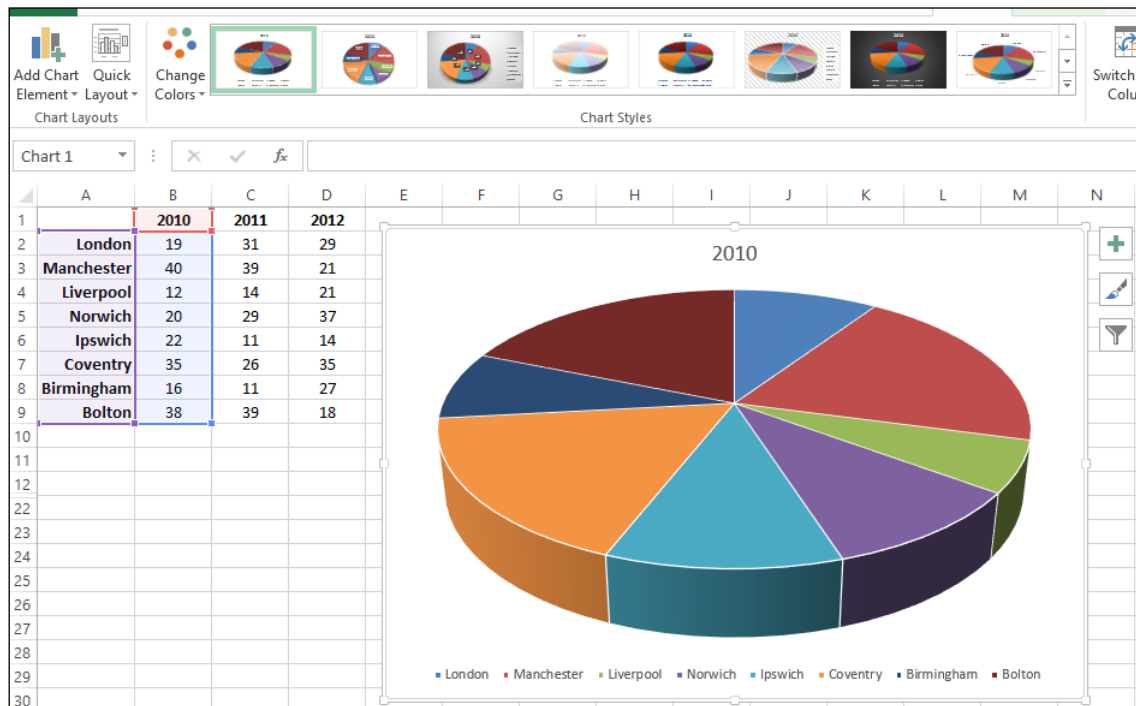


Manipulating a Chart

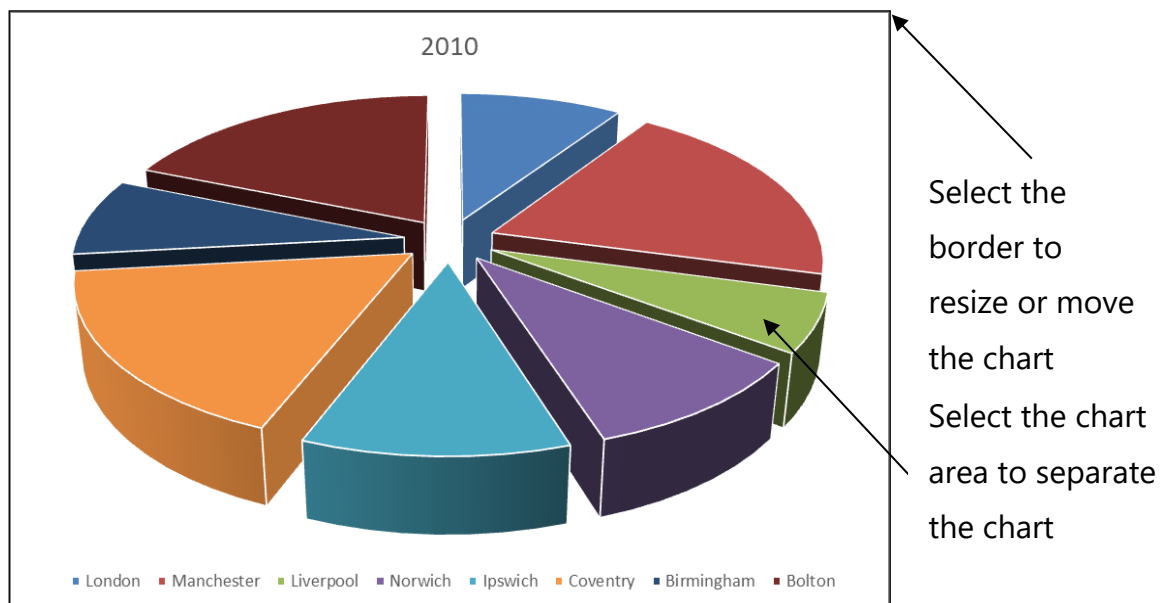
Once the chart has been created, there are a number of ways in which it can be manipulated.

Moving and resizing a chart

Sometimes it may be necessary to resize or even move your chart around in your spreadsheet. To do this, first single click in the chart area to display the chart area border.



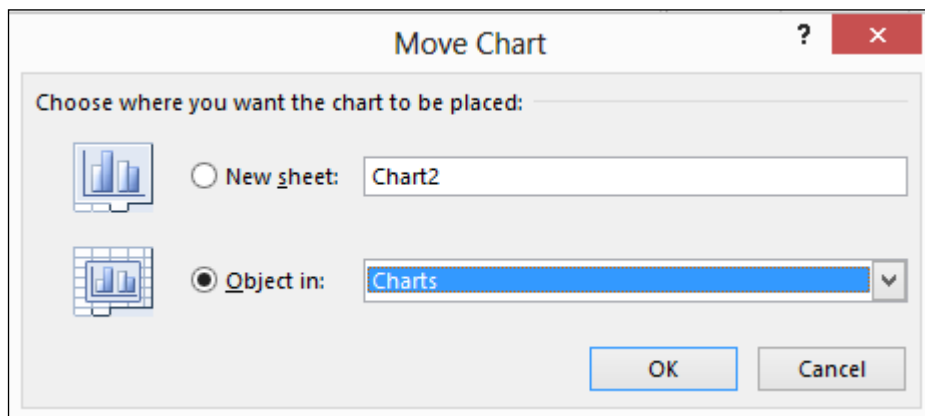
If you place your mouse pointer on the corner of the chart border and let it hover, you will see your pointer turn into a double headed arrow. If you drag the chart corner with your mouse, you can **resize** the chart.



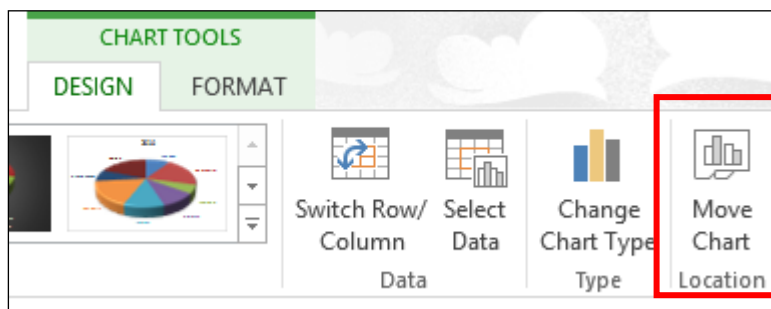
To **move** the chart, let your mouse pointer hover over any border. When you see your mouse pointer turn into a cross with four arrows, you will be able to move the chart around your screen by holding the left mouse button down and dragging.

If you want to make a chart an object in another worksheet, or move the chart to a sheet of its own, do the following.

- Right-click on the chart
- Choose Move Chart from the drop down menu
- Select New Sheet or a different sheet from the Object in: dropdown arrow
- Click OK



Note that you can also click the Move Chart button in the **Design** Ribbon to display the Move Chart dialogue box.



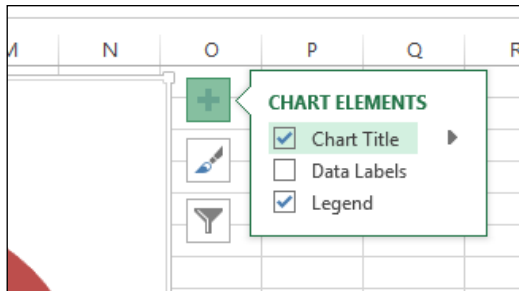
To remove a chart from your worksheet:

- Click in the chart area
- Press the Backspace or Delete key on your keyboard.

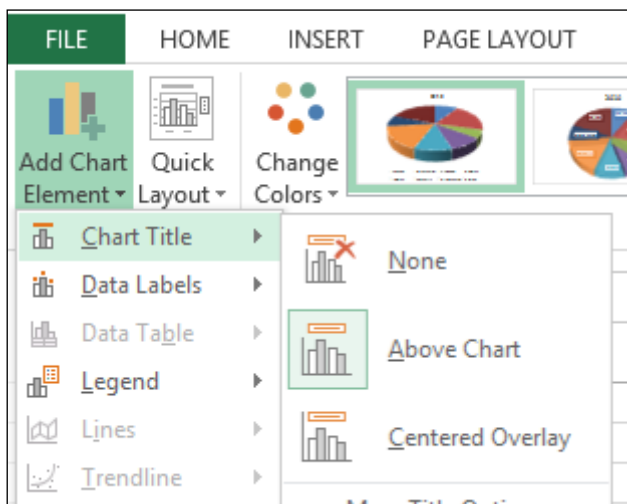
Adding a chart title

To add a chart title:

- Click on the **+** symbol to the right of the chart
- Select **Chart Title**




Or from the design tab you can use the **Add Chart Element** Option (as below);



Adding a chart Axis title

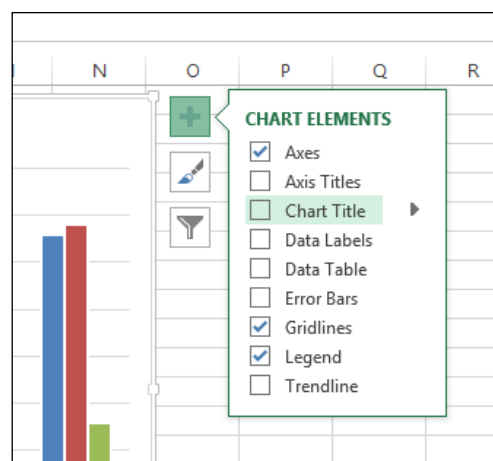
Click anywhere in the chart to which you want to add axis titles.

Click the **Chart Elements** button  next to the upper-right corner of the chart.

Check the **Axis Titles** box.

Primary horizontal and vertical axis titles are added to the chart.

If your chart is a 3-D chart, or if it has secondary horizontal or vertical axes, click the arrow next to **Axis Titles**, and then



click **More Options** to select the depth or secondary axis titles you want to add. Click each **Axis Title** box that appears in the chart, and then type the text that you want.

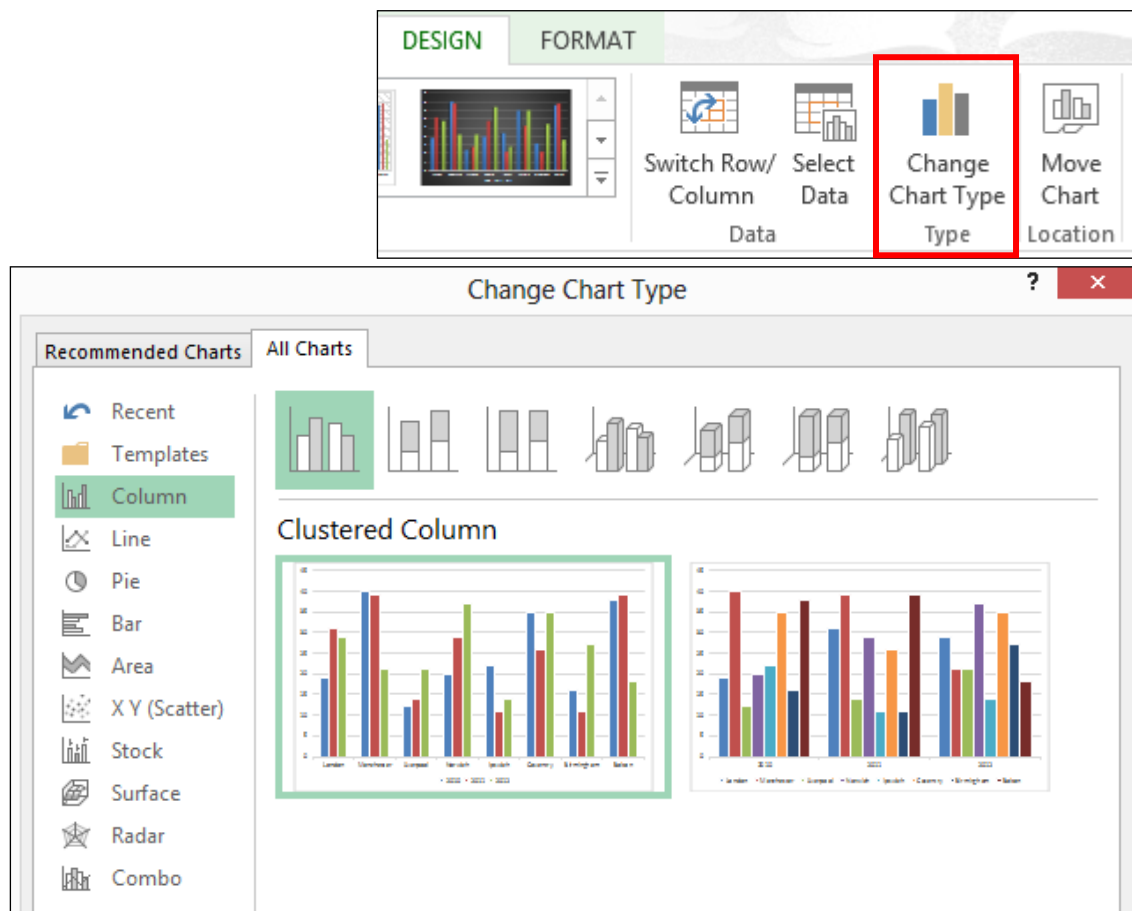
To start a new line in the title, press Shift+Enter.

To format the axis titles, right-click them, and then click **Format Axis Title** to choose the formatting options you want.

Changing the Type of Chart

To change the chart type:

- Click in the chart area to display the Chart Tools contextual tab
- Select the Design tab
- Click the Change Chart Type button
- Select the new chart type and click OK **or**
- Right-click on the chart area and selecting Change Chart Type from the drop down menu that appears.



You can also display the Change Chart Type dialogue box by right-clicking the Plot area

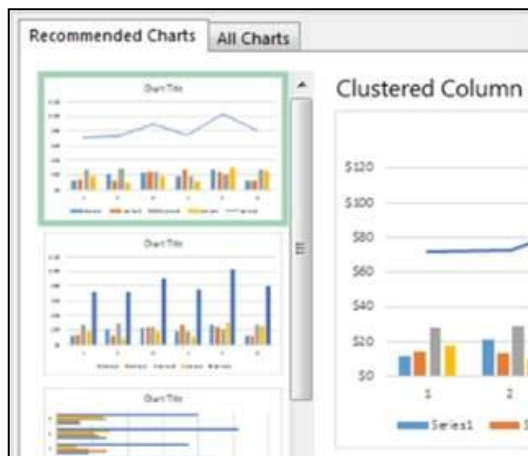
Formatting a Chart

Even after you create a chart, you can still alter its appearance. You can change how a chart looks by:

- Selecting the chart area and selecting the Design tab **or**
- Selecting an object in the chart area then right-click and select Format [Object name] from the menu

Recommended Charts

This new feature of Excel recommends charts using the Quick Preview feature.



You can then select the most appropriate chart.

Quick Analysis Option

The Charts option in the Quick Analysis gallery allows the user to quickly view and analyse data by choosing a variety of chart types.

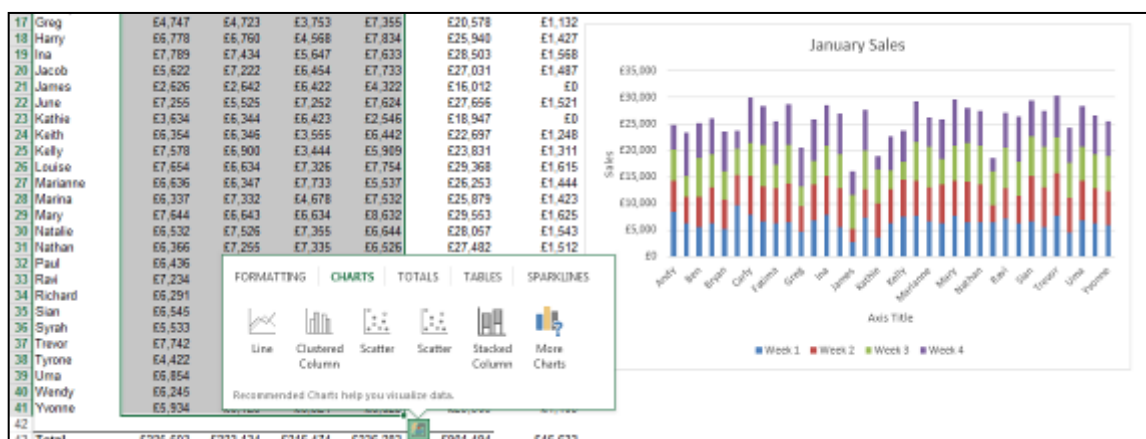
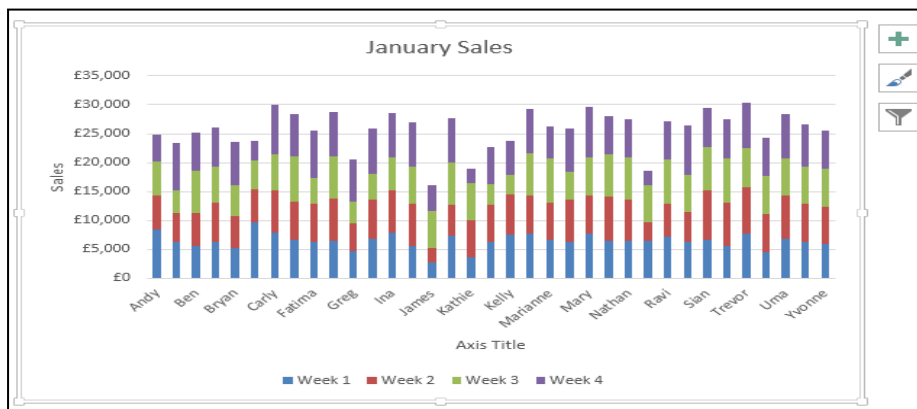


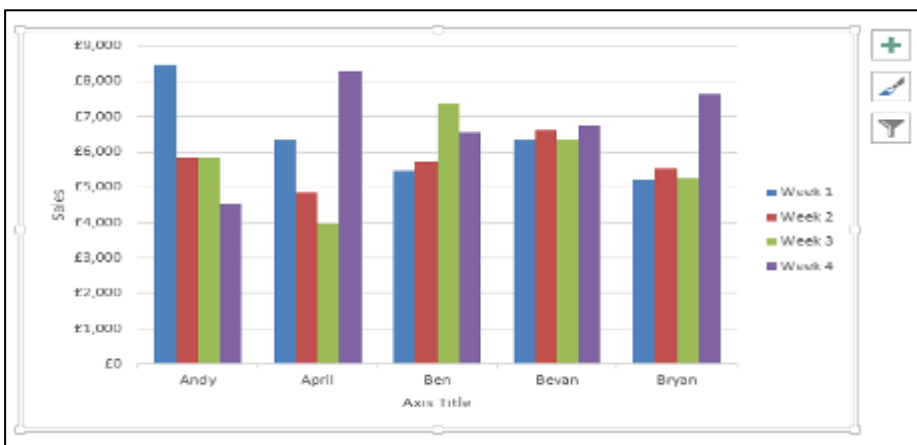
Chart formatting control

Excel includes a more interactive way to customise charts.



Once a chart is created select Chart Elements (+) for quick and easy editing of elements such as the chart title, legend and gridlines.

Selecting the filter funnel is used to chart specific data points. Click on the Design tab to change the chart type.



New Chart Types in Excel 2016

On the Insert tab there are several new Chart Types available only in Excel 2016.

Waterfall, Box & Whisker, Treemap, Sunburst, Histogram & Pareto

Waterfall

Being able to create a Waterfall chart with one click will amaze anyone who has attempted to create such a chart in previous versions of Excel. It would have

involved a lengthy work around using formulas, recolouring bars, white box and adjusting the scale.

A Waterfall Chart, sometimes called a 'flying brick chart' is a way of visualizing a series of positive and negative data such as monthly cash flows. The bars appear to fly or float between the start and end columns giving the impression of a waterfall or a bridge.

Suppose you have the following data and wish to display it in a Waterfall Chart:

With Excel 2016 you click in the data and choose Insert, Waterfall from the Waterfall and Stock Chart button.

Start	6000
Jan	-360
Feb	-1440
Mar	5540
Apr	-1220
May	-4000
Jun	1870
Jul	-2310
Aug	3000
Sep	-1730
Oct	2570
Nov	1430
Dec	2210
End	



Some formatting is needed but most of the work is done.

Treemap

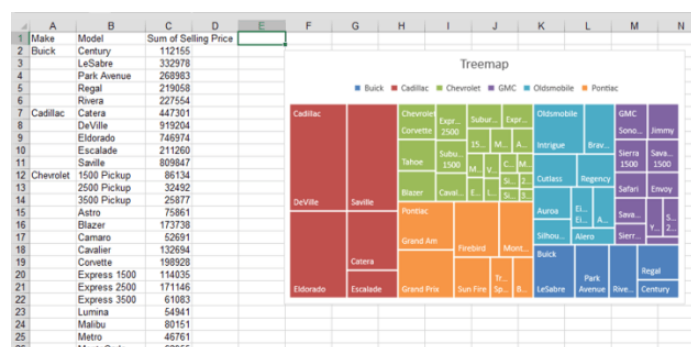
This is a brand new chart type and a great way to visualize hierarchies of data.

Suppose you have PivotTable data based on car sales. A Treemap can't be created directly from a PivotTable so you will have to copy as values to another location.

Now click in the data and choose

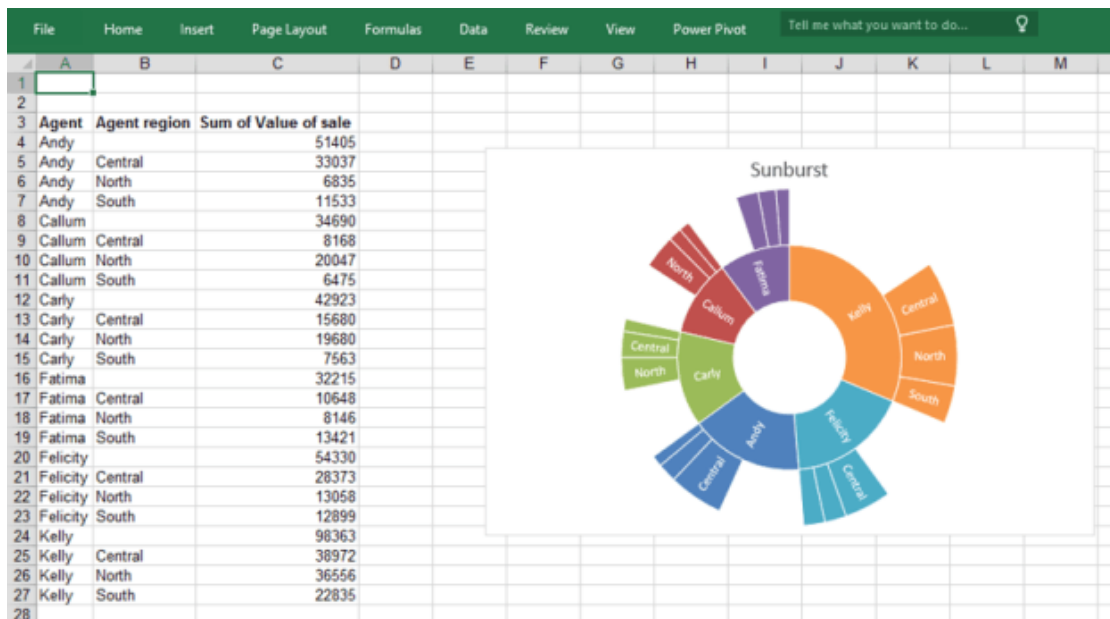
Insert, Hierarchy Chart,

Treemap

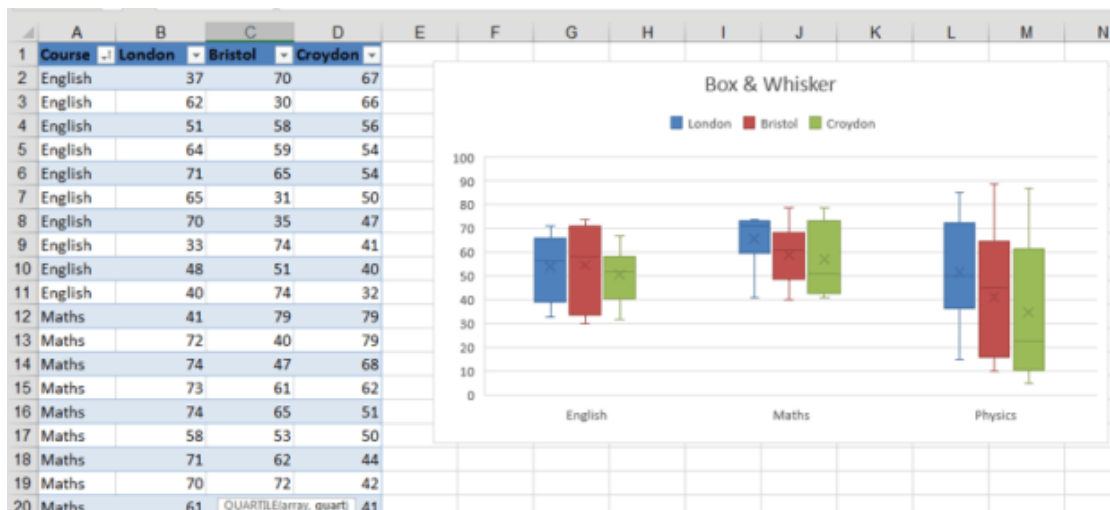


Sunburst

Another way to display this type of data is with a Sunburst chart.



Box & Whisker

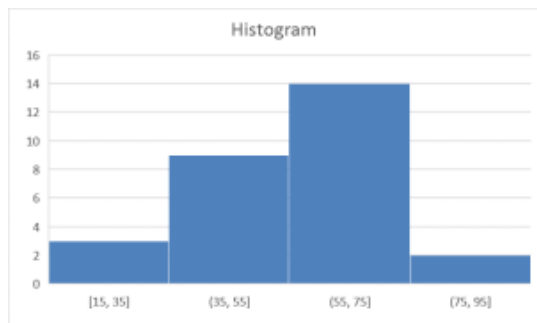


The Box & Whisker chart is used to show statistical information about a set of data. The line in the middle indicates the median value (middle value) while the bottom and top of the boxes represent the spread of the data from the first to the third quartile (25th percentile to the 75th percentile). The lines extending vertically (whiskers) shows the spread of data outside this range.

Histogram

From the same data you can now easily create a Histogram chart.

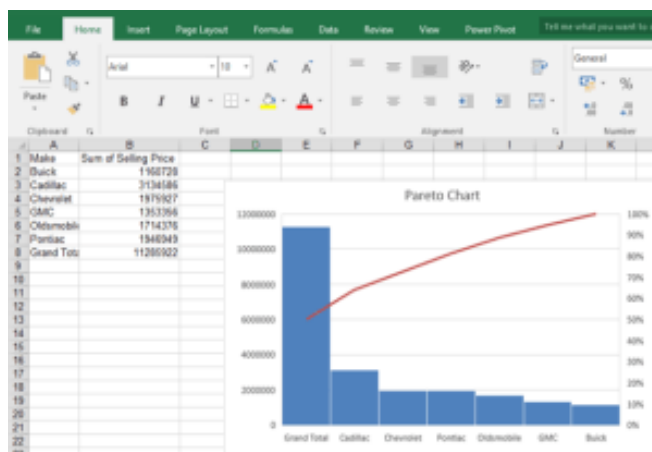
Right clicking on the axis and choosing **Format Axis** allow you to change the number of bars (bins) or the bin width.



Pareto Chart

A Pareto chart displays a series of figures as a combination of a cumulative line chart and columns chart sorted in descending order.

Pareto Sorts your Bars: Highest first. This highlights which Bars have the biggest impact/return. This will influence your decision on where to assign your resources.



To create a Pareto chart, click in the data and select

Insert, Recommended Charts, Pareto

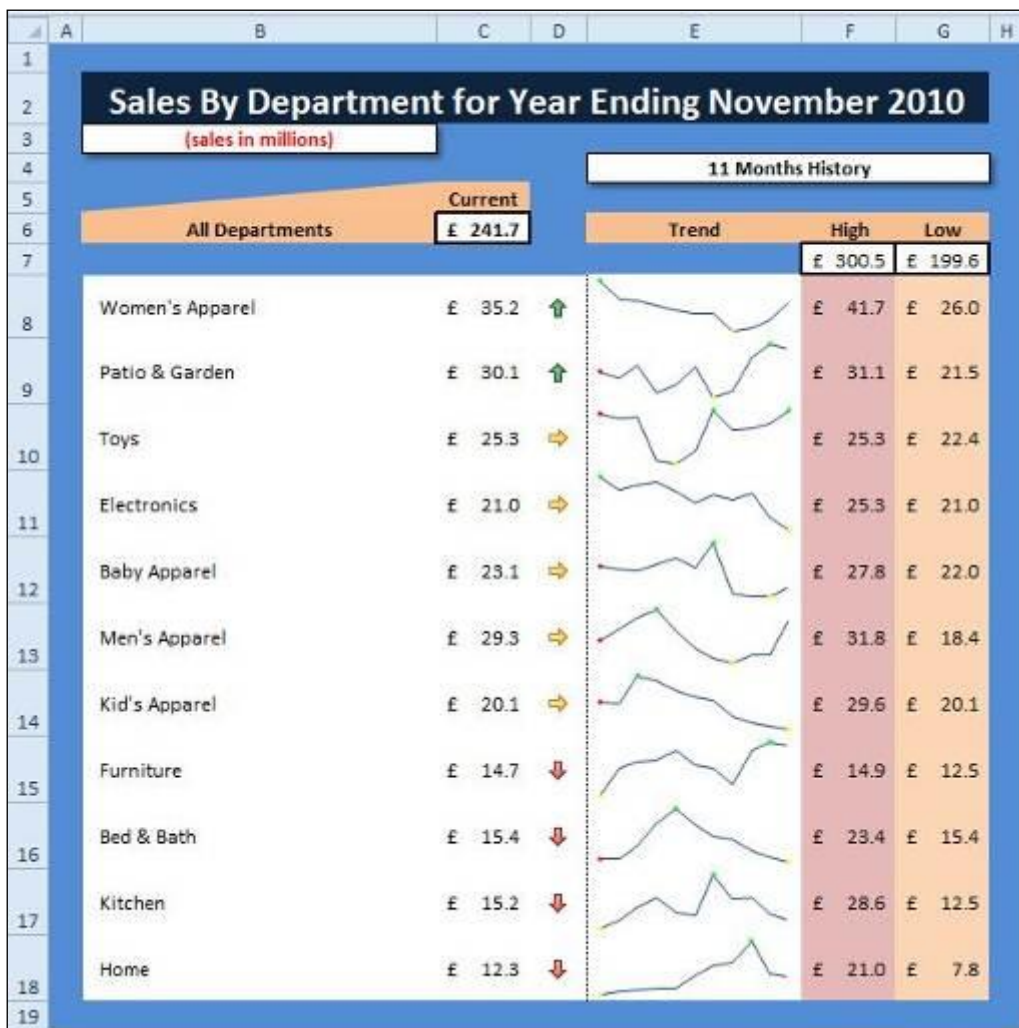
Unit 8: Working With Sparklines

In this section you will learn how to:

- Create a Sparkline in Excel
- Modify Sparklines
- Format Sparklines

What are Sparklines?

New in Microsoft Excel, a sparkline is a tiny chart in a worksheet cell that provides a visual representation of data. Use sparklines to show trends in a series of values, such as seasonal increases or decreases, economic cycles, or to highlight maximum and minimum values. Position a sparkline near its data for greatest impact.

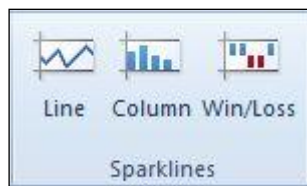


Sparklines help bring meaning and context to numbers being reported and, unlike a chart, are meant to be embedded into what they are describing:



In the above example, the sales number alone gives you a single moment in time, but adding sparklines in the table, next to the numbers it's describing, gives history and shows a pattern of sales. The sparklines aren't floating on the grid of Excel like a chart does. They aren't rows, column, or sheets away from the data. They are in the table giving context to the numbers, unobtrusively, and appear like text in the cell.

Create a Sparkline

1. Select an empty cell or group of empty cells in which you want to insert one or more sparklines.
2. On the **Insert** tab, in the **Sparklines** group, click the type of sparkline that you want to create: **Line**, **Column**, or **Win/Loss**.



3. In the Data box, type the range of the cells that contain the data on which you want to base the sparklines.

Note You can click  to temporarily collapse the dialog box, select the range of cells that you want on the worksheet, and then click  to restore the dialog box to its normal size.

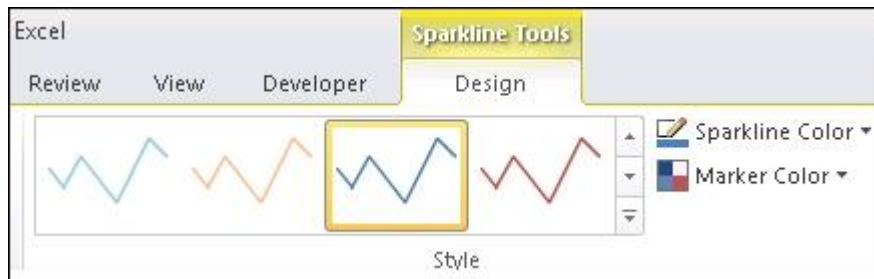
Modify a Sparkline

When one or more sparklines are selected, the **Sparkline Tools** appear, displaying the **Design** tab. On the **Design** tab, you can choose one or more of several commands from among the following groups: **Sparkline**, **Type**, **Show/Hide**, **Style**, and **Group**. Use these commands to create a new sparkline, change its type, format it, show or hide data points on a line sparkline, or format the vertical axis in a sparkline group.

Use the Style gallery on **Design** tab, which becomes available when you select a cell that contains a sparkline.

1. Select a single sparkline or a sparkline group.

2. To apply a predefined style, on the Design tab, in the Style group, click a style or click the arrow at the lower right corner of the box to see additional styles.



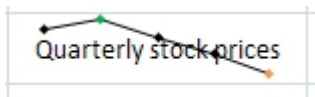
3. To apply specific formatting to a sparkline, use the Sparkline Colour or the Marker Colour commands.

Customize sparklines

After you create sparklines, you can control which value points are shown (such as the high, low, first, last, or any negative values), change the type of the sparkline (Line, Column, or Win/Loss), apply styles from a gallery or set individual formatting options, set options on the vertical axis, and control how empty or zero values are shown in the sparkline.

Control Which Value Points Are Shown

You can highlight individual data markers (values) in a line sparkline by making some or all of the markers visible.



In this sparkline, the high value marker is green, and the low value marker is orange. All other markers are shown in black.

- To show all values, select the **Markers** check box.
- To show negative values, select the **Negative Points** check box.
- To show the highest or the lowest values, select the **High Point** or **Low Point** check boxes.
- To show the first or the last values, select the **First Point** or **Last Point** check boxes.

Show or hide data markers

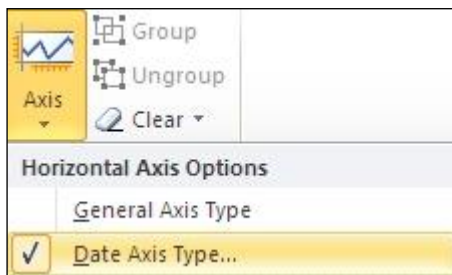
On a sparkline that has the Line style, you can show data markers so that you can highlight individual values.

1. Select a sparkline.
2. In the Show/Hide group, on the Design tab, select any of the check boxes to show individual markers (such as high, low, negative, first, or last), or select the Markers check box to show all markers.

Clearing a check box hides the specified marker or markers.

Show and customize axis settings

You can select **Date Axis Type** (in the '**Group**' group, click **Axis**) to format the shape of the chart in a sparkline to reflect any irregular time periods in the underlying data.



In a line sparkline, applying the Date Axis type can change the slope of a plotted line and the position of its data points in relation to each other.

In a column sparkline, applying the Data Axis type can change the width of and increase or decrease the distance between the columns, as shown in the following image.



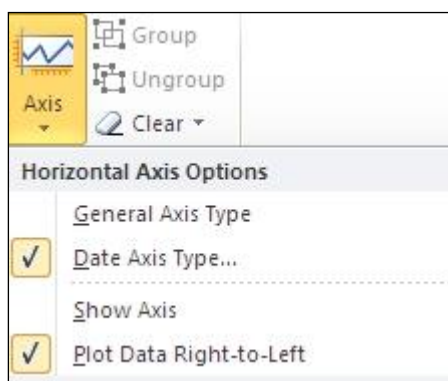
In the example shown here, there are two column sparklines that use data from the same range. The sparkline with the "Trend" label uses the General Axis type, and the sparkline with the "Trend (Data Axis Type)" label uses the Date Axis type. In each sparkline, the first two data points are separated by two months, and the second and third are separated by seven months. By applying the Date Axis type, the space between the three columns changes proportionally to reflect the irregular time periods.

You can also use these Axis options to set minimum and maximum values for the vertical axis of a sparkline or sparkline group. Setting these values explicitly helps you control the scale so that the relationship between values is shown in a more meaningful way.

1. With the sparkline or sparkline group selected, in the '**Group**' group, click **Axis**.
2. Under **Vertical Axis Minimum Value Options** or **Vertical Axis Minimum Value Options**, click **Custom Value**.
3. Set minimum or maximum values that you feel will best emphasize the values in the sparklines.

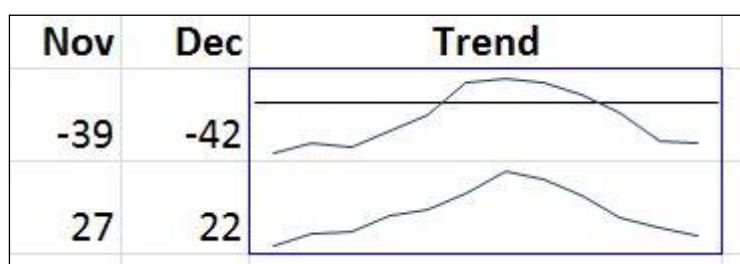
You can increase the height of the row that contains the sparkline to more dramatically emphasize the difference in data values if some is very small and some is very large.

You can also use the **Plot Data Right-to-Left** option to change the direction in which data is plotted in a sparkline or sparkline group.



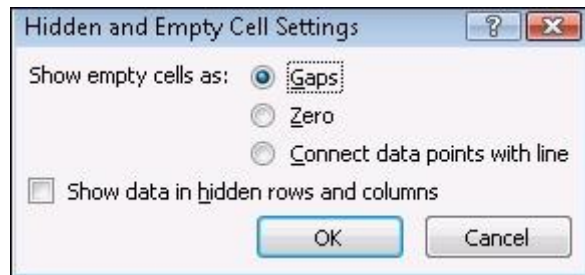
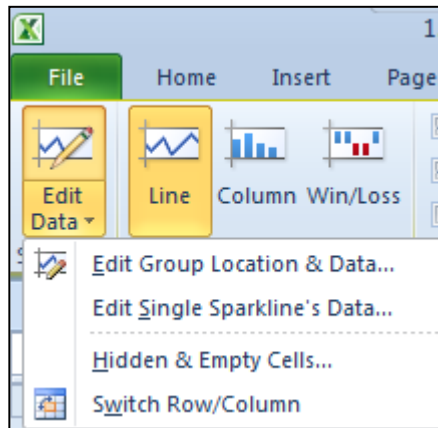
If there are negative values in your data, you can emphasize this by showing a horizontal axis in your sparkline.

1. With the sparkline or sparkline group selected, in the '**Group**' group, click **Axis**.
2. Under **Horizontal Axis Options**, click **Show Axis**. Any sparklines that contain negative data will display a horizontal axis at 0.



Handle Empty Cells Or Zero Values

You can control how a sparkline handles empty cells in a range (and thus how the sparkline is displayed) by using the **Hidden and Empty Cell Settings** dialog box.



Quick reference: Excel shortcuts

Key	Description
CTRL+SHIFT+(Unhides any hidden rows within the selection.
CTRL+SHIFT+)	Unhides any hidden columns within the selection.
CTRL+SHIFT+&	Applies the outline border to the selected cells.
CTRL+SHIFT_	Removes the outline border from the selected cells.
CTRL+SHIFT+~	Applies the General number format.
CTRL+SHIFT+\$	Applies the Currency format with two decimal places (negative numbers in parentheses).
CTRL+SHIFT+%	Applies the Percentage format with no decimal places.
CTRL+SHIFT+^	Applies the Exponential number format with two decimal places.
CTRL+SHIFT+#	Applies the Date format with the day, month, and year.
CTRL+SHIFT+@	Applies the Time format with the hour and minute, and AM or PM.
CTRL+SHIFT+!	Applies the Number format with two decimal places, thousands separator, and minus sign (-) for negative values.
CTRL+SHIFT+*	Selects the current region around the active cell (the data area enclosed by blank rows and blank columns). In a PivotTable, it selects the entire PivotTable report.
CTRL+SHIFT+:	Enters the current time.
CTRL+SHIFT+"	Copies the value from the cell above the active cell into the cell or the Formula Bar.
CTRL+SHIFT+ +	Displays the Insert dialogue box to insert blank cells.
CTRL+Minus (-)	Displays the Delete dialogue box to delete the selected cells.
CTRL+;	Enters the current date.
CTRL+`	Alternates between displaying cell values and displaying formulas in the worksheet.
CTRL+'	Copies a formula from the cell above the active cell into the cell or the Formula Bar.
CTRL+1	Displays the Format Cells dialogue box.

CTRL+2	Applies or removes bold formatting.
CTRL+3	Applies or removes italic formatting.
CTRL+4	Applies or removes underlining.
CTRL+5	Applies or removes strikethrough.
CTRL+6	Alternates between hiding objects, displaying objects, and displaying placeholders for objects.
CTRL+8	Displays or hides the outline symbols.
CTRL+9	Hides the selected rows.
CTRL+0	Hides the selected columns.
CTRL+A	<p>Selects the entire worksheet.</p> <p>If the worksheet contains data, CTRL+A selects the current region. Pressing CTRL+A a second time selects the current region and its summary rows. Pressing CTRL+A a third time selects the entire worksheet.</p> <p>When the insertion point is to the right of a function name in a formula, displays the Function Arguments dialogue box.</p> <p>CTRL+SHIFT+A inserts the argument names and parentheses when the insertion point is to the right of a function name in a formula.</p>
CTRL+B	Applies or removes bold formatting.
CTRL+C	<p>Copies the selected cells.</p> <p>CTRL+C followed by another CTRL+C displays the Clipboard.</p>
CTRL+D	Uses the Fill Down command to copy the contents and format of the topmost cell of a selected range into the cells below.
CTRL+F	<p>Displays the Find and Replace dialogue box, with the Find tab selected.</p> <p>SHIFT+F5 also displays this tab, while SHIFT+F4 repeats the last Find action.</p> <p>CTRL+SHIFT+F opens the Format Cells dialogue box with the Font tab selected.</p>
CTRL+G	<p>Displays the Go To dialogue box.</p> <p>F5 also displays this dialogue box.</p>

CTRL+H	Displays the Find and Replace dialogue box, with the Replace tab selected.
CTRL+I	Applies or removes italic formatting.
CTRL+K	Displays the Insert Hyperlink dialogue box for new hyperlinks or the Edit Hyperlink dialogue box for selected existing hyperlinks.
CTRL+N	Creates a new, blank workbook.
CTRL+O	Displays the Open dialogue box to open or find a file. CTRL+SHIFT+O selects all cells that contain comments.
CTRL+P	Displays the Print dialogue box. CTRL+SHIFT+P opens the Format Cells dialogue box with the Font tab selected.
CTRL+R	Uses the Fill Right command to copy the contents and format of the leftmost cell of a selected range into the cells to the right.
CTRL+S	Saves the active file with its current file name, location, and file format.
CTRL+T	Displays the Create Table dialogue box.
CTRL+U	Applies or removes underlining. CTRL+SHIFT+U switches between expanding and collapsing of the formula bar.
CTRL+V	Inserts the contents of the Clipboard at the insertion point and replaces any selection. Available only after you have cut or copied an object, text, or cell contents. CTRL+ALT+V displays the Paste Special dialogue box. Available only after you have cut or copied an object, text, or cell contents on a worksheet or in another program.
CTRL+W	Closes the selected workbook window.
CTRL+X	Cuts the selected cells.
CTRL+Y	Repeats the last command or action, if possible.
CTRL+Z	Uses the Undo command to reverse the last command or to delete the last entry that you typed.

KEY	DESCRIPTION
F1	<p>Displays the Microsoft Office Excel Help task pane.</p> <p>CTRL+F1 displays or hides the Ribbon, a component of the Microsoft Office Fluent user interface.</p> <p>ALT+F1 creates a chart of the data in the current range.</p> <p>ALT+SHIFT+F1 inserts a new worksheet.</p>
F2	<p>Edits the active cell and positions the insertion point at the end of the cell contents. It also moves the insertion point into the Formula Bar when editing in a cell is turned off.</p> <p>SHIFT+F2 adds or edits a cell comment.</p> <p>CTRL+F2 displays the Print Preview window.</p>
F3	<p>Displays the Paste Name dialogue box.</p> <p>SHIFT+F3 displays the Insert Function dialogue box.</p>
F4	<p>Repeats the last command or action, if possible.</p> <p>CTRL+F4 closes the selected workbook window.</p>
F5	<p>Displays the Go To dialogue box.</p> <p>CTRL+F5 restores the window size of the selected workbook window.</p>
F6	<p>Switches between the worksheet, Ribbon, task pane, and Zoom controls. In a worksheet that has been split (View menu, Manage This Window, Freeze Panes, Split Window command), F6 includes the split panes when switching between panes and the Ribbon area.</p> <p>SHIFT+F6 switches between the worksheet, Zoom controls, task pane, and Ribbon.</p> <p>CTRL+F6 switches to the next workbook window when more than one workbook window is open.</p>
F7	<p>Displays the Spelling dialogue box to check spelling in the active worksheet or selected range.</p> <p>CTRL+F7 performs the Move command on the workbook window when it is not maximized. Use the arrow keys to move the window, and when finished press ENTER, or ESC to cancel.</p>

F8	<p>Turns extend mode on or off. In extend mode, Extended Selection appears in the status line, and the arrow keys extend the selection.</p> <p>SHIFT+F8 enables you to add a nonadjacent cell or range to a selection of cells by using the arrow keys.</p> <p>CTRL+F8 performs the Size command (on the Control menu for the workbook window) when a workbook is not maximized.</p> <p>ALT+F8 displays the Macro dialogue box to create, run, edit, or delete a macro.</p>
F9	<p>Calculates all worksheets in all open workbooks.</p> <p>SHIFT+F9 calculates the active worksheet.</p> <p>CTRL+ALT+F9 calculates all worksheets in all open workbooks, regardless of whether they have changed since the last calculation.</p> <p>CTRL+ALT+SHIFT+F9 rechecks dependent formulas, and then calculates all cells in all open workbooks, including cells not marked as needing to be calculated.</p> <p>CTRL+F9 minimizes a workbook window to an icon.</p>
F10	<p>Turns key tips on or off.</p> <p>SHIFT+F10 displays the shortcut menu for a selected item.</p> <p>ALT+SHIFT+F10 displays the menu or message for a smart tag. If more than one smart tag is present, it switches to the next smart tag and displays its menu or message.</p> <p>CTRL+F10 maximizes or restores the selected workbook window.</p>
F11	<p>Creates a chart of the data in the current range.</p> <p>SHIFT+F11 inserts a new worksheet.</p> <p>ALT+F11 opens the Microsoft Visual Basic Editor, in which you can create a macro by using Visual Basic for Applications (VBA).</p>
F12	Displays the Save As dialogue box.
Key	Description
ARROW KEYS	<p>Move one cell up, down, left, or right in a worksheet.</p> <p>CTRL+ARROW KEY moves to the edge of the current data region (data region: A range of cells that contains data and that is bounded by empty cells or datasheet borders.) in a worksheet.</p>

SHIFT+ARROW KEY extends the selection of cells by one cell.

CTRL+SHIFT+ARROW KEY extends the selection of cells to the last nonblank cell in the same column or row as the active cell, or if the next cell is blank, extends the selection to the next nonblank cell.

LEFT ARROW or RIGHT ARROW selects the tab to the left or right when the Ribbon is selected. When a submenu is open or selected, these arrow keys switch between the main menu and the submenu. When a Ribbon tab is selected, these keys navigate the tab buttons.

DOWN ARROW or UP ARROW selects the next or previous command when a menu or submenu is open. When a Ribbon tab is selected, these keys navigate up or down the tab group.

In a dialogue box, arrow keys move between options in an open drop-down list, or between options in a group of options.

DOWN ARROW or ALT+DOWN ARROW opens a selected drop-down list.

BACKSPACE Deletes one character to the left in the Formula Bar.

Also clears the content of the active cell.

In cell editing mode, it deletes the character to the left of the insertion point.

DELETE Removes the cell contents (data and formulas) from selected cells without affecting cell formats or comments.

In cell editing mode, it deletes the character to the right of the insertion point.

END Moves to the cell in the lower-right corner of the window when SCROLL LOCK is turned on.

Also selects the last command on the menu when a menu or submenu is visible.

CTRL+END moves to the last cell on a worksheet, in the lowest used row of the rightmost used column. If the cursor is in the formula bar, CTRL+END moves the cursor to the end of the text.

CTRL+SHIFT+END extends the selection of cells to the last used cell on the worksheet (lower-right corner). If the cursor is in the formula bar, CTRL+SHIFT+END selects all text in the formula bar from the cursor position to the end—this does not affect the height of the formula bar.

ENTER Completes a cell entry from the cell or the Formula Bar, and selects the cell below (by default).

	<p>In a data form, it moves to the first field in the next record.</p> <p>Opens a selected menu (press F10 to activate the menu bar) or performs the action for a selected command.</p> <p>In a dialogue box, it performs the action for the default command button in the dialogue box (the button with the bold outline, often the OK button).</p> <p>ALT+ENTER starts a new line in the same cell.</p> <p>CTRL+ENTER fills the selected cell range with the current entry.</p> <p>SHIFT+ENTER completes a cell entry and selects the cell above.</p>
ESC	<p>Cancels an entry in the cell or Formula Bar.</p> <p>Closes an open menu or submenu, dialogue box, or message window.</p> <p>It also closes full screen mode when this mode has been applied, and returns to normal screen mode to display the Ribbon and status bar again.</p>
HOME	<p>Moves to the beginning of a row in a worksheet.</p> <p>Moves to the cell in the upper-left corner of the window when SCROLL LOCK is turned on.</p> <p>Selects the first command on the menu when a menu or submenu is visible.</p> <p>CTRL+HOME moves to the beginning of a worksheet.</p> <p>CTRL+SHIFT+HOME extends the selection of cells to the beginning of the worksheet.</p>
PAGE DOWN	<p>Moves one screen down in a worksheet.</p> <p>ALT+PAGE DOWN moves one screen to the right in a worksheet.</p> <p>CTRL+PAGE DOWN moves to the next sheet in a workbook.</p> <p>CTRL+SHIFT+PAGE DOWN selects the current and next sheet in a workbook.</p>
PAGE UP	<p>Moves one screen up in a worksheet.</p> <p>ALT+PAGE UP moves one screen to the left in a worksheet.</p> <p>CTRL+PAGE UP moves to the previous sheet in a workbook.</p> <p>CTRL+SHIFT+PAGE UP selects the current and previous sheet in a workbook.</p>

SPACEBAR	<p>In a dialogue box, performs the action for the selected button, or selects or clears a check box.</p> <p>CTRL+SPACEBAR selects an entire column in a worksheet.</p> <p>SHIFT+SPACEBAR selects an entire row in a worksheet.</p> <p>CTRL+SHIFT+SPACEBAR selects the entire worksheet.</p> <p>If the worksheet contains data, CTRL+SHIFT+SPACEBAR selects the current region. Pressing CTRL+SHIFT+SPACEBAR a second time selects the current region and its summary rows. Pressing CTRL+SHIFT+SPACEBAR a third time selects the entire worksheet.</p> <p>When an object is selected, CTRL+SHIFT+SPACEBAR selects all objects on a worksheet.</p> <p>ALT+SPACEBAR displays the Control menu for the Microsoft Office Excel window.</p>
TAB	<p>Moves one cell to the right in a worksheet.</p> <p>Moves between unlocked cells in a protected worksheet.</p> <p>Moves to the next option or option group in a dialogue box.</p> <p>SHIFT+TAB moves to the previous cell in a worksheet or the previous option in a dialogue box.</p> <p>CTRL+TAB switches to the next tab in dialogue box.</p> <p>CTRL+SHIFT+TAB switches to the previous tab in a dialogue box.</p>

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