



Excel 2010 Introduction

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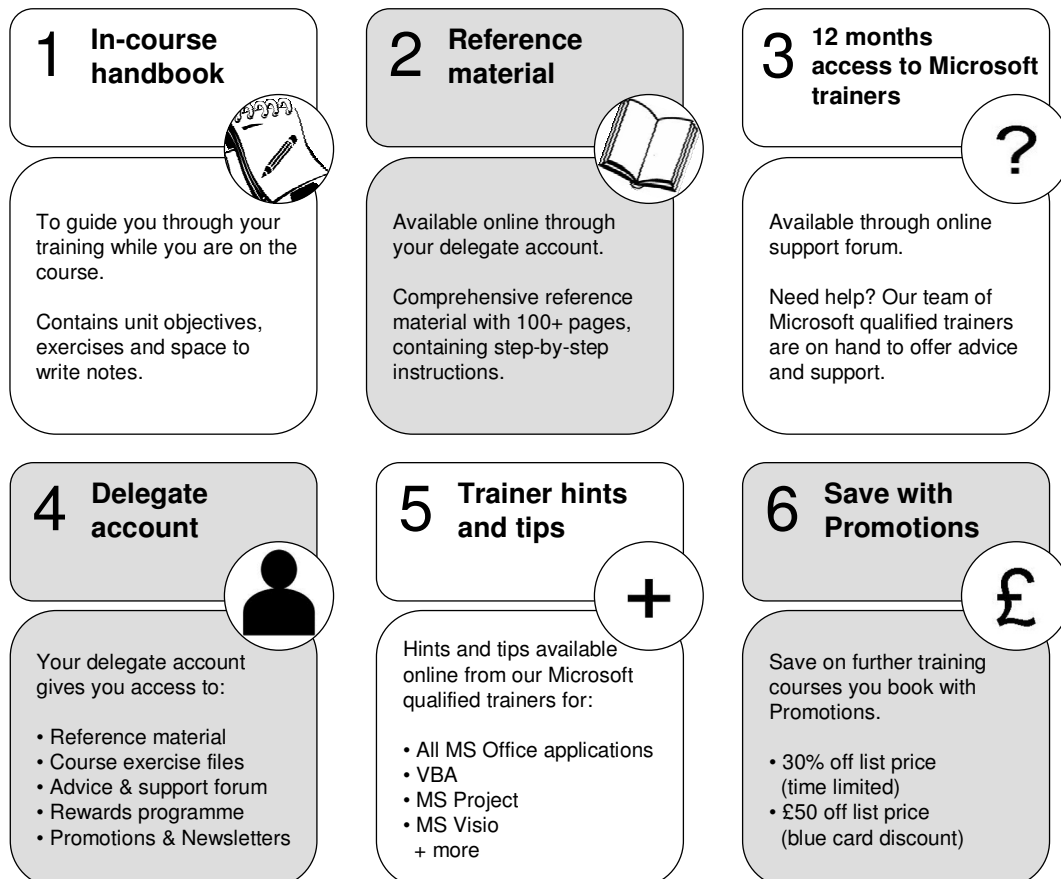
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Quick reference: *Excel 2010 shortcuts*

CTRL combination shortcut keys

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+Plus (+)	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	Selects the entire worksheet. 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. When the insertion point is to the right of a function name in a formula, displays the Function Arguments dialogue box. CTRL+SHIFT+A inserts the argument names and parentheses when the insertion point is to the right of a function name in a formula.
CTRL+B	Applies or removes bold formatting.
CTRL+C	Copies the selected cells. CTRL+C followed by another CTRL+C displays the Clipboard.
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	Displays the Find and Replace dialogue box, with the Find tab selected. SHIFT+F5 also displays this tab, while SHIFT+F4 repeats the last Find action. CTRL+SHIFT+F opens the Format Cells dialogue box with the Font tab selected.
CTRL+G	Displays the Go To dialogue box. F5 also displays this dialogue box.
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. CTRL+SHIFT+Z uses the Undo or Redo command to reverse or restore the last automatic correction when AutoCorrect Smart Tags are displayed.

Function keys

KEY	DESCRIPTION
F1	Displays the Microsoft Office Excel Help task pane. CTRL+F1 displays or hides the Ribbon, a component of the Microsoft Office Fluent user interface. ALT+F1 creates a chart of the data in the current range. ALT+SHIFT+F1 inserts a new worksheet.
F2	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. SHIFT+F2 adds or edits a cell comment. CTRL+F2 displays the Print Preview window.
F3	Displays the Paste Name dialogue box. SHIFT+F3 displays the Insert Function dialogue box.
F4	Repeats the last command or action, if possible. CTRL+F4 closes the selected workbook window.
F5	Displays the Go To dialogue box. CTRL+F5 restores the window size of the selected workbook window.
F6	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. SHIFT+F6 switches between the worksheet, Zoom controls, task pane, and Ribbon. CTRL+F6 switches to the next workbook window when more than one workbook window is open.

F7	Displays the Spelling dialogue box to check spelling in the active worksheet or selected range. 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.
F8	Turns extend mode on or off. In extend mode, Extended Selection appears in the status line, and the arrow keys extend the selection. SHIFT+F8 enables you to add a nonadjacent cell or range to a selection of cells by using the arrow keys. CTRL+F8 performs the Size command (on the Control menu for the workbook window) when a workbook is not maximized. ALT+F8 displays the Macro dialogue box to create, run, edit, or delete a macro.
F9	Calculates all worksheets in all open workbooks. SHIFT+F9 calculates the active worksheet. CTRL+ALT+F9 calculates all worksheets in all open workbooks, regardless of whether they have changed since the last calculation. 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. CTRL+F9 minimizes a workbook window to an icon.
F10	Turns key tips on or off. SHIFT+F10 displays the shortcut menu for a selected item. 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. CTRL+F10 maximizes or restores the selected workbook window.
F11	Creates a chart of the data in the current range. SHIFT+F11 inserts a new worksheet. ALT+F11 opens the Microsoft Visual Basic Editor, in which you can create a macro by using Visual Basic for Applications (VBA).
F12	Displays the Save As dialogue box.

Other useful shortcut keys

KEY	DESCRIPTION
ARROW KEYS	Move one cell up, down, left, or right in a worksheet. CTRL+ARROW KEY moves to the edge of the current data region in a worksheet. 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). In a data form, it moves to the first field in the next record. Opens a selected menu (press F10 to activate the menu bar) or performs the action for a selected command.

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).

ALT+ENTER starts a new line in the same cell.

CTRL+ENTER fills the selected cell range with the current entry.

SHIFT+ENTER completes a cell entry and selects the cell above.


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>

Unit 1: Getting Started

In this section you will learn:

- What Microsoft Excel 2010 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

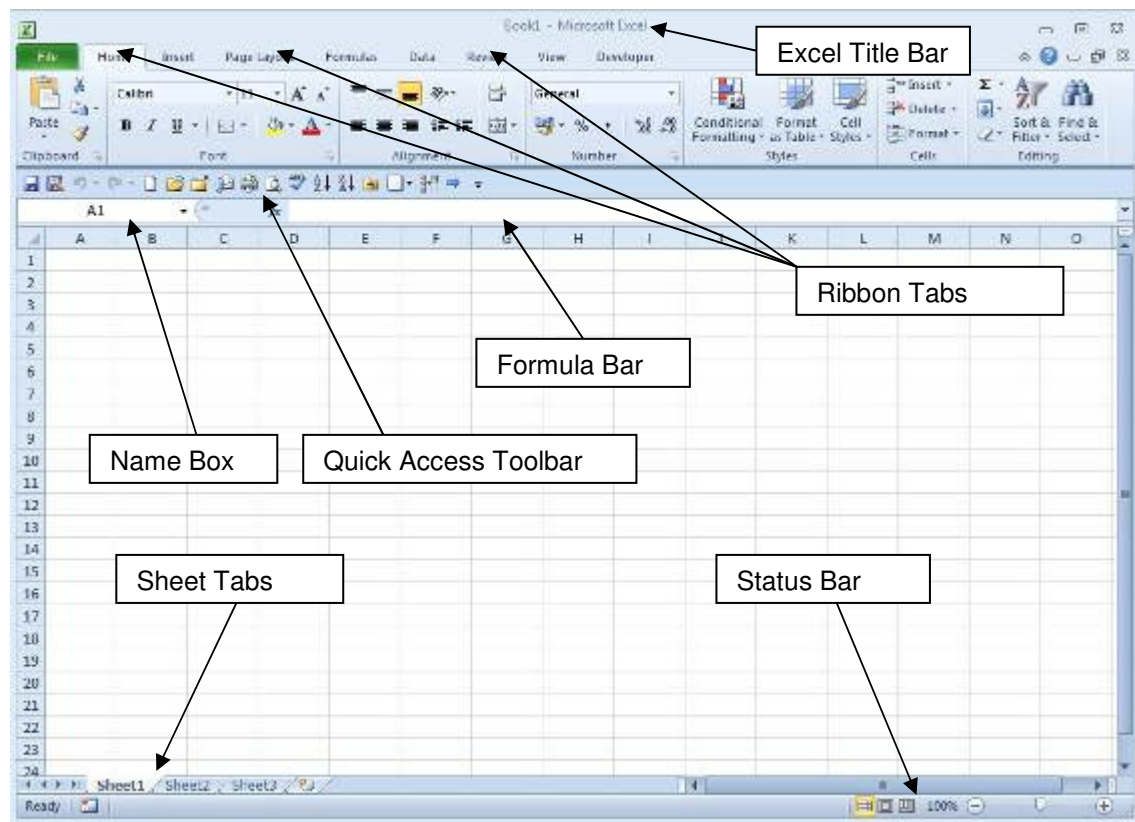
There are a number of ways to open the Excel 2010 program. First, look for the Excel 2010 icon on your desktop () and double click it. The Excel 2010 screen should open for you.

If you cannot find the Excel 2010 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 2010

Interacting with Excel

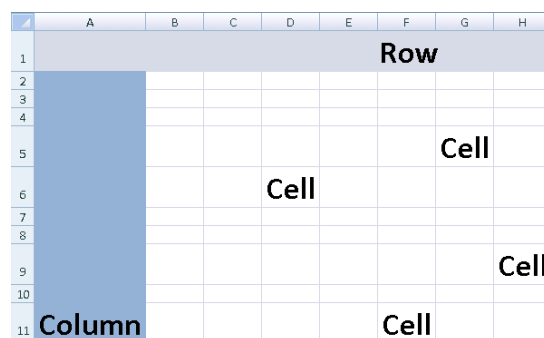
Once you open Excel 2010, you should see an Excel screen (also called a user interface) like the one shown below.



Columns, Rows, Cells, and Ranges

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

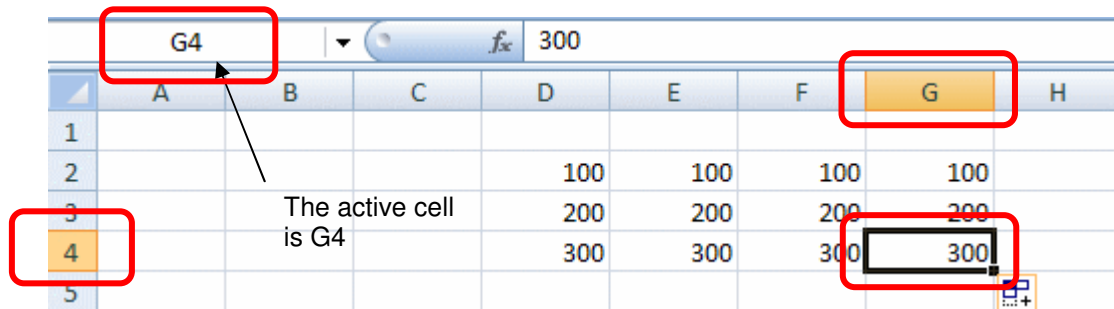
A **column** is a vertical series of adjacent cells from top to bottom. A **row** is a horizontal series of cells from left to right. A **cell** is an individual rectangle anywhere in the grid area of a worksheet.



The Active Cell

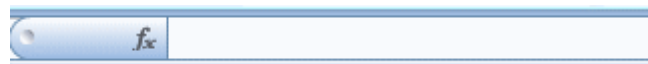
Every cell in your spreadsheet has a name or reference that can be formed by a letter-number combination, e.g. A5, D6.

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.



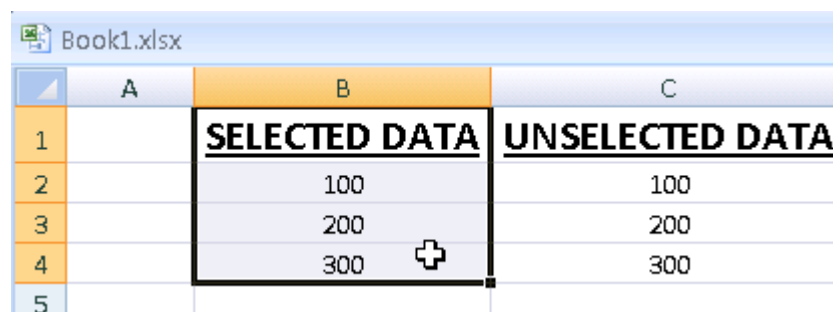
The column letter and row number of the active cell are displayed in the Name Box near the upper left corner of the Excel grid.

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.



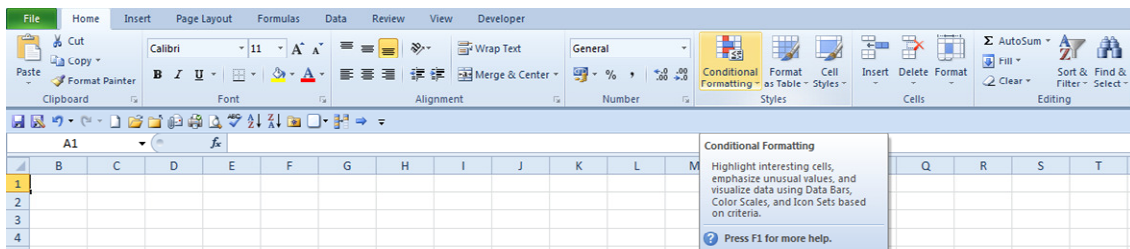
The Ribbon

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.



Try it: View the different Ribbons available by clicking on each named tab above the Ribbon. Let your mouse pointer hover over the individual controls and buttons in a Ribbon to see information about them.

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.

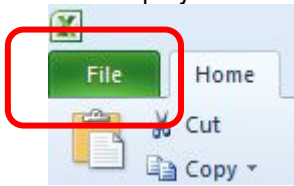
There are three ways to add more buttons to the Quick Access toolbar: -

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

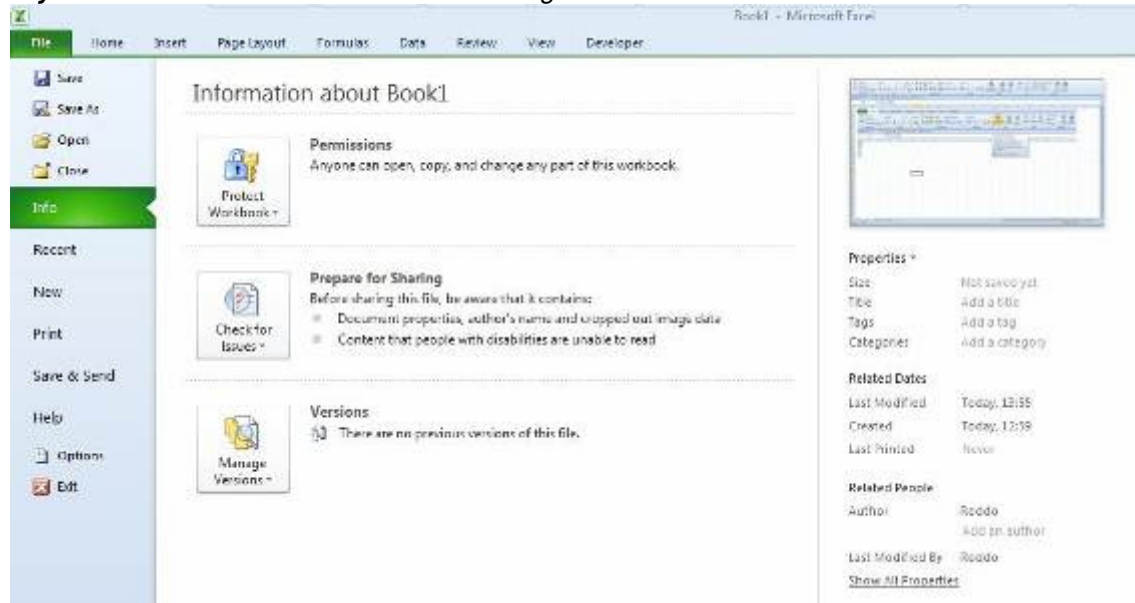
The Quick Access toolbar can be shown above or below the ribbon.

The File Menu (Backstage)

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

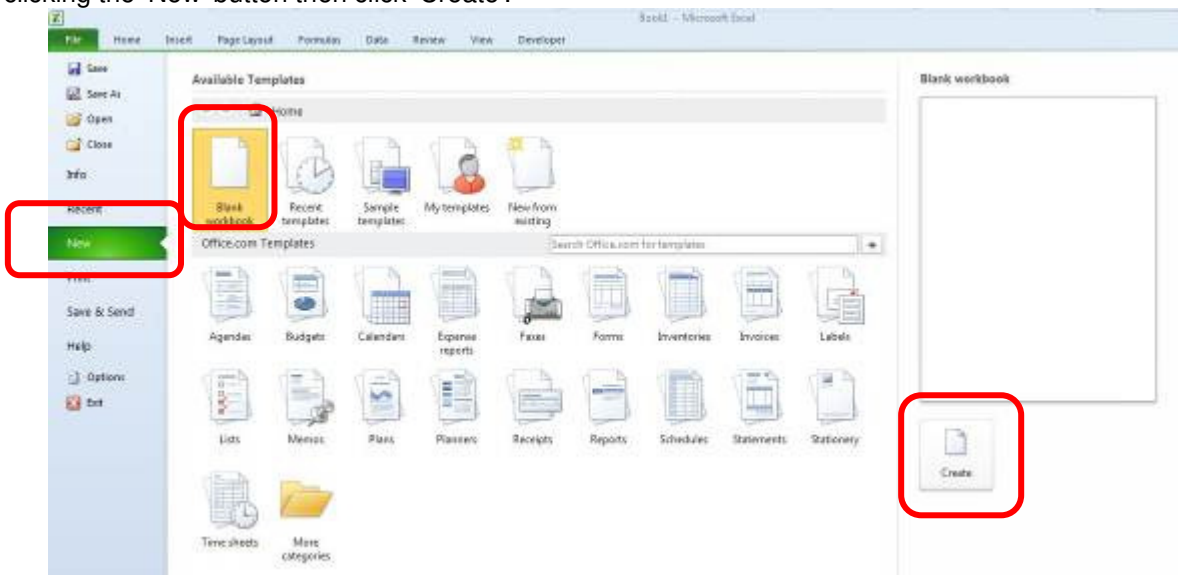


Try it: Click the File Tab to view the 'Backstage' menu items.



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'.

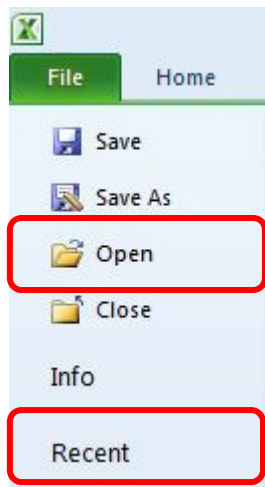


You can also create a new workbook by using the shortcut keys **Ctrl + N**.

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.

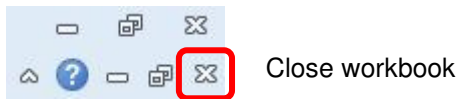


You can also use the shortcut keys **Ctrl + O**.

Try it: Open the file *Sales report.xlsx*.

Closing a Workbook

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.



Try it: Close the file Sales report.xlsx.

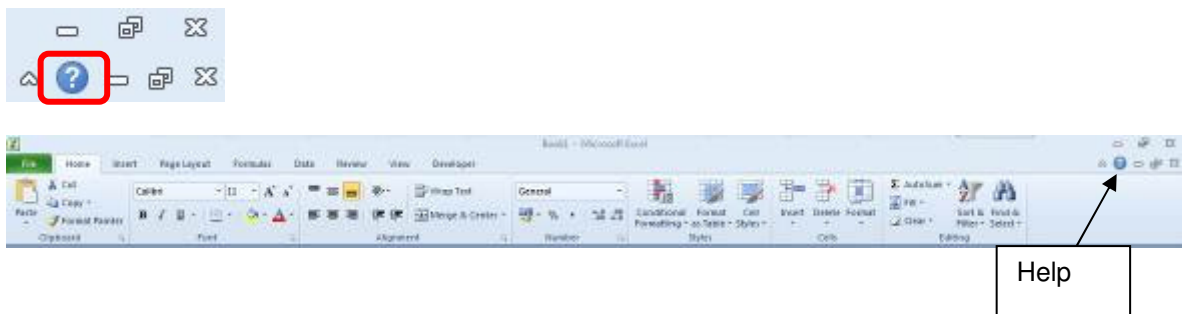
Closing Excel

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



Using the Help Screen

If you find that you need help with a given topic in Excel 2010, 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 1 Practice Activity

1. Start Excel.
2. Open the file **Practice employee information.xlsx**
3. Try using the following keys to change the selection of the active cell:
 - a. Right, down, left and up arrow keys
 - b. Ctrl + right, Ctrl + down, Ctrl + left and Ctrl + up arrow keys
 - c. Page Up and Page Down keys
 - d. Ctrl + Page Down, Ctrl + Page Up
 - e. Ctrl + End, Ctrl + Home
4. Use Excel Help to find information on Excel shortcut keys (Search for Key Tips)
5. Close Help.
6. Close **Practice employee information** but keep the Excel program open.



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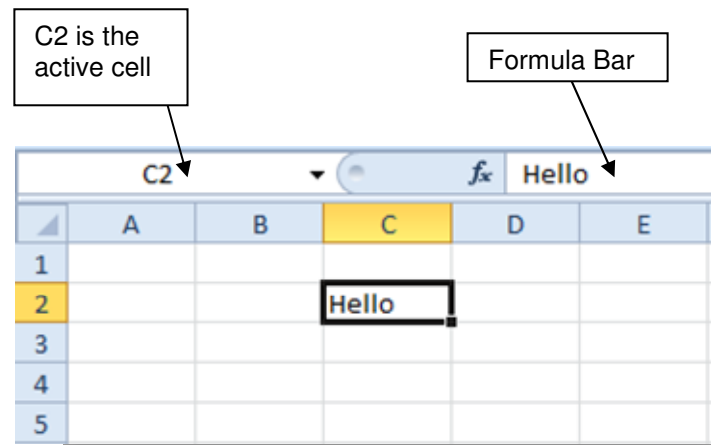
Unit 2: Entering and Editing Data

In this section you will learn how to:

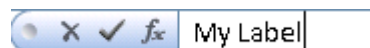
- Create worksheet labels
- Enter and delete data
- Use the AutoFill feature
- Use AutoComplete
- Work with basic formulas
- Save an Excel workbook

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.



Try it: Open Sales report.xlsx. On Sheet 1 enter details for Julian in row 7 as shown below.

	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.

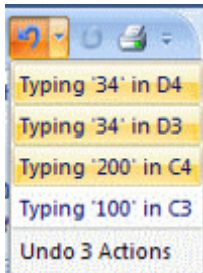
To undo an action, click the Undo button on the Quick Access Toolbar. This will undo the very last action you performed. The shortcut combination of CTRL + Z performs the same action.



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.

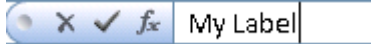


Try it: Using Sales report.xlsx, use Undo several times to reverse typing labels into row 7. Then use Redo to re-enter labels.

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.



Try it: On Sheet 1 of the file *Sales report.xlsx*, use the formula bar to edit the cell A2 to read Sales report for the Central region.

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

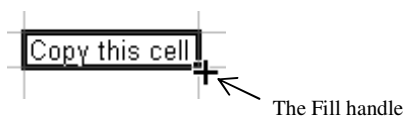
Try it: In *Sales report.xlsx*, switch to Sheet 2. Edit the cell A2 to read Sales targets for the Central region.

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

Try it: On Sheet 2 of the file *Sales report.xlsx*, type Qtr 1 into cell B4.

Use the Fill handle to fill in Qtr 2, Qtr 3 and Qtr 4 from B4 through to E4

Use the blank area under the spreadsheet on Sheet 2 to practice using the Fill handle to enter days of the week and months of the year.

Type the first day or month (Monday or January), then use the Fill handle to enter in the following days or months.

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.

	A	B	C
1	Salesperson	Product	Units Sold
2	John		
3	John		
4			

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**)

Try it: On Sheet 2 of Sales report.xlsx, select and delete the days of the week and months of the year entered in using the Fill handle.

On Sheet 2 of Sales report.xlsx, replace 60000 in cell B5 with 62000.

Switch to Sheet 1. Use Find and Replace to replace the word Difference with Over/under target.

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

Try it

In Sheet 1 of the Sales report.xlsx file, enter a formula in cell D5 to calculate the difference between Sandra's actual sales and her target for Quarter 1. The formula is =B5-C5.

Create formulas to calculate the difference between Sandra's actual and target sales for Quarters 2 and 3 in cells G5 and J5 respectively.

Create formulas to calculate the difference between the remaining sales peoples' actual and target sales for Quarters 1, 2 and 3.

In cell K5, create a formula to calculate Sandra's 'eligible for commission' total. This is achieved by adding together any positive differences between her actual and target sales for each quarter. In other words, any quarter where Sandra exceeds her target sales, the amount that she exceeded her target by is eligible for commission.

Calculate 'eligible for commission' totals for the other two salespeople in K6 and K7.

*In cell L5, create a formula to calculate the amount of commission Sandra is to be paid. The formula is =K5*L2.*

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.

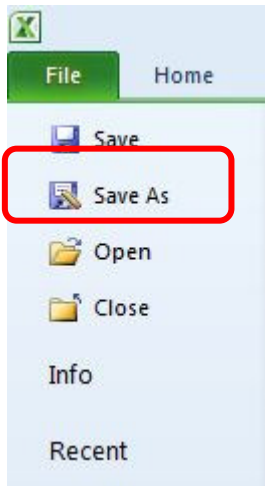
Letter	Stands for	Calculation order
B	Brackets	1 st
E or O	Exponents or Order	2 nd
D	Division	3 rd
M	Multiplication	
A	Addition	4 th
S	Subtraction	


Try it: Apply the order of calculation rule to the formulas shown below and write in the result of the formula in the space provided.

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 2010 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 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 2010 to open and work with files created with earlier versions of Excel. If you find that you can't use Excel 2010 files with earlier versions of Office, like Office XP or Office 2003, you may require a software patch available from Microsoft Office Online or Microsoft Update.

When you are saving a workbook file with Excel 2010, 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 2 Practice Activity

1. Create a new workbook.
2. Enter data as shown in Example 1 below.
3. In cell E5, enter the formulas to calculate the total costs for each item.
Hint: multiply the cost per item by the quantity required.
4. Use Undo to remove the formula you entered in E5, and then use Redo re-enter it.
5. Save the workbook as **Practice total costs**.
6. Compare the workbook to Example 2 below.
7. Close the workbook.

	A	B	C	D	E
1	Time Out Holidays				
2	Stationary order				
3					
4	Department	Item	Cost per item	Quantity req	Total cost
5	Marketing	A4 folders	1.12	20	
6	Sales	Stapler	4.56	2	
7	Administration	Hole punch	3.75	3	
8	Accounts	Blank CD spindles	6.5	5	
9	Human resources	A4 stationary	3.75	6	
10	Customer support	Pens (box)	4.98	3	

Example 1

	A	B	C	D	E	
1	Time Out Holidays					
2	Stationary order					
3						
4	Department	Item	Cost per item	Quantity req	Total cost	Total cost
5	Marketing	A4 folders	1.12	20	22.4	=C5*D5
6	Sales	Stapler	4.56	2	9.12	=C6*D6
7	Administration	Hole punch	3.75	3	11.25	=C7*D7
8	Accounts	Blank CD spindles	6.5	5	32.5	=C8*D8
9	Human resources	A4 stationary	3.75	6	22.5	=C9*D9
10	Customer support	Pens (box)	4.98	3	14.94	=C10*D10

Example 2 – formulas for Total cost are shown on the right



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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.

There are several methods that can be used to move or copy data.

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.

Try it: Switch to Sheet 3 of *Sales report.xlsx*, use the mouse to move the values in cells C5:C7 to C8:C10. Then use *Undo* to reverse this action.

How to Cut, Copy, and Paste Cells

By right-mouse click:

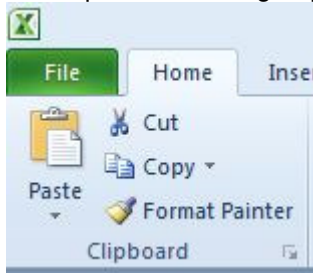
- Select the data, then right-click for cut and copy options
- Select the destination cell for the data, then right-click for the paste option

Try it: On Sheet 3 in *Sales report.xlsx*, move the names that appear in cells A5:A7 to cells A8:A10.

Then use *Undo* to move the names back to their previous location.

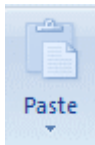
Using the Clipboard group

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

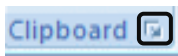


This button will remove the selected item from its original location and place it on the clipboard for future use. (Shortcut key: **Ctrl + X**)

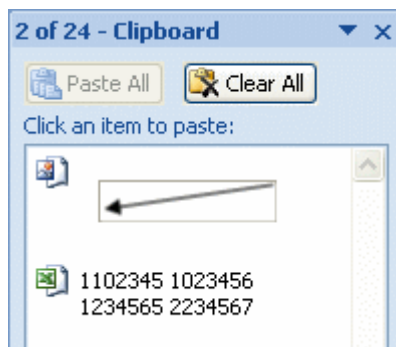
Copy Button



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.

Try it: Display the Clipboard on your screen.

On Sheet 3 of Sales report.xlsx, select cells C5:C7 and copy the cells. The values you have copied will show on the Clipboard.

Select cell C8 then click on the copied values showing on the Clipboard. The values should now be pasted in cells C8:C10. Use Undo to reverse the Paste action.

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).

	C2		fx =A2+B2		
	A	B	C	D	E
1	A number	A number	The Sum		
2	500	250	750		
3					
4					

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.

	C8		fx =A8+B8		
	A	B	C	D	
1	A number	A number	The Sum		
2	500	250	750		
3			0		
4			0		
5			0		
6			0		
7			0		
8			0		

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 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.

Try it: On Sheet 1 of Sales report.xlsx, delete the formulas in cells G5 and J5. Copy the formula in cell D5 into cells G5 and J5. Note how the result of the formula changes when it is pasted into these two cells.

On Sheet 1 of Sales report.xlsx use the Fill handle to copy down the formulas created in D5, G5, J5 and L5 to the next two rows (rows 6 and 7).

Why do you get incorrect formula results appearing in cells L6 and L7? Discuss with your trainer.

Absolute cell references

In the example below, we have mouse dragged a formula with absolute references to fill the six cells beneath it.

	A	B	C	D	E
1	A number	A number	The Sum		
2	500	250	750		
3			750		
4			750		
5			750		
6			750		
7			750		
8			750		

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.

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.

Try it: On Sheet 1 of Sales report.xlsx select cell L5.

Change cell L2 in the formula into an absolute reference. This can be done by clicking next to L2 in the formula and pressing the F4 key once so the formula reads `=K5*L2`.

Then use the Fill handle to copy the new formula down to cells L6 and L7. The correct formula results should now display.

Use Ctrl + the 'pipe' key to display formulas and show the absolute reference in the formula in column L.

Save the changes made to Sales report.xlsx.

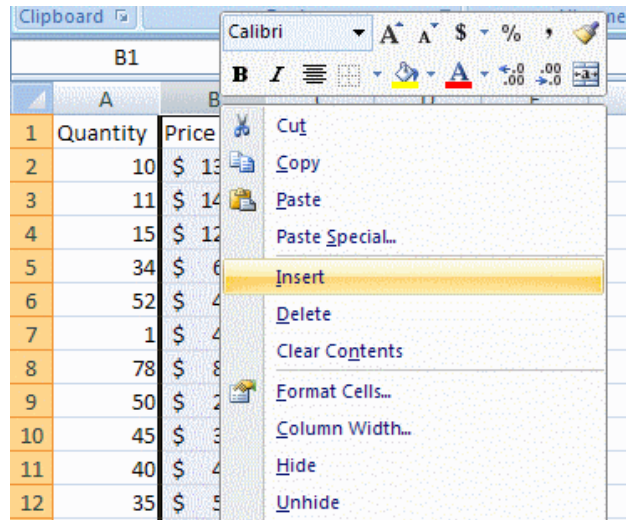
Inserting and Deleting Ranges

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

Inserting columns and rows

To insert a column in a worksheet:

- Right-click on the letter at the top of the column. A drop down menu will be displayed.



- Click the Insert option from the menu. A new column is inserted to the left of the selected column.

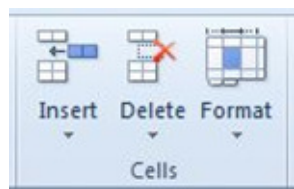
This procedure is essentially the same for inserting rows. To insert a row, just right-click on the row number and choose Insert from the menu. A new row is inserted above the selected row.

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.



Try it: On Sheet 1 of Sales report.xlsx, delete Pam's information (row 6) from the spreadsheet, and then use Undo to bring it back.

Insert three rows above the Totals row (row 8) at the bottom of the spreadsheet. These rows will display the data related to the three salespeople on Sheet 3 of Sales report.xlsx.

Move the data for the three salespeople on Sheet 3 into the appropriate positions in the three newly created rows in Sheet 1.

Use the Fill handle to copy down the formulas in columns D, G, and J.

Calculate the 'eligible for commission' Total for each salespeople in column K.

Use the Fill handle to copy down the formula in column L.

Save the changes made to Sales report.xlsx.

Unit 3 Practice Activity

1. Open **Practice sales summary.xlsx**.
2. Delete the row containing the 2002 figures (row 3).
3. Insert a new row between rows 1 and 2. Enter the heading Sales 2003-2007 into cell A2.
4. Enter a formula to calculate the total sales for 2003 in F4.
5. Use the AutoFill handle to copy the year total formula from F4 to F7.
6. In B8, enter formula that will calculate predicted sales for each quarter in 2007.
For 2007, sales in each quarter are predicted to increase by 2% (on average) from same quarter in the previous year. Note that 2% has been entered into cell E10 to be used as part of the formula.
7. Copy the formula in B8 to C8 through to E8. Check your formula results in C8:E8 – if the quarterly results are the same as those in the previous year then the formula in B8 needs correcting.
8. Change the percentage in E10 from 2% to 1.5%. The predicted sales for 2007 should automatically recalculate once the percentage has been altered.
9. Copy the formula from F7 down to F8, so total predicted sales for 2007 show in the spreadsheet.
10. Save the workbook as **My practice sales summary** and close the workbook.



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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.

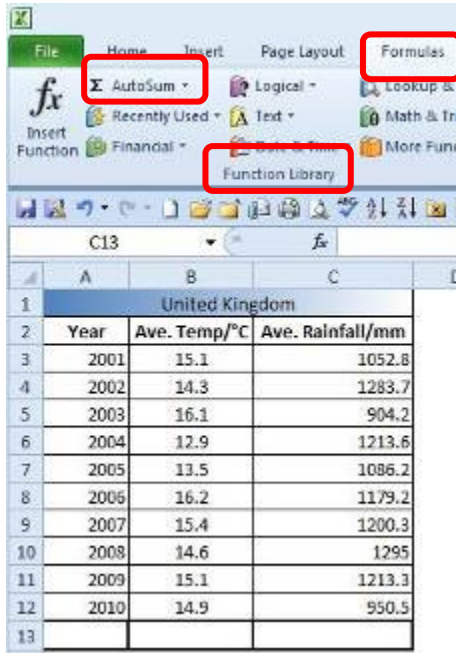
Excel 2010 has a wide range of functions. For example, you can use functions to find totals, averages, counts, minimum (smallest) and maximum (highest) amounts.

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.

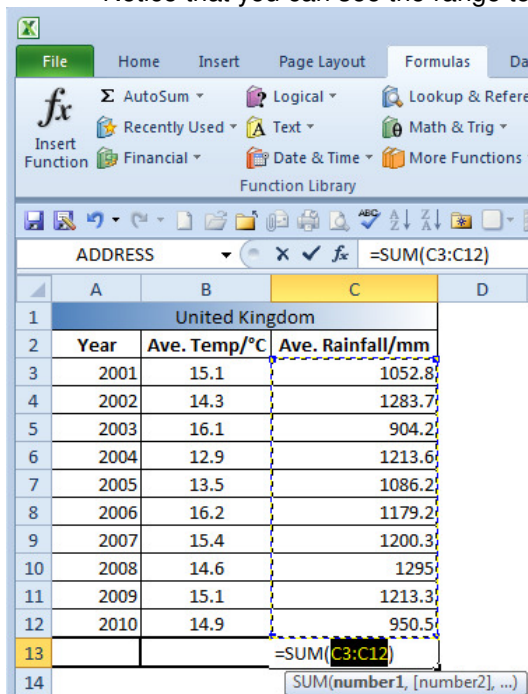
Using AutoSum

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.



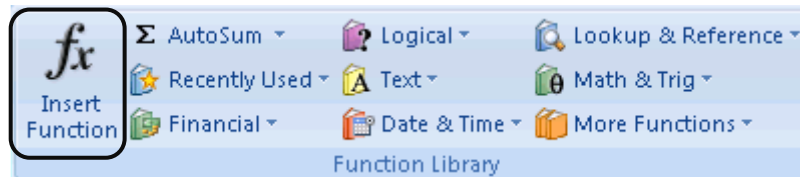
- Press Enter and the total will be displayed in the cell.

Try it: On Sheet 1 of Sales report.xlsx use the AutoSum button to calculate Total actual and target sales for each quarter in row 11.

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

The Function Library

Excel 2010 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.

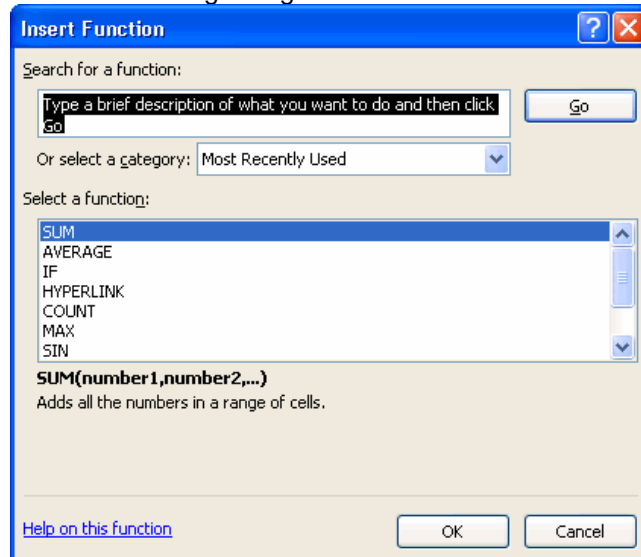


The first and largest button is Insert Function. This button will open a dialogue box allowing you to search for and insert hundreds of functions.

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



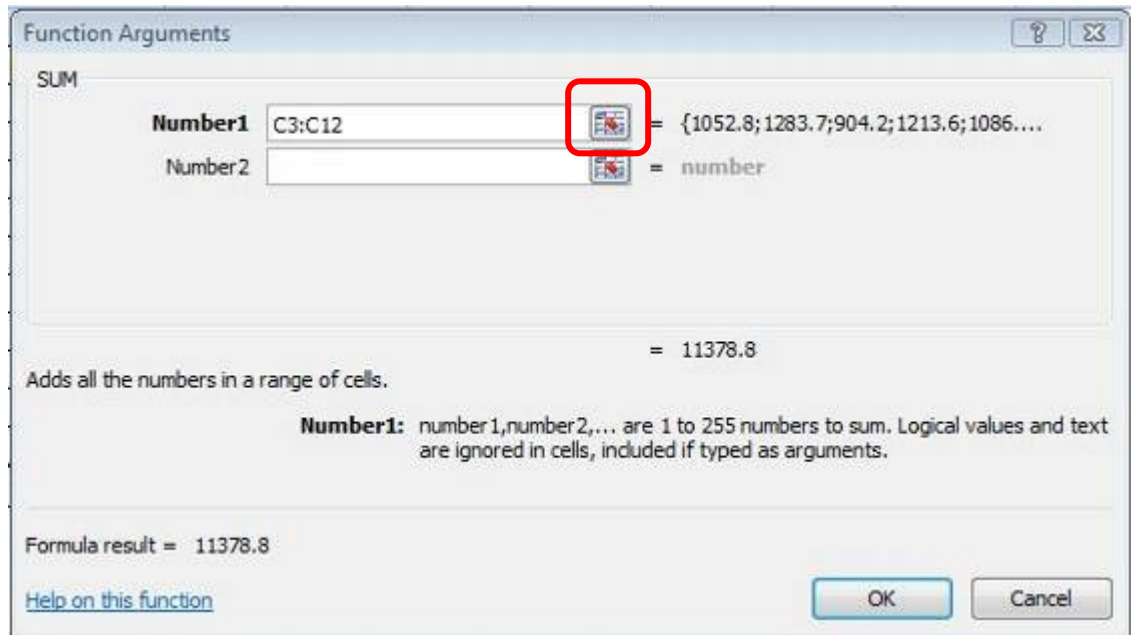
Clicking the Insert Function button activates the Insert Function dialogue box and provides access to the large range of functions available in Excel.



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.

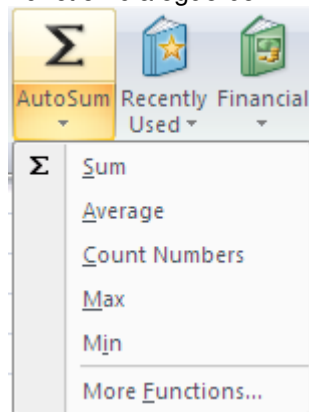
In the Function Arguments dialogue box, click the top button with the red arrow, then select the range of cells to enter into the formula from the spreadsheet, click OK.



Try it: On Sheet 1 of Sales report.xlsx type Average into cell A12.
Use the Insert Function button to calculate average actual and target sales for each quarter in row 12.

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.

Try it: On Sheet 1 of Sales report.xlsx type Minimum into cell A13.
Use the AutoSum list to calculate minimum actual and target sales for each quarter in row 13.

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.

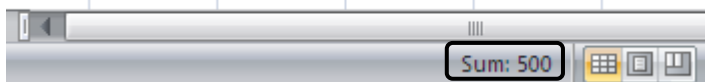
Try it: On Sheet 1 of Sales report.xlsx type Maximum into cell A14.
Enter formulas to calculate maximum actual and target sales for each quarter into row 14.

Type No. of employees into cell A15.

Use any one of the three methods for inserting functions to enter the COUNT function into cell B15. The COUNT function can be used on cells that contain values, to determine how many values there are. In this case, we want to know how many employees there are.

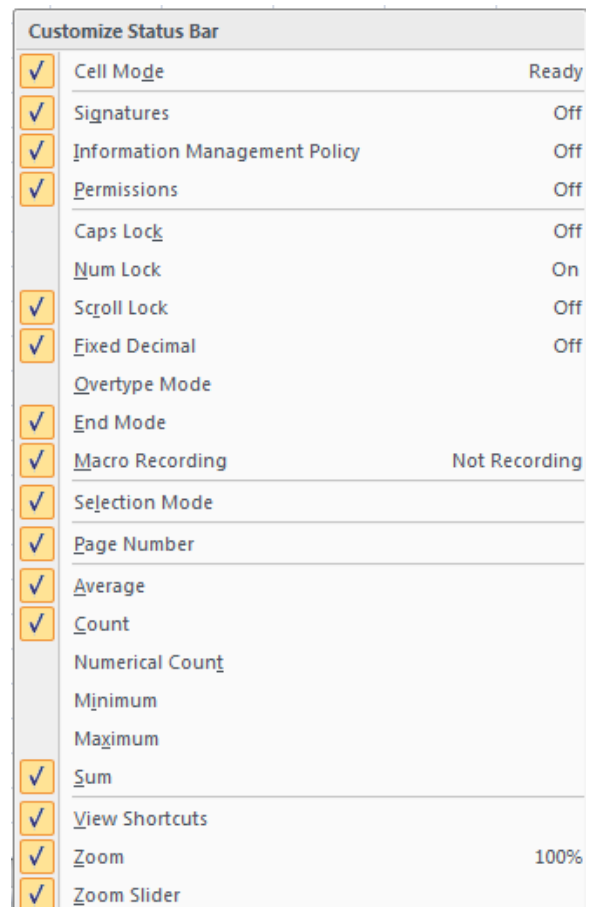
Using AutoCalc

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 4 Practice Activity

1. Open **My Practice sales summary.xlsx**. This is the file you worked on for the Unit 3 Practice Activity.
2. Enter the labels Average, Minimum and Maximum into cells G3, H3 and I3 respectively.
3. In cell G4, enter a function to calculate the average quarterly sales for 2003. Copy the formula down to row 8.
4. In cell H4, enter a function to calculate the lowest quarterly sales value for 2003. Copy the formula down to row 8.
5. In cell I4, enter a function to calculate the highest quarterly sales value for 2003. Copy the formula down to row 8.
6. Save the changes made to **My Practice sales summary** and close the file.



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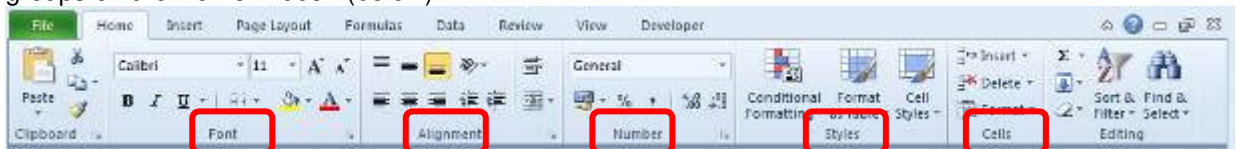
Unit 5: Formatting Worksheets

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 and Cells groups on the Home Ribbon (below).

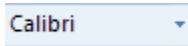


The font button group lies on the Home Ribbon next to the clipboard group.

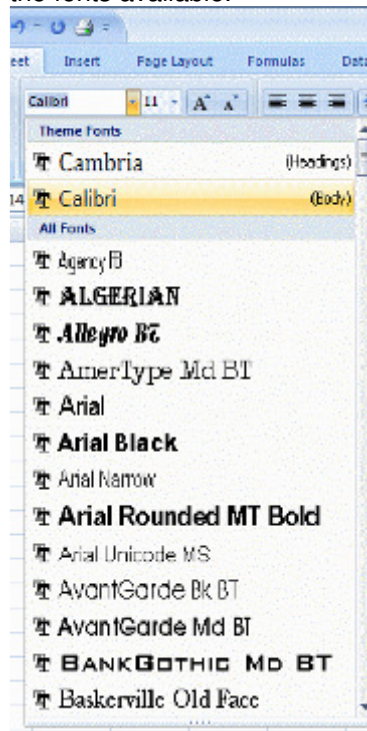


These buttons allow you to change a font's type, size, color, and style. The following table provides a brief description of the functions of these buttons

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



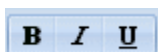
Use this button and its associated list of sizes to change the font size. You can also enter a size directly by clicking on the area that displays the current size and then entering a new number.

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.

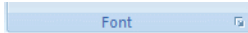
Fill Color and Font Color



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

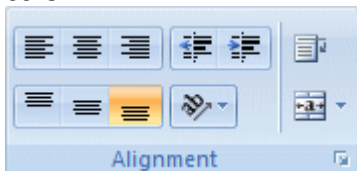


Clicking the small arrow at the right of this button will display the font tab of the Format Cells dialogue box, which provides numerous options related to cell formatting.

Try it: Format the headings in rows 1 and 2 on Sheet 1 of Sales report.xlsx, using font formats of your choice.

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.



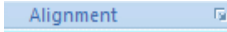
Merge and Center

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.

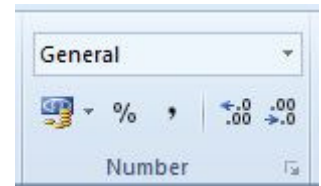


Try it: Use Merge and Center to centre the headings in row 1 and in row 2 across the top of the spreadsheet. Use Merge and Center to centre the quarter labels in row 3 across the columns of figures relating to each particular quarter.

Number

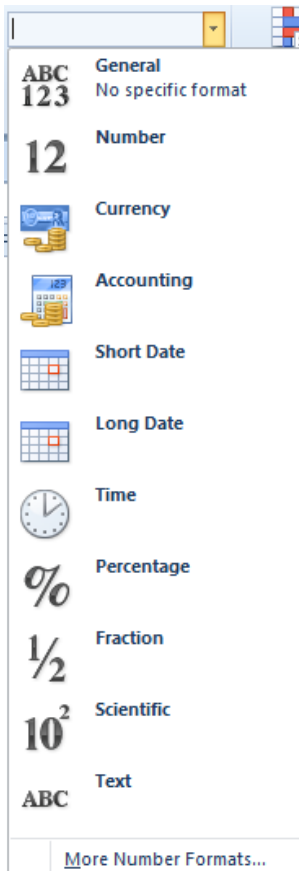
The number button group controls how numerical values are displayed in cells. In Excel, numbers can have different formats including general (no specific format), number, currency, accounting, short date, long date, time, percentage, fraction, scientific and text.

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.



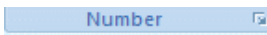
Increase/Decrease Decimal Places

These buttons will increase or decrease the amount of decimal places shown for a cell or selection of cells.



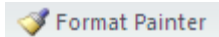
Number Group

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



Try it: Format all values and formula results in the spreadsheet to show commas between the hundreds and thousands values and zero decimal places. Add currency symbols to the totals, average, minimum and maximum figures.

Format Painter



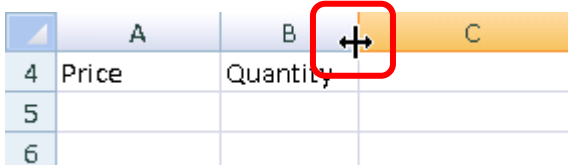
The Format Painter button on the Clipboard group will copy a specific format from one area, which can then be applied to another area. For example, you can select a group of cells and then click the format painter button to copy their format. You will then see a small paint brush next to your mouse pointer.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

Try it: Use Format Painter to copy the formatting applied to the heading in row 1 on Sheet 1 and apply formatting to the heading in row 1 on Sheet 2.

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 5 Practice Activity

1. Open **My Practice sales summary.xlsx**.
2. Format all the quarterly values for all years to show a comma separator between the thousands and hundreds digits, with no decimal places.
3. Format the totals, average, minimum and maximum sales for each year to show currency symbols and a comma separator between the thousands and hundreds digits.
4. Change the font size for the heading in row 2 to 12pt.
5. Use the Merge and Center feature to centre the headings in row 1 and row 2.
6. Apply bolding and a top and bottom border to the labels in row 3.
7. Left-align the years in cells A4:A8.
8. Apply a bottom border to cells A8:I8.
9. Save the changes made to **My Practice sales summary** and close the file.



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Unit 6: Printing Workbooks

In this section you will learn how to:

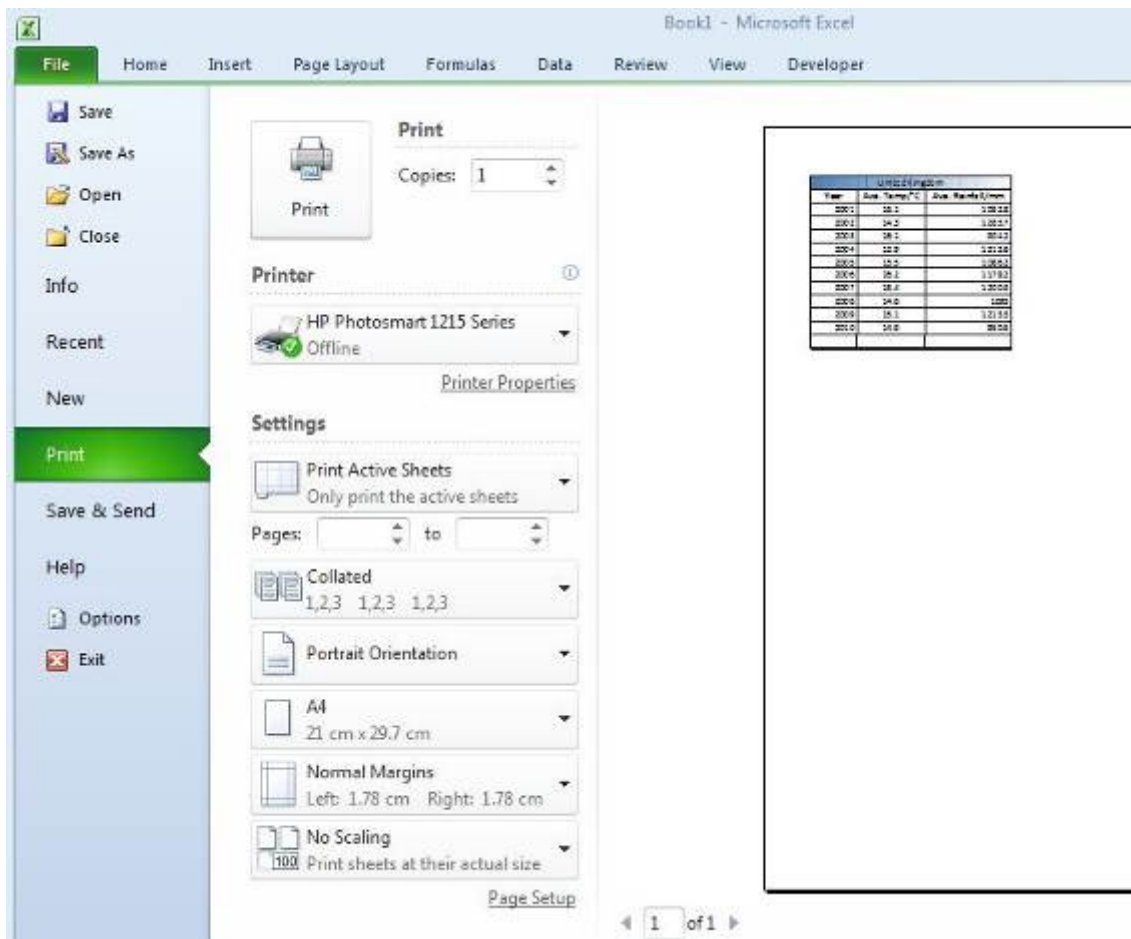
- Use Print preview
- Use the Print dialogue
- Use the Page Setup dialogue
- Use Quick Print

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 2010'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.





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

What to Print

 **Print Active Sheets**
Only print the active sheets

 **Print Active Sheets**
Only print the active sheets

 **Print Entire Workbook**
Print the entire workbook


 **Print Selection**
Only print the current selection


☐ Ignore Print Area


Pages to Print

Pages: to


Collated Style


 **Collated**
1,2,3 1,2,3 1,2,3


 **Collated**
1,2,3 1,2,3 1,2,3

 **Uncollated**
1,1,1 2,2,2 3,3,3


Paper Orientation


 **Portrait Orientation**


 **Portrait Orientation**


 **Landscape Orientation**


Paper Size


 **Letter**
21.59 cm x 27.94 cm


 **Legal**
21.59 cm x 35.56 cm


 **Executive**
18.41 cm x 26.67 cm


 **A4**
21 cm x 29.7 cm


 **A5**
14.8 cm x 21 cm


 **B5 (JIS)**
18.2 cm x 25.7 cm


 **Envelope #10**
10.47 cm x 24.13 cm


 **Envelope DL**
11 cm x 22 cm

 **Envelope C6**
11.4 cm x 16.2 cm


 **A6**
10.5 cm x 14.8 cm


 **Borderless photo 4x6in.**
10.16 cm x 15.24 cm


 **Borderless photo 4x6in. (tab)**
10.16 cm x 15.24 cm


 **A4**
21 cm x 29.7 cm


Margins

 **Last Custom Setting**
Top: 2.5 cm Bottom: 2.5 cm
Left: 1.9 cm Right: 1.9 cm
Header: 1.3 cm Footer: 1.3 cm

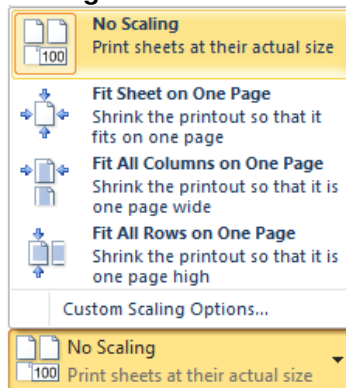
 **Normal**
Top: 1.91 cm Bottom: 1.91 cm
Left: 1.78 cm Right: 1.78 cm
Header: 0.76 cm Footer: 0.76 cm

 **Wide**
Top: 2.54 cm Bottom: 2.54 cm
Left: 2.54 cm Right: 2.54 cm
Header: 1.27 cm Footer: 1.27 cm

 **Narrow**
Top: 1.91 cm Bottom: 1.91 cm
Left: 0.64 cm Right: 0.64 cm
Header: 0.76 cm Footer: 0.76 cm

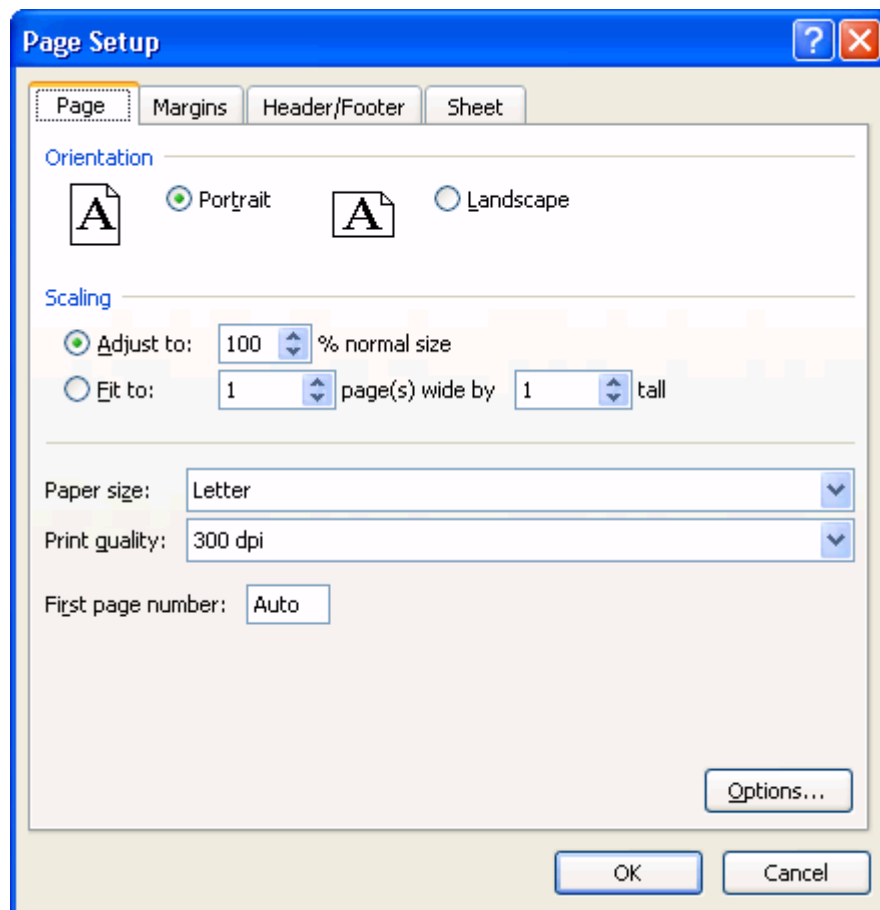
 **Normal Margins**
Left: 1.78 cm Right: 1.78 cm

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.

Try it: Change the page orientation for Sheet 1 of Sales report.xlsx to Landscape. Use Print Preview to view the change to page orientation.

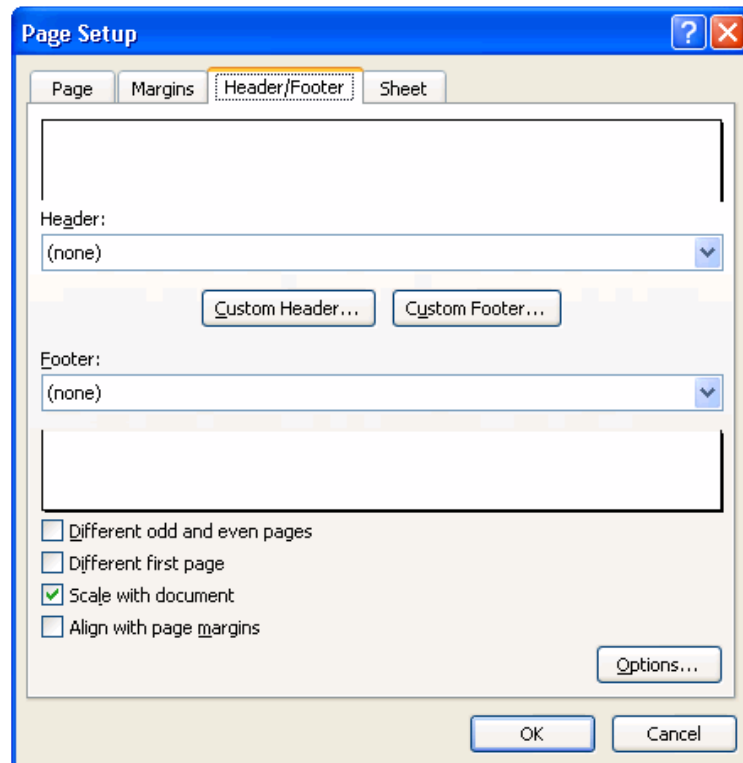
The Margins tab

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.

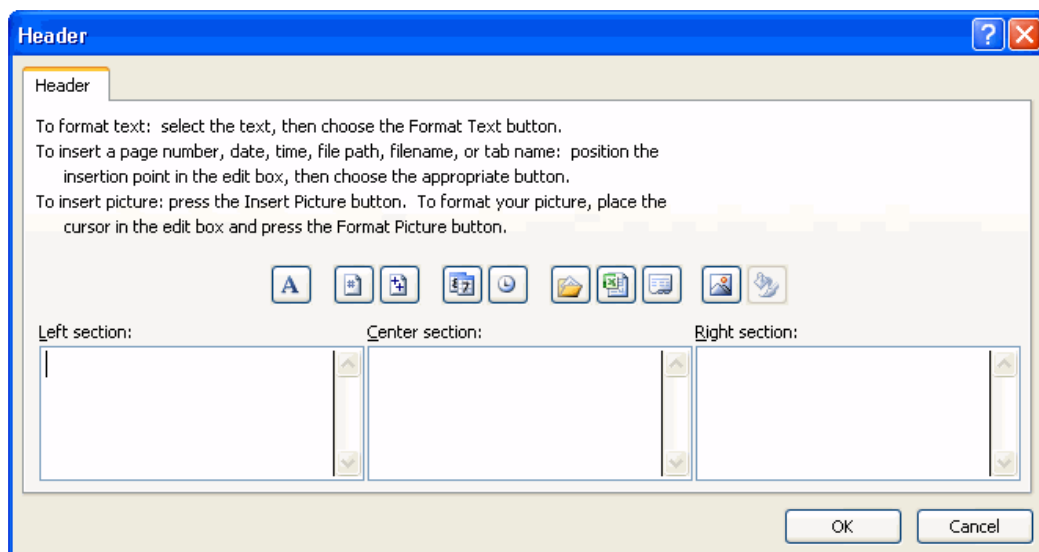
Try it: Change the left and right margin measurements to 0.5. Use Print Preview to observe the margin changes.

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.

Try it: Choose the Sales report.xlsx, Page 1 option from the preset options for the footer. Use Custom Footer to add your name to the footer as well. View the changes in Print Preview. Use Custom Footer to remove your name from the footer area.

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.

Try it: Set a print area that contains the cell range A1:J11 on Sheet 1 of Sales report.xlsx. Then clear the print area.

Printing options

In Excel 2010, 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 6 Practice Activity

1. Open **My Practice sales summary.xlsx**.
2. Preview the worksheet.
3. Change the page orientation to Landscape.
4. Centre the sheet horizontally.
5. Create a custom header. In the left section, enter Time Out Holidays. In the right section enter the date.
6. Preview the worksheet to preview the changes you have made.
7. Close out of Print Preview.
8. Set the cell range A1:E7 as the print area.
9. Preview the worksheet to check the print area has been set correctly.
10. Close out of Print Preview.
11. Clear the print area.
12. Save the changes made to **My Practice sales summary**, and close the file.



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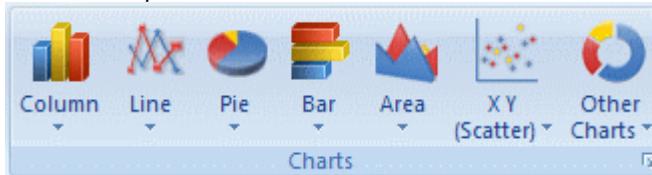
Unit 7: Working With Charts

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

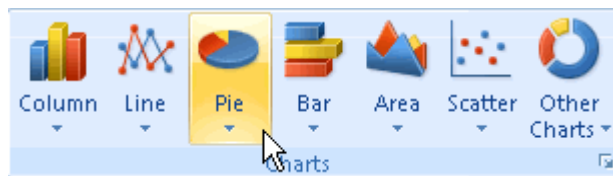
Excel 2010 provides a series of chart buttons and controls on the **Insert** Ribbon.



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.



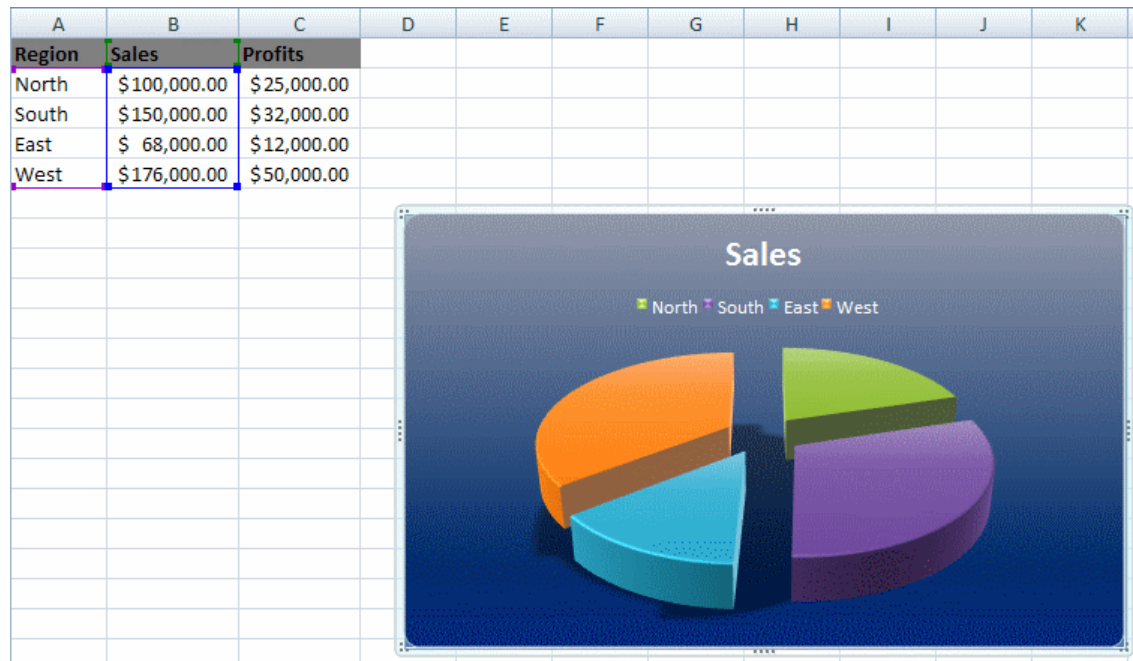
Try it: Select the cell ranges A4:A10 and H4:I10 from Sheet 1 of Sales report.xlsx. Hold down the Ctrl key while using your mouse to select non-adjacent ranges of cells from a spreadsheet. Create a 3D clustered column chart from your selected data.

Manipulating a Chart

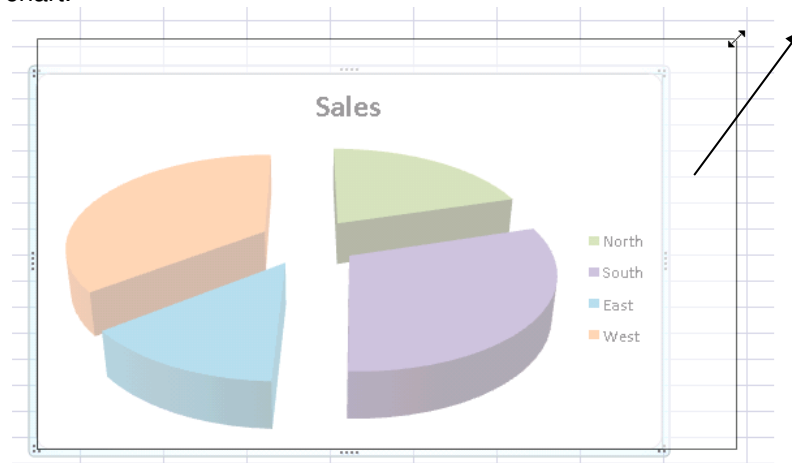
Once the chart has been created, there are a number of ways in which it can be manipulated.

Moving and resizing a chart

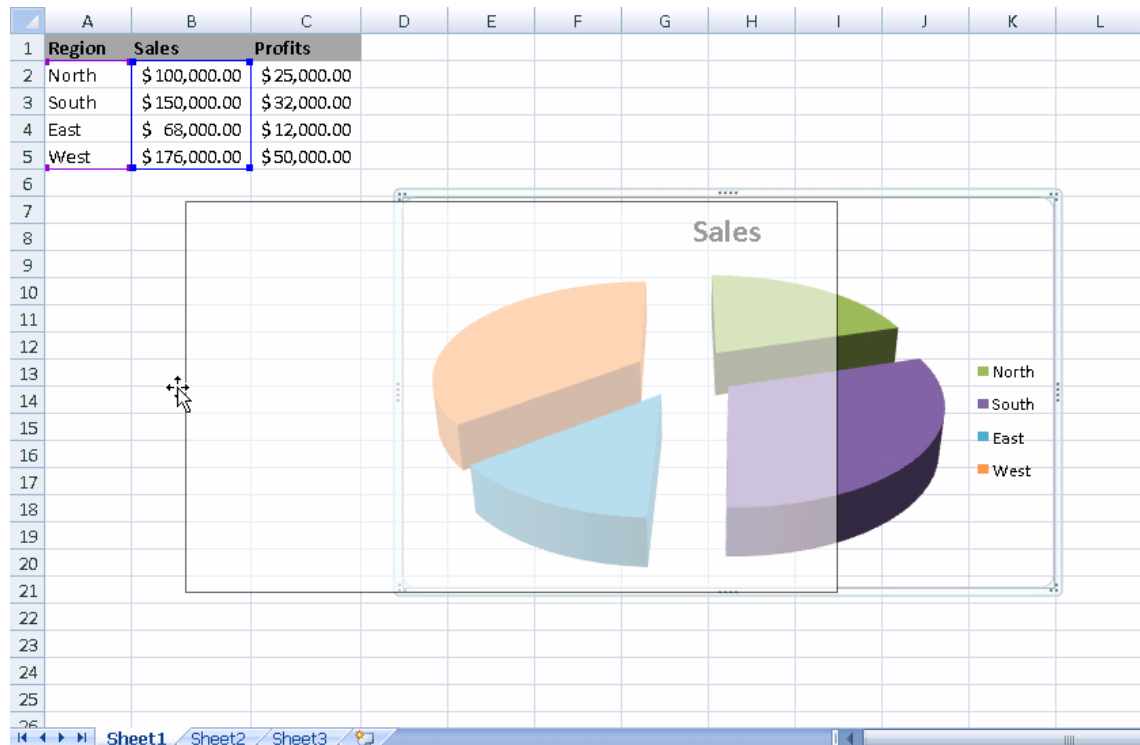
Sometimes it may be necessary to resize or even move your chart around in your spreadsheet. To do this, first single click in the chart area to display the chart area border.



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.



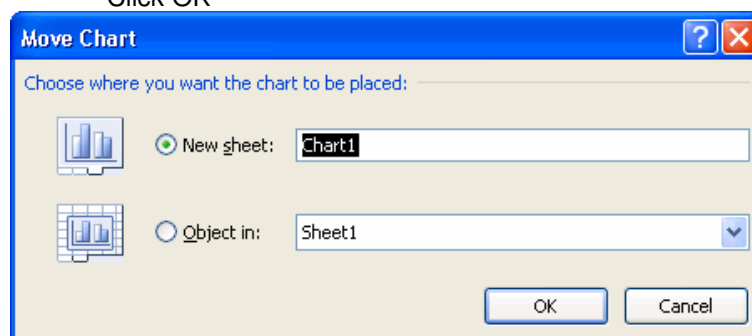
To **move** the chart, let your mouse pointer hover over any border. When you see your mouse pointer turn into a cross with four arrows, you will be able to move the chart around your screen by holding the left mouse button down and dragging.



Try it: Move the column chart underneath the spreadsheet data and make it larger.

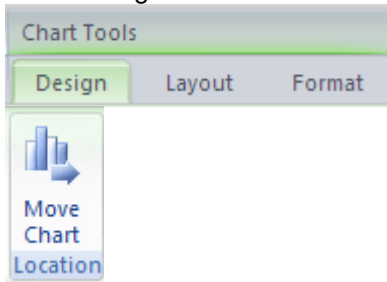
If you want to make a chart an object in another worksheet, or move the chart to a sheet of its own, do the following.

- 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



Try it: Move the chart to a new sheet; then move the chart back to Sheet 1.

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



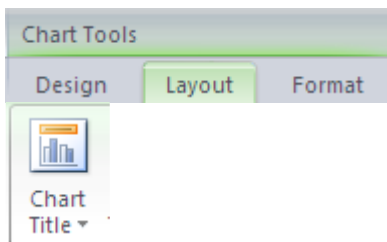
To remove a chart from your worksheet:

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

Adding a chart title

To add a chart title:

- Click in the chart area to display the **Chart Tools contextual tab**
- Select the **Layout** tab
- Click the **Chart Title** button and select an option that will allow you to add a title
- Right-click on the Chart Title area that appears within the chart area
- Choose Edit Text and enter your chart title



Adding chart axis titles

To add chart axis titles:

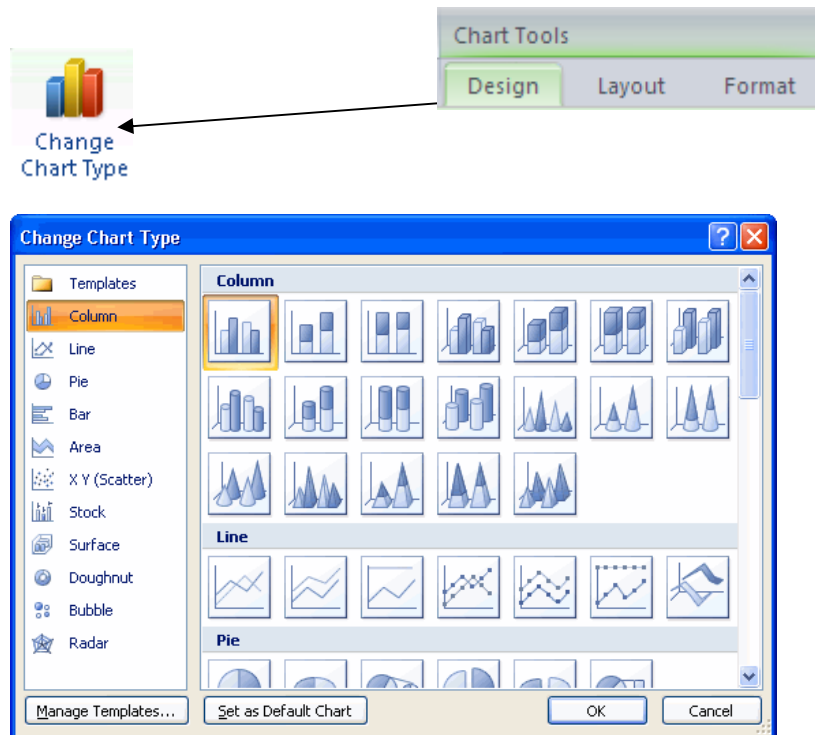
- Click in the chart area to display the **Chart Tools contextual tab**
- Select the **Layout** tab
- Click the **Axis Title** button and select an option that will allow you to add an axis title
- Right-click on the Axis Title area that appears within the chart area
- Choose Edit Text and enter your axis title

Try it: Add a chart title and axis titles to your chart.

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

Try it: Change the chart into a bar chart, then back to a column chart.

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

Unit 7 Practice Activity

1. Open **My Practice sales summary.xlsx**.
2. Create a column chart in its own sheet based on the quarterly sales for the years 2003 to 2006. Do not include the yearly totals, averages, minimum or maximum figures.
3. Add a chart title.
4. Change the colour of the chart bars.
5. Move the legend so it is positioned underneath the chart.
6. Save the changes made to **My Practice sales summary** and close.



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Unit 8: Working With Sparklines

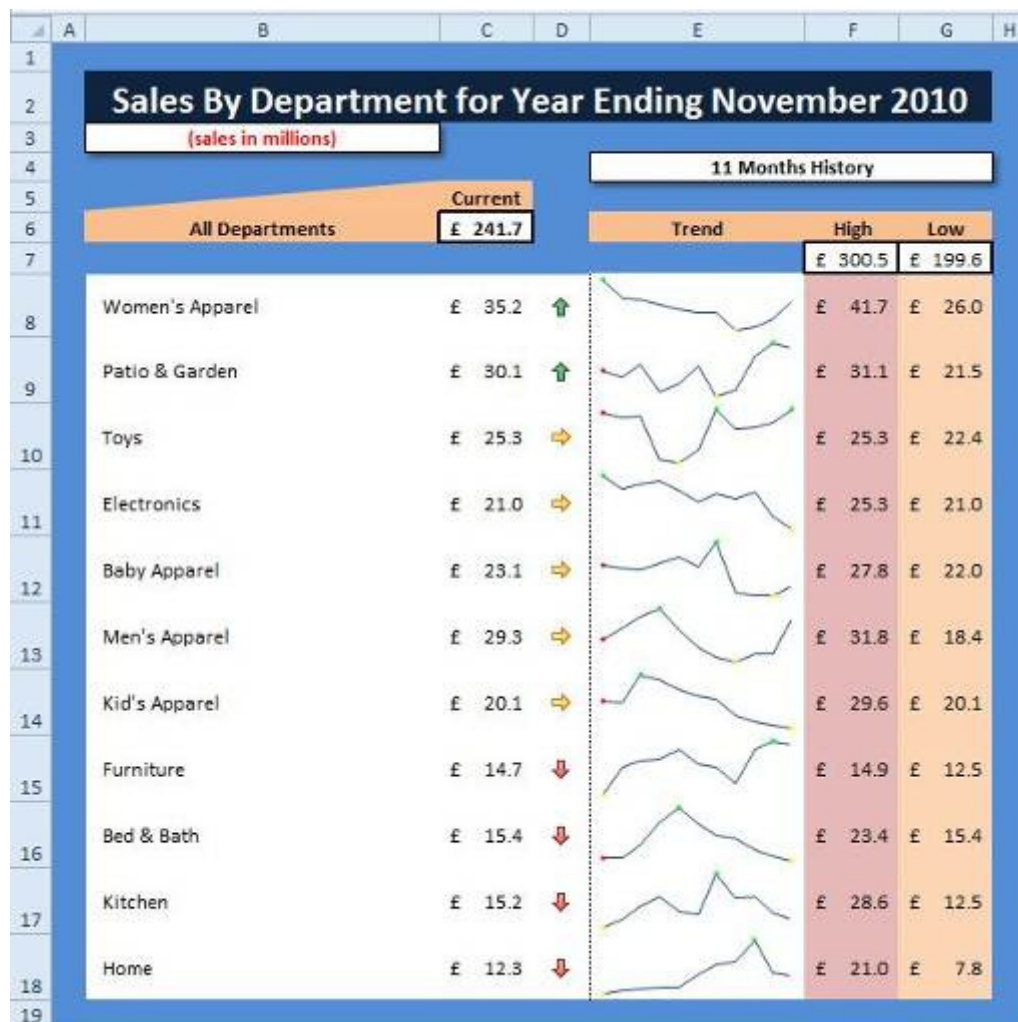
In this section you will learn how to:

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

What are Sparklines?

New in Microsoft Excel 2010, 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.

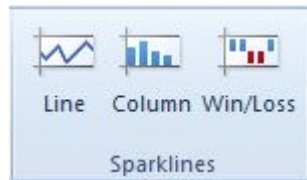
Sparklines help bring meaning and context to numbers being reported and, unlike a chart, are meant to be embedded into what they are describing:





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.

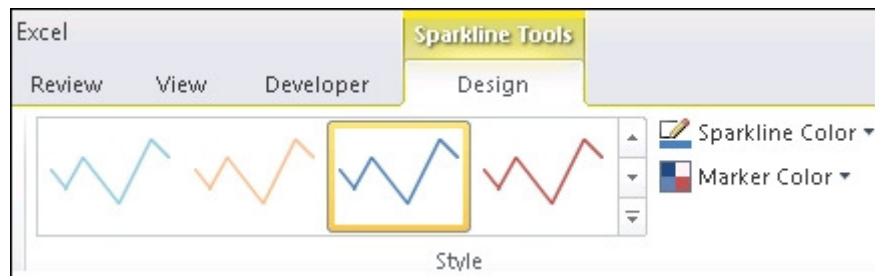
Note You can click  to temporarily collapse the dialog box, select the range of cells that you want on the worksheet, and then click  to restore the dialog box to its normal size.

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 Color or the Marker Color 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

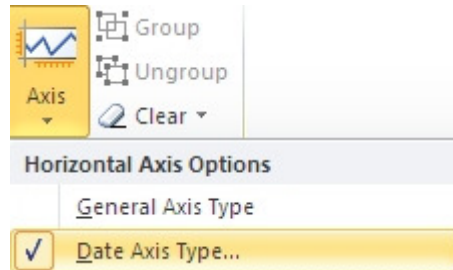
On a sparkline that has the Line style, you can show data markers so that you can highlight individual values.

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.



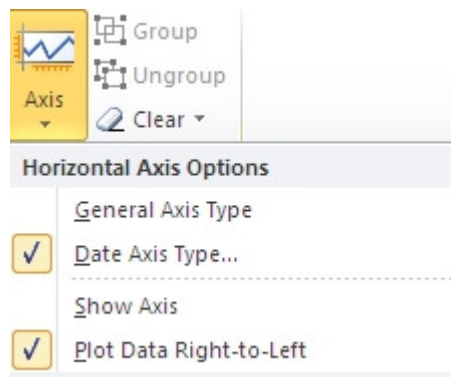
In the example shown here, there are two column sparklines that use data from the same range. The sparkline with the "Trend" label uses the General Axis type, and the sparkline with the "Trend (Data Axis Type)" label uses the Date Axis type. In each sparkline, the first two data points are separated 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.

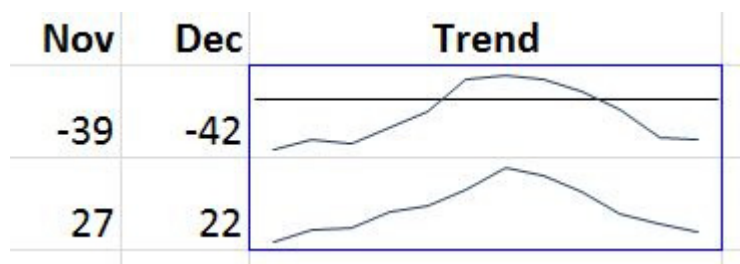
You can increase the height of the row that contains the sparkline to more dramatically emphasize the difference in data values if some is very small and some is very large.

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.



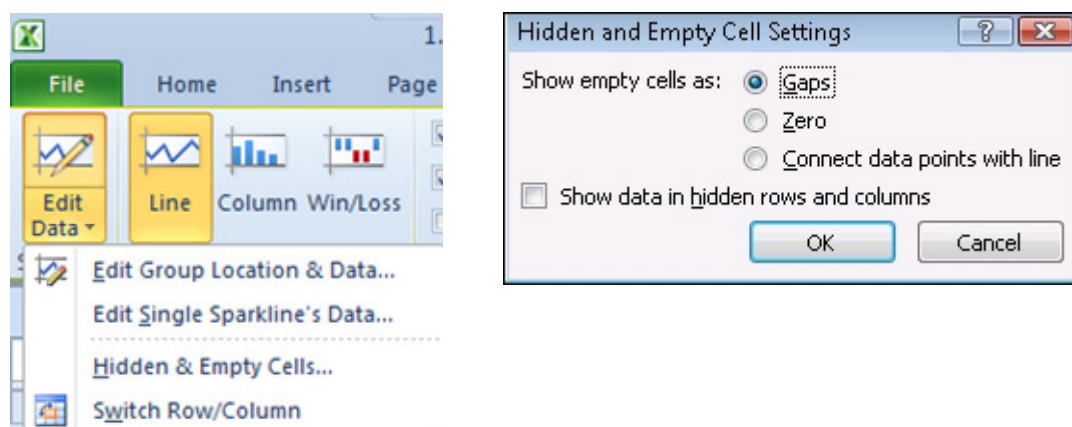
If there are negative values in your data, you can emphasize this by showing a horizontal axis in your sparkline.

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.



Unit 8 Practice Activity

1. Open **Practice Sparklines.xlsx**.
2. Select the **Dec 2010 Sales Data** worksheet.
3. Click on cell **E8**.
4. Select the **Insert** ribbon and click the **Column** button in the **Sparklines** group.
5. Click on the  button and select the range **B4:M4** in the **Annual Sales Data** worksheet.
6. Click on the  button and then click **OK**.
7. Using the fill handle in the bottom right corner of cell **E8** copy the Sparkline down to cell **E18**.
8. From the **Sparkline Tools** contextual tab **Design** ribbon in the **Show** group, add a **High** and **Low** point and a **First** and **Last** point.
9. Select a **Style** from the Style group.
10. With all Sparkline cells selected modify the type to a **Line**.
11. Save the changes made to **Practice Sparklines** and close.



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