



Microsoft Excel is a spreadsheet program included in Microsoft Office suite.

Spreadsheets provides the values arranged in rows and columns that can be changed mathematically using both basic and complex arithmetic operations.

In addition to the standard spreadsheet features, Excel offers programming support via Microsoft's Visual Basic for Applications (VBA), the ability to access data from external sources via Microsoft's Dynamic Data Exchange (DDE).

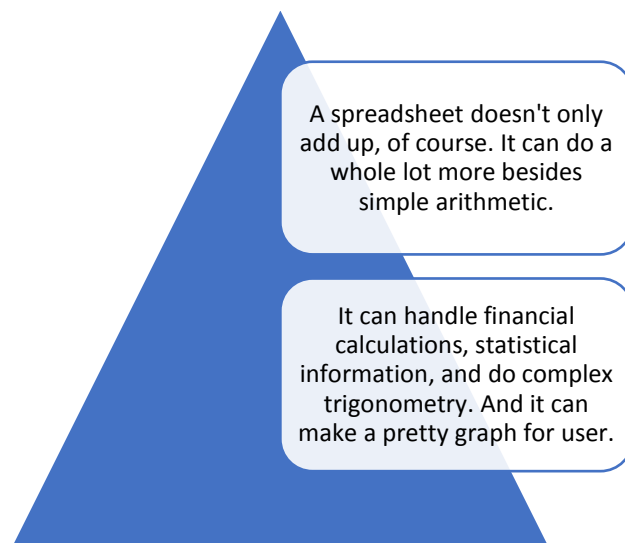
What is a Spreadsheet?

A spreadsheet is a piece of software for handling and manipulating numbers. User can write numbers down on a piece of paper and add them up. Like this:

23
12
20
= 55

But that's not a spreadsheet.

However, if user use Microsoft Excel and entered the same numbers into the software, user' d have a spreadsheet. The best part about a spreadsheet is - user don't have to do any adding up himself! The program will add the numbers up for user.



At its heart, though, a spreadsheet is just a glorified calculator. The main point of using a spreadsheet is do some number crunching. The software will puzzle out the answers to sums for user, and save user a lot of time and effort carrying sevens and trying to remember what eight multiplied by six is.

Why do need a Spreadsheet?

There are many reasons why user might need a spreadsheet. Here are few different scenarios:

Scenario 1 - Personal Investments

User have bought shares in a few different companies and want to keep track of how well, or badly, they are doing. User could enter these values in a spreadsheet:

MyShare	Share1
Price Paid	0.25
Number Held	1000
Total Cost	Rs.250
Value Now	0.35
Worth Now	Rs.350
Profit/Loss	Rs.100 (+)

The spreadsheet would do all the sums for user. All user must do is enter the correct formulas. In the spreadsheet above, if we changed the number in the "Value Now" box, the "Worth Now" box and the "Profit/Loss" box will automatically be updated.

Scenario 2 - Personal Finances

We only have a limited amount of money coming into the house each month. The problem is, that money seems to be disappearing fast. It would be nice if we could keep track of where it's all going. A spreadsheet could help us. We could enter the data like this:

Monthly Income: Rs.1500

Gas	Rs.25
Electricity	Rs.20
Phone	Rs.35
Fuel	Rs.250
Food	Rs.350
Mortgage	Rs.425
Car	Rs.130
Total	Rs.1235
Leftover	Rs.265

Of course, we could do all that on a piece of paper. But entering the data into a spreadsheet gives us better control. We could change one value, that massive food bill,

and see how much we had left over if we didn't spend so much money on food. Once the formulas are entered, the other figures would be updated automatically.

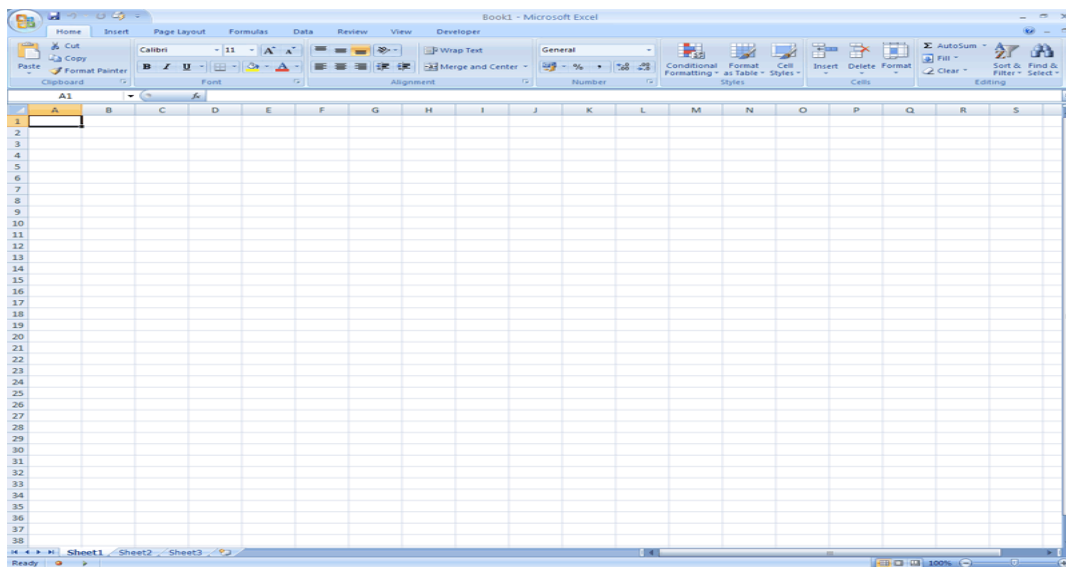
So, there we have two simple scenarios where a spreadsheet might come in handy. Of course, they can be used, and often are, in a business situation.

If user want to keep track of things like stock and profit margins, then spreadsheets are very useful indeed. In fact, spreadsheets are useful in a wide range of situations, both business and non-business.

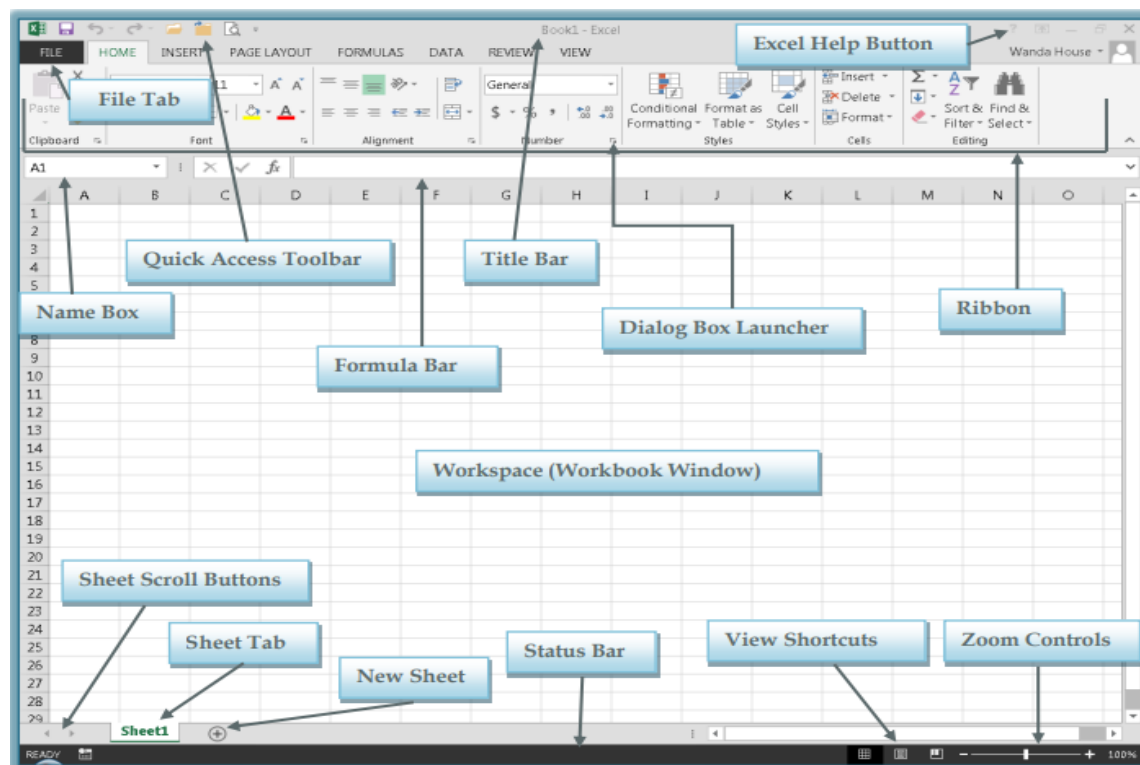
We'll now move on, and get our first glimpse of Microsoft Excel.

1 A first look at Excel

Excel 2007:



Excel 2010 onwards



The Excel Environment

Dialog Box Launcher When this button is clicked, a dialog box containing more commands for that group will display.

File Tab This tab is located at the upper left corner of the window. Contained within this tab are commands for managing Excel workbooks. For instance, this is the area where the Print, Save, Save As, Open, and Close options are located. It also contains the link to the Excel Options area, where global changes to the Excel program can be made.

Formula Bar The formula bar is used to display the data that is being input to a worksheet cell before it is entered into the worksheet.

Help Button This button is used to obtain help regarding a particular command. Microsoft Online will be searched for help with the command.

Name Box This is the box where the cell names are located. When named ranges are created, they can be accessed by clicking the arrow at the end of the name box.

New Sheet An Excel workbook is made up of different sheets. This button is used to add a new sheet to a workbook. The new sheet will be named Sheet 2, Sheet 3, and so forth depending on how many sheets are added.

Quick Access Toolbar The default buttons for this toolbar are the Save, Undo, and Redo buttons. The toolbar can be customized to contain any of the commands that you use frequently such as Open and Close.

Ribbon The ribbon contains the groups and buttons that make it possible to use the different commands in the Excel program. The ribbon consists of tabs which contain groups to which buttons to perform the different commands are located.

Sheet Scroll Buttons These buttons are used to move from one worksheet to another one in the workbook

Sheet Tabs Excel is a workbook with sheets similar to a book. These tabs are used to insert worksheets or charts into a workbook. A name can be applied to each tab indicating what type of data or object is located within that sheet.

Status Bar This bar is located at the bottom of each workbook. It is used to show the status of work within the worksheet. This is the area where the Shortcuts for viewing workbooks and the Zoom features are located.

Title Bar This bar displays the name of the program that is open, along with the workbook name. The help, ribbon display options, minimize, maximize/restore, and close buttons are located at the right end of this bar.

View Shortcuts These shortcuts are used to display a worksheet in different formats. The views are Normal, Page Layout, and Page Break Preview.

Workspace This is the area where data is entered into a worksheet. Formulas and Functions can also be inserted into this area of a worksheet, as well as charts, WordArt, Shapes, and other objects.

Zoom Controls This area is used to magnify or shrink the content of a file that is displayed in the workspace. The buttons on each end of the Zoom bar can be clicked to either magnify or shrink the view. The default size is 100 percent.

2 Excel Rows and Columns

Spreadsheets are displayed in a grid layout. The letters across the top are Column headings. To highlight an entire Column, click on any of the letters. The image below shows the B Column highlighted:

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

If you look down the left side of the grid, you'll see numbers, which start at number 1 at the very top and go down to over a million. (The exact number of rows and columns are

1,048,576 rows and 16,384 columns. You've never going to need this many!) You can click a number to highlight an entire Row. If you look at the image below, you'll see that Row 5 has been highlighted

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

The image above is from Excel 2007. Later are version being the same except less colorful. The one below is from Excel 2016:

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

Spreadsheets are all about individual Cells. A Cell is a letter combined with a number. So, if you combine the B column with Row 5, you get Cell B5. Combine Column D with Row 5 and you get Cell D5.

	A	B	C
1			
2			
3			
4			

	A	B	C
1			
2			
3			
4			

The first picture is Column A, Row 1 (A1), and the second picture is Column C Row 3 (C3). Notice that the cells we clicked on have a black border around them. This tells you the cell is active. The cell that is active will have its Column letter and Row number displayed in the top left, just above the letters A and B in the pictures. When you click into a cell, you can then type text and numbers.

To move around the spreadsheet, and make other cells active, you can either just click inside a Cell, or press the arrow keys on your keyboard. Try it now. Click inside a Cell and notice the Cell reference appear above the letters A and B. Press your arrow keys and notice how the active cells moves.

Before going any further, make sure you understand how the spreadsheet grid works. If you are asked to locate Cell H2, you should be able to do so.

3 Enter text and numbers in a Cell

To make a start, we'll create this simple spreadsheet:

	A5			
	A	B	C	
1	Numbers			
2	3			
3	6			
4	9			
5				
6				

All we're going to be doing here is entering some text and some numbers. We're not adding anything up yet.

Before you tackle this first exercise, though, you may want to take note of the **Undo** feature, just in case you make a mistake. The Undo option is the left curved arrow, right in the top-left of your screen. This one for Excel 2007 users:



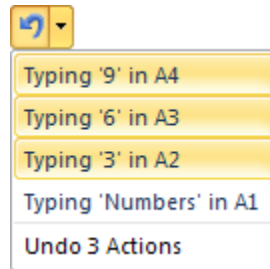
And this one for Excel 2010 and Excel 2013 users:



For later version, the icon is this:



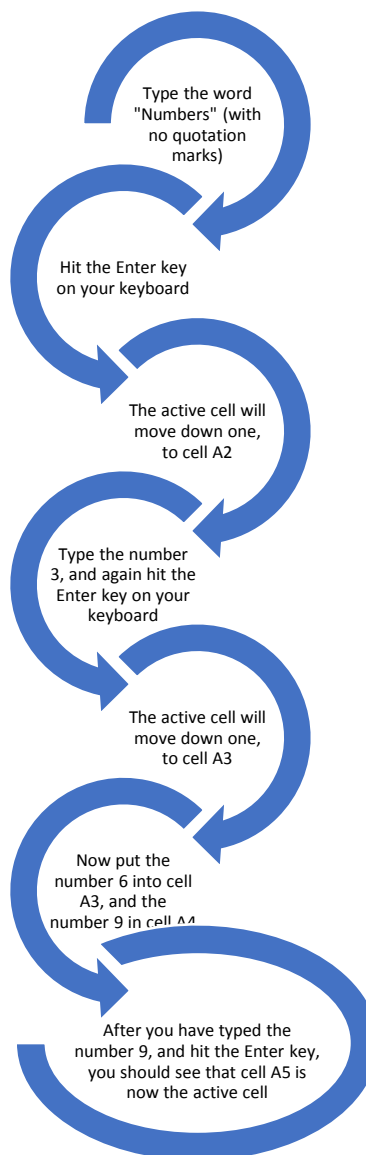
Click the left curved arrow to Undo something, and click the right curved arrow to redo it. The Undo arrow also has a dropdown box. Click the small arrow next to Undo to see the following:



This list is for multiple Undo's. Move your mouse down the list and click to undo several steps at once.

Back to the spreadsheet.

Click inside of cell A1 on your spreadsheet, and do the following:

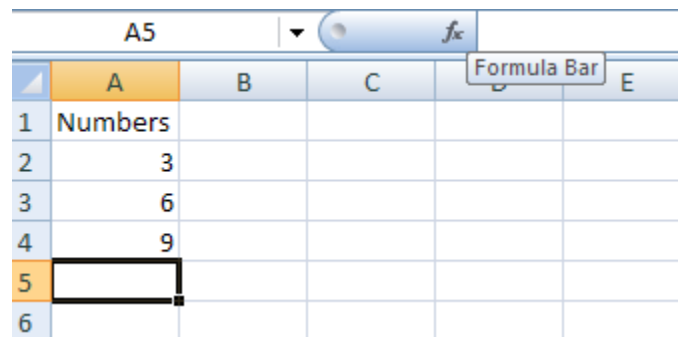


The text we entered in cell A1 is known as a Heading. It's there just to tell you what the numbers mean. Except our heading doesn't tell us a great deal. Let's change it to something else. Click the link below to learn how to edit text in a cell.

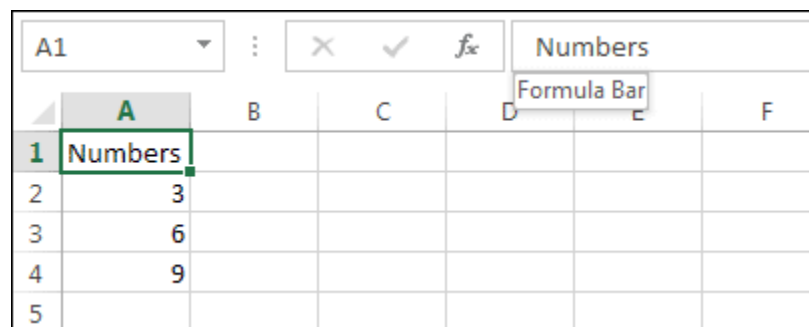
4 How to Edit text in a Cell

To change the text in cell A1, you can just click inside of the cell and start typing. Anything you had there previously would be erased. But if you just want to edit the text (if you've made a spelling mistake, for example), then this is no good. If you want to keep most of the text, and just make minor changes, then you need to do something else.

In the image below, you can see what's known as the **Formula Bar**. The Formula Bar is like a long textbox that you can click inside and start typing. Here's what it looks like in Excel 2007:



And here it is in Excel 2010 to 2016:



To edit a Cell in Excel, first click inside the cell you want to edit (A1 for us). Then click inside the formula bar. Notice where your cursor is now:

A1		Numbers			
	A	B	C	D	E
1	Numbers				
2	3				
3	6				
4	9				
5					

The image above shows that the cell A1 is active, but the cursor is inside of the formula bar.

With the cursor in the Formula Bar, try changing the text "Numbers" to "Add these Numbers". Press the Enter key when you've made the changes. Your spreadsheet should look like ours below:

A2		3			
	A	B	C	D	
1	Add these Numbers				
2	3				
3	6				
4	9				
5					

Notice that the active cell is now A2, and that the Formula Bar has a 3 in it.

However, there's a problem. There's not enough room in cell A1 for our new text. Part of it seems to be in the B column.

The solution is to widen the whole of Column A. Try this:

- Move your mouse up to the start of the A Column
- The pointer will change shape and now be a black arrow




	A ↓	B	C
1	Add these Numbers		
2	3		
3	6		
4	9		
5			

- Move your mouse over the line that separates Column A and Column B
- Your mouse pointer will change shape again, this time to a cross with arrows

	A	B	C
1	Add these Numbers		
2	3		
3	6		
4	9		
5			

- When you see the new shape, hold down your left mouse button
- Keep the left mouse button held down, and drag your cross to the right
- Once you have all the text in the A column, let go of the left mouse button. The images below show the process in action (the top two are from Excel 2007 and the bottom two are from Excel 2010 to 2016):

A2	Width: 19.00 (138 pixels)	f _x
	A	B
1	Add these Numbers	
2	3	
3	6	
4	9	
5		

A2			
	A		B
1	Add these Numbers		
2	<input type="text" value="3"/>		
3		6	
4		9	
5			

A2		⋮	✕	✓	<i>f_x</i>
	A		B		
1	Add these Numbers				
2	3				
3	6				
4	9				

A2					
	A				B
1	Add these Numbers				
2		3			
3		6			
4		9			

You can make the height of the Rows bigger or smaller by using the same technique.

The numbers, however, don't look very tidy. We'll now see how to center them, and the text as well.

5 How to Centre text and number

Well you know that by clicking inside of a cell it makes it active, so that you can make changes. We want to center all our numbers and the text. Here's the spreadsheet we have:

	A2		
	A		B
1	Add these Numbers		
2		3	
3		6	
4		9	
5			

So, we need cells A1, A2, A3 and A4 to be active. In Excel, you can do this by highlighting the cells.

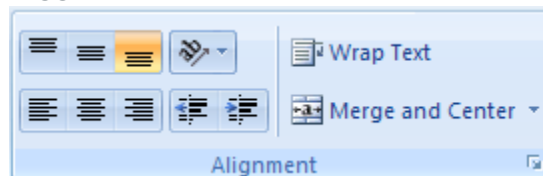
- Place your mouse over cell A1
- Your pointer should now be in the shape of a white cross
- When your pointer changes to the white cross, hold your left mouse button down and drag to cell A4
- Let go of the left mouse button when cells A1, A2, A3 and A4 are highlighted
- The image below shows what you are aiming for

	A1			Add these Numbers
	A	B	C	D
1	Add these Numbers			
2		3		
3		6		
4		9		
5				

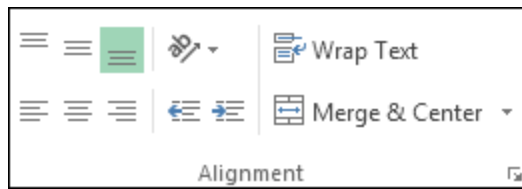
The cells highlighted in the image above have an assorted color to the normal white color of a cell. When you highlight cells, you can do things to all the cells as a group.

To center the text and numbers in our highlighted cells, try this:

- From the Excel Ribbon at the top of the screen, locate the **Alignment** panel. Here's the Alignment panel in Excel 2007:



And here it is in Excel 2010 and 2016:

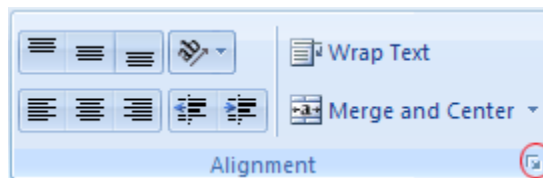


You can see the various alignment options laid out. These ones:

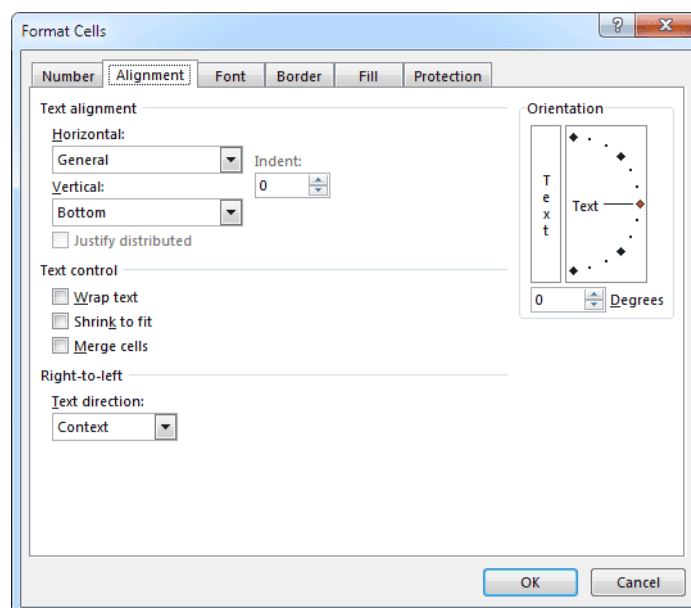


Hold your mouse over each alignment icon and you'll see an explanation of what they do. Click each icon and see what they do to your highlighted cells.

You can also click the arrow in the bottom right of the Alignment panel to bring up the Format Cells box (the one circled below).

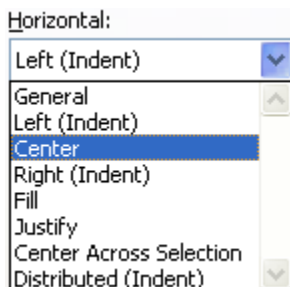


When you click the arrow, you'll see this dialogue box:



Notice the Text Alignment section at the top of the Alignment tab. It has two drop down menus, one for **Horizontal** alignment and one for **Vertical** alignment.

- Click the arrow on the Horizontal drop-down menu, the one with **General** on it, in the image above
- You'll see the following:



As you can see, you have plenty of options to choose from in Excel. But click on **Center**. Do the same for the **Vertical** drop-down menu. Then click OK at the bottom of the Format Cells dialogue box.

The text and numbers in cells A1, A2, A3 and A4 should now be centered, and your spreadsheet will look like the one below:

	A	B
1	Add these Numbers	
2	3	
3	6	
4	9	
5		
6		
7		

Before moving on to other types of formatting you can do in Excel, have a try of this:

- Highlight the cells A5 and A6 on your spreadsheet
- Bring up the Format Cells dialogue box, just as you did above
- Make the alignment changes from the Horizontal and Vertical drop-down menus
- Click OK to get rid of the dialogue box
- Now click inside of cell A5 on your spreadsheet and enter any number you like
- Hit the Enter key

The number you just entered should also be centered. So even if a cell is empty you can still apply formatting to it.

6 Font Formatting in Excel

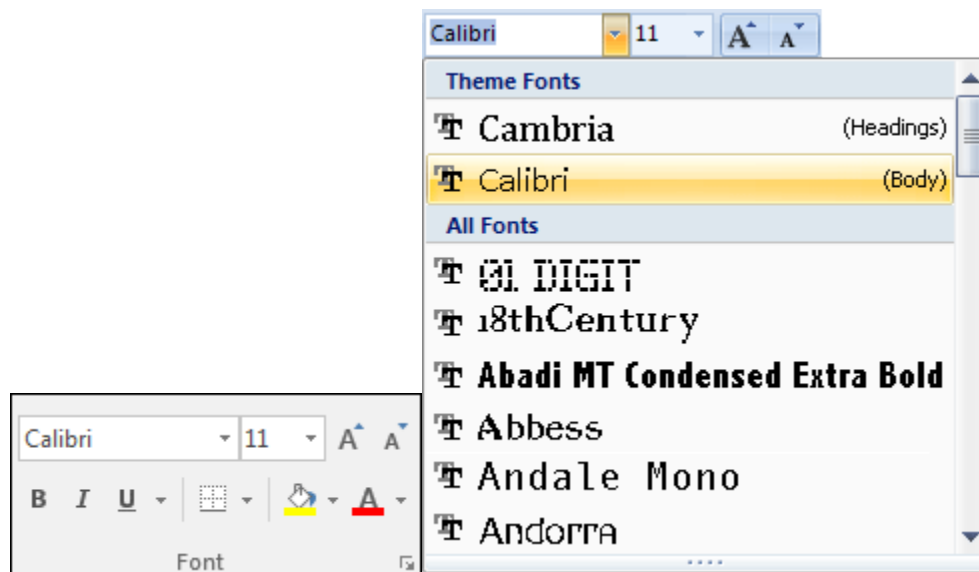
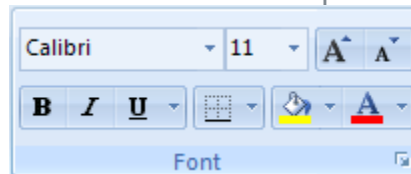
	A	B
1	Add these Numbers	
2	3	
3	6	
4	9	
5		
6		
7		

Excel 2007 to Excel 2016 have a much wider range of formatting options than previous versions, and it's relatively easy to turn a dull spreadsheet into something that really shines. We'll start with changing the font.

Choosing a Font in Excel 2007 to 2016

You can pick a different font for the data you enter cells, as well as choosing the size you want. The color of the font, and the cell background, can be changed, too. From Excel 2007 onwards, Themes have been introduced, so that you can format your spreadsheets more easily. You'll meet these later. First, we'll see how to change the font type.

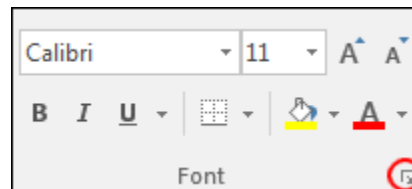
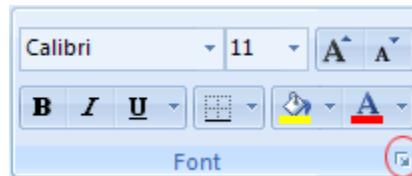
- Highlight cell A1 on your spreadsheet by simply clicking into it
- Locate the Font panel on the Excel Ribbon at the top of the page:



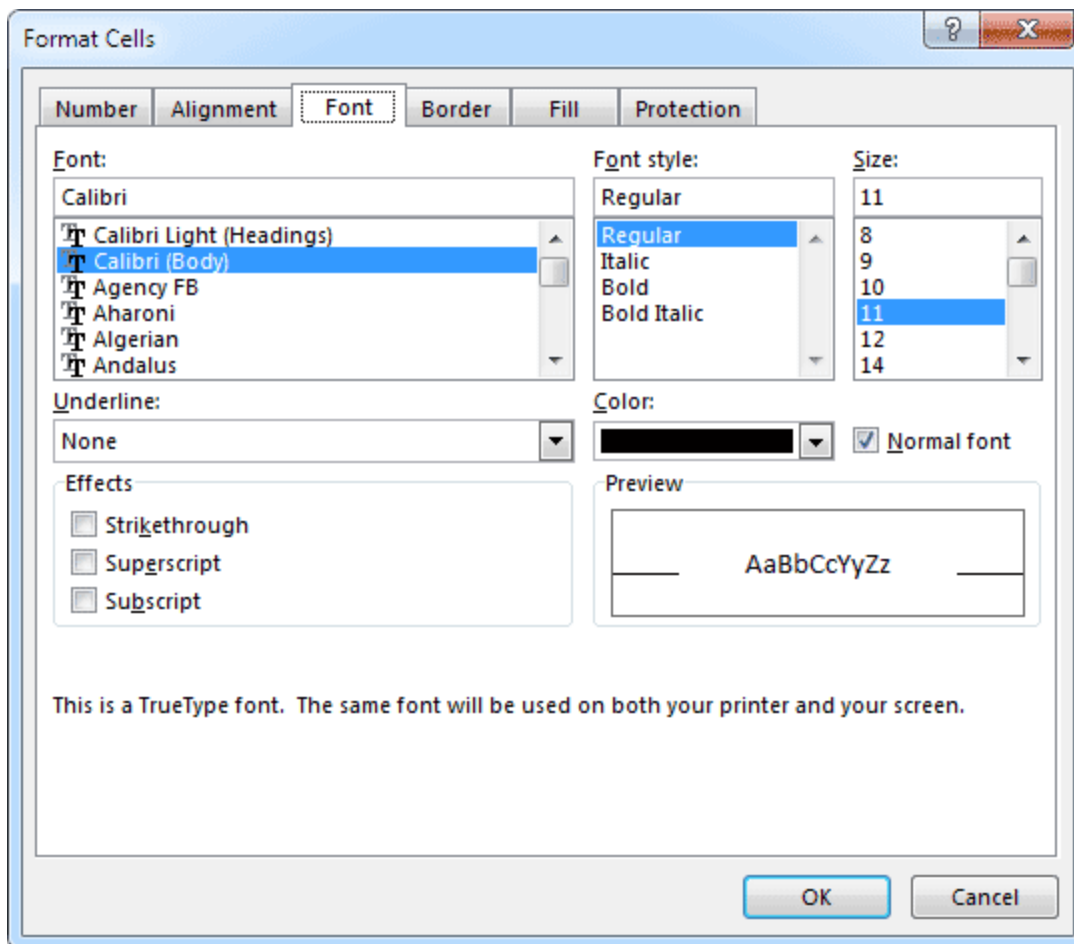
The good thing about Excel is that when you move your mouse over one of the fonts on the list, the text in your selected cell (A1) will change automatically. This is just a preview, though. When you have decided on the font you want, click it with the left mouse button.

You can change the size of the font in the same way - just choose a new font size from the list of numbers in the drop-down box.

If you want to change the font via the Format Cells dialogue box, as you did in previous versions of Excel, you can click the small arrow in the bottom right of the Font panel (the one circled below):



When you click the arrow, you'll see the Format Cells dialogue box. You can choose various options from this dialogue box: Font size, style, size, etc. The dialogue box looks like this:



You can also set the font color from here, and add text effects. Click OK when you have made your choices.

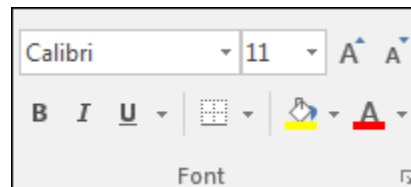
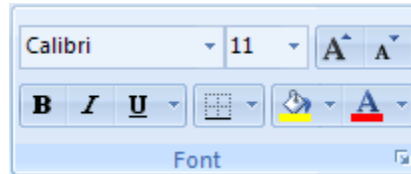
When you have changed the font and font size, your A1 cell might look something like this:

A1 fx Add these Numbers				
	A	B	C	D
1	Add these Numbers			
2	3			
3	6			
4	9			
5	12			
6				

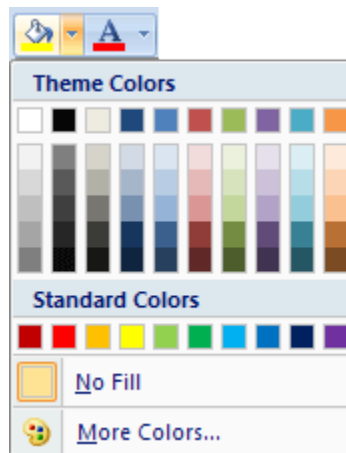
Change the Background Color of a Cell

To change the background color of cells, you first must highlight the ones you want to alter. We'll start with the cells A2 to A5. So, highlight these cells on your spreadsheet.

- With the cells A2 to A5 highlighted, locate the Font panel on the Ribbon at the top of the Excel:



- Locate the Paint Bucket, and click the arrow just to the right of it. You'll see some colors appear:



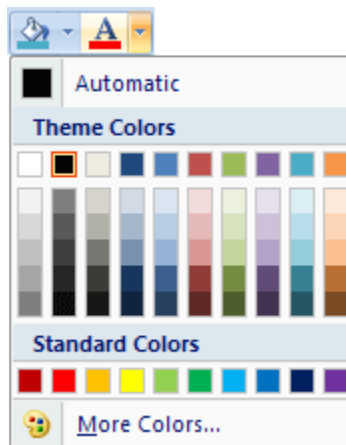
Move your mouse over any of the colors and the cells will change automatically. You can then see what the new color looks like. Click with the left mouse button to set the color you want. If you don't like any of the colors displayed, click on "More Colors".

Once you have the number cells formatted in a different color, click on the cell A1. Now do the same thing, only this time choose a contrasting color for the background of this cell. Your spreadsheet should then look something like the one below.

	A	B	C
1	Add these Numbers		
2	3		
3	6		
4	9		
5	12		
6			

Change the Text color

To change the color of the text itself, click the down arrow just to the right of the letter A, which is just to the right of the Paint Bucket on the Font panel.



Select a color just like you did for the background color of the cell. Here's what your spreadsheet might look like with the background cell color changes, and the text color:

	A	B	C
1	Add these Numbers		
2	3		
3	6		
4	9		
5	12		
6			

So, with just a few clicks of your mouse, you can create a quite attractive spreadsheet. In the next part, you'll see how to save your work in Excel.

8 How to Save your work in Excel

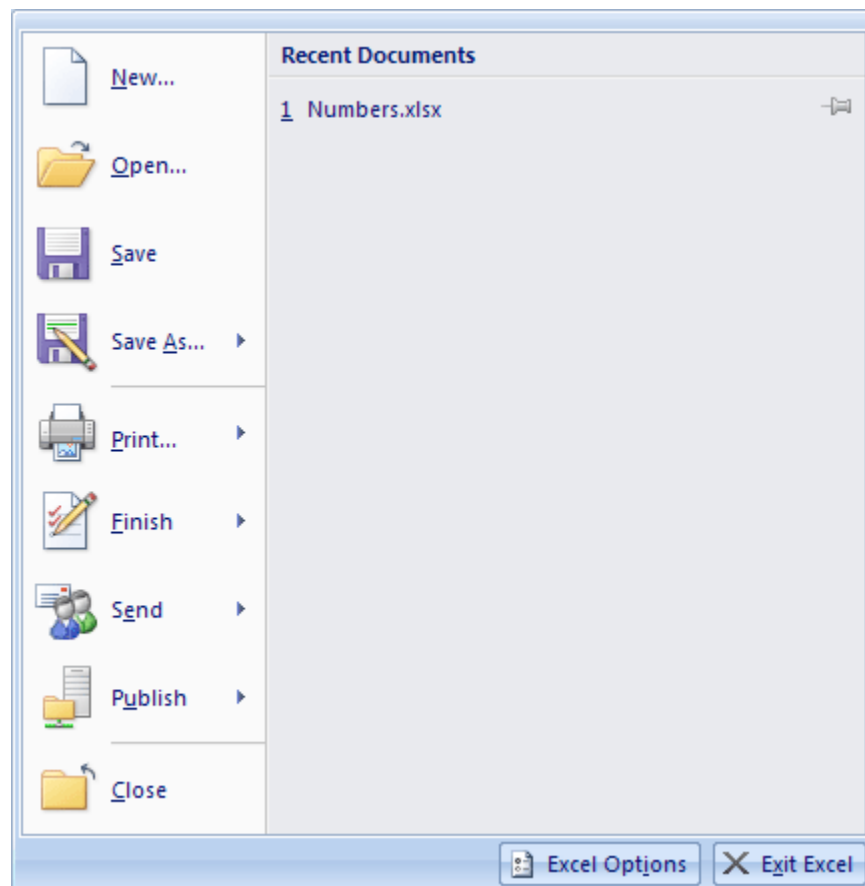
Now that your spreadsheet is coming along nicely, you'll want to save your work. To save your spreadsheet, do the following.

Excel 2007 Users

If you have Excel 2007, click the round Office button in the very top left of Excel 2007. This one:

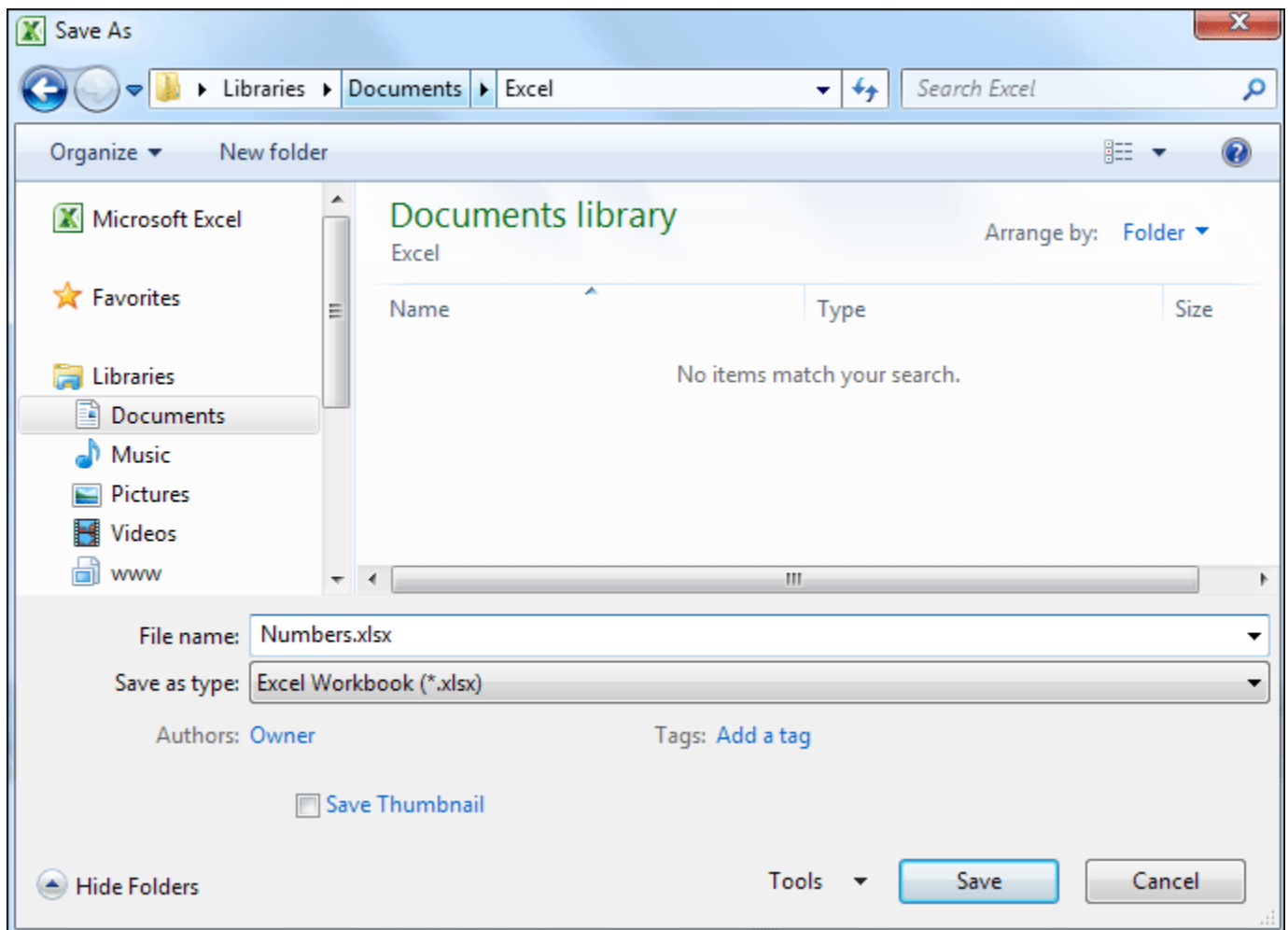


When you click the Office button, you'll see the options list appear:



In Excel 2007, you perform all the File operations by clicking the round Office button. Clicking Close, for example, will close the current Excel spreadsheet, but won't close down Excel itself. To close down Excel, click the "Exit Excel" button in the bottom right of this dialogue box. If you want to open a recent Excel document, click its name under the Recent Documents heading.

Click Save to see the following dialogue box appear:



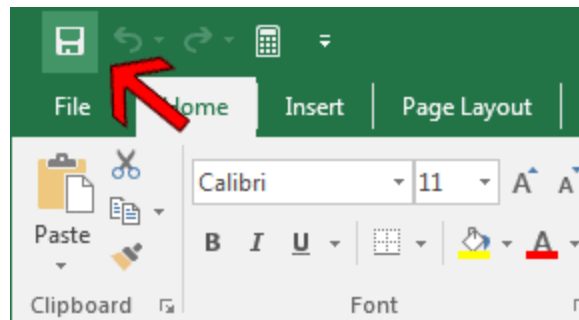
In the image above, we're saving our Excel spreadsheet to a **New Folder** we've created in the **Libraries > Documents** folder. But you can use the area on the left of the dialogue box to choose another location to save your work.

Notice the "Save as Type" box below the file name. The type is a **XLSX** file, and this is new from Excel 2007. Whenever you see this ending, you know that it is an Excel file.

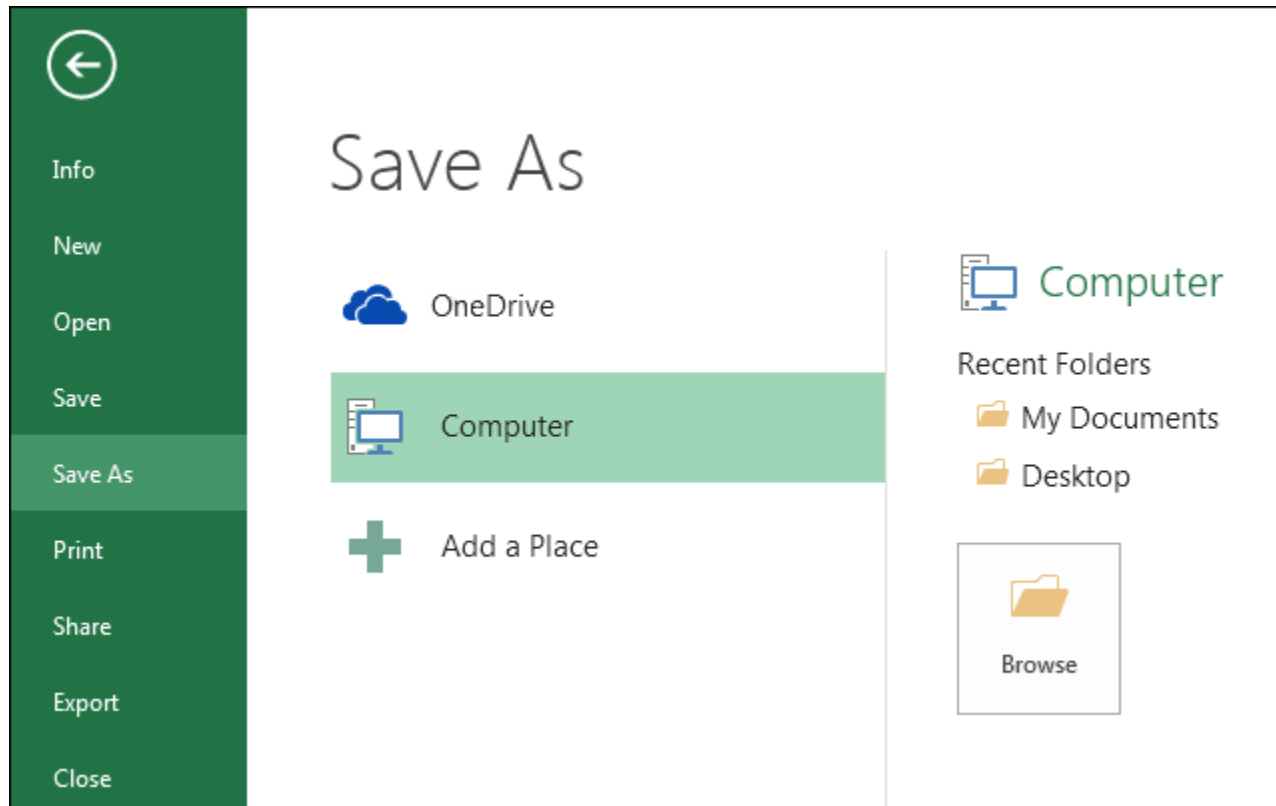
Click the Save button when you're happy with the location

Excel 2010 to 2013

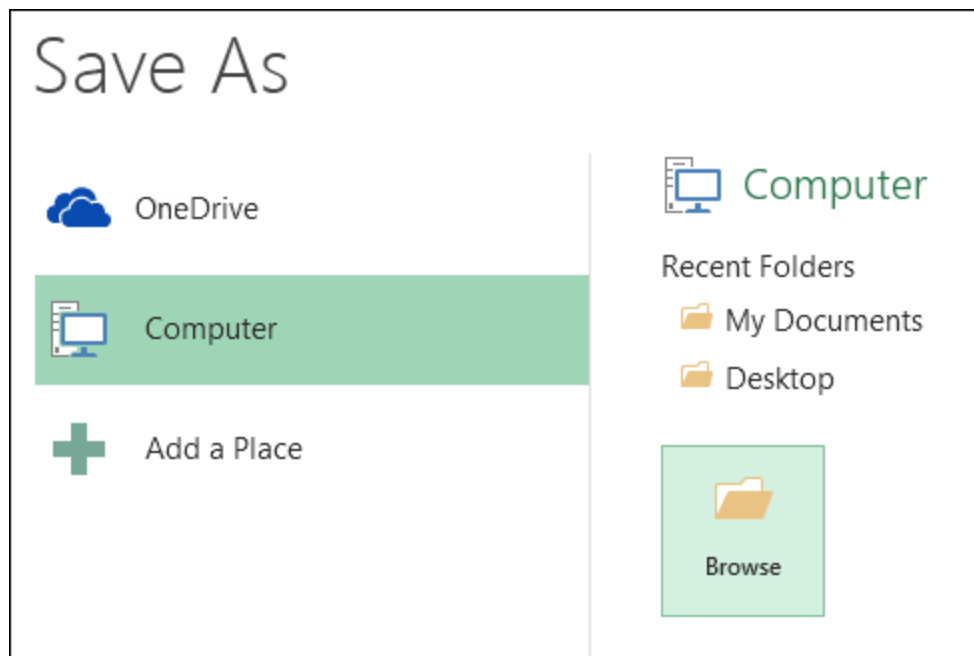
For Excel 2010 to 2013 users, click the Save icon in the top left of Excel (You can also click the File item just below the Save icon.):



You'll then see this screen:



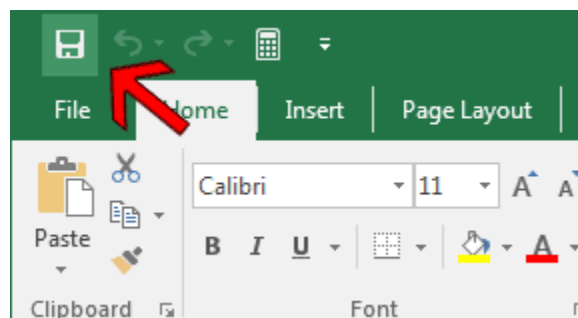
You'll see three options: OneDrive (which used to be called SkyDrive), Computer, and Add a Place:



The first option is OneDrive. This saves it to servers operated and controlled by Microsoft. This is very useful if you want to work on your Excel document from other locations. For example, you may be working on a spreadsheet in your office. Saving it to OneDrive means you'll also be able to open it when you get home from work. When you click the OneDrive option you'll be able to Sign In, Sign Up, or simply Learn More. We'll be saving to the Computer, though, so click this option. Then click the Browse option. You'll then see the same Save As dialogue box as above. Select a location to save your spreadsheet and then click the Save button.

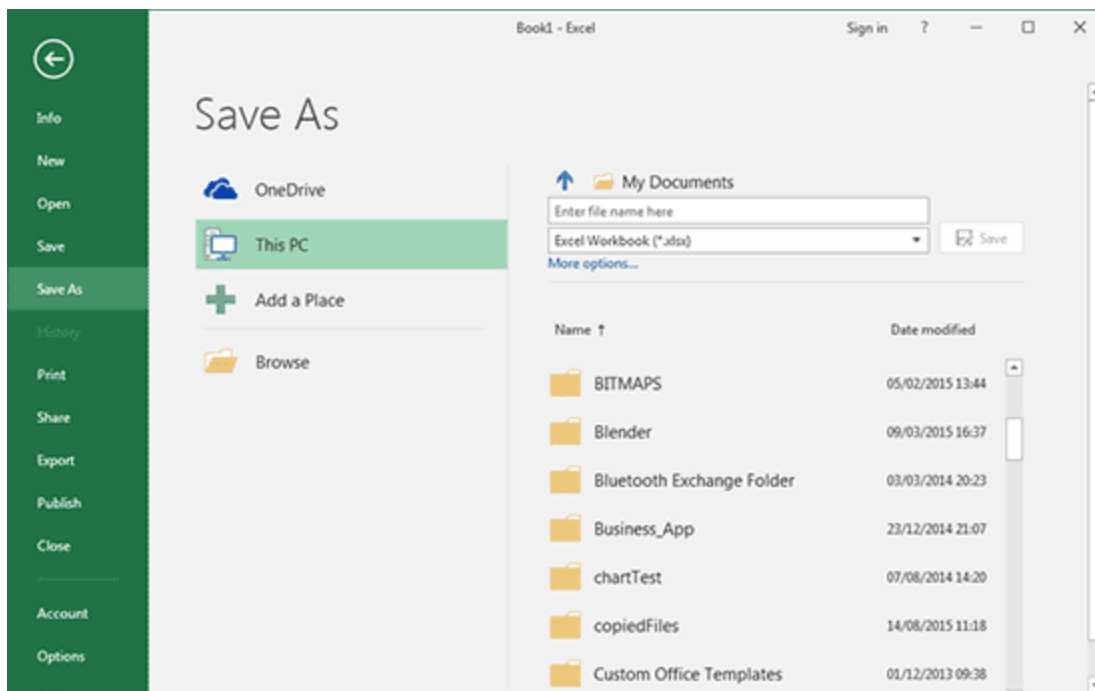
Excel 2016

For Excel 2016 users, Click the Save icon in the top left of Excel:

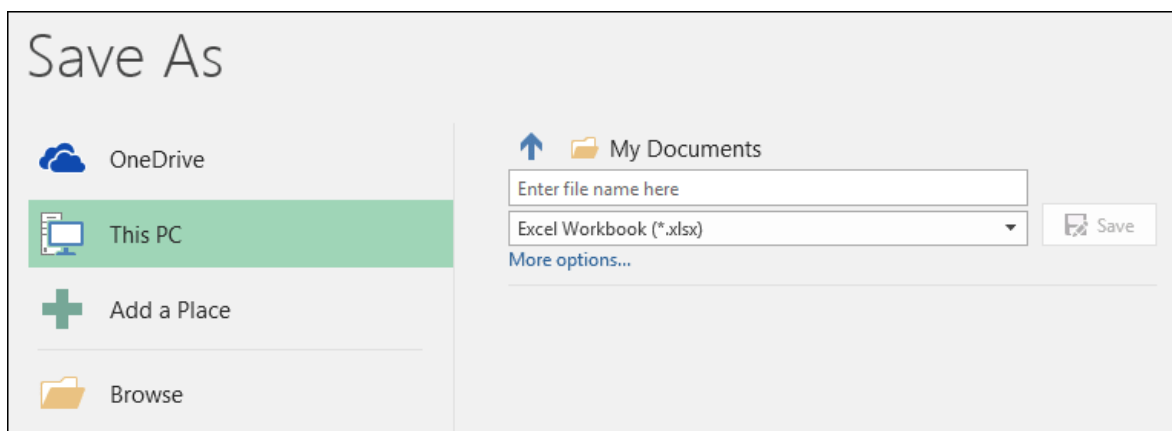


(You can also click the File item just below the Save icon.)

You'll then see this screen. (Make sure Save As is selected on the left):

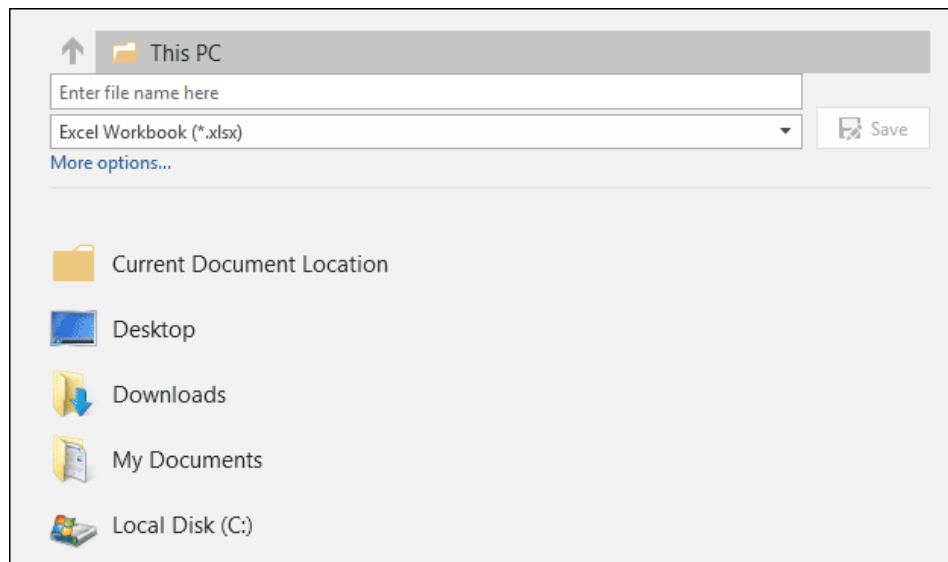


Under Save As, you can see four items: OneDrive, This PC, Add a Place, and Browse. The default is to save your work on your own computer (This PC), in the My Documents folder:



If you're happy to save your work in the My Documents folder, then type a name in the text box that says, "Enter file name here". Click the Save button to the right and your file will be saved as a XLSX spreadsheet.

If you don't want to save your spreadsheet in the My Documents folder, click the More Options link. You'll then see the same Save As dialogue box as above, for 2007 users. You can also click the blue arrow, just to the left of My Documents in the image above. You'll then see this:



Navigate to an area on your computer by clicking an item on the list. When you're happy with your chosen location, click the Save button.

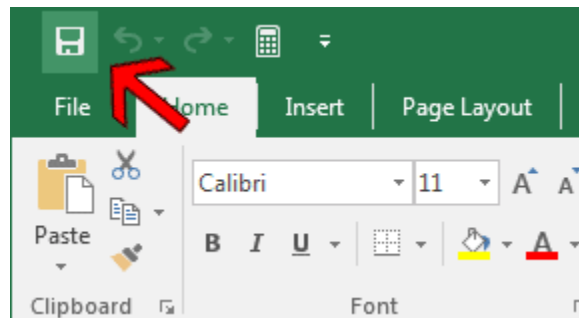
All Excel Users

If you click the dropdown list, where it says Excel Workbook (*.xlsx), you will see that you can save your workbook in lots of different formats:



So, if somebody has an older version of Excel, you can save it as an Excel 97-2003 workbook. It will then be saved in the older XLS format.

Remember to save your work on a regular basis, by clicking either the round Office button in Excel 2007 or the File menu/icon in Excel 2010 to 2016. Then click the Save option. A quicker way is to just click the disk icon on the Quick Access Toolbar in the top left of Excel (all versions):



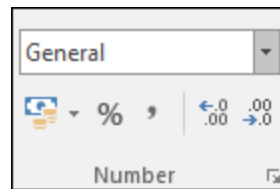
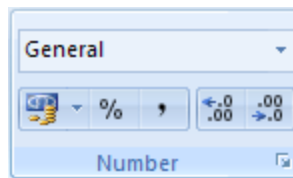
9 Currency Symbols in Excel

Take a look at the following spreadsheet:

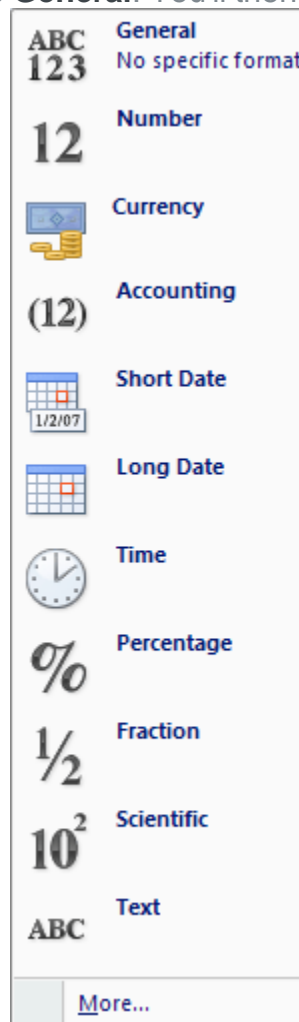
	A	B	C	D
1	Shopping Bill			
2				
3	Item	Number	Price Each	
4	Mars Bars	4	£0.35	
5	Aeros	10	£0.32	
6	Twixes	4	£0.39	
7	Crisps	12	£0.35	
8	Pop	4	£0.59	
9				

The C column has a heading of "Price Each". The prices all have the currency symbol. To insert the currency symbol, do this:

- Enter some prices on a spreadsheet (any will do), and highlight the cells
- With the cells highlighted, locate the **Number** panel on the Excel 2007 to 2016 Ribbon bar (on the **Home** Tab):

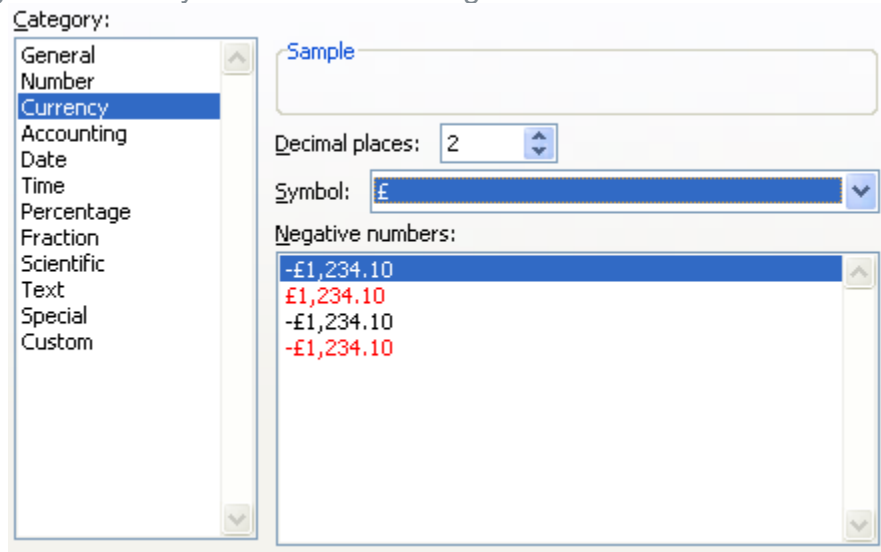


Click the drop-down list that says **General**. You'll then be presented with a list of options:



Click the Currency item to add a Rupees sign. If you're not in the India, you'll see the default currency for your country.

To see other currencies, click on **More** (or **More Number Formats** in Excel 2013/2016). The Format Cells dialogue box appears. In the Category list, click on Currency. Select a Currency sign from the Symbol list. The dialogue box will then look like this:



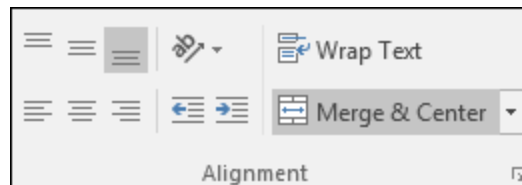
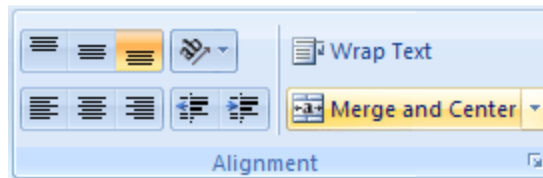
Click OK to set the Rupees sign as the currency.

10 How to Merge Cells

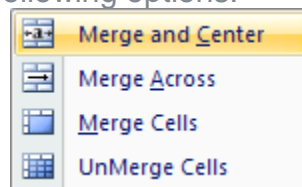
	A	B	C	D
1	Shopping Bill			
2				
3	Item	Number	Price Each	
4	Mars Bars	4	£0.35	
5	Aeros	10	£0.32	
6	Twixes	4	£0.39	
7	Crisps	12	£0.35	
8	Pop	4	£0.59	
9				

If you look at Row 1, you'll see that the "Shopping Bill" heading stretches across three cells. This is not three separate cells, with a color change for each individual cell. The A1, B1 and C1 cells were merged. To merge cells, do the following.

- Type the words **Shopping Bill** into cell A1 of a spreadsheet
- Highlight the cells A1, B1 and C1
- On the Alignment panel of the Excel Ribbon, locate the "Merge and Center" item:



- Click the down arrow to see the following options:



Click on "Merge and Center". Your three cells will then become one - A1, to be exact!

11 Hands on

Reproduce the simple spreadsheet below, from a junk-food addict! You can pick your own colors for the cells and data, but try to include everything that's in the image.

	A	B	C	D
1	Shopping Bill			
2				
3	Item	Number	Price Each	
4	Mars Bars	4	£0.35	
5	Aeros	10	£0.32	
6	Twixes	4	£0.39	
7	Crisps	12	£0.35	
8	Pop	4	£0.59	
9				

As well as centered text and numbers, you need to widen the columns. To get the currency symbol, see a previous section. Also in a previous section, you can see how to merge cells for the "Shopping Bill" heading. This should be one cell, and not three.

12 How to use AutoFill in Excel

	A1				
	A	B	C	D	E
1	My Chocolate Addiction				
2					

You have a title in cell A1, but nothing else. You'll now see how to use the AutoFill feature of Excel to quickly enter the days of the week. Off we go, then.

Excel AutoFill

Click inside cell B3 of your spreadsheet, and type Monday, as in the image below:

		B3			
	A	B	C	D	
1	My Chocolate Addiction				
2					
3		Monday			
4					

The days of the week are going to be entered on Row 3 of our spreadsheet, from cell B3 to cell H3. Fortunately, you don't have to type them all out. You can use something called AutoFill to complete a known sequence like days of the week. In other words, Excel will do it all for us.

- Position your mouse pointer to the bottom right of the B3 cell
- The mouse pointer will change to a black cross, as in the images below. The image on the left shows the normal white cross; the image on the right, the black cross, tells you AutoFill is available:

	A	B	C
1	My Chocolate Addiction		
2			
3		Monday	
4			

	A	B	C
1	My Chocolate Addiction		
2			
3		Monday	
4			

- When you can see the AutoFill cursor, hold down your left mouse button and drag to the right
- Drag your mouse all the way to cell H3, as in the following image:

	B3							
								Monday
	A	B	C	D	E	F	G	H
1	My Chocolate Addiction							
2								
3		Monday						+
4							Sunday	
5								

- When your cursor is in the H3 cell, let go of the left mouse button
- Excel will now complete the days of the week:

	A	B	C	D	E	F	G	H
1	My Chocolate Addiction							
2								
3		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
4								

And that's all there is too it! AutoFill can be a handy tool to use, when you want to complete a known sequence like days of the week, months, and even formulas. We'll use AutoFill on a column of numbers, shortly. But let's crack on with our spreadsheet

Now that we've got a heading for the spreadsheet, as well as the days of the week, we can enter a few chocolate bars.

- Click inside cell A4 and enter the name of a chocolate bar. You can enter anything you like, but we've gone for Mars Bars. In cell A5 we chose Twix, and in cell A6 Bounty. In cell A7 we typed Other
- In cell A9 of spreadsheet enter the words **Day Totals**. Leave cell A8 blank. Your spreadsheet should then look something like ours below:

	A	B	C	D	E	F	G	H
1	My Chocolate Addiction							
2								
3		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
4	Mars Bars							
5	Twix							
6	Bounty							
7	Other							
8								
9	Day Totals							

Time to enter some numbers.

- Click inside cell B4, and enter the number 1. Press the enter key on your keyboard, and the active cell will jump down to cell B5

- In cell B5 type the number 7. Press the Enter key again to jump down to cell B6
- In cell B6 type 8
- In cell B7 type 1
- Your spreadsheet will then look like this one:

	A	B	C	D	E	F	G	H
1	My Chocolate Addiction							
2								
3		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
4	Mars Bars	1						
5	Twix	7						
6	Bounty	8						
7	Other	1						
8								
9	Day Totals							

To complete the numbers for the rest of the week, enter the following under each heading:

	A	B	C	D	E	F	G	H
1	My Chocolate Addiction							
2								
3		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
4	Mars Bars	1	2	1	3	3	2	5
5	Twix	7	5	3	2	4	2	4
6	Bounty	8	3	2	3	4	1	4
7	Other	1	2	2	2	2	1	1
8								
9	Day Totals							

Now that you have all those numbers typed out, we can move on to formulas, as you learn how to add up in Excel.

13 Entering Simple Addition Formula

The first thing we'll do is to add up all those numbers, the ones going down under the days of the week headings. The total for each day of the week will be placed on Row 9. So, Monday's total will go in cell B9, Tuesday's total will go in cell C9, and so on. Here's our spreadsheet again:

	A	B	C	D	E	F	G	H
1	My Chocolate Addiction							
2								
3		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
4	Mars Bars	1	2	1	3	3	2	5
5	Twix	7	5	3	2	4	2	4
6	Bounty	8	3	2	3	4	1	4
7	Other	1	2	2	2	2	1	1
8								
9	Day Totals							

Our first total will go in cell B9.

Adding up in Excel

Excel needs to know which cells you want to add up. Look at the numbers for the Monday column. We have a 1 in cell B4, a 7 in cell B5, an 8 in cell B6, and a 1 in cell B7. So, we want the answer to this:

$$B4 + B5 + B6 + B7$$

To let Excel, know that this is what we want, try this:

- Click inside cell B9, which is where we want the answer to appear
- Once you've clicked on cell B9, click into the formula bar at the top
- Type this:

$$B4 + B5 + B6 + B7$$

When you have entered the formula in the formula bar, press the enter key on your keyboard. Your spreadsheet should look like ours below:

B9		fx		B4 + B5 + B6 + B7	
	A	B	C	D	
1	My Chocolate Addiction				
2					
3		Monday	Tuesday	Wednesday	
4	Mars Bars	1	2	1	
5	Twix	7	5	3	
6	Bounty	8	3	2	
7	Other	1	2	2	
8					
9	Day Totals	B4 + B5 + B6 + B7			
10					

Something has gone wrong! This is not quite what we were expecting. We wanted Excel to add up the numbers for us, but it hasn't done anything except enter the cells we typed.

What went wrong was that we didn't "tell" excel to add up. Excel needs you to type an equal (=) sign first, and then those cell references. If you don't include the equals sign, Excel thinks it's just plain text, and so doesn't do any calculating.

So, enter this inside of your formula bar instead:

= B4 + B5 + B6 + B7

In other words, put an equals sign (=) before **B4**. Press your enter key and you should have the correct answer in cell B9.

Now click back inside the formula bar, and delete the equals sign. Press the enter key again. You should then just have the same text as in the image above. We're doing this to show you an easier way to add up - with the SUM function.

14 The SUM Function in Excel

You saw a straightforward way to add up in the previous section. Enter an equals sign, followed by the cells you want Excel to add up:

= B4 + B5 + B6 + B7

But this is not an effective way to add up in Excel: it could get very tedious indeed if you had to type out say 50 cell references by hand. The effortless way is to get Excel to do the work for you. That's where SUM comes in.

The Excel SUM function

The SUM function is used to add things up, and saves you the bother of typing out lots of cell names and numbers. It looks like this:

=SUM()

In between the round brackets, you type what you want Excel to add up. Look at our spreadsheet again. Here it is in Excel 2007:

	A	B	C	D	E	F	G	H
1	My Chocolate Addiction							
2								
3		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
4	Mars Bars	1	2	1	3	3	2	5
5	Twix	7	5	3	2	4	2	4
6	Bounty	8	3	2	3	4	1	4
7	Other	1	2	2	2	2	1	1
8								
9	Day Totals							

In Excel 2010 and 2016 you'll have this less colorful version:

	A	B	C	D	E	F	G	H
1	My Chocolate Addiction							
2								
3		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
4	Mars Bars	1	2	1	3	3	2	5
5	Twix	7	5	3	2	4	2	4
6	Bounty	8	3	2	3	4	1	4
7	Other	1	2	2	2	2	1	1
8								
9	Day Totals							
10								

We want to add up the numbers under the **Monday** heading, and place the answer in cell B9.

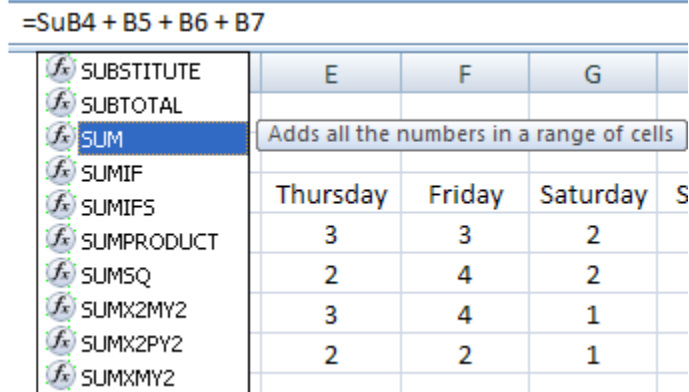
So, with cell B9 selected again, click into your formula bar. If you're following along from the previous lesson, you should have this in cell B9:

B9		fx		B4 + B5 + B6 + B7	
	A	B	C	D	
1	My Chocolate Addiction				
2					
3		Monday	Tuesday	Wednesday	
4	Mars Bars	1	2	1	
5	Twix	7	5	3	
6	Bounty	8	3	2	
7	Other	1	2	2	
8					
9	Day Totals	B4 + B5 + B6 + B7			
10					

If you have an equals sign before B4, delete it and press the enter key. Now position your cursor at the start of the line, before the "B" of B4.

Type an equals sign first, then the letter **SU** of SUM.

As soon as you start typing, Excel will present you with a drop-down list of available functions. Click once with the left mouse button on **SUM** to highlight it:



Now double click on SUM. Excel will add the "M" for you, and the left bracket. It will also highlight the cells in your formula:

SUM		=SUM(B4 + B5 + B6 + B7	
	A	B	C SUM(number1, [number2], ...)
1	My Chocolate Addition		
2			
3		Monday	Tuesday
4	Mars Bars	1	2
5	Twix	7	5
6	Bounty	8	3
7	Other	1	2
8			
9	Day Totals	=SUM(B4 + B5 +	
10			

Now press the Enter key on your keyboard. Excel will add the right bracket, and work out the SUM for you:

	B9	=SUM(B4 + B5 + B6 + B7)			
	A	B	C	D	E
1	My Chocolate Addiction				
2					
3		Monday	Tuesday	Wednesday	Thursday
4	Mars Bars	1	2	1	3
5	Twix	7	5	3	2
6	Bounty	8	3	2	3
7	Other	1	2	2	2
8					
9	Day Totals	17			
10					

Now click back on cell B9, and look at the Name box (just above the A column, in our image). It has B9 in it. The formula bar to the right shows you which formula you have in the active cell (B9).

Another way to use the SUM function is this:

- Click into cell C9. Type **=SUM**.
- Double click the SUM function from the dropdown list, as before. Now click into cell C4:

Monday	Tuesday	Wednesday	Thursday
1	2	1	3
7	5	3	2
8	3	2	3
1	2	2	2
17	=SUM(C4		

- Keep your left mouse button held down and drag to cell C7. Excel will highlight these cells and put the cell references into the formula for you:

Monday	Tuesday	Wednesday	Thursday
1	2	1	3
7	5	3	2
8	3	2	3
1	2	2	2
17	=SUM(C4:C7		

- Type and end round bracket, and then press the enter key on your keyboard.
If you wanted to, you could hold down the CTRL key on your keyboard and select different cells on your spreadsheet. These would then get added between the round

brackets of SUM. In other words, if you want to include cells that are not in the same column, or are not next to each other, then you can.

An easier way to add up number with the SUM function is to use a colon (:) The colon is a shorthand way of adding up consecutive cells. Instead of typing out all those cell references like this:

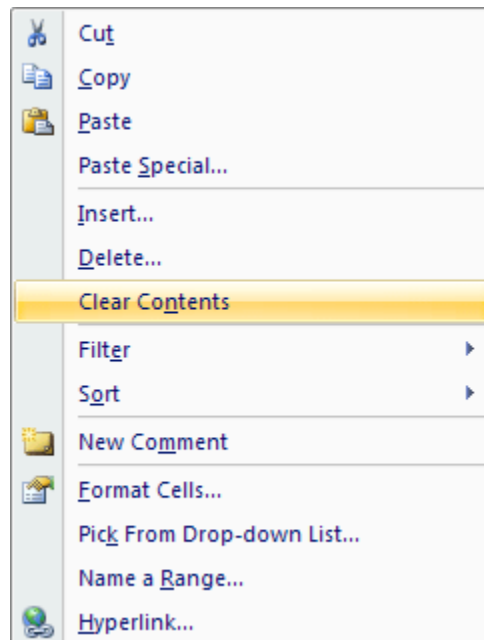
=SUM(B4 + B5 + B6 + B7)

You can just type out the first cell reference, then a colon, then the last cell reference. Like this:

=Sum(B4: B7)

Excel will then add up the numbers in cells B4 to B7. It knows what the colon means!

- Click into cell B9, if it's not already active
- Now click on the cell with your right mouse button
- You'll see a menu appear:



- From the menu, select **Clear Contents** by clicking the item with your left mouse button
- This will clear the formula from the formula bar
- Now click back inside of the formula bar and type the following:

=Sum(B4:B7)

Your spreadsheet should look like ours:

SUM		=SUM(B4:B7)		
	A	B	C	D
1	My Chocolate Addiction			
2				
3		Monday	Tuesday	Wednesday
4	Mars Bars	1	2	1
5	Twix	7	5	3
6	Bounty	8	3	2
7	Other	1	2	2
8				
9	Day Totals	=SUM(B4:B7)		
10				

When you have the formula typed out, hit the Enter key on your keyboard. Excel will add up the numbers for you, and place the correct answer in cell B9.

If everything went well, you should have an answer of 17 in cell B9. Fortunately, we can use AutoFill for the rest of the answers.

- Place your mouse pointer to the bottom right of cell B9
- The pointer will turn into a thin black cross:

	A	B	C	D	E	F	G	H
1	My Chocolate Addiction							
2								
3		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
4	Mars Bars	1	2	1	3	3	2	5
5	Twix	7	5	3	2	4	2	4
6	Bounty	8	3	2	3	4	1	4
7	Other	1	2	2	2	2	1	1
8								
9	Day Totals	17						
10								

- Hold down your left mouse button
- Keep it held down, and drag your mouse to cell H9:

	A	B	C	D	E	F	G	H
1	My Chocolate Addiction							
2								
3		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
4	Mars Bars	1	2	1	3	3	2	5
5	Twix	7	5	3	2	4	2	4
6	Bounty	8	3	2	3	4	1	4
7	Other	1	2	2	2	2	1	1
8								
9	Day Totals	17						
10								

With your mouse pointer over cell H9, let go of the left button. Excel will AutoFill the rest of the formulas. It uses the same formula from cell B9 to get the answers, and just alters all the cell references. Without AutoFill, you'd have to type it all out yourself!

The answers on Row 9 of your spreadsheet should be the same as ours in the image below:

H9		fx		=SUM(H4:H7)				
	A	B	C	D	E	F	G	H
1	My Chocolate Addiction							
2								
3		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
4	Mars Bars	1	2	1	3	3	2	5
5	Twix	7	5	3	2	4	2	4
6	Bounty	8	3	2	3	4	1	4
7	Other	1	2	2	2	2	1	1
8								
9	Day Totals	17	12	8	10	13	6	14
10								

Notice the formula bar in the image. It shows the formula in cell H9. This is:

=Sum(H4:H7)

The formula we started with was:

=Sum(B4:B7)

Excel has changed the letters for us, but not the numbers. In other words, it's adding up the columns.

If you think of the colon as the word TO, it should make sense:

Add up the cells B4 TO B7
Add up the cells H4 TO H7

15 The SUM Function Continued

you'll now get some more practice with the SUM function in Excel, to add up values in cells. Our spreadsheet now looks like this, though:

H9		fx		=SUM(H4:H7)				
	A	B	C	D	E	F	G	H
1	My Chocolate Addiction							
2								
3		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
4	Mars Bars	1	2	1	3	3	2	5
5	Twix	7	5	3	2	4	2	4
6	Bounty	8	3	2	3	4	1	4
7	Other	1	2	2	2	2	1	1
8								
9	Day Totals	17	12	8	10	13	6	14
10								

You've just used the effortless way to add up values in consecutive cells for a column. Just do this:

=SUM (B4:B7)

Using that formula gave us the answer to how many chocolate bars we ate from Monday to Sunday. You can use this same colon (:) shorthand to add up numbers in a Row.

- Click inside cell J3 of your Chocolate Addiction spreadsheet
- Type the text Individual Totals (you may have to widen the column a bit, as you did for a previous section)
- Your spreadsheet will then look like this:

J3		fx		Individual Totals						
	A	B	C	D	E	F	G	H	I	J
1	My Chocolate Addiction									
2										
3		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday		Individual Totals
4	Mars Bars	1	2	1	3	3	2	5		
5	Twix	7	5	3	2	4	2	4		
6	Bounty	8	3	2	3	4	1	4		
7	Other	1	2	2	2	2	1	1		
8										
9	Day Totals	17	12	8	10	13	6	14		
10										

We'll use a SUM formula to add up the values in each Row. This will tell us how many of a chocolate bar we ate in one week: how many Mars Bars, how many Twix, etc.

The first answer we'll try is how many Mars Bars we ate in one week. We'll place this answer in cell J4. The cells we're going to be adding up are these:

B4 + C4 + D4 + E4 + F4 + G4 + H4

Because we have consecutive cells, we can use the colon shorthand again.

- Click into cell J4 of your spreadsheet
- Then click into the formula bar at the top
- Enter the following formula:

=Sum(B4:H4)

Press the enter key on your keyboard, and you'll see the answer appear in J4. To complete the rest of the rows, we can use AutoFill again.

- Click back in cell J4 to make it the active cell
- Move your mouse pointer to the bottom right of cell J4
- You'll see the pointer change to a thin black cross:

H	I	J
Sunday		Individual Totals
5		17
4		
4		
1		
14		

- Now hold down your left mouse button
- Keep the left button held down and drag down to cell J7

H	I	J
Sunday		Individual Totals
5		17
4		
4		
1		
14		

When your mouse pointer gets to cell J7, let go of the left button. Excel will use AutoFill to get the answers for the other three cells. Hopefully, your spreadsheet now looks like ours:

J
Individual Totals
17
27
25
11

Select any of the cells J4, J5, J6 and J7. Then examine the formula in the formula bar. You should be able to understand what is being added up, and what all the formulas mean.

Now that we have totals for each individual chocolate bar, we can work out how many chocolate bars we ate for the whole week. We'll put the Grand Total in cell F11. First, we'll enter some text to explain what is being added up

- Click inside cell A11 on your spreadsheet
- Type the following text: Number of Chocolate bars consumed in a week
- Hit the Enter key on your keyboard
- You should see the text you just typed. But it will all be in individual cells. Highlight the cells A11 to E11, and merge them together
- This is what your spreadsheet should now look like:

	A	B	C	D	E	F	G	H	I	J
1	My Chocolate Addiction									
2										
3		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday		Individual Totals
4	Mars Bars	1	2	1	3	3	2	5		17
5	Twix	7	5	3	2	4	2	4		27
6	Bounty	8	3	2	3	4	1	4		25
7	Other	1	2	2	2	2	1	1		11
8										
9	Day Totals	17	12	8	10	13	6	14		
10										
11	Number of Chocolate bars consumed in a week:									
12										

There are two ways we can calculate the Grand Total. You can just add up the Individual totals in the J column, or ... Well, how else could you get the number of chocolate bars consumed in one week?

- Click into cell F11 on your spreadsheet
 - Enter your formula to calculate the number of chocolate bars consumed in one week
 - Hit the Enter key when you think you have the correct formula
- The correct answer is 80. If you got a different answer, or are struggling in any way to come up with the correct formula, then it's a good idea to go over the previous section. But don't just type 80 into cell F11 and move on!

In the next part, we'll extend the spreadsheet a little. To do that, you learn how to copy and paste with Excel.

16 Copy and Paste

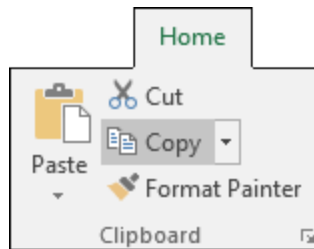
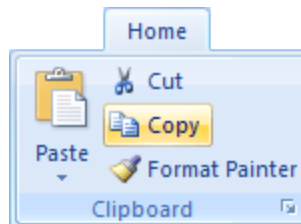
	A	B	C	D	E	F	G	H	I	J
1	My Chocolate Addiction									
2										
3		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday		Individual Totals
4	Mars Bars	1	2	1	3	3	2	5		17
5	Twix	7	5	3	2	4	2	4		27
6	Bounty	8	3	2	3	4	1	4		25
7	Other	1	2	2	2	2	1	1		11
8										
9	Day Totals	17	12	8	10	13	6	14		
10										
11	Number of Chocolate bars consumed in a week:									
12										

If we're eating that many chocolate bars in one week, we'd like to know how much this habit is costing us! And what about the yearly cost of the addiction? Excel makes sums like this quite easy to calculate. First let's have some new headings.

Copy and Paste

To create your new headings, do this:

- Locate cell A13 on your spreadsheet and click on it
 - Type **Cost of Addiction**
 - Merge the cells, in the same way you learned previously
 - Add a bit of formatting to the text, if you like
- We're going to be needing the names of the chocolate bars again. These will go in cells A15 to A18. Instead of typing them all out by hand, Excel 2007 and Excel 2010 make it easy to copy and paste the names. Try this:
- Highlight the cells A4, A5, A6 and A7
 - Locate the Clipboard panel in the Ribbon at the top of the page (on the **Home** menu)
 - From the Clipboard panel, click **Copy**



You'll see some moving lines surrounding your highlighted cells - the so-called marching ants!

A4		
	A	B
1	My Chocolate Addi	
2		
3		Monday
4	Mars Bars	1
5	Twix	7
6	Bounty	8
7	Other	1
8		
9	Day Totals	17

- Once you see the marching ants, click into cell A15
- To paste the copied text over, simply press the Enter key on your keyboard
- Your spreadsheet should now look something like ours below:

1	My Chocolate Addiction				
2					
3		Monday	Tuesday	Wednesday	Thursday
4	Mars Bars	1	2	1	3
5	Twix	7	5	3	2
6	Bounty	8	3	2	3
7	Other	1	2	2	2
8					
9	Day Totals	17	12	8	10
10					
11	Number of Chocolate bars consumed in a week:				
12					
13	Cost of Addiction				
14					
15	Mars Bars				
16	Twix				
17	Bounty				
18	Other				
19					

We need some new headings on the spreadsheet. Under these headings will be the price of each chocolate bar, how many of a chocolate bar we're eating each week, and how much this is costing us each week. So, do the following:

- In cell B14 enter the word Price
 - In cell C14 enter the word Number
 - In cell D14 enter the word Cost
- Your spreadsheet should now look like this:

11	Number of Chocolate bars consumed in a week:					80
12						
13	Cost of Addiction					
14		Price	Number	Cost		
15	Mars Bars					
16	Twix					
17	Bounty					
18	Other					
19						

We're going to put the price of each chocolate bar in cells B15, B16, B17 and B18. We'll have the following for the prices:

Mars Bars £0.35

Twix £0.29

Bounty £0.32

Others £0.40

So, go ahead and enter those prices in cells B15, B16, B17 and B18 of your spreadsheet. (You can have your own currency symbol, instead of the UK pound.)

When you're finished, your spreadsheet should look like this one.

13	Cost of Addition			
14		Price	Number	Cost
15	Mars Bars	£0.35		
16	Twix	£0.29		
17	Bounty	£0.32		
18	Other	£0.40		
19				

For the Number column, we'll use a different form of Paste called Paste Special.

17 How to use Paste Special

In the previous section, you created new areas of your spreadsheet that look like this:

13	Cost of Addition			
14		Price	Number	Cost
15	Mars Bars	£0.35		
16	Twix	£0.29		
17	Bounty	£0.32		
18	Other	£0.40		
19				

We have prices in the B column. Under the **Number** heading, we're going to put how many of each chocolate bar we ate in one week: how many Mars Bars we ate will go in cell C15, how many Twix will go in cell C16, how many Bounty bars will go in cell C17, and how many other chocolate bars we ate will go in cell C18.

But we already have the weekly totals elsewhere in the spreadsheet, so we don't need to calculate them all over again. We can Copy and Paste the formula over to cells C15, C16, C17 and C18.

Paste Special in Excel 2007 to 2016

We have the weekly totals for each chocolate bar in the J column, under the Individual Totals heading.

- So, highlight your four totals in the J column of your spreadsheet
- From the Clipboard panel, click Copy
- You'll see the marching ants again:

I	J	K
	Individual Totals	
		17
		27
		25
		11

- Now, under the **Numbers** heading, click into cell C15
 - Press the enter key on your keyboard to paste the numbers across
- What you should notice is that something has gone wrong!

13	Cost of Addition			
14		Price	Number	Cost
15	Mars Bars	£0.35	#REF!	
16	Twix	£0.29	#REF!	
17	Bounty	£0.32	#REF!	
18	Other	£0.40	#REF!	
19				

So what happened? Why have all those strange **#REF** comments appeared in the cells? If you hold your mouse over the exclamation mark in the yellow diamond, you'll see this:

Moving or deleting cells caused an invalid cell reference, or function is returning reference error.

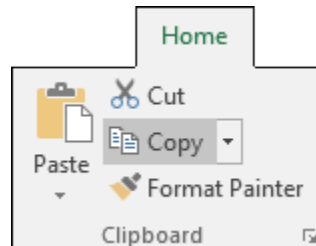
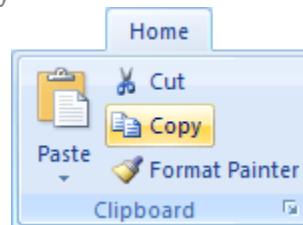
That complex error message means that Excel tried to paste the formulas over. But the cell references it has are all for the J column.

To solve the problem, we can paste the values over and not the formula.

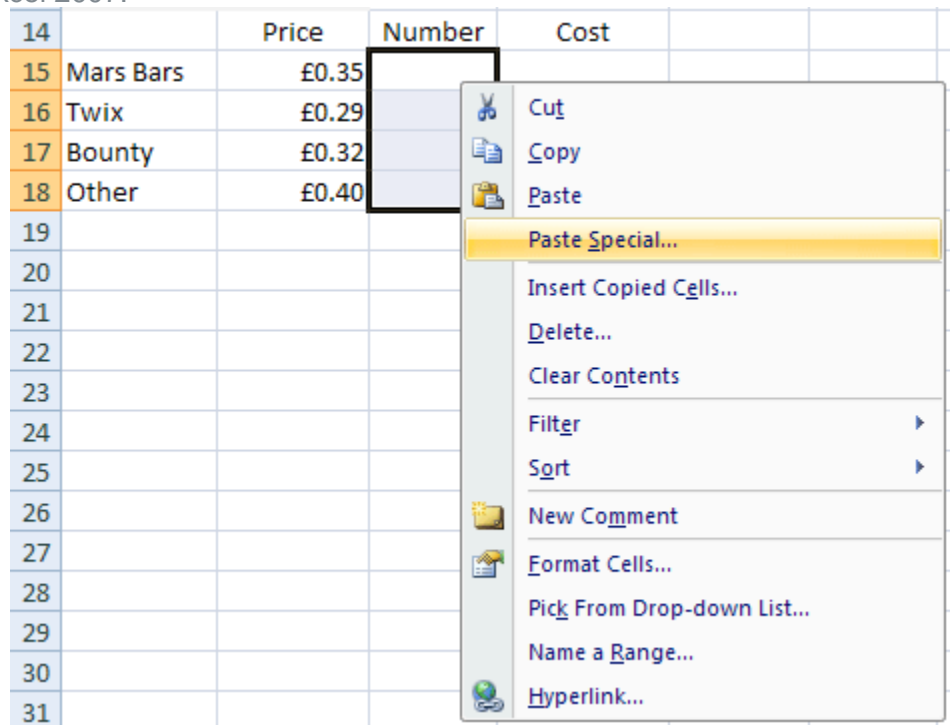
- Click the left curved arrow at the very top of Excel to Undo (or press CTRL + Z on your keyboard)



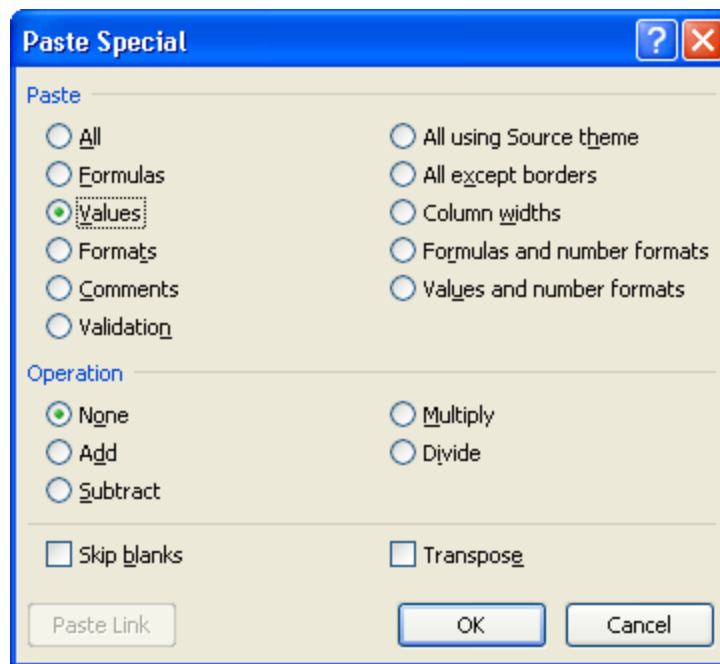
- Highlight the four cells in the J column again
- From the Clipboard panel, click copy



- Highlight the cells C15 to C18
- Using your right mouse button, click anywhere in the highlighted area. You'll see the following menu in Excel 2007:



- From the menu, click **Paste Special** with your left mouse button
- The Paste Special dialogue box will appear:



The item that is selected by default is **All**, under the **Paste** option at the top. Select the **Values** option instead. Then click the OK button.

In Excel 2010 and 2016, however, the right-click menu looks like this:



Select **Paste Special** to see the submenu above. From the submenu select the **Values** option, which is circled in red in our image.

What you've just done is to tell Excel to paste only the Values (the numbers) across, and not the formulas we used to get these values.

If you did it correctly, your spreadsheet should look ours below:

13	Cost of Addiction			
14		Price	Number	Cost
15	Mars Bars	0.35	17	
16	Twix	0.29	27	
17	Bounty	0.32	25	
18	Other	0.40	11	
19				

Of course, it would have been easy just to type out the values again, since we only have 4. But if you have a lot of values to paste over then the Paste Special dialogue box or menu can save you a lot of time.

Now that we have a price for each chocolate bar, and how many we are eating each week, we can calculate how much our addiction is costing us. For that, we'll need to multiply.

18 How to Multiply in Excel

In the previous parts of this Excel tutorial, you have been working on a spreadsheet that now looks like this:

13	Cost of Addiction			
14		Price	Number	Cost
15	Mars Bars	0.35	17	
16	Twix	0.29	27	
17	Bounty	0.32	25	
18	Other	0.40	11	
19				

To get the weekly cost of each chocolate bar, we need to multiply the **Number** of bars eaten in one week by the **Price**. This can then go in the **Cost** column. The standard way to multiply things is like this:

$$12 \times 10 = 120$$

The "x" means multiply. In a spreadsheet, however, the letter "x" is not used to multiply things. Spreadsheets use the asterisk symbol instead (the one above the number 8 on your keyboard, in the UK). The previous sum would then look like this:

$$12 * 10 = 120$$

In Excel, you don't need much more than that to multiply. The only other thing you need is an equals sign before the formula. So, to get the answer 120, you'd just enter this into any cell:



$$= 12 * 10$$

Instead of entering numbers directly, though, we'll enter a cell reference instead. To multiply, then, try this:

- Click into cell D15 on your spreadsheet, just below your **Cost** heading
- Now click into the Formula Bar at the top of Excel
- Type the following formula:

$$= B15 * C15$$

- Hit the enter key on your keyboard, and you should get an answer of 5.95
- Your spreadsheet will look like this (we've formatted the cell as a currency):

D15   = B15 * C15

	A	B	C	D	E	F	G	H
1	My Chocolate Addiction							
2								
3		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
4	Mars Bars	1	2	1	3	3	2	5
5	Twix	7	5	3	2	4	2	4
6	Bounty	8	3	2	3	4	1	4
7	Other	1	2	2	2	2	1	1
8								
9	Day Totals	17	12	8	10	13	6	14
10								
11	Number of Chocolate bars consumed in a week:					80		
12								
13	Cost of Addiction							
14		Price	Number	Cost				
15	Mars Bars	0.35	17	£5.95				
16	Twix	0.29	27					
17	Bounty	0.32	25					
18	Other	0.40	11					
19								

So to multiply in Excel, you do this:

$$= \text{Cell Reference} * \text{Cell Reference}$$

You type the equals sign first (=), followed by the first cell. Type an asterisk (*), and then the second cell. Hit the enter key, and Excel will multiply the two cells for you:

$$= B15 * C15$$

Once you have that first formula in place, you can use AutoFill for the others:

11	Number of Chocolate bars consumed in a week:				80
12					
13	Cost of Addiction				
14		Price	Number	Cost	
15	Mars Bars	0.35	17	£5.95	
16	Twix	0.29	27	£7.83	
17	Bounty	0.32	25	£8.00	
18	Other	0.40	11	£4.40	
19					

After you're done, you should have the same figures that we have in the Cost column.

In the next part of the tutorial, you'll complete this Excel spreadsheet by adding a weekly cost and a yearly cost.

19 Finishing your spreadsheet for this section

To finish off the Excel spreadsheet you have been working on in this section, we'll add figures for the weekly cost and yearly costs of the chocolate addiction. We'll use AutoFill and SUM.

The bottom of our spreadsheet looks like this:

11	Number of Chocolate bars consumed in a week:				80
12					
13	Cost of Addiction				
14		Price	Number	Cost	
15	Mars Bars	0.35	17	£5.95	
16	Twix	0.29	27	£7.83	
17	Bounty	0.32	25	£8.00	
18	Other	0.40	11	£4.40	
19					

We now have how much each individual chocolate bar is costing us each week. The next things to do is to add them all up to arrive at a weekly figure for all chocolate bars.

To calculate the weekly cost of the chocolate addiction, you can use the Excel SUM function. But there's an even easier way - use Auto Fill and SUM. Try this.

- Click inside cell F20
- Click inside the Formula bar at the top and enter = **SU**

- When you see the drop down list of functions, double click **SUM**
- Now click inside D15 of you spreadsheet
- Excel will enter the Cell for you in the formula bar:

SUM		✕ ✓ fx		=SUM(D15			
	A	B	C	SUM(number1, [number2], ...)			
13	Cost of Addition						
14		Price	Number	Cost			
15	Mars Bars	0.35	17	£5.95			
16	Twix	0.29	27	£7.83			
17	Bounty	0.32	25	£8.00			
18	Other	0.40	11	£4.40			
19							
20	Weekly Cost of Chocolate Addition:				JM(D15		
21							

- Notice the marching ants around Cell D15, and that there is a blue border with blue squares
- Hold your mouse over the bottom right blue square until your cursor changes to a double-headed arrow:

	Number	Cost
17		£5.95
27		£7.83

- Now hold your left mouse button down and drag down to cell D18
- Let go and Excel will enter the rest of the formula for you:

SUM		✕ ✓ fx		=SUM(D15:D18			
	A	B	C	SUM(number1, [number2], ...)			
13	Cost of Addition						
14		Price	Number	Cost			
15	Mars Bars	0.35	17	£5.95			
16	Twix	0.29	27	£7.83			
17	Bounty	0.32	25	£8.00			
18	Other	0.40	11	£4.40			
19							
20	Weekly Cost of Chocolate Addition:				D15:D18		
21							

Press the enter key on your keyboard to finish off the rest of the formula:

13	Cost of Addition						
14		Price	Number	Cost			
15	Mars Bars	0.35	17	£5.95			
16	Twix	0.29	27	£7.83			
17	Bounty	0.32	25	£8.00			
18	Other	0.40	11	£4.40			
19							
20	Weekly Cost of Chocolate Addiction:					£26.18	
21	Annual Cost of Chocolate Addiction:					£1,361.36	
22							
23							

The formula we just used mixes a cell reference with a number. Excel doesn't mind you doing it this way, just if there's something to multiply. So, you can do things this way:

$$= 26.18 * 52$$

Or this way:

$$= F20 * 52$$

If you have the number 52 typed into say cell H20, you could just do this:

$$= F20 * H20$$

Whichever way you choose, though, just remember to use the asterisk to multiply things.

20 How to Add a Comment to a Cell

A comment can be added to any cell on your spreadsheet. When you hover your mouse pointer over a cell that contains a comment, you'll see the comment appear in a sort of Sticky-Note. To see how they work, study the spreadsheet below:

B1		fx		=RANDBETWEEN(1,49)	
	A	B	C	D	
1	First Lottery Ball	34			
2					

The formula in cell B1 above gives you a random number from 1 to 49. A new number can be had by clicking the "Calculate Now" button on the Formula menu.

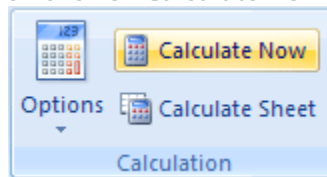
To let users, know what to do, we'll add a comment to cell B1.

First, create the spreadsheet above. In cell B2, enter the following formula:

=RANDBETWEEN(1, 49)

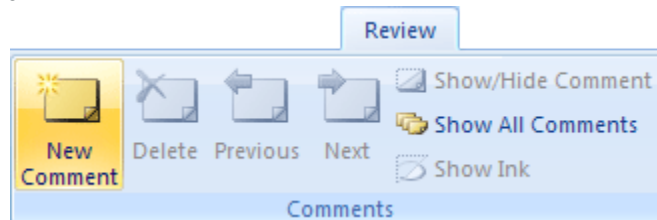
The formula will generate a Random number between 1 and 49. Once you have the above spreadsheet up and running, click inside B1 and try it out:

- From the menu bars on the Ribbon at the top of Excel, click on **Formula**
- Locate the **Calculation** panel, and then click on Calculate Now:

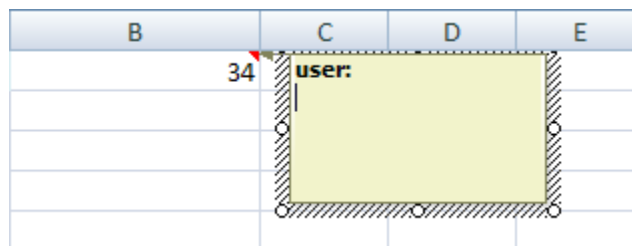


Excel 2007 will refresh the calculation and enter a new random number for you. To let people know about this, you can add your comment to the cell. To add a comment to cell B1, do the following:

- Click inside cell B1 on your spreadsheet
- From the tabs on the Ribbon at the top of Excel, click on **Review**
- Click on **New Comment**

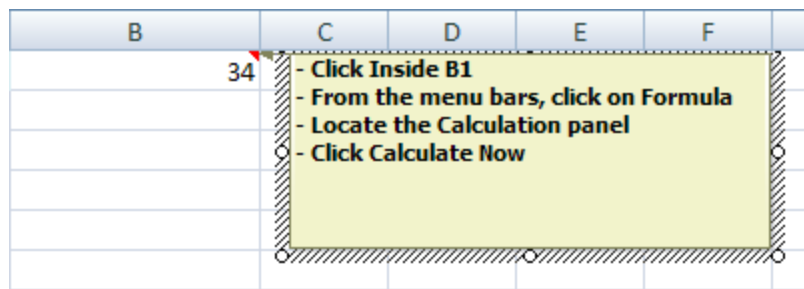


A greenish textbox will appear to the right of cell B1, as in the image below:



The word "user" in the image above is placed there by Excel. This is the name of the user account that was set up in Windows. Press the backspace on your keyboard to delete this.

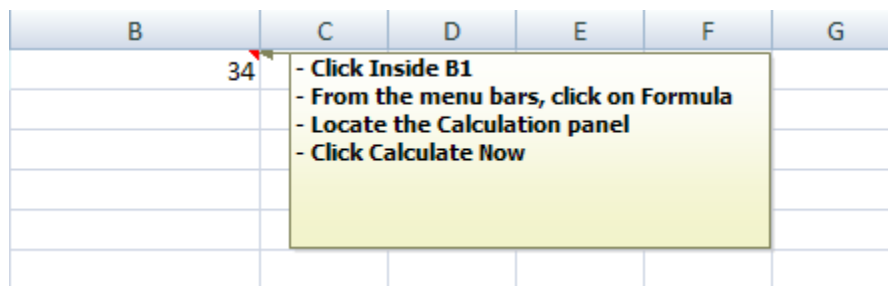
To add your comment, just start typing. The size of the comment area can be increased or decreased by moving your mouse over the white circles. Hold down the left mouse button and drag.



When you have finished typing your comment, click on any other cell. The comment will disappear. Notice that the cell now has a red triangle in the top right. This indicates that it contains a comment:

	A	B	C
1	First Lottery Ball	34	
2			

If you move your mouse pointer over cell B1 the comment will appear:

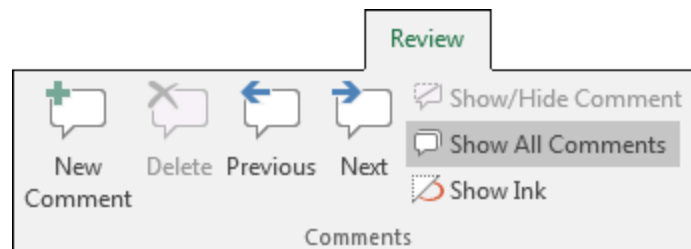


To get rid of a comment, right click the cell that contains the comment. Then, from the menu that appears, select **Delete Comment**.

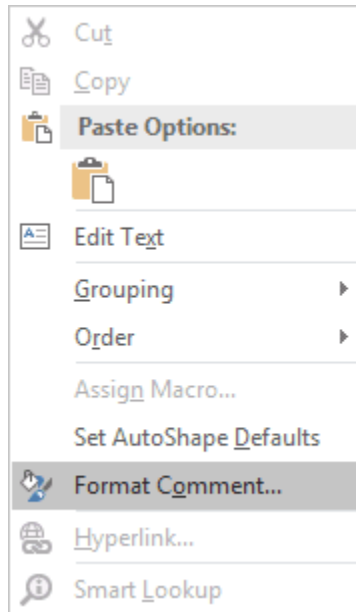
The next part is another Review. If you have been following along with the tutorials in this section, try the Review and see how you get on. It will give you more practice in building a spreadsheet.

Formatting Comments

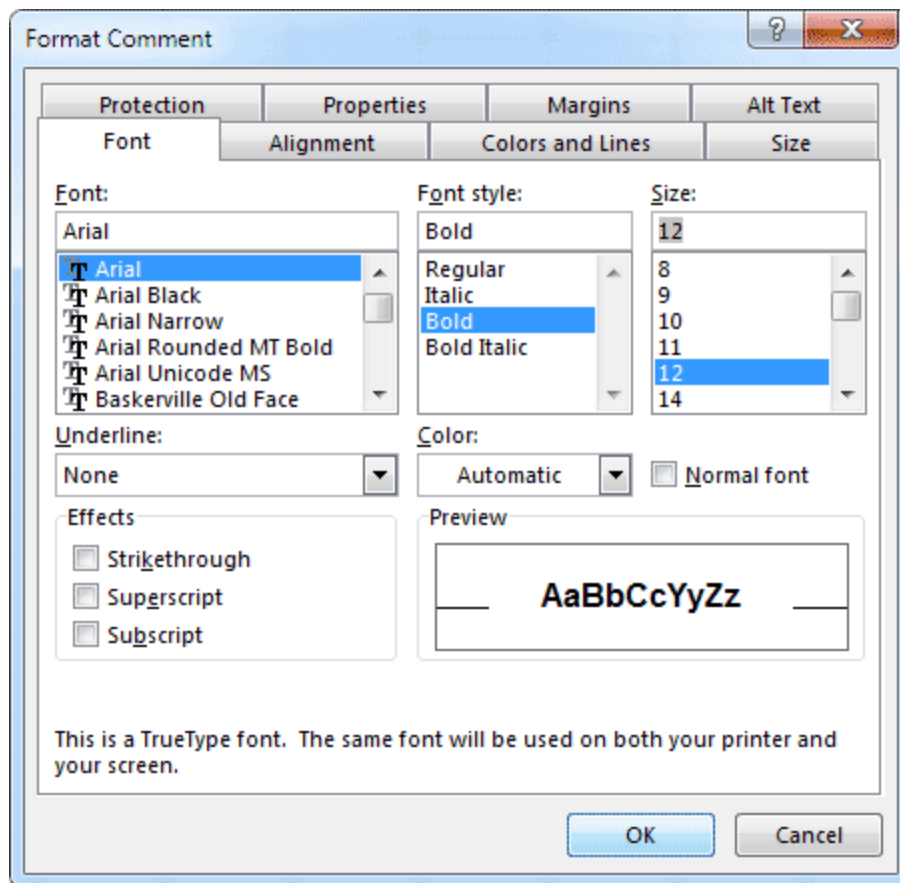
You don't have to have the default colour and font for your comments. To change the background colour of your comment, click the **Show All Comments** option on the **Review > Comments** panel:



This will ensure that the comment stays open. Now right click on the edge of the comment. From the menu that appears, select **Format Comment**:

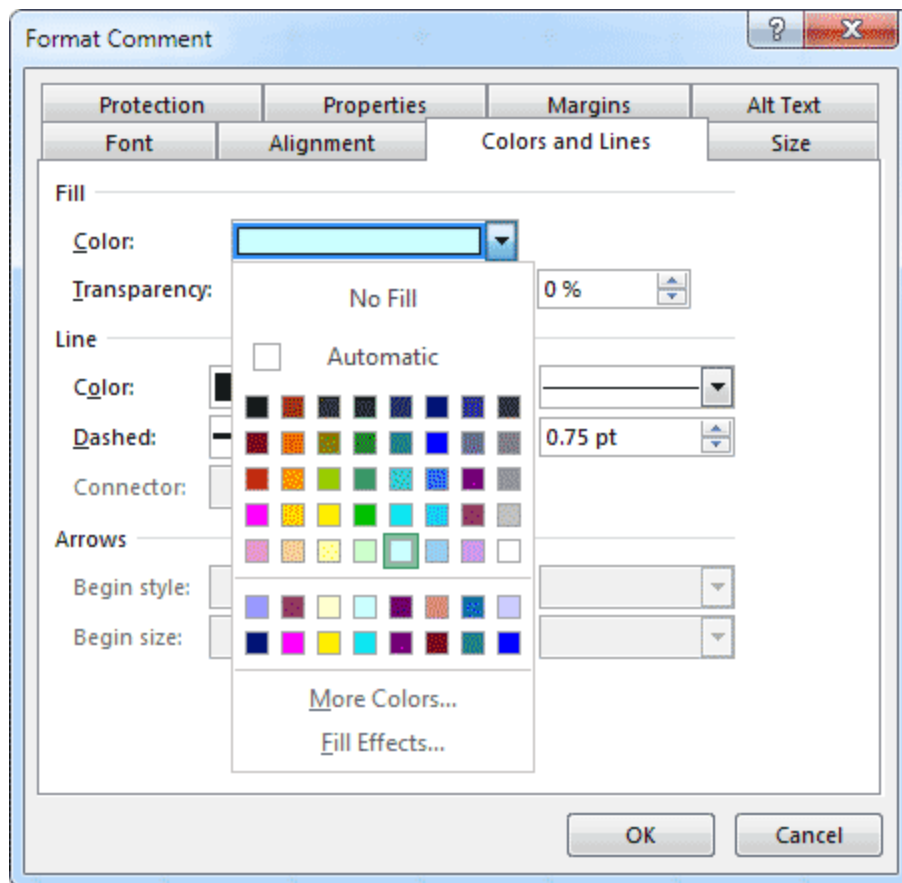


Hopefully, you'll see this dialogue box appear:

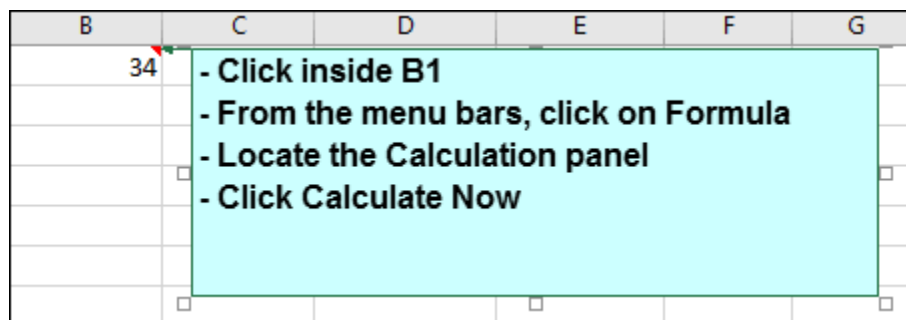


We say "hopefully" because you may get a dialogue box with just the Font panel and no others. If so, then dismiss this single panel dialogue box and try again. (Right-clicking on the edge of the Comment seems to help.) Once you get the multi-panel dialogue box, select a font and font size.

Now click on the Colors and Lines panel:



Select a color and click OK. Your comment will then be updated:

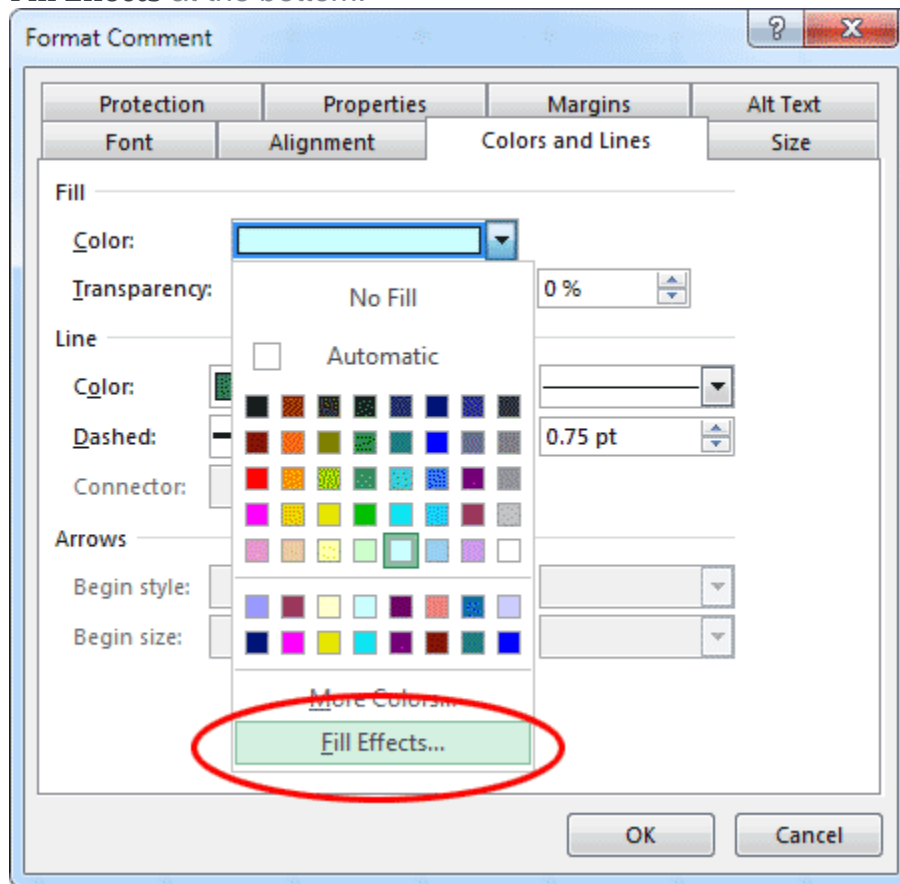


Add an Image to an Excel Comment

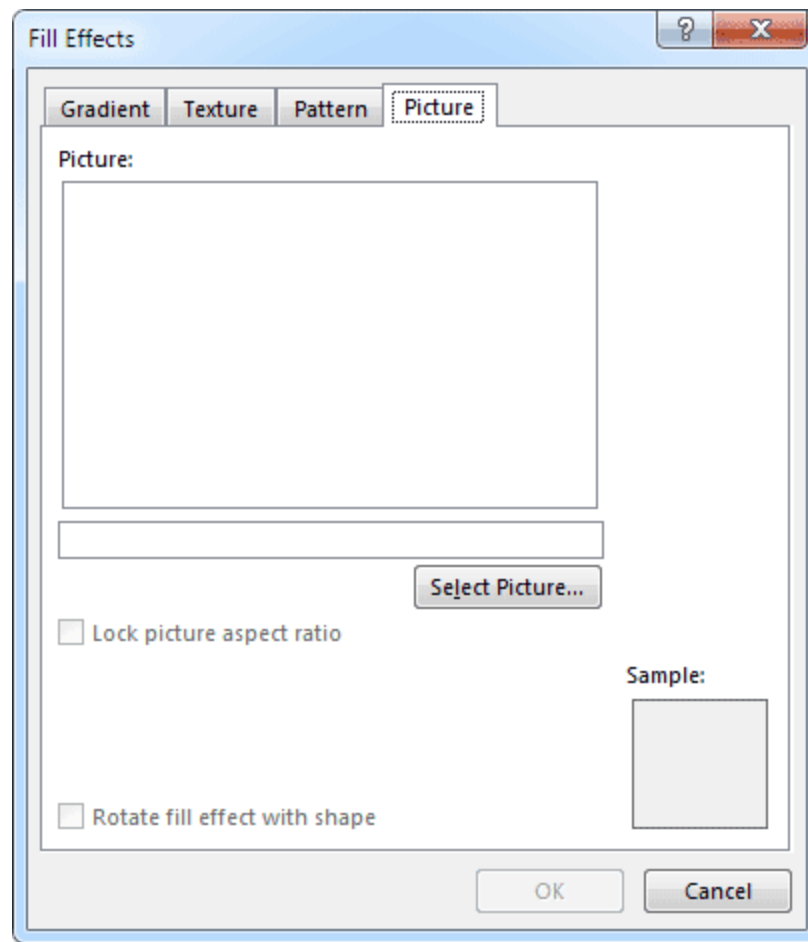
You can add picture to your comments, if you want. Though this is a bit trickier than the adding plain text.

To add a picture to an Excel comment box, make sure the **Show All Comments** option is still selected. Again, right click on the edges of the Comment to bring up the multi-paneled

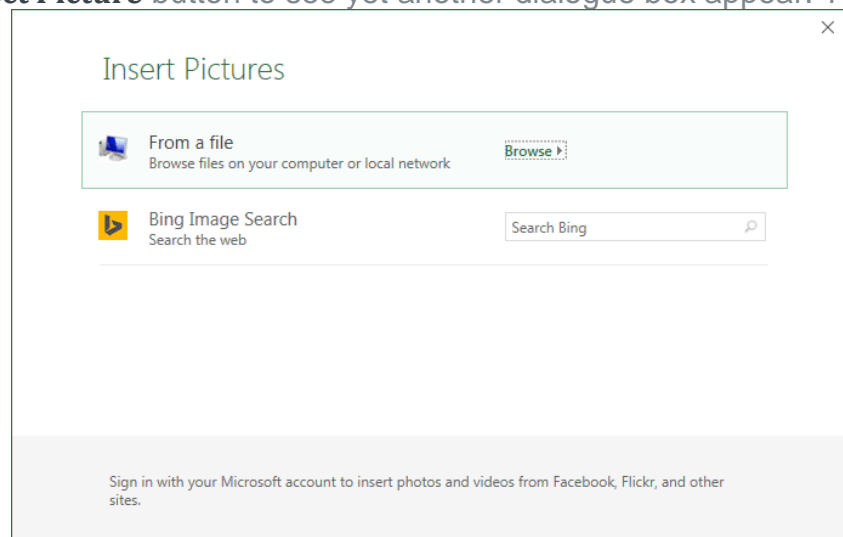
dialogue box from above. Select the Colors and Lines panel. From the Color dropdown list, click on **Fill Effects** at the bottom:



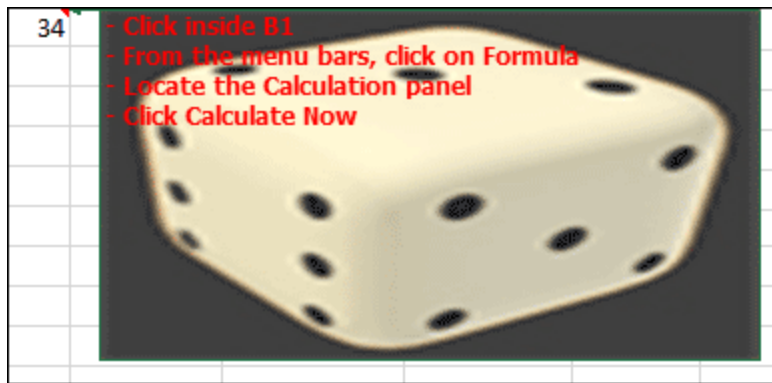
From the dialogue box that appears, select the Picture panel:



Click the **Select Picture** button to see yet another dialogue box appear. This one:



You can either search the web for a picture, or select a file from your own computer. Once you have selected a picture, click OK on all the dialogue boxes and you'll find that you have a picture in an Excel comment:



21 Hands on

You've seen a spreadsheet on chocolate addiction. The finished version looked like this:

	A	B	C	D	E	F	G	H	I	J
1	My Chocolate Addiction									
2										
3		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday		Individual Totals
4	Mars Bars	1	2	1	3	3	2	5		17
5	Twix	7	5	3	2	4	2	4		27
6	Bounty	8	3	2	3	4	1	4		25
7	Other	1	2	2	2	2	1	1		11
8										
9	Day Totals	17	12	8	10	13	6	14		
10										
11	Number of Chocolate bars consumed in a week:					80				
12										
13	Cost of Addiction									
14		Price	Number	Cost						
15	Mars Bars	0.35	17	£5.95						
16	Twix	0.29	27	£7.83						
17	Bounty	0.32	25	£8.00						
18	Other	0.40	11	£4.40						
19										
20	Weekly Cost of Chocolate Addiction:					£26.18				
21	Annual Cost of Chocolate Addiction:					£1,361.36				
22										

Time now to reveal your addiction! Create a spreadsheet like the one above, but substitute Chocolate Addiction for something else.

Examples might be: smoking, drinking, eating out, clothes, makeup - in fact, anything that someone might be spending too much money on. (It doesn't have to be you doing the spending: it can be entirely made up.)

Your spreadsheet should include the following:

- Daily totals
- Individual totals
- Weekly total
- Columns for Prices
- Columns for Number and Cost
- Weekly cost
- Annual cost

You can format the spreadsheet any way you like. The colour scheme is entirely up to you. Just make sure that your spreadsheet is easy to follow.