



Microsoft Excel

Manual

© Ripped Orange Ltd

Phone: +64 3 377 9499 / 0800 000 256

Email: info@rippedorange.co.nz

Website: www.rippedorange.co.nz

Address: P O Box 7542, Sydenham, Christchurch 8023, New Zealand

All rights reserved

No part of this document may be copied, photocopied or reproduced in any form or by any means without permission in writing from Ripped Orange Ltd.

Table of Contents

Formulas	6
What is a formula?	6
<i>Formula construction basics</i>	6
<i>Creating a Formula</i>	7
<i>Editing a Formula</i>	7
<i>Copying Formulas</i>	7
Order of Operation	8
Functions	9
What is a function?	9
Commonly Used Functions.....	9
<i>Creating a Function</i>	9
<i>Editing a Function</i>	10
<i>Formula Autocomplete</i>	10
Function Wizard	11
<i>Search for a function</i>	11
<i>Help on this function</i>	12
Using AutoSum	12
When would you use a formula vs a function?	14
Absolute vs Relative Referencing	15
<i>Relative Reference</i>	15
<i>Absolute Reference</i>	15
<i>Switching between Absolute and Relative References</i>	15
<i>Variations of References</i>	16
Useful Functions	17
COUNT Function.....	17
<i>Example</i>	17
COUNTA Function	18
<i>Example</i>	18
COUNTIF	19
<i>Example</i>	19
<i>More criteria options</i>	20
SUMIF	21
<i>Example</i>	21
TEXT	23
<i>Example</i>	23
<i>Day, month and year formats</i>	24
Logical Functions.....	25

IF 25

Example 25

Lookup Functions 28

 VLOOKUP 28

Example 28

Create and Use Range Names 31

 Create a Named Range 31

 Define a name by using a selection of cells in the worksheet 31

 Define a name by using the New Name dialog box 31

 Manage names by using the Name Manager dialog box 32

 Change a name 32

 Delete one or more names 32

Quick Analysis 34

Format as Table 36

 Working with column and table names 37

Filtering and Sorting Data 38

 Sort or Filter a numeric column 38

To remove a filter 39

Working with Number Filters 39

Create a multi condition numeric filter 40

 Sort or Filter Text 40

Conditional Formatting 41

 Conditional Formatting 41

 Built-in Rules 41

 Removing a Rule 42

 Manage Rules 42

 Creating a New Rule 44

Create a Pivot Table 46

 Main Elements 46

PivotTable Ribbon 46

 Generating a PivotTable 46

 Use Recommended PivotTables 48

Appendix Table of Contents 50

Excel Keyboard Shortcuts i

 General Shortcuts i

 PivotTables ii

Formulas

What is a formula?

Formulas allow you to perform and construct mathematical calculations and equations.

Arithmetic Operators	Meaning	Example
+	Addition	2+2
-	Subtraction	2-1
*	Multiplication	2*2
/	Division	2/2
%	Percent	10%

Cancel Confirm Formula Bar

The screenshot illustrates the process of entering a formula in Excel. The formula bar at the top shows the formula `=B2+B3+B4` being entered. Red arrows point to the 'Cancel' (X) and 'Confirm' (checkmark) buttons. Below the formula bar, a table shows data for Product A and Product B, with a 'Total' row. A red arrow points from the formula in cell B5 to the result '512' in cell B5 of a second table, which is labeled 'Answer'.

	A	B	C	D	E
1		Product A	Product B		
2	June	125	75		
3	July	136	62		
4	August	251	51		
5	Total	=B2+B3+B4			
6					
7					

	A	B
1		Product A
2	June	125
3	July	136
4	August	251
5	Total	512

Formula construction basics

- Start in the cell you want your answer to appear in
- Type in an equals sign = to tell Excel you want to construct a formula
- Use the cell address B2, B3, B4 etc not the actual number in the cell (the number might change!)
- Click on the cell with your mouse, to include it in the formula, rather than typing in the cell address, separate each cell address with an operator i.e. +
- Your formula will appear in the cell and in the formula bar
- Push **Enter** to finish the formula after selecting the last cell

Creating a Formula

1. Click in the cell that you require the result, press = on the keyboard
2. Click in the first cell i.e. A1
3. Press the operator required i.e. +
4. Click in the second cell i.e. A2, continue steps 2 and 3
5. Click on the last cell to include in the formula (do not select an operator again)
6. Finish by clicking the Confirm tick or pushing **Enter** on your keyboard



Tip: Press = to begin your formula



Tip: Build formulas using the mouse or cursor key rather than typing cell references

Editing a Formula

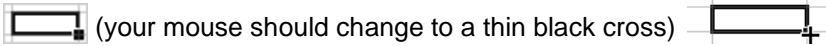
7. **Select** the cell containing the formula
8. **Double click** on the cell to edit or select the cell and press F2
9. **Edit** your formula in the cell or in the Formula Bar
10. Press **ENTER** or **TAB** to confirm or click the **Confirm** tick



Tip: To view all formulas on your sheet press CTRL ~.

Copying Formulas

Use the AutoFill handle to copy formulas from one cell to another.

11. **Select** the cell containing the formula
12. **Hover** your mouse over the small black square in the bottom right corner of the active cell.
 (your mouse should change to a thin black cross)
13. **Drag** the small black square across or down as required

The formula will be copied down, and will change based on the row that you are in. If the original formula was =D2*E2, by row 4 the formula will have changed to = D4*E4 and by row 10 it will have changed to =D10*E10. This is called relative referencing, i.e. the formula changes relative to the row that you are in.



Tip: Double click the AutoFill handle to copy the formula down to the first blank row in a column.

Order of Operation

The order in which Excel formula are calculated uses the **BEDMAS** convention. This means that calculations within **B**rackets are first, followed by **E**xponents, followed by **D**ivision and **M**ultiplication, and finally **A**ddition and **S**ubtraction.

Order of Operator Precedence
B rackets
E xponents
D ivision
M ultiplication
A ddition
S ubtraction

	A	B	C	D	E	F
1	Column 1	Column 2	Column 3	formula	Answer	Order of operation
2	2	3	5	=A2+B2*C2	17	multitplication first, addition second
3	2	3	5	=(A3+B3)*C3	25	brackets first, multiplication second
4	10	5	5	=A4+B4/C4	11	division first, addition second
5	10	5	5	=(A5+B5)/C5	3	brackets first, division second
6	15	5	5	=A6/B6*C6	15	left to right
7	15	5	10	=A7+B7-C7	10	left to right
8						

Where there is only multiplication and division in the formula, they hold the same rank, so are calculated left to right, in the absence of brackets.

Where there is only addition and subtraction in the same formula, they hold the same rank, so are calculated left to right in the absence of brackets.

Functions

What is a function?

Functions are predefined formulas and are already available in Excel. All Excel functions have the same structure.

Function Syntax	Symbol	Meaning
Equals sign	=	Tells Excel to do a calculation
Function Name	SUM	Word that tells Excel what to do, ie SUM tells Excel to add
Open bracket	(Starting point for providing the data, used to separate the word from the data
Cell or range of cells	E2:E26	Start cell and end cell. A colon : is used to say "from", ie everything from E2 to cell E26
Comma	,	Separate each part of the function or each range of cells
Close bracket)	Completes the function and tells Excel your finished
Example	=SUM(E2:E26,G2:G26)	Add up all the numbers in cells E2 to E26 and G2 to G26

Commonly Used Functions

The most commonly used functions are:

Function	Use For	Adjacent Cells	Non Adjacent Cells
SUM	Totals a range of cells	= SUM (1 st cell : last cell)	= SUM (1 st cell, 2 nd cell, 3 rd cell)
AVERAGE	Totals and divides by the number of cells	= AVERAGE (1 st cell : last cell)	= AVERAGE (1 st cell, 2 nd cell, 3 rd cell)
MINIMUM	Returns the lowest value in a range	= MIN (1 st cell : last cell)	= MIN (1 st cell, 2 nd cell, 3 rd cell)
MAXIMUM	Returns the highest value in a range	= MAX (1 st cell : last cell)	= MAX (1 st cell, 2 nd cell, 3 rd cell)
COUNT	Counts the number of numbers in a range	= COUNT (1 st cell : last cell)	= COUNT (1 st cell, 2 nd cell, 3 rd cell)

Creating a Function

14. Click in the cell where you require the result
15. Type =**SUM**(
16. Drag the range of cells i.e. A1:D1 (for a continuous range)
or

17. Click the first cell, hold CTRL and click the second and subsequent cells i.e. A1, D1, E1 (for cells that are not next to each other)
18. Close the bracket)
19. Finish with **Enter** or i.e. = SUM(A1:D1)

Editing a Function

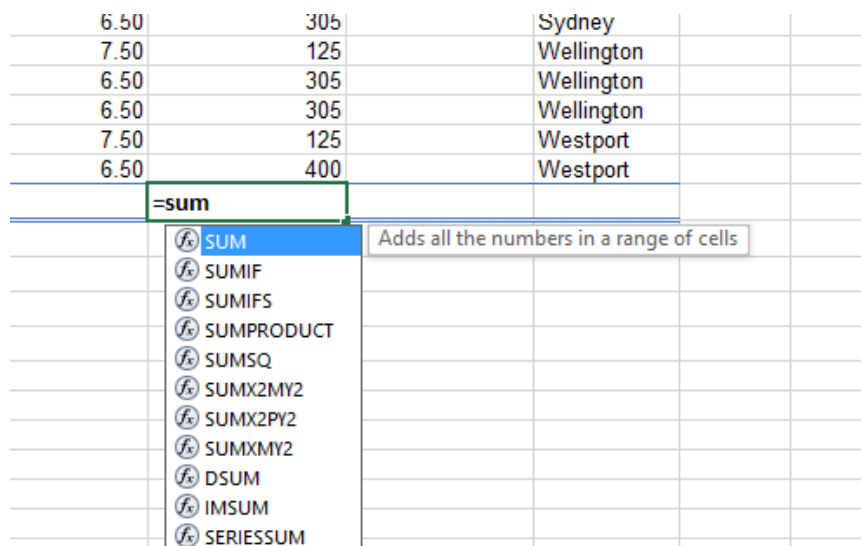
20. Double click the cell with the function
21. Amend as required
22. Finish with **Enter** or



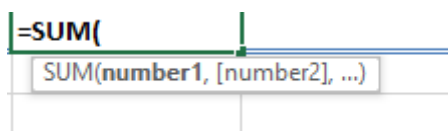
Tip: Note that all these functions have the same syntax. ie =, followed by a word that tells Excel what to do, followed by an open bracket, a range of cells, and finally a closed bracket.

Formula Autocomplete

Formula Autocomplete allows you to start typing the function name and then select the correct function from a short list.



23. Select the cell where you want your answer to appear. type the = (equal sign) and beginning letters of your function to trigger Formula AutoComplete
24. As you type, a scrollable list of valid items is displayed with the closest match highlighted
25. Detailed ScreenTips help you make the best choice
26. Double click on the function required, the function name will complete and the bracket will be opened ready for you to select your data



27. Complete the function, close the bracket and push **Enter**

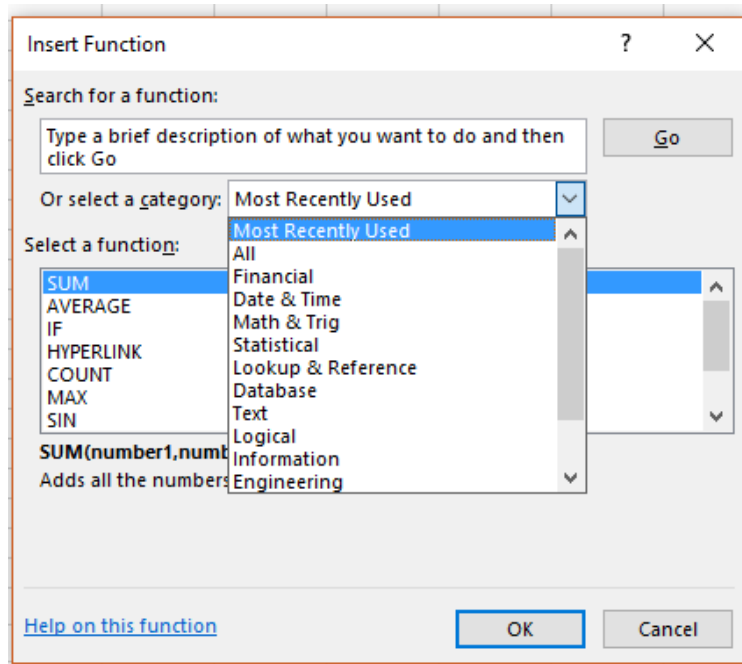
Function Wizard

You can use **Insert Function** to help you insert the correct function and arguments for your needs.

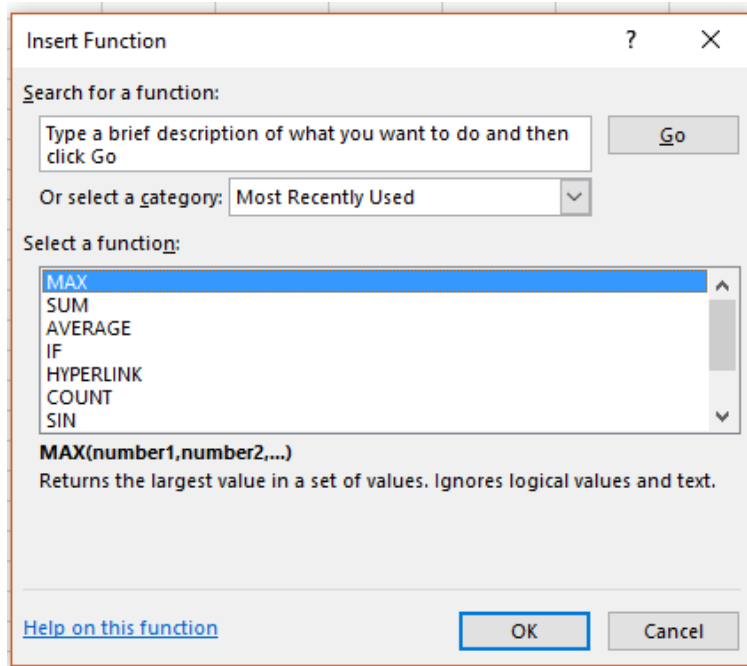
Search for a function



28. On the Formula bar click **Insert Function** f_x
29. Either select the function from the most commonly used list, or select a **category** to narrow down your search



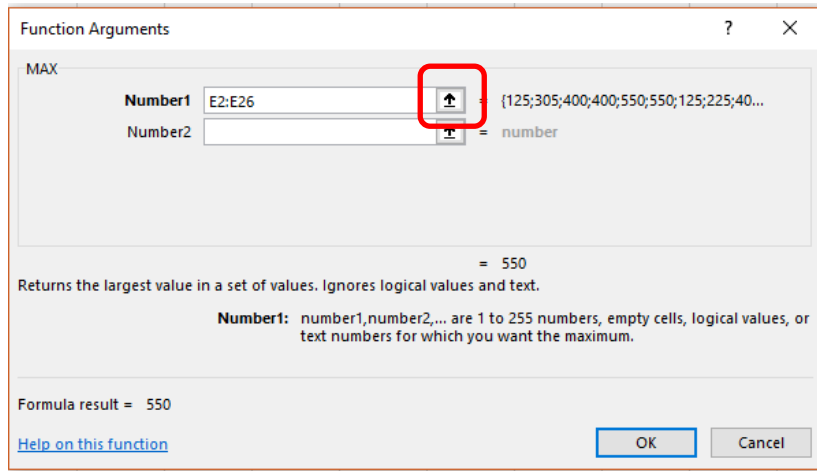
30. Click once on the function to select it, choose **OK**



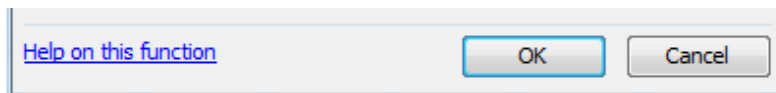
Your function will require at least one cell or range of cells to complete the calculation. Required arguments will show in bold, optional arguments are not bold. So, for the MAX function, at least one

cell or range of cells is required, but you could provide more than one set of cells (maybe you want to find the maximum across two ranges of data)

31. Use the collapse/expand dialog button to collapse up the wizard if it is covering your data, otherwise simply select the range of cells you want to include in your function. Click the collapse/expand button again to see your wizard.
32. Provide data for all bold arguments
33. Choose **OK** to finish the function.



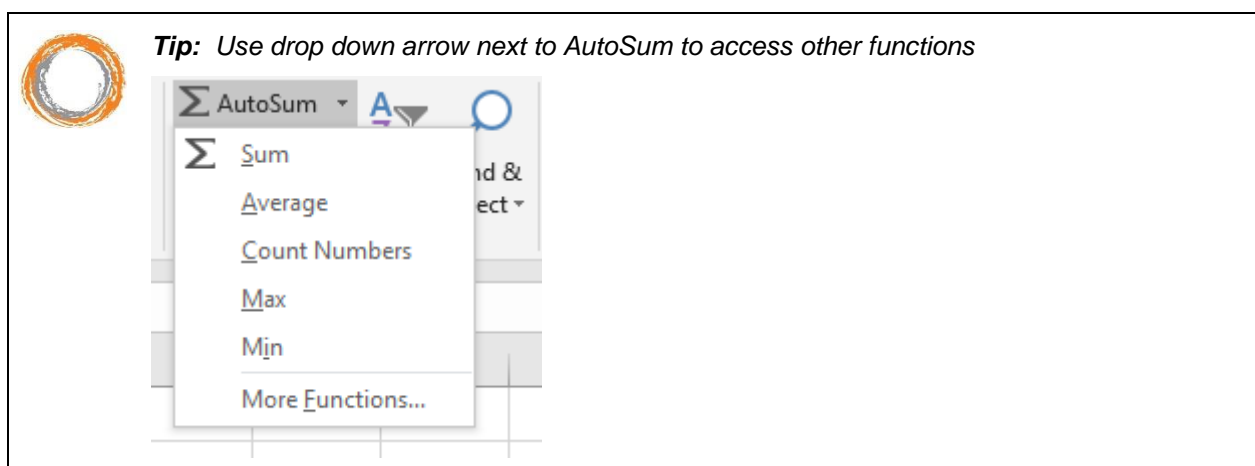
Help on this function



You can click the hyperlink **Help on this function** if you would like to open the online help topic for the specific function you're working on.

Using AutoSum

34. Click the cell where you'd like your answer
35. Click **AutoSum** Σ **AutoSum** ∇ from the far right on the **Home** tab
36. AutoSum will write the sum function for you and take a guess at the cells you want to add. Check the range of cells is correct, modify if necessary
37. Click **AutoSum** again to confirm or press **Enter**



When would you use a formula vs a function?

Functions are designed to save time when you are dealing with larger lists.

Simple addition, subtraction, division or multiplication is best dealt with using a formula.

Unit Cost	No. Ordered	Stock Value
7.50	125	=D2*E2

Adding a column of numbers with 5, 10, or 200 values would be best managed with a function

125
305
305
125
400
=SUM(E2:E26)

As your formula and function experience grows you will end up combining formula within functions.

The following IF function contains a simple multiplication formula B5*J8

=IF(B5>J4,B5*J8,0)

Absolute vs Relative Referencing

A reference is the address of the cell containing the data or values needed in constructing a formula.

You have already seen relative referencing in action, when filling a formula down Excel uses relative referencing to change the formula based on the row number. When filling a formula across, Excel changes the formula based on the column letter.

Sometimes you don't want the reference to change as you copy the formula. If this is the case, you need to use absolute cell referencing. You may be including a constant in your formula, i.e. GST, a value for mark up, margin etc. Best practice would be to put each of these values in a cell and reference that cell in your formula. By marking the constant as an absolute reference, the cell reference won't change when you fill the formula. If the **value** of your constant changes (GST rate, margin), you can change the value of your one cell and all formula referencing that cell will update.

You can combine relative and absolute referencing within a formula.

Relative Reference				Absolute Reference			
▲	A	B	C	▲	A	B	C
1	10	2	=A1*B1	1	10	2	=A1*\$B\$1
2	20	3	=A2*B2	2	20		=A2*\$B\$1
3	30	4	=A3*B3	3	30		=A3*\$B\$1
4				4			

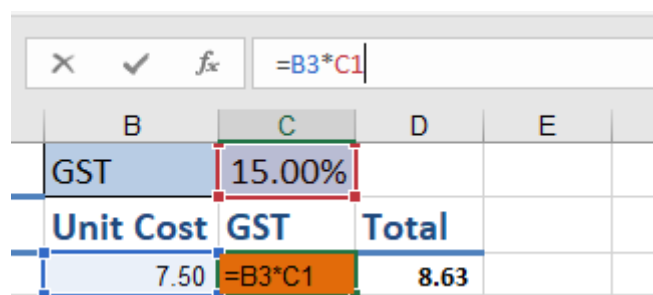
When the formula in cell C1 is copied to cells C2 and C3, cell references in the copied formula are adjusted to reflect the relative position of the formula in C2 and C3

When the formula in C1 is copied to C2 and C3, cell B1 remains the same since this is an **Absolute Reference**.

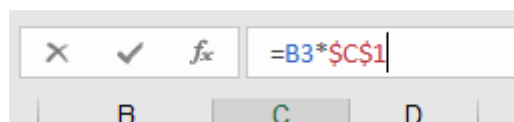
To make a cell an Absolute Reference in a formula, type a **dollar sign (\$)** before the parts of the reference that do not change

Switching between Absolute and Relative References

38. Click on the cell with the formula
39. Position the cursor next to the cell reference to change in the formula bar



40. Press **F4** (function key)



Variations of References

The F4 function key rotates through four settings

\$A\$1	Both column and row references are fixed
A\$1	Row reference only is fixed
\$A1	Column reference only is fixed
A1	Neither column or row references are fixed, they are relative



Tip: Marking a cell reference within a formula as absolute prevents the cell reference in the formula from incrementing when it is copied.

Useful Functions

The following functions are some of the most commonly used within a workbook containing large amounts of data.

COUNT Function

The COUNT function is used to count the number of cells in a range that contain numbers. The syntax is made up as follows:

COUNT(value1, [value2],...)

Required. The first item, cell reference, or range within which you want to count numbers

Example

In the following example, the function has been used to calculate the total number of order amounts:

COUNT		
Total Count:		=COUNT(C5:C334)
Reference	Order Date	Order Amount
10300123	37987	1440
10300124	37988	716.72
10300125	37988	333
10300126	37989	2556.75
10300127	37989	332
10300128	37989	2122.72
10300129	37992	1703.8
10300130	37994	1763.6



Tip: Use CTRL + SHIFT + down arrow, to select a range of cells when constructing a formula. Use CTRL + Backspace to return to your formula.

COUNTA Function

The COUNTA function is used to count the number of cells in a range that are not empty. The syntax is made up as follows:

COUNTA(value1,[value2],...)

Required. The first argument representing the values that you want to count

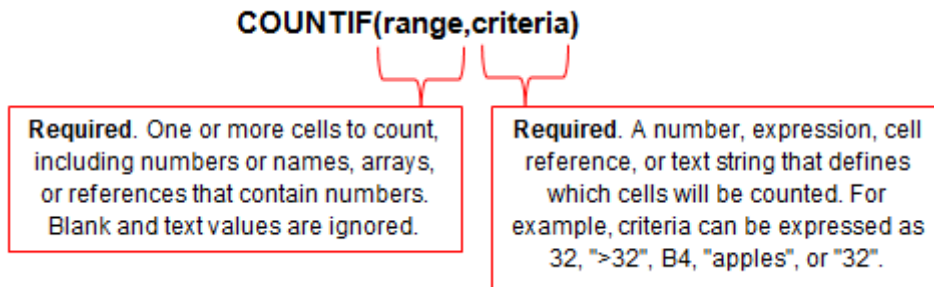
Example

In the following example, the function has been used to calculate the total number of non-blank cells within the Department column:

COUNTA	
Total Count :	=COUNTA(F5:F40)
Name	Department
Blackburn, Renee	Finance
Daley, Ian	Finance
Finlay, Nicole	Finance
Hampton, Roger	Finance
Hunter, Sharon	Finance
Jackson, John	Finance
Jones, Michael	Finance
Meijer, Betty	Finance

COUNTIF

The COUNTIF function is useful when you want to count a number of cells within a range based on a specific criteria, i.e., the total number of sales for a particular region. The function syntax is made up as follows:



In the following example the COUNTIF function will look down the region column (range) and count how many times Auckland appears (criteria).

COUNTIF requires a constant value as its second argument. This could be a reference a cell that contains the criteria or you could include it within the function. If included in the function this argument must be put within a pair of double quotes. E.g. =COUNTIF(Region, "Auckland")

Example

In the following example COUNTIF is used to calculate the total number of orders for each region:

Reference	Order Date	Region	Salesperson	Order Amount
10300123	1/01/2010	Auckland	Blakely	\$1,440.00
10300124	2/01/2010	Auckland	Johnston	\$716.72
10300125	2/01/2010	Christchurch	Hunter	\$333.00
10300126	3/01/2010	Wellington	Williamson	\$2,556.75
10300127	3/01/2010	Invercargill	Scrivener	\$332.00
10300128	3/01/2010	Dunedin	Ashford	\$2,122.72
10300129	6/01/2010	Christchurch	Abraham	\$1,703.80
10300130	8/01/2010	Invercargill	Donovan	\$1,763.60
10300131	8/01/2010	Invercargill	Scrivener	\$1,371.23
10300132	9/01/2010	Wellington	Williamson	\$2,303.60
10300133	13/01/2010	Christchurch	Hunter	\$1,830.78
10300134	14/01/2010	Wellington	Williamson	\$1,622.30
10300135	14/01/2010	Invercargill	Donovan	\$317.20
10300136	15/01/2010	Dunedin	Dunlop	\$802.00
10300137	15/01/2010	Auckland	Blakely	\$333.80
10300138	16/01/2010	Dunedin	Ashford	\$3,063.00
10300139	16/01/2010	Wellington	Williamson	\$2,123.20

Region	Order Amount
Auckland	
Christchurch	
Wellington	
Invercargill	
Dunedin	

Region	Order Amount
Auckland	
Christchurch	
Wellington	
Invercargill	
Dunedin	

Select the cell where you want to create the formula

- Enter =COUNTIF(

Region	Order Amount
Auckland	=COUNTIF(
Christchurch	COUNTIF(range, criteria)

- Select the range of data you want to include, i.e., the column containing the criteria (except for the headings) followed by a comma. Before adding a comma, consider making the range absolute if you want to fill the formula down

Number of Orders by Region	
Region	Order Amount
Auckland	=COUNTIF(C4:C333,
Christchurch	COUNTIF(range, criteria)

43. Create the criteria, i.e., in this example if you want to extract data for Auckland enter the cell reference for the cell containing the text Auckland. This is better practice than typing in "Auckland" as you would need to edit each function for Christchurch, Wellington... whereas by using the cell reference you will be able to fill the formula down

Number of Orders by Region	
Region	Order Amount
Auckland	=COUNTIF(C4:C333,H5
Christchurch	COUNTIF(range, criteria)

44. Close the bracket and press **Enter** – the result will be displayed

Number of Orders By Region	
Region	Order Amount
Auckland	65
Christchurch	
Wellington	
Invercargill	80352.25
Dunedin	110547.00



Tip: When creating complex formulas, you may find that the formula runs over cells that you want to select as part of the formula. To avoid this, click into the cell you want the result in, then click in the **Formula Bar** and type = to start the formula.

More criteria options

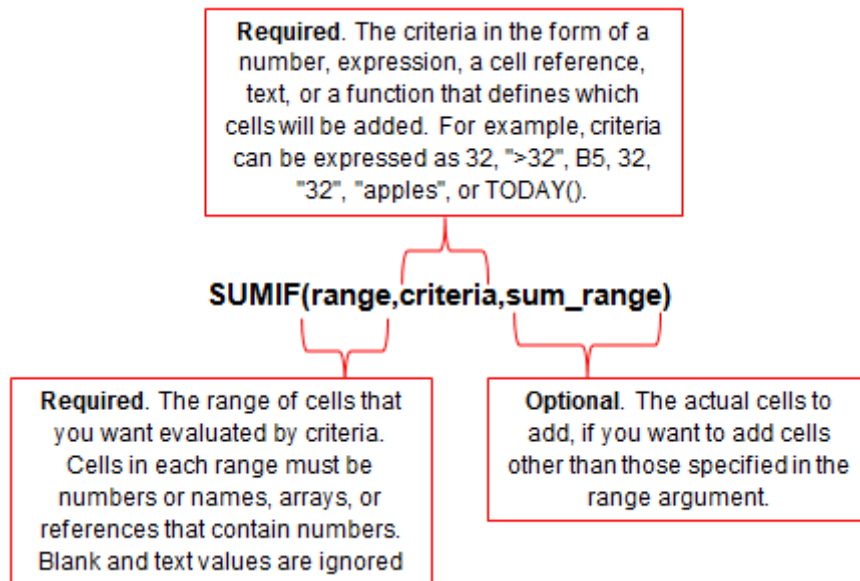
Your criteria in the COUNTIF may be to count all items greater than, less than or not equal to a value. If this is the case the following is useful to consider.

When you want to use a relational operator other than = (e.g., <, >, etc.), you need to have the double quotes around the operator and the value, for example =COUNTIF(range,">4").

If you want to use a value stored in a cell as part of your criteria, then you need to use the & character, for example =COUNTIF(range,">"&B1). The & in =COUNTIF(range,">"&B1) is evaluated first, that is, the value in B1 is fetched and concatenated with ">". The result is that the formula now contains a constant together with a relational operator in double quotes and this is what gets evaluated.

SUMIF

The SUMIF function is useful when you want to add data within a range based on a specific criteria, i.e., the total amount of sales for a particular region. The syntax is made up as follows:



Like the COUNTIF function if you want to use a value stored in a cell as part of your criteria, then you need to use the & character, for example =SUMIF(A1:A2,">"&A3).

Example

In the following example SUMIF is used to calculate the total value of sales for the Auckland region. Firstly you will need to define the region and then the city within the region and finally, where the data is to sum.

Reference	Order Date	Region	Salesperson	Order Amount
10300123	1/01/2010	Auckland	Blakely	\$1,440.00
10300124	2/01/2010	Auckland	Johnston	\$716.72
10300125	2/01/2010	Christchurch	Hunter	\$333.00
10300126	3/01/2010	Wellington	Williamson	\$2,556.75
10300127	3/01/2010	Invercargill	Scrivener	\$332.00
10300128	3/01/2010	Dunedin	Ashford	\$2,122.72
10300129	6/01/2010	Christchurch	Abraham	\$1,703.80
10300130	8/01/2010	Invercargill	Donovan	\$1,763.60
10300131	8/01/2010	Invercargill	Scrivener	\$1,371.23
10300132	9/01/2010	Wellington	Williamson	\$2,303.60
10300133	13/01/2010	Christchurch	Hunter	\$1,830.78
10300134	14/01/2010	Wellington	Williamson	\$1,622.30
10300135	14/01/2010	Invercargill	Donovan	\$317.20
10300136	15/01/2010	Dunedin	Dunlop	\$802.00
10300137	15/01/2010	Auckland	Blakely	\$333.80
10300138	16/01/2010	Dunedin	Ashford	\$3,063.00
10300139	16/01/2010	Wellington	Williamson	\$2,123.20

Region	Order Amount
Auckland	
Christchurch	
Wellington	
Invercargill	
Dunedin	

Region	Order Amount
Auckland	
Christchurch	
Wellington	
Invercargill	
Dunedin	

Select the cell where you want to create the formula

45. Enter =SUMIF(

Region	Order Amount
Auckland	=SUMIF(
Christchurch	SUMIF(range, criteria, [sum_range])

46. Select the range of data that includes your criteria, i.e., the column containing the cities (except for the headings) followed by a comma. Remember to consider an absolute cell reference if you wish to fill the formula.

Total \$ Orders Amounts By Region	
Region	Order Amount
Auckland	=SUMIF(C4:C333,
Christchurch	SUMIF(range, criteria, [sum_range])

47. Create the criteria, i.e., in this example if you want to extract data for Auckland enter the cell reference for the cell containing the text Auckland, followed by a comma

Total \$ Orders Amounts By Region	
Region	Order Amount
Auckland	=SUMIF(C4:C333,H14,
Christchurch	SUMIF(range, criteria, [sum_range])

48. Select the range of data that you wish to sum, i.e., the column that contains the \$ amounts that you want to add up. Consider whether this range should be made absolute.

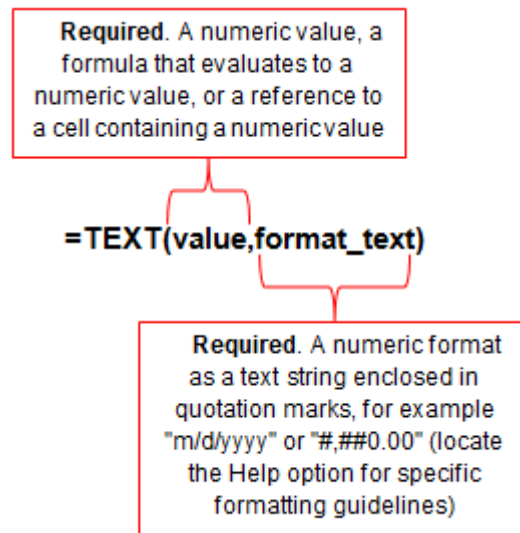
Total \$ Orders Amounts By Region	
Region	Order Amount
Auckland	=SUMIF(C4:C333,H14,E4:E333
Christchurch	SUMIF(range, criteria, [sum_range])

49. Close the bracket and press **Enter** – the result will be displayed

Total \$ Orders Amounts By Region	
Region	Order Amount
Auckland	89225.7
Christchurch	
Wellington	
Invercargill	
Dunedin	

TEXT

You can use the TEXT function to convert a numeric value to text, for example you want to determine which day of the week a specific date may fall on, so you can ascertain busy periods.



Example

In the following example TEXT is used to calculate the day of the week and the month in which orders have been placed

Reference	Order Date	Branch	Salesperson	Order Amount	Order Day	Order Month
10300123	1/01/2010	Auckland	Blakely	\$1,440.00		
10300124	2/01/2010	Auckland	Johnston	\$716.72		
10300125	2/01/2010	Christchurch	Hunter	\$333.00		
10300126	3/01/2010	Wellington	Williamson	\$2,556.75		
10300127	3/01/2010	Invercargill	Scrivener	\$332.00		
10300128	3/01/2010	Dunedin	Ashford	\$2,122.72		
10300129	6/01/2010	Christchurch	Abraham	\$1,703.80		
10300130	8/01/2010	Invercargill	Donovan	\$1,763.60		

Select the cell where you want to create the formula

50. Enter **=TEXT(**

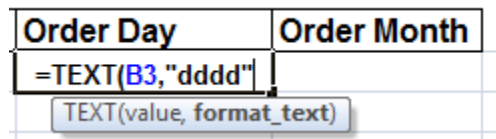
Order Day	Order Month
=TEXT(
TEXT(value, format_text)	

51. Enter the cell reference containing the information you are looking up, followed by a comma

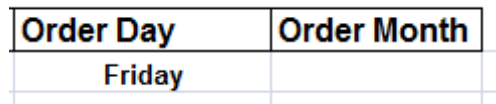
Order Date	Branch	Salesperson	Order Amount	Order Day	Order Month
1/01/2010	Auckland	Blakely	\$1,440.00	=TEXT(B3,	
2/01/2010	Auckland	Johnston	\$716.72	TEXT(value, format_text)	

52. Enter the text format you want to display (the following table suggests format options)

Format	Result
"d" or "dd"	Returns the numeric value of the date, i.e., 1 or 01
"ddd"	Returns an abbreviated text format, i.e., Fri
"dddd"	Returns the full text format, i.e., "Friday"



53. Close the bracket, press **Enter** and your result will be displayed



Day, month and year formats

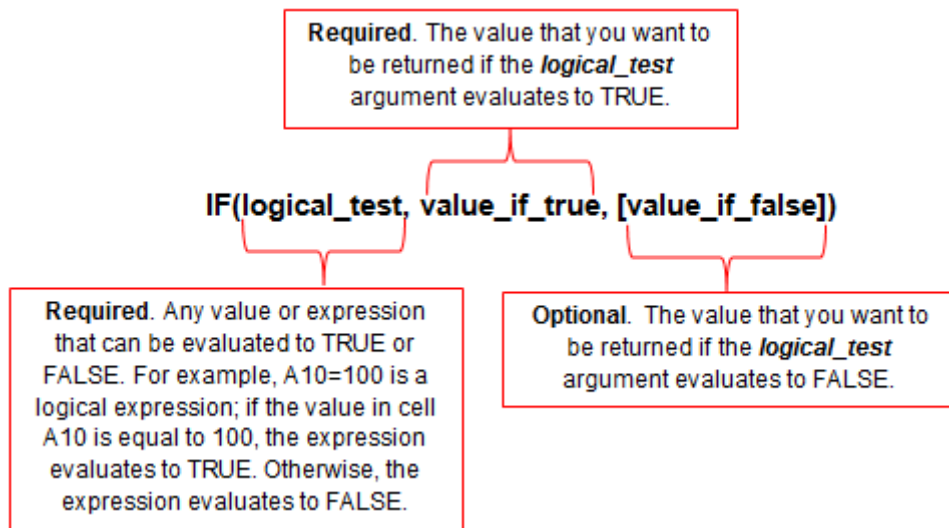
Format	Result
"d"	1
"dd"	01
"ddd"	Sat
"dddd"	Saturday
"m"	7
"mm"	07
"mmm"	Sept
"mmmm"	September
"yy"	18
"yyyy"	2018
dd/mm/yy	01/07/18

Logical Functions

The following functions are the most commonly used when results are required based on the outcome of a test on the data.

IF

The **IF** function returns one value if the condition you specify is TRUE, and another value if the condition that you specify is FALSE. For example, if a salesperson reaches over and above a specific target, they will receive a bonus, otherwise they won't. The syntax is made up as follows:



The test element of the IF statement must be able to return a true or false answer, so is constructed using the following:

Operation	Symbol	Example
Greater than or greater than or equal to	> >=	B5>H4 B5>=H4
Less than or less than or equal to	< <=	B5<H4 B5<=H4
Equal to	=	B5=H4
Not equal to	<>	B5<>H4

Example

In the following example, IF is used to determine whether a salesperson receives a bonus based on their achieving a target of \$15,000. The resulting true or false, could return the answer in the form of text or a formula, or even a blank. I.e. "Yes" they got their bonus or "No" they don't, or it could return the value of the bonus payment.

Staff Sales Commissions			Sales Target
Staff	Book Sales (\$)	Bonus?	\$15,000
Joe Trent	12,450		
Natasha Anderson	16,875		
Sherryn Ashford	21,890		
Nick Chappell	20,430		
Chandler Grooby	32,680		
Peter Hawkins	22,560		
Jodie Kidd	18,567		
Shaun McKenzie	13,543		

Select the cell where you want to create the formula

54. Enter =IF(

Staff Sales Commissions			Sa
Staff	Book Sales (\$)	Bonus?	
Joe Trent	12,450	=IF(
Natasha Anderson	16,875	IF(logical_test, [value_if_true], [value_if_false])	

55. Enter the cell reference on which you want to base the logical test (in this instance you are referencing to a cell rather than entering the actual sales target figure in the formula) followed by a comma

Staff Sales Commissions			Sales Target
Staff	Book Sales (\$)	Bonus?	\$15,000
Joe Trent	12,450	=IF(B5>=H4,	
Natasha Anderson	16,875	IF(logical_test, [value_if_true], [value_if_false])	

56. Enter the value you want to appear if the logical test is true – enter this information within quotation marks – followed by a comma

Staff Sales Commissions			Sa
Staff	Book Sales (\$)	Bonus?	
Joe Trent	12,450	=IF(B5>=H4,"Yes",	
Natasha Anderson	16,875	IF(logical_test, [value_if_true], [value_if_false])	

57. Enter the value you want to appear if the logical test is false – enter this information within quotation marks

Staff Sales Commissions			Sa
Staff	Book Sales (\$)	Bonus?	
Joe Trent	12,450	=IF(B5>=H4,"Yes","No"	
Natasha Anderson	16,875	IF(logical_test, [value_if_true], [value_if_false])	

58. Close the bracket and press **Enter** – the result will be displayed

Staff Sales Commissions

Staff	Book Sales (\$)	Bonus?
Joe Trent	12,450	No
Natasha Anderson	16,875	

Lookup Functions

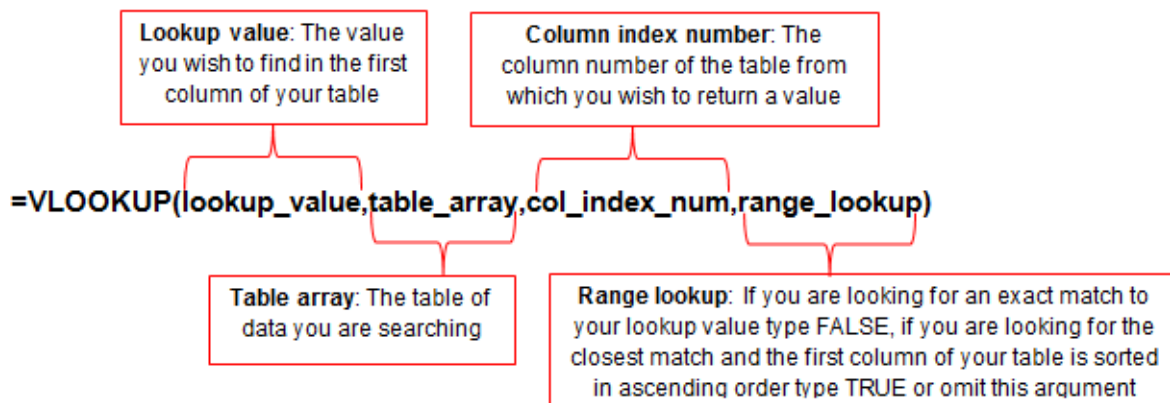
Lookup functions allow you to search for some data and then return relevant information about the item you've looked up. For example, you might look up a product code and return its name, price, or description.

VLOOKUP

The V in VLOOKUP stands for "Vertical". This means the function will look down through a list/table to find an item. There are a few things to know about VLOOKUP.

- The item you are looking up must be in the left most column of the table you are looking up. (This doesn't necessarily mean column A – but does mean that the first column you define as your table must be the column you'll find the lookup value in)
- You can ask the function to look for an exact match or an approximate match. If looking for an approximate match the data in the left most column that you're looking up **MUST** be sorted in ascending order. (A-Z or smallest to highest)
- The VLOOKUP function will return a corresponding value, from the same row, from a specified column in the table. You specify a column number by counting the number of columns to the right of the first column you defined, i.e. column 2, 3, 4 etc.

Note: The values in the first column of the table must be unique.



Example

In the following example, VLOOKUP is used to find out the bonus percentage paid to Sales Staff.

Staff Sales Commissions			Bonus Structure	
Staff	Book Sales (\$)	Bonus Amount	Minimum Value of Sales	% of Sales Value
Joe Trent	12,450		0	0%
Natasha Anderson	16,875		\$10,000	10%
Sherryn Ashford	21,890		\$20,000	15%
Nick Chappell	20,430		\$30,000	20%
Chandler Grooby	32,680		\$40,000	25%
Peter Hawkins	22,560		\$50,000	30%
Jodie Kidd	18,567			
Shaun McKenzie	13,543			


Select the cell where you want to create the formula

59. Enter **=VLOOKUP(**

Staff	Book Sales (\$)	Bonus Amount
Joe Trent	12,450	=VLOOKUP(
Natasha Anderson	18,875	VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])
Sherryn Ashford	21,890	

60. Enter the cell reference containing the information you are looking up, followed by a comma

Staff	Book Sales (\$)	Bonus Amount
Joe Trent		=VLOOKUP(B6,
Natasha Anderson	18,875	VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])
Sherryn Ashford	21,890	



Tip: When creating LOOKUP functions, it is good practice to make your table array absolute or to create a Named Range for the table. This ensures that if you copy the formula elsewhere, you are always using the correct data. To make the table absolute press **F4** when you have selected your table array.

61. Select all of the data in the table (except for headings), this will insert the Named Range if you applied one to the lookup table, followed by a comma

Staff Sales Commissions			Bonus Structure	
Staff	Book Sales (\$)	Bonus Amount	Minimum Value of Sales	% of Sales Value
Joe Trent	=VLOOKUP(B6, Sales_Bonus		0	0%
Natasha Anderson	VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])		\$20,000	10%
Sherryn Ashford	21,890		\$30,000	15%
Nick Chappell	20,430		\$40,000	20%
Chandler Grooby	32,680		\$50,000	25%
Peter Hawkins	22,560			30%
India Kidd	18,567			

62. Enter the column index number where the information is located (in this instance the Bonus % is located in the second column).

Staff	Book Sales (\$)	Bonus Amount
		=VLOOKUP(B6, Sales_Bonus, 2)

63. You can also add a TRUE or FALSE argument to the formula depending on whether you want an exact match or an approximate match. You would add **FALSE** when the values in the first column of your lookup table are **not** sorted. Use **TRUE** if you want to find the closest match and the data in your first column has been sorted in an ascending order. The **default** value is TRUE.
64. Close the bracket, press **Enter** and your result will be displayed

Staff Sales Commissions			Bonus Structure	
Staff	Book Sales (\$)	Bonus Amount	Minimum Value of Sales	% of Sales Value
Joe Trent	12,450	10%	0	0%
Natasha Anderson	16,875	10%	\$10,000	10%
Sherryn Ashford	21,890	15%	\$20,000	15%
Nick Chappell	20,430	15%	\$30,000	20%
Chandler Grooby	32,680	20%	\$40,000	25%
Peter Hawkins	22,560	15%	\$50,000	30%
Jodie Kidd	18,567	10%		
Shaun McKenzie	13,543	10%		

Create and Use Range Names

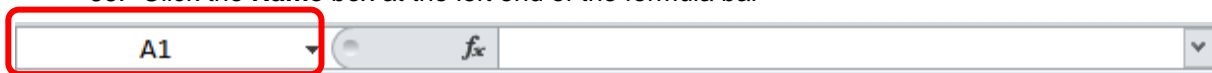
Naming cells or ranges of cells can be very useful when constructing formulas and functions. It can make your formulas easier to read and makes life much easier if you are needing to reference cells in other sheets. For example =SUM(unit_cost) might be easier to read than =SUM('INDEX & MATCH'!F2:F101), where 'Index & Match!' is the sheet name and F2:F101 is the range of cells.

Named ranges can be driven by you or you can have Excel create ranges for you by using the Format as Table feature.

- Use named cells/ ranges, where you want to give a cell or selection of cells within your current worksheet or other worksheet a name to make formula easier to follow
- Use Format as Table if your data is large lists with column headings that you will want to manipulate via sorting and filtering, add columns with calculations within the table, create PivotTables or regularly need to add data to.

Create a Named Range

65. Select the cell(s) that you want to name
66. Click the **Name** box at the left end of the formula bar

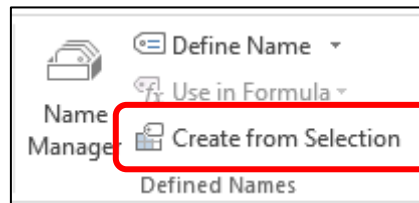


67. Type the name that you want to use to refer to your selection. Names can be up to 255 characters in length, but cannot contain spaces, use an underscore if necessary ie unit_cost
68. Press **Enter**

Define a name by using a selection of cells in the worksheet

You can convert existing row and column labels to names

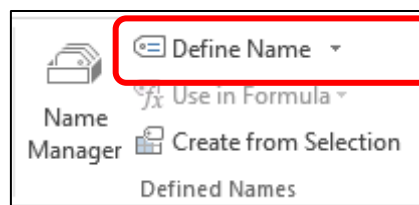
69. Select the range that you want to name, including the row or column label(s)
70. On the **Formulas** tab, in the **Defined Names** group, click **Create from Selection**





71. In the **Create Names from Selection** dialog box, designate the location that contains the labels by selecting the **Top row**, **Left column**, **Bottom row**, or **Right column** check box

Define a name by using the New Name dialog box

72. On the **Formulas** tab, in the **Defined Names** group, click **Define Name**



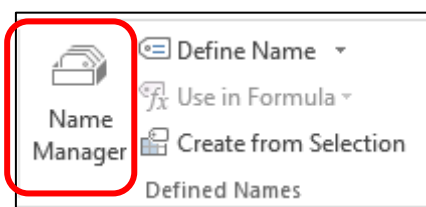
73. In the **New Name** dialog box, in the **Name** box, type the name that you want to use for your reference. Names can be up to 255 characters in length
74. To specify the scope of the name, in the **Scope** drop-down list box, select **Workbook** or the name of a worksheet in the workbook

75. Optionally, in the **Comment** box, enter a descriptive comment up to 255 characters
76. In the **Refers to** box, do one of the following:
 - * To enter a cell reference, type the cell reference. The current selection is entered by default. To enter other cell references as an argument, click Collapse Dialog  (which temporarily shrinks the dialog box), select the cells on the worksheet, and then click Expand Dialog 
 - * To enter a constant, type = (equal sign) and then type the constant value.
 - * To enter a formula, type = and then type the formula
77. To finish and return to the worksheet, click **OK**

Manage names by using the Name Manager dialog box



Use the **Name Manager** dialog box to work with all of the defined names and table names in the workbook.

To open the **Name Manager** dialog box, on the **Formulas** tab, in the **Defined Names** group, click **Name Manager**.



Change a name

If you change a defined name or table name, all uses of that name in the workbook are also changed.

78. On the **Formulas** tab, in the **Defined Names** group, click **Name Manager**
79. In the **Name Manager** dialog box, click the name that you want to change, and then click **Edit**
80. In the **Edit Name** dialog box, in the **Name** box, type the new name for the reference
81. In the **Refers to** box, change the reference, and then click **OK**
82. In the **Name Manager** dialog box, in the **Refers to** box, change the cell, formula, or constant represented by the name
 - * To cancel unwanted or accidental changes, click **Cancel** , or press ESC
 - * To save changes, click **Commit** , or press ENTER

Delete one or more names

83. On the **Formulas** tab, in the **Defined Names** group, click **Name Manager**
84. In the **Name Manager** dialog box, click the name that you want to change
85. Select one or more names by doing one of the following:
 - * To select a name, click it
 - * To select more than one name in a contiguous group, click and drag the names, or press SHIFT and click the mouse button for each name in the group
 - * To select more than one name in a non-contiguous group, press CTRL and click the mouse button for each name in the group
86. Click **Delete**. You can also press DELETE
87. Click **OK** to confirm the deletion




Tip: *By definition named ranges are absolute so are great for using in formula construction where you are referencing a specific table or range of cells and need to fill the formula.*

Quick Analysis

Quick Analysis allows you to quickly apply a function to your selected data, including the Sum, Average, and Count functions.

88. Select your data

	A	B	C	D	E	F	G	H
1	Book Title	June	July	August				
2	David Copperfield	\$ 2,400.00	\$ 3,500.00	\$ 3,200.00				
3	Carrie	\$ 2,500.00	\$ 2,750.00	\$ 1,500.00				
4	Jane Eyre	\$ 1,200.00	\$ 1,400.00	\$ 2,275.00				
5	Eclipse	\$ 1,000.00	\$ 800.00	\$ 750.00				
6								
7								
8								
9								
10								
11								
12								
13								
14								



Quick Analysis (Ctrl+Q)
Use the Quick Analysis tool to quickly and easily analyze your data with some of Excel's most useful tools, such as charts, color-coding, and formulas.

89. Click once on the **Quick Analysis** button that appears at the bottom right of the selected data

90. Click on the word **Totals** and hover over each of the options Sum, Average, Count etc. The solution will show in live preview. Click the option you want

	A	B	C	D	E	F	G	H
1	Book Title	June	July	August				
2	David Copperfield	\$ 2,400.00	\$ 3,500.00	\$ 3,200.00				
3	Carrie	\$ 2,500.00	\$ 2,750.00	\$ 1,500.00				
4	Jane Eyre	\$ 1,200.00	\$ 1,400.00	\$ 2,275.00				
5	Eclipse	\$ 1,000.00	\$ 800.00	\$ 750.00				
6		\$ 7,100.00	\$ 8,450.00	\$ 7,725.00				

Formatting	Charts	Totals	Tables	Sparklines
Sum	Average	Count	% Total	Running...

Formulas automatically calculate totals for you.

The first five options apply a function to your columns (blue), the next set of functions apply to your rows (yellow). Use the arrow to see more row options.

If you wanted to show both column and row totals, and you've already applied column totals, select your data again, use Quick Analysis, navigate to the row options and select the option you want to apply.

	A	B	C	D	E	F	G	H
1	Book Title	June	July	August				
2	David Copperfield	\$ 2,400.00	\$ 3,500.00	\$ 3,200.00	\$9,100.00			
3	Carrie	\$ 2,500.00	\$ 2,750.00	\$ 1,500.00	\$6,750.00			
4	Jane Eyre	\$ 1,200.00	\$ 1,400.00	\$ 2,275.00	\$4,875.00			
5	Eclipse	\$ 1,000.00	\$ 800.00	\$ 750.00	\$2,550.00			
6		\$ 7,100.00	\$ 8,450.00	\$ 7,725.00				

Formatting	Charts	Totals	Tables	Sparklines
				% Total icon"/>
Running...	Sum	Average	Count	% Total

Formulas automatically calculate totals for you.

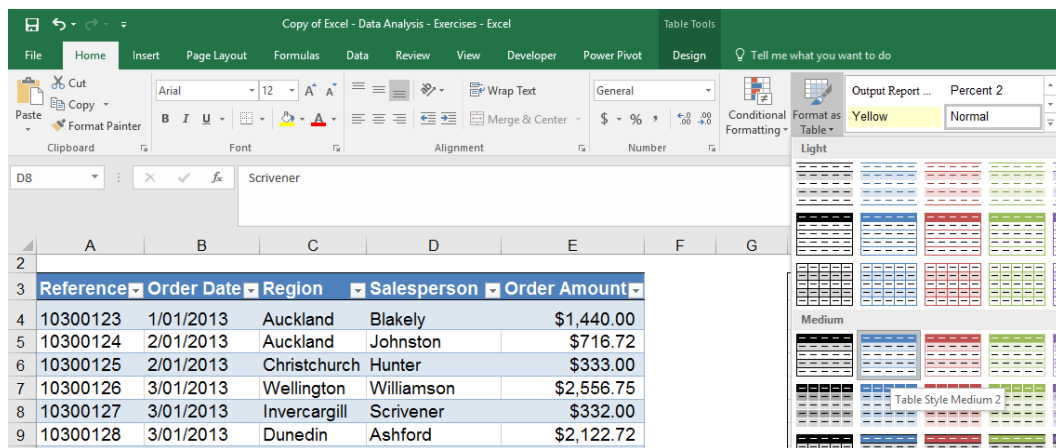
Format as Table

If you have data that you need to sort or filter, then **Format as Table** is a very useful tool. Not only will it apply the auto filtering options, apply a colour scheme to make it easier to read, it will also set your data up so you can append more data later and the table will expand to accommodate your data. In addition the table becomes a named range which can help with function construction and it sets the data up for creating PivotTables.



Tip: Data sets should not contain blank rows or columns. If your data does contain blank rows or columns it is a good idea to tidy the data up first.

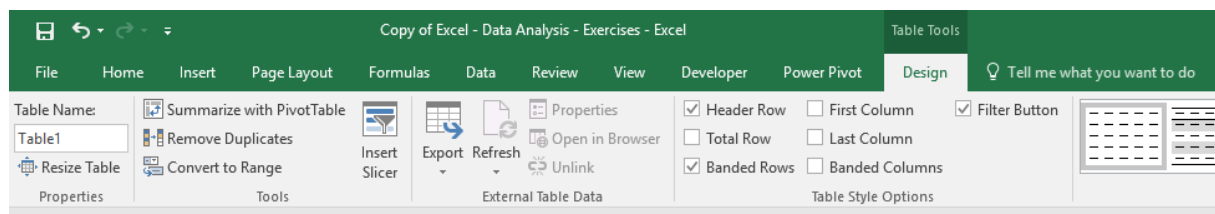
1. Click anywhere within your data, or select your data and then choose **Home, Format as Table**
2. Click on an appropriate colour scheme to select it



3. From the dialog box, check that all the data is selected and the check box for **My table has headers** is checked if appropriate.
4. Select **OK**
5. Returning to the **Format As Table** option will now allow you to apply a different colour scheme if you wish

Format As Table automatically turns on auto filter for your data.

You will also have a contextual command tab called **Table Tools**



From within Table Tools you can

- Rename your table
- Create a PivotTable,
- Tidy your data up by removing duplicates if necessary,
- Change the colour of your table and which rows are banded.

Working with column and table names

By using Format as Table the table and columns have been named. When creating formula the names of table and columns will be used rather than the cell references, this is called a structured reference.

You can add additional columns or rows and your table will expand automatically. As you construct formula the cell reference is replaced with the “structured reference” which refers to the column heading e.g. `[@Order_Amount]`. The structured reference makes it easier to read the formula. Once the formula is complete it will fill to the bottom of the table without the need to use the fill handle.

`[@Order_Amount]` refers to the current row

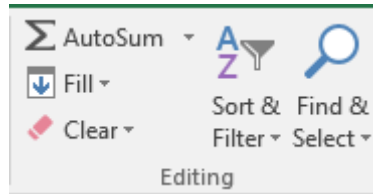
`[@Order_Amount]` is a relative reference in the Order_Amount column

Reference	Order Date	Region	Salesperson	Order Amount	Margin
10300123	1/01/2013	Auckland	Blakely	\$1,440.00	=[@Order Amount]*Margin
10300124	2/01/2013	Auckland	Johnston	\$716.72	
10300125	2/01/2013	Christchurch	Hunter	\$333.00	
10300126	3/01/2013	Wellington	Williamson	\$2,556.75	
10300127	3/01/2013	Invercargill	Scrivener	\$332.00	
10300128	3/01/2013	Dunedin	Ashford	\$2,122.72	
10300129	6/01/2013	Christchurch	Abraham	\$1,702.80	

Filtering and Sorting Data

You can turn Sort and Filter on without using Format As Table.

6. Click anywhere in a cell containing numeric data
7. On the **Home** tab, in the **Editing** group, click **Sort & Filter**, and then click **Filter**




The filter dropdown boxes should now show in the header row of your data.

The following section will apply whether you have used Sort & Filter or Format as Table.

Sort or Filter a numeric column

Filtering data is a quick and easy way to find and work with a subset of data in a range of cells or table. Once you have filtered data in a range of cells, you can either reapply a filter to get up-to-date results, or clear a filter to redisplay all of the data.


1. Click the arrow  in the column header
2. Do one of the following:
 - 2.1 **Sort** your data from smallest to largest or largest to smallest. You can even sort by colour of cells if you have applied conditional formatting or your own formatting. See section on Conditional Formatting.
 - 2.2 You can filter your data either by the colour of cells (conditional formatting) or by using one of the **Number Filters**
 - 2.3 Filter your numbers based on entering a number in the **Search** box
 - 2.4 Filter your numbers by turning off **Select All** and then ticking the values you which to filter for


Sort your data into numeric order or sort by colour of cell (conditional formatting)

Filter by cell colour or using one of the number filters


Search for a specific number in the **Search** box or uncheck **Select All** and then check the values you want to filter for

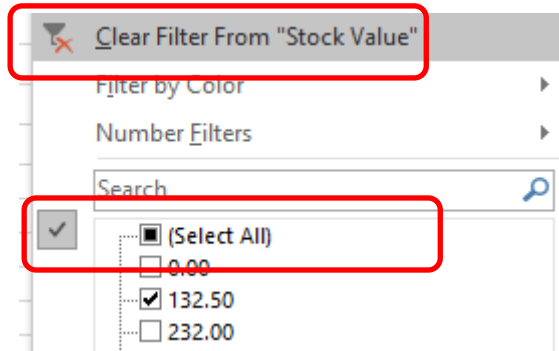
3. Choose **OK** to apply your filter

A filtered column will show with this symbol 

A sorted column will show with this symbol  with the arrow showing the direction of the sort, in this case smallest at the top and largest at the bottom.

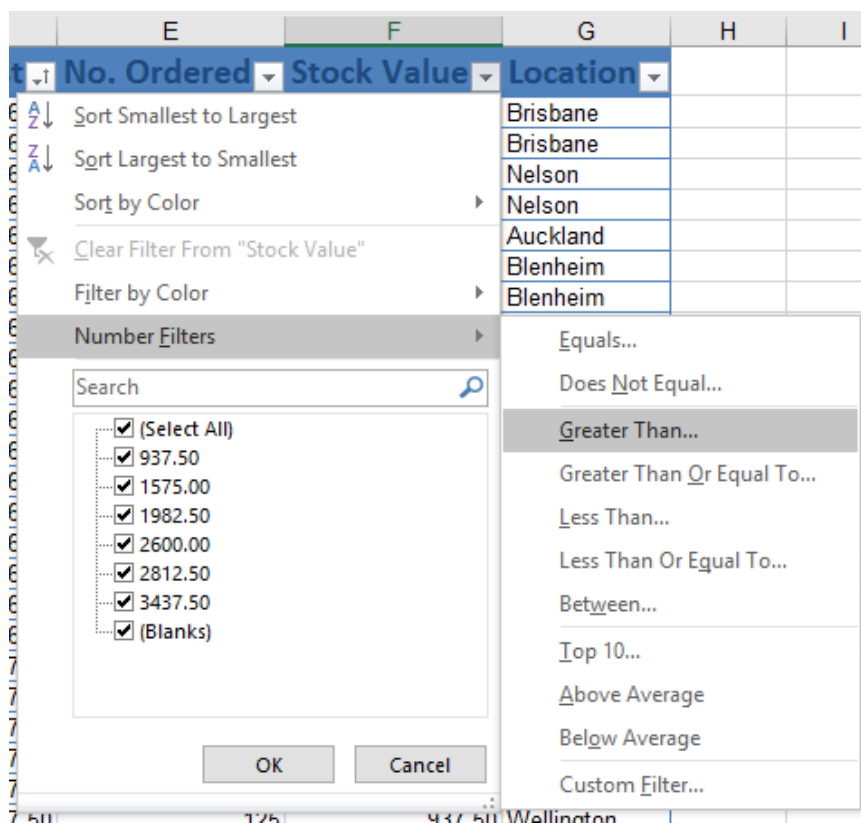
To remove a filter

1. Click on the filter symbol you wish to clear. 
2. Either choose, **Clear Filter** from column name or choose to turn on the tick box for **Select All**

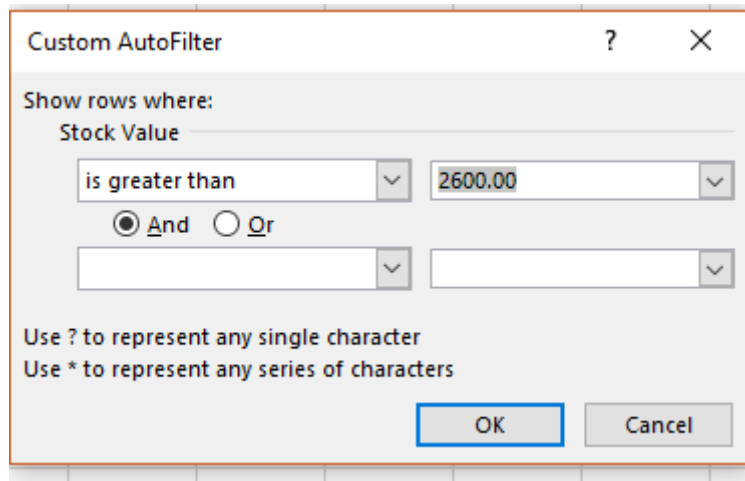


Working with Number Filters

1. Point to **Number Filters** and then click one of the comparison commands or click **Custom Filter**

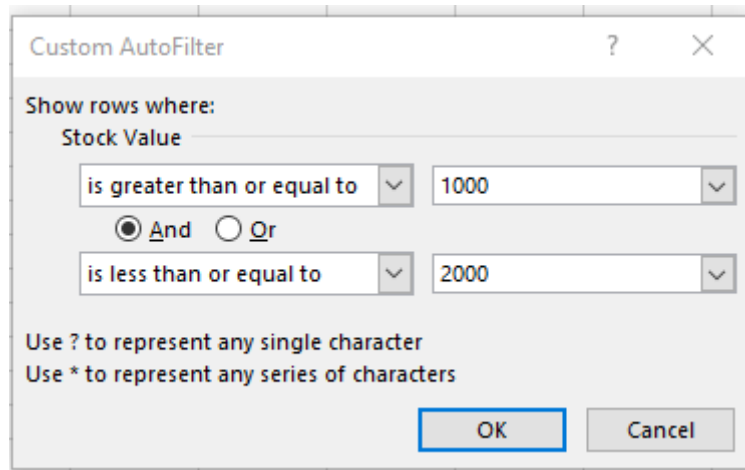


2. Ensure the comparison operator is showing the correct option ie **is greater than** vs **greater than or equal to**
3. In the **Custom AutoFilter** dialog box, in the box on the right, enter numbers or select numbers from the drop down list, choose **OK**




Create a multi condition numeric filter

1. Point to **Number Filters** and then click **Between** or **Custom Filter**



2. Use the **And** condition to filter for values that are between two numbers
3. Use the **Or** condition to select say top and bottom values, ie is less than 100 **or** over 200
4. Choose **OK** to apply the filter

Sort or Filter Text

1. Click the arrow  in the column header
2. Do one of the following:
 - 2.1 **Sort** your data from A-Z or Z to A. You can even sort by colour of cells if you have applied conditional formatting or your own formatting. See section on Conditional Formatting.
 - 2.2 You can filter your data either by the colour of cells (conditional formatting) or by using one of the **Text Filters**
 - 2.3 Filter by typing text in the **Search** box
 - 2.4 Filter by turning off **Select All** and then ticking the items you which to filter for

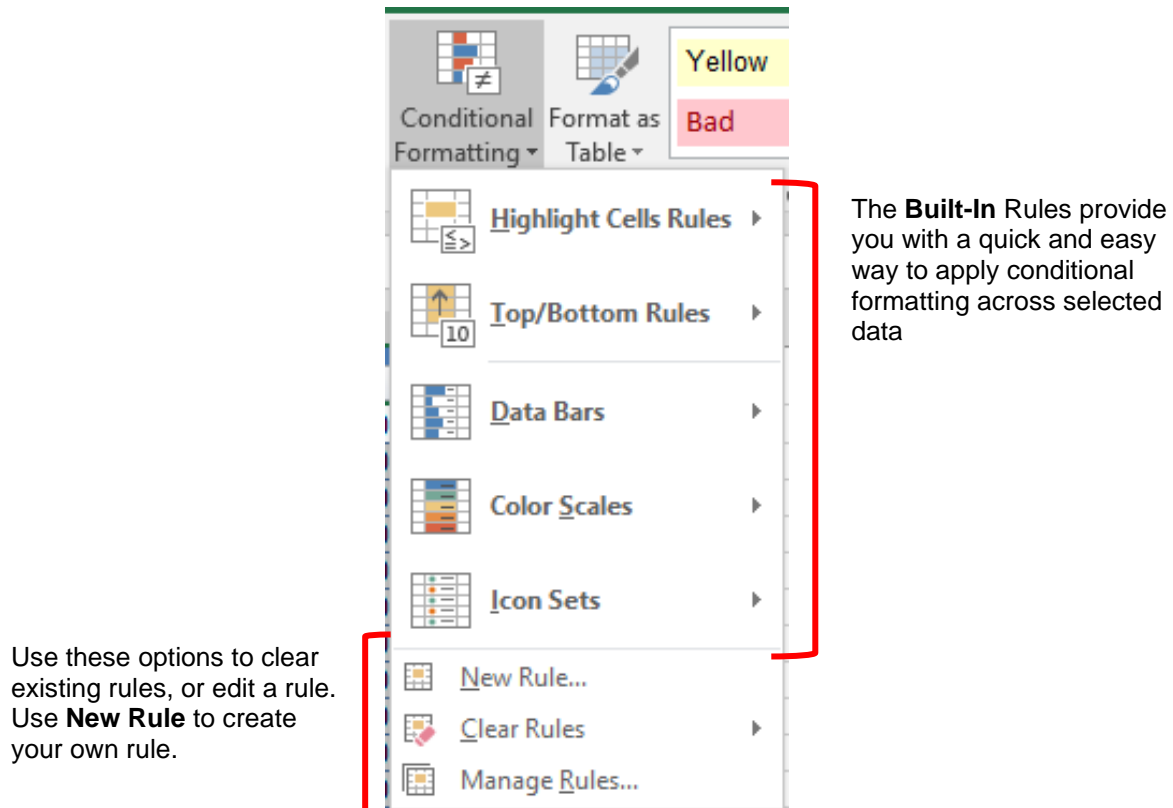
Conditional Formatting

Use conditional Formatting to highlight cells that meet your desired criteria. Using conditional formatting can make it easier to identify key data.

Conditional Formatting

A conditional format changes the appearance of a cell range based on a condition (or criteria). If the condition is true, the cell range is formatted based on that condition. If the condition is false, the cell range is not formatted based on that condition.

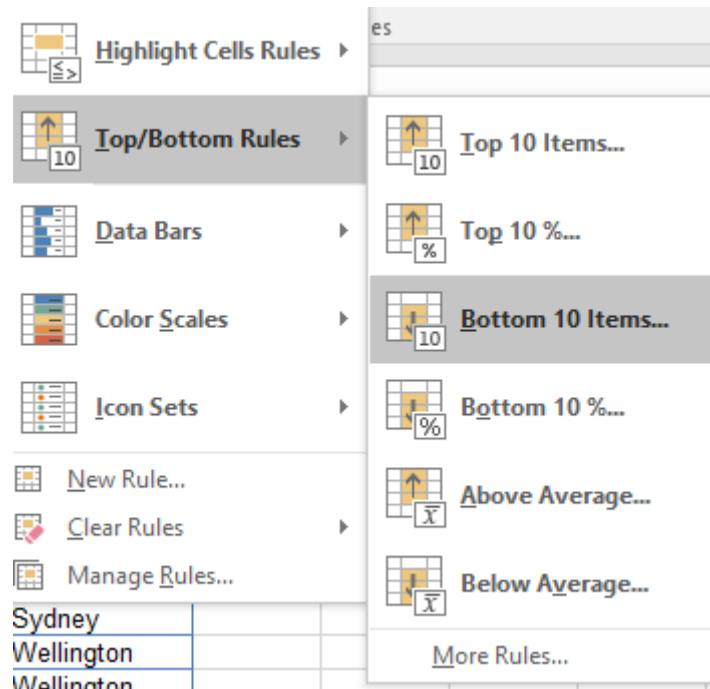
Options are available by selecting a group of data and clicking on **Conditional Formatting** from the **Styles** groups on the **Home** tab:



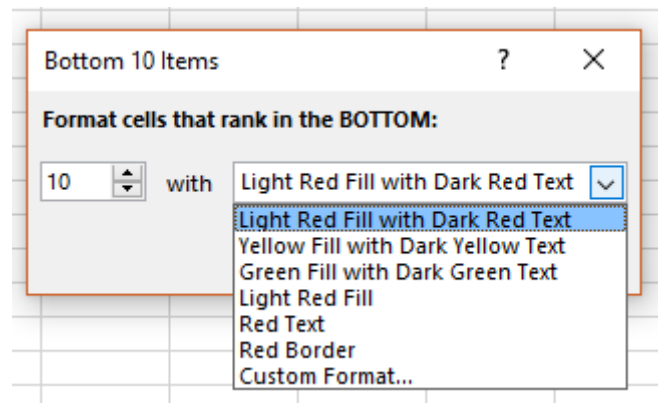
Built-in Rules

Excel has provided you with built-in rules. By selecting the option **Highlight Cells Rules** from the drop-down list available under **Conditional Formatting**, a number of built-in rules are already available for use:

1. Select the cells you would like to apply the conditional formatting to first
2. Select **Home**, **Conditional Formatting** and then built in rule group you'd like and finally the specific rule



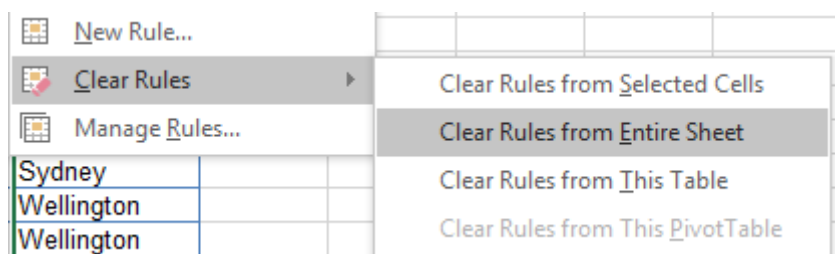
- From the rule box, you can then adjust to criteria (number) and then also select the colour scheme you'd like applied



- Choose **OK**

Removing a Rule

- On the **Home** tab, in the **Styles** group, click the arrow next to **Conditional Formatting**, and then hover over **Clear Rules** and select one of the options available

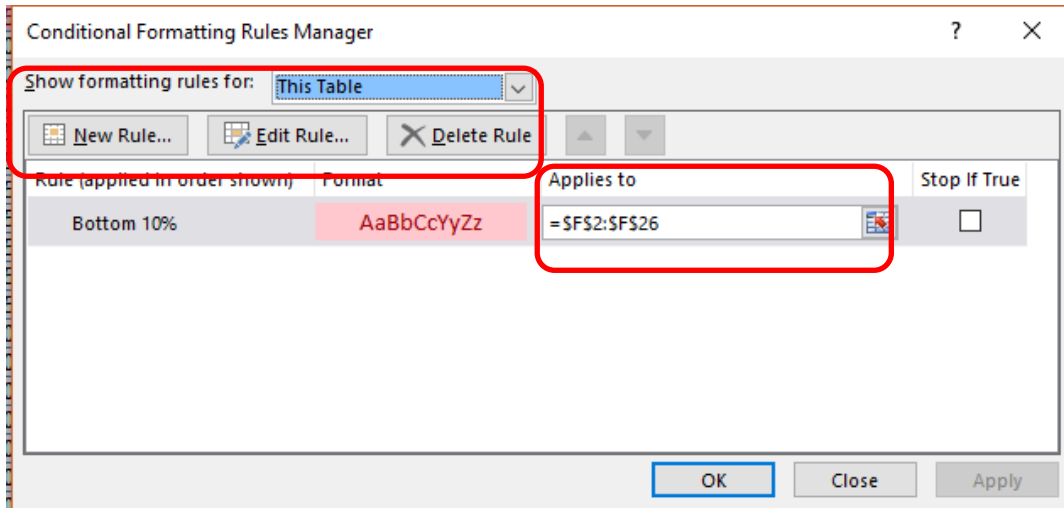


Manage Rules

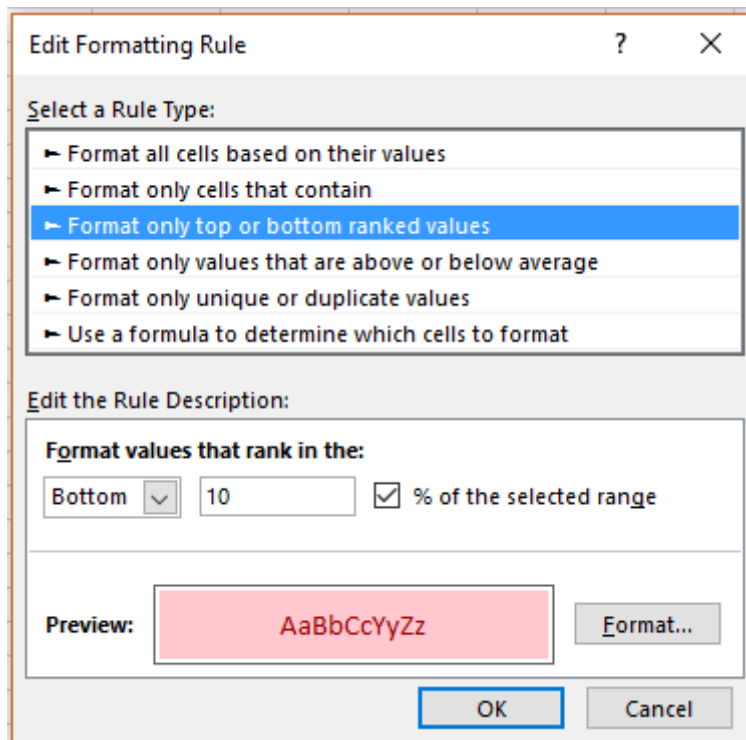
The built in rules can be changed by using the **Manage Rules** option.

- On the **Home** tab, in the **Styles** group, click the arrow next to **Conditional Formatting**, and then click **Manage Rules**

2. Any rules that are currently applied to the spreadsheet will show in the **Conditional Formatting Rules Manager** window
3. You can do the following:
 - 3.1 Create a **New Rule**
 - 3.2 Edit an existing rule. If multiple rules, click on the rule first and then choose **Edit Rule**
 - 3.3 **Delete** the rule, remember to select it first
 - 3.4 Change the range of cells that the rule **Applies to**



4. Select the rule and then click on **Edit Rule**



5. Make the required changes, such as how many values will show, or choosing a different colour scheme under **Format**
6. Click **OK**, **Apply** and **OK**

Creating a New Rule

Sometimes the built-in rules don't give you the formatting you need so you will want to create your own rule. A good example below would be you want to highlight all the cells where the actual cost is higher than the budgeted cost, when you have two columns of data

1. Select the column of data you wish to apply the rule to
2. From the **Home** tab, select **Conditional Formatting** then select **New Rule**
3. Choose the rule type: in this case **Use a formula to determine which cells to format**

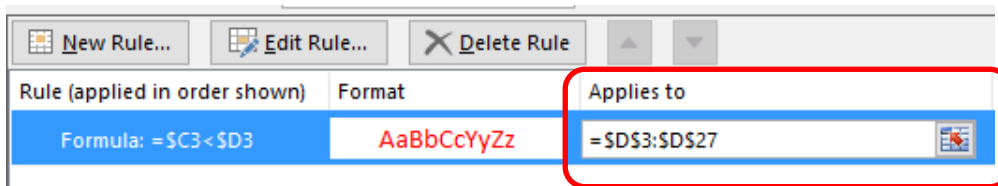
Job Number	Budget Cost	Actual Cost
1234	937.5	950
1235	937.5	900
1236	937.5	920
1237	937.5	960
1238	1575	1400
1239	1575	1500
1240	1575	2000
1241	1982.5	2000
1242	1982.5	1700
1243	1982.5	1850
1244	1982.5	1930
1245	1982.5	2100
1246	1982.5	2050
1247	1982.5	1964
1248	2600	2200
1249	2600	2650
1250	2600	2599
1251	2600	2400
1252	2600	2740
1253	2600	2440
1254	2600	3000

4. In the **Format values where this formula is true** field you will want to create the formula for one row ie `=C3<D3`. This formula is testing if Budgeted Cost is less than Actual Cost
5. You then need to remove the \$ from the row context so the formula can fill down the column and look at each row and test. So the resulting formula will look like `=C3<D3`

6. Next choose **Format** and choose a font colour or background fill colour to apply if the formula is true, choose **Ok**
7. Click **OK**

Job Number	Budget Cost	Actual Cost
1234	937.5	950
1235	937.5	900
1236	937.5	920
1237	937.5	960
1238	1575	1400
1239	1575	1500
1240	1575	2000
1241	1982.5	2000
1242	1982.5	1700

If you forgot to select the column that the formatting should apply to before creating your conditional rule or you need to alter it in the future, then you can choose **Edit Rule** and change the range the rule **Applies to**



Create a Pivot Table

A PivotTable is an interactive table that combines and compares large amounts of data. It is possible to rotate (or pivot) the rows and columns to see different summaries of the source data, and display details according to your areas of interest.

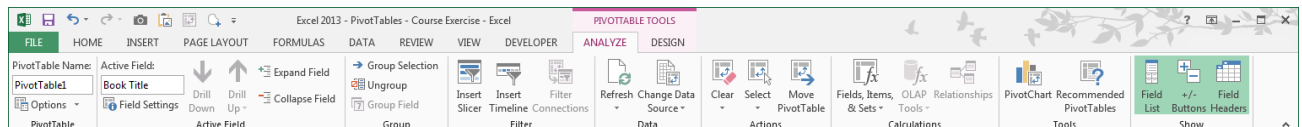
Main Elements

To understand the components of a PivotTable it is necessary to understand PivotTable terminology.

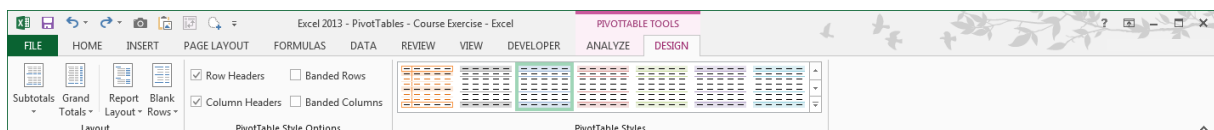
Term	Description
Axis	A dimension in a PivotTable such as a row, column or page
Data Source	The list or table containing the data used to create the PivotTable
Field	A category of information. A field is similar to a column in a list. PivotTables can be manipulated by selecting specific fields, i.e., Salesperson, Region, etc.
Item	A member of a field, i.e., Salesperson's name
Summary Function	The function used to calculate the values displayed in the main part of the table (SUM is the default for numerical data and COUNT for text)
Refresh	Recalculating the PivotTable to reflect any changes in the data source

PivotTable Ribbon

PivotTable Tools, Analyze



PivotTable Tools, Design



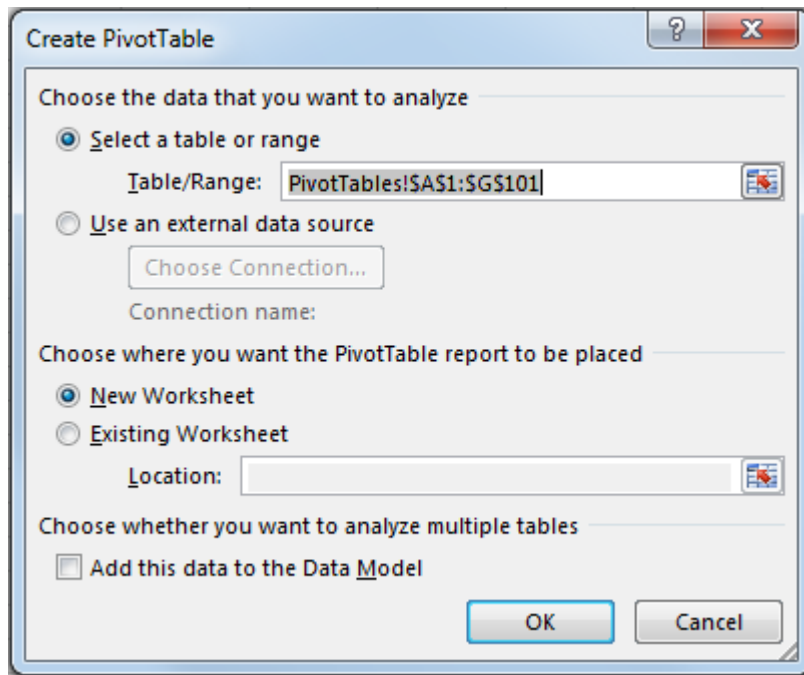
Generating a PivotTable

It is always a good idea to format your data as a table before creating your PivotTable especially if you will be adding more data to the table later, as the Format as Table feature will expand the table to include new data appended. See section on Format as Table earlier in this manual.

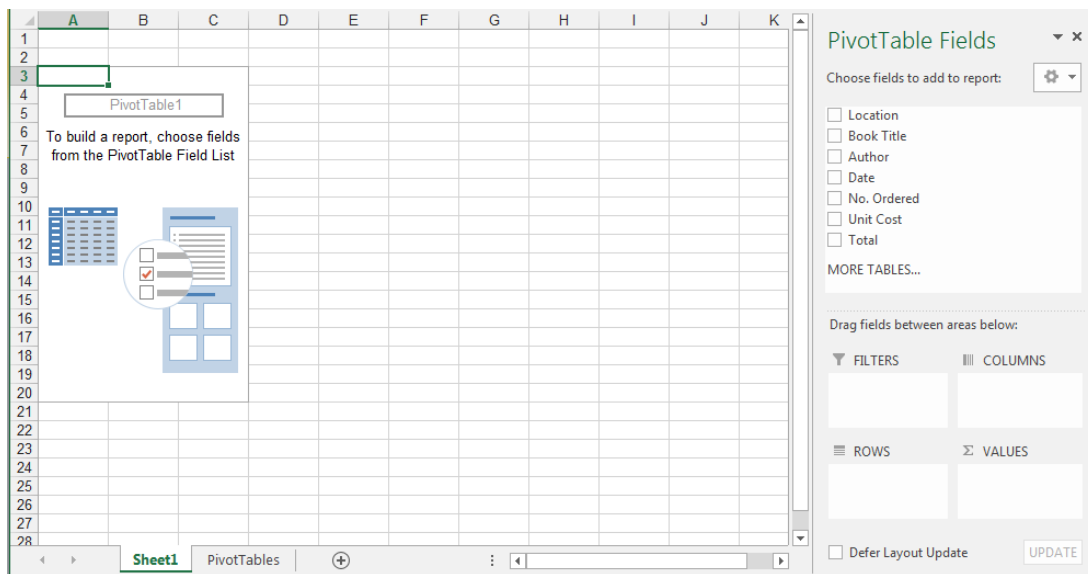
1. Click anywhere in the data to be summarised in a PivotTable
2. On the **Insert** tab in the **Tables** group, click the **PivotTable** icon



3. Ensure the correct data range is selected and click whether you want the PivotTable to be put into the existing worksheet or a new worksheet and click **OK**. If your data is formatted as a table, the table name will show in the Table/Range field.




4. An empty PivotTable will be created




5. Tick which fields are to be added to the report. By default, nonnumeric fields are added to the **Rows** area, numeric fields are added to the **Values** area, and OLAP (Online Analytical Processing) date and time hierarchies are added to the **Columns** area

Row Labels	Sum of No. Ordered
Auckland	3255
Blenheim	2710
Brisbane	4045
Christchurch	2205
Invercargill	1665
LA	610
Nelson	2585
Queenstown	125
Singapore	4160
Stewart Island	915
Sydney	6170
Wellington	3555
Westport	1430
Grand Total	33430

6. You can drag the fields between different areas if required



Tip: If the range is in another worksheet in the same workbook or another workbook, click  and select the data source. This will insert the workbook and worksheet name at the start of the range using the following syntax: [workbook name]sheetname!range)

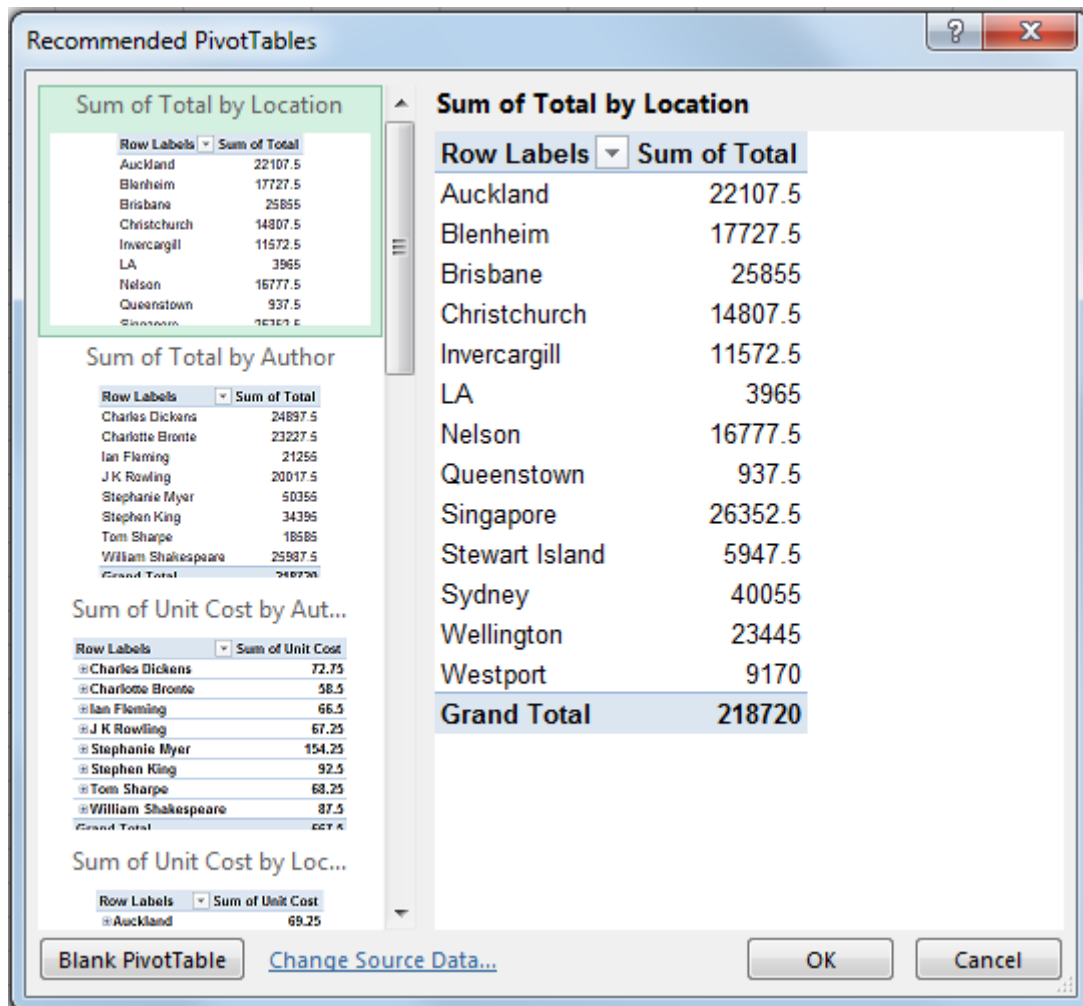
Use Recommended PivotTables

The Recommended PivotTables feature will show a subset of PivotTable types that are appropriate to the data you've selected. To use the tool:

1. Click anywhere in the data you want to summarise
2. On the **Insert** tab in the **Tables** group, select **Recommended PivotTables**



A dialog appears with a range of PivotTables to choose from:



1. Click each PivotTables in turn to see how your data will look in that format
2. Select the desired option and click **OK**. The PivotTable will be created automatically

3	Row Labels	Sum of Total
4	Charles Dickens	24897.5
5	Charlotte Bronte	23227.5
6	Ian Fleming	21255
7	J K Rowling	20017.5
8	Stephanie Myer	50355
9	Stephen King	34395
10	Tom Sharpe	18585
11	William Shakespeare	25987.5
12	Grand Total	218720

Appendix Table of Contents

Excel Keyboard Shortcuts i

Excel Keyboard Shortcuts

General Shortcuts

Shortcut Key	Description
ARROW KEYS	Move one cell up, down, left, or right
TAB	Move one cell to the right.
SHIFT TAB	Move one cell to the left.
CTRL, ARROW KEY	Move to the last column in the worksheet
HOME	Move to the beginning of the row.
CTRL HOME	Move to first cell in worksheet.
CTRL END	Move to the last cell on the worksheet.
PAGE DOWN	Move down one screen.
PAGE UP	Move up one screen.
ALT PAGE DOWN	Move one screen to the right.
ALT PAGE UP	Move one screen to the left.
CTRL SPACEBAR	Select the entire column.
SHIFT SPACEBAR	Select the entire row.
CTRL A	Select entire worksheet. If it contains data, CTRL A selects the current region. Pressing it a second time selects entire worksheet.
ALT ENTER	Start a new line in the same cell
CTRL ENTER	Fill the selected cell range with the current entry.
ESC	Cancel a cell entry.
F4 or CTRL Y	Repeat the last action.
CTRL Z	Undo the last action.
CTRL X	Cut
CTRL C	Copy
CTRL V	Paste
F2	Edit cell contents

PivotTables

Keyboard	Description
F11	Generates a PivotChart based on the selected PivotTable
CTRL SHIFT *	Select the entire PivotTable
ALT SHIFT RIGHT ARROW	Group selected items
ALT SHIFT LEFT ARROW	Ungroup grouped items
CTRL PAGE UP/DOWN	Move to previous/next sheet in workbook