Excel on Steroids

sage

40 Microsoft Excel tips and tricks

Microsoft® Excel® 2007, 2010 and 2013

- Data formatting
- Functions and formulas
- PivotTables and PivotCharts
- Keyboard shortcuts

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01

Data Formatting

How to locate hidden cells on a worksheet

When you want to print certain rows/columns of data in a worksheet, you will most likely hide the other rows/columns, however when you want to unhide cells in hidden rows/columns it can be hard to locate them. By selecting all visible cells in the worksheet, you can easily detect the hidden rows/columns, as they will be highlighted in white and thus can be easily located.

Note: Download the **workbook** to practice this exercise.

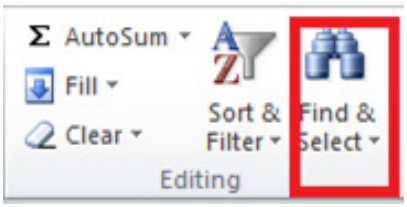
Applies to: Microsoft® Excel® 2007, 2010 and 2013

Rows 4, 5, 12 and 13 are hidden in the sample worksheet shown below.

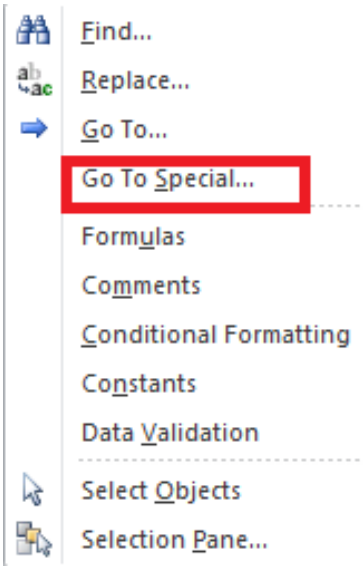
	A	B	C	D	E	F	G	H
1								
2	*Category Name*	*Product Name*	*Branch*	*Date*	*Month*	*Quantity*	*Unit Price*	*Product Sales*
3	Dairy Products	Blue Cheese	West Coast	March 06, 2009	March	110	$ 34.80	$ 3 828.00
6	Dairy Products	Blue Cheese	West Coast	March 28, 2009	March	120	$ 34.80	$ 4 176.00
7	Dairy Products	Blue Cheese	East Coast	April 03, 2009	April	160	$ 34.80	$ 5 568.00
8	Dairy Products	Blue Cheese	South Coast	April 04, 2009	April	45	$ 34.80	$ 1 566.00
9	Dairy Products	Blue Cheese	North Coast	April 04, 2009	April	100	$ 34.80	$ 3 480.00
10	Dairy Products	Blue Cheese	South Coast	April 11, 2009	April	40	$ 34.80	$ 1 392.00
11	Dairy Products	Blue Cheese	North Coast	April 12, 2009	April	70	$ 34.80	$ 2 436.00
14	Dairy Products	Blue Cheese	North Coast	May 06, 2009	May	90	$ 34.80	$ 3 132.00
15	Dairy Products	Blue Cheese	South Coast	May 12, 2009	May	40	$ 34.80	$ 1 392.00
16	Dairy Products	Blue Cheese	North Coast	May 13, 2009	May	50	$ 34.80	$ 1 740.00
17	Dairy Products	Blue Cheese	North Coast	May 14, 2009	May	45	$ 34.80	$ 1 566.00
18	Dairy Products	Blue Cheese	West Coast	May 15, 2009	May	100	$ 34.80	$ 3 480.00
19	Dairy Products	Blue Cheese	East Coast	May 20, 2009	May	150	$ 34.80	$ 5 220.00
20	Dairy Products	Blue Cheese	West Coast	May 22, 2009	May	100	$ 34.80	$ 3 480.00

1. To select visible cells on the worksheet/s, Press **Alt +** ; or follow the steps below:

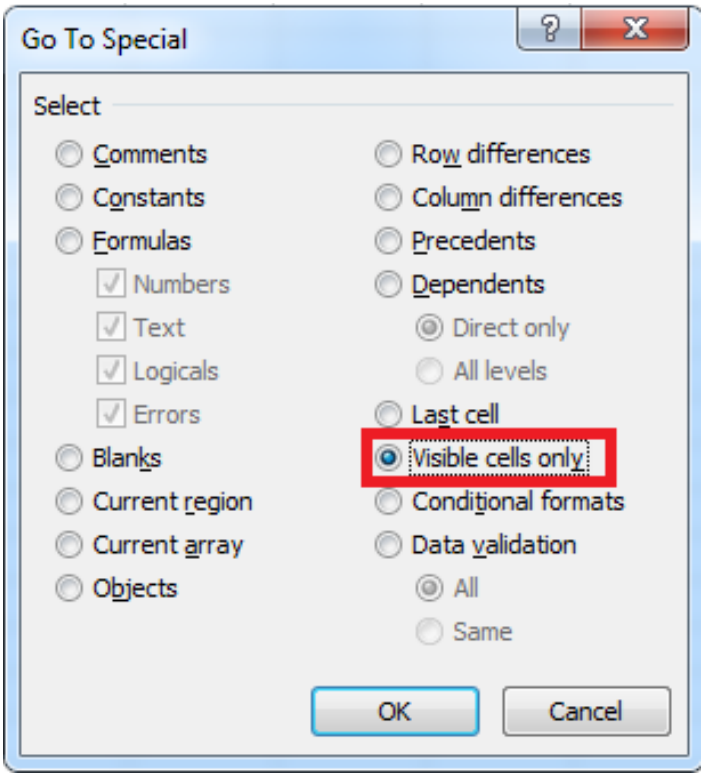
a) On the **Home** tab, in the **Editing** group, select **Find & Select**.



2. Select **Go To Special**.



3. Under **Select,** click **Visible cells only**, and then click **OK**.



All visible cells are selected and the borders of rows and columns that are adjacent to hidden rows and columns are marked with a white border.

	A	B	C	D	E	F	G	H
1								
2	*Category Name*	*Product Name*	*Branch*	*Date*	*Month*	*Quantity*	*Unit Price*	*Product Sales*
3	Dairy Products	Blue Cheese	West Coast	March 06, 2009	March	110	$ 34.80	$ 3 828.00
6	Dairy Products	Blue Cheese	West Coast	March 28, 2009	March	120	$ 34.80	$ 4 176.00
7	Dairy Products	Blue Cheese	East Coast	April 03, 2009	April	160	$ 34.80	$ 5 568.00
8	Dairy Products	Blue Cheese	South Coast	April 04, 2009	April	45	$ 34.80	$ 1 566.00
9	Dairy Products	Blue Cheese	North Coast	April 04, 2009	April	100	$ 34.80	$ 3 480.00
10	Dairy Products	Blue Cheese	South Coast	April 11, 2009	April	40	$ 34.80	$ 1 392.00
11	Dairy Products	Blue Cheese	North Coast	April 12, 2009	April	70	$ 34.80	$ 2 436.00
14	Dairy Products	Blue Cheese	North Coast	May 06, 2009	May	90	$ 34.80	$ 3 132.00
15	Dairy Products	Blue Cheese	South Coast	May 12, 2009	May	40	$ 34.80	$ 1 392.00
16	Dairy Products	Blue Cheese	North Coast	May 13, 2009	May	50	$ 34.80	$ 1 740.00
17	Dairy Products	Blue Cheese	North Coast	May 14, 2009	May	45	$ 34.80	$ 1 566.00
18	Dairy Products	Blue Cheese	West Coast	May 15, 2009	May	100	$ 34.80	$ 3 480.00
19	Dairy Products	Blue Cheese	East Coast	May 20, 2009	May	150	$ 34.80	$ 5 220.00
20	Dairy Products	Blue Cheese	West Coast	May 22, 2009	May	100	$ 34.80	$ 3 480.00

NOTE: Clicking anywhere on the worksheet will cancel the selection of the visible cells. If the hidden cells that you want to unhide are outside of the visible worksheet area, use the scroll bars to move through the document until the hidden rows and columns that contain those cells are visible.

How to quickly delete blank rows in a worksheet

When capturing data some fields can be left blank on purpose like the third line of an address, people may not fill it in, but you may not want the entire row deleted just because of that one blank cell. You can avoid deleting the entire row, and ensure that only rows that are entirely blank are deleted. Here's how:

Note: Download the **workbook** to practice this exercise.

Applies to: Microsoft® Excel® 2007, 2010 and 2013

To make it clear we have highlighted all the blank cells within non blank rows with blue in the practice workbook.

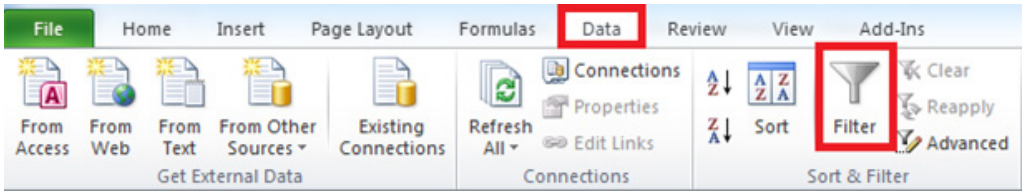
1. Select the entire data list:

a. Select the first data row.

b. Press **CTRL+SHIFT+END or CTRL +SHIFT & down** arrow several times.

	A	B	C	D	E	F
1	Product ID	Product Name	Date	Quantity	Unit Price	Selling Price
2	21	Sir Rodney's Scones	January 09, 2009	12	8.00	$ 96.00
3	14	Tofu		12	18.60	$ 223.20
4						
5	44	Gula Malacca	January 10, 2009	40	15.50	$ 496.00
6	59	Raclette Courdavault	January 10, 2009	25	44.00	$ 1 020.80
7						
8	33	Geitost	January 10, 2009	49	2.00	$ 98.00
9	41	Jack's New England Clam Chowder	January 10, 2009	25		$ 154.00
10	14	Tofu	January 13, 2009	20	18.60	$ 334.80
11						
12	76	Lakkalikööri	January 14, 2009	14	14.40	$ 201.60
13	1	Chai	January 14, 2009	24	14.40	$ 345.60

2. Select the **Data tab** and **Filter** as shown below.

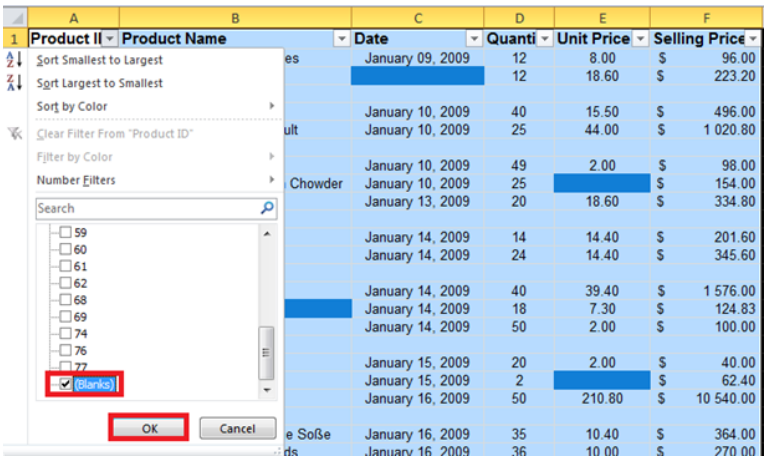


3. Then select blanks:

a. Click on the Product ID filter arrow.

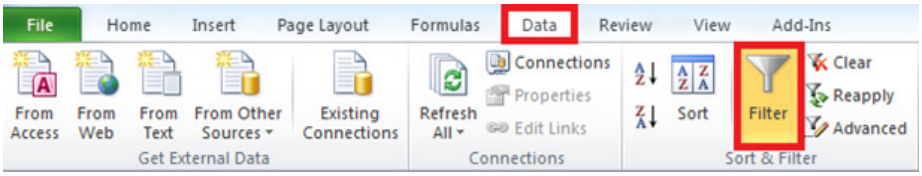
b. Uncheck the **Select all** box.

c. Select **(Blanks)**.



4. Highlight the filtered rows, headings should be excluded:
a. Select the first row for the filtered data.
b. Press **CTRL + SHIFT + END ,or CTRL + SHIFT + down arrow**.

5. Press **CTRL** and **minus**.
6. Select **OK** when asked to delete entire sheet row.
7. To clear the filter select the **Data tab** and **Filter** as you had done to create the filter.



8. The final result will look as follows:

	A	B	C	D	E	F
1	**Product ID**	**Product Name**	**Date**	**Quantity**	**Unit Price**	**Selling Price**
2	21	Sir Rodney's Scones	January 09, 2009	12	8.00	$ 96.00
3	14	Tofu		12	18.60	$ 223.20
4	44	Gula Malacca	January 10, 2009	40	15.50	$ 496.00
5	59	Raclette Courdavault	January 10, 2009	25	44.00	$ 1 020.80
6	33	Geitost	January 10, 2009	49	2.00	$ 98.00
7	41	Jack's New England Clam Chowder	January 10, 2009	25		$ 154.00
8	14	Tofu	January 13, 2009	20	18.60	$ 334.80
9	76	Lakkalikööri	January 14, 2009	14	14.40	$ 201.60
10	1	Chai	January 14, 2009	24	14.40	$ 345.60
11	62	Tarte au sucre	January 14, 2009	40	39.40	$ 1 576.00
12	19		January 14, 2009	18	7.30	$ 124.83
13	33	Geitost	January 14, 2009	50	2.00	$ 100.00
14	33	Geitost	January 15, 2009	20	2.00	$ 40.00
15	17	Alice Mutton	January 15, 2009	2		$ 62.40
16	38	Côte de Blaye	January 16, 2009	50	210.80	$ 10 540.00
17	77	Original Frankfurter grüne Soße	January 16, 2009	35	10.40	$ 364.00

Only the rows that are entirely blank have been deleted. The rows which only have some blank cells have not been deleted.

How to maintain data integrity by identifying blank cells in a worksheet

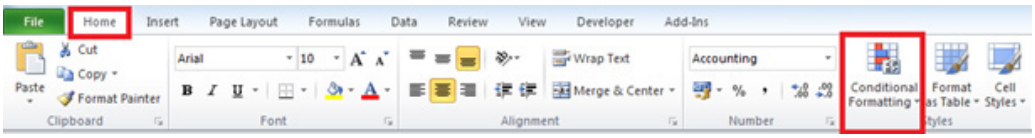
To maintain data integrity in your worksheet you can start by identifying cells that are blank, possibly due to data capturing error or because they have been left as place holders for vital information and forgotten. This gives you the opportunity to complete capturing and have a complete data set which is vital for data analysis.

Follow these simple steps to help you ensure that your data is legit.

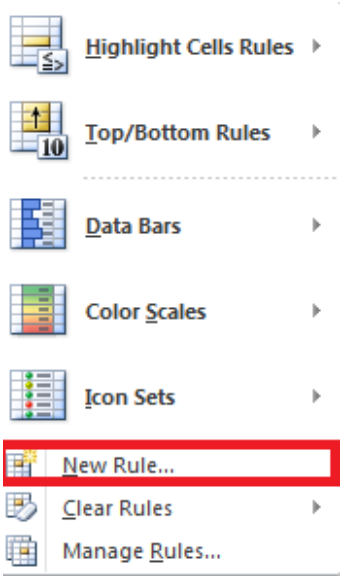
Note: Download the **workbook** to practice this exercise.

Applies to: Microsoft® Excel® 2007, 2010 and 2013

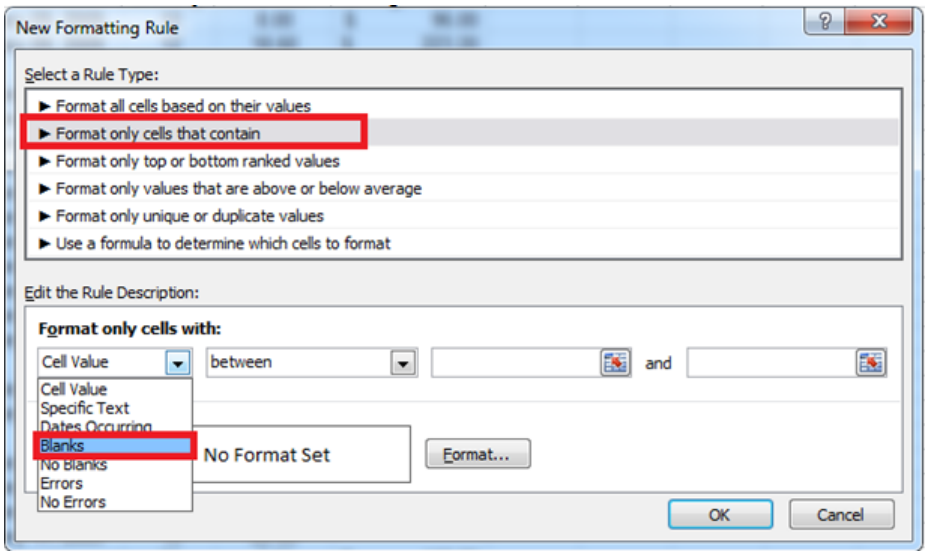
1. Highlight the data range. In our example it is **A2:F27**.
2. Select **Conditional Formatting**.



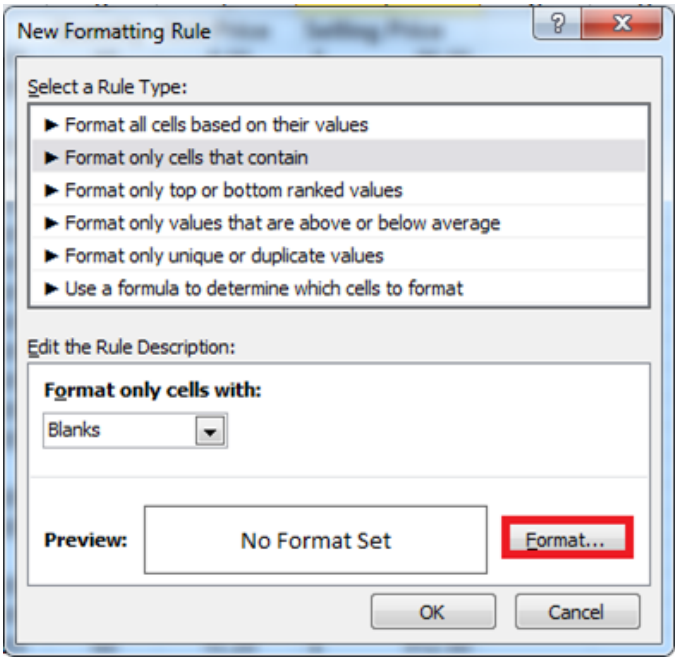
3. Then select **New Rule** as below.



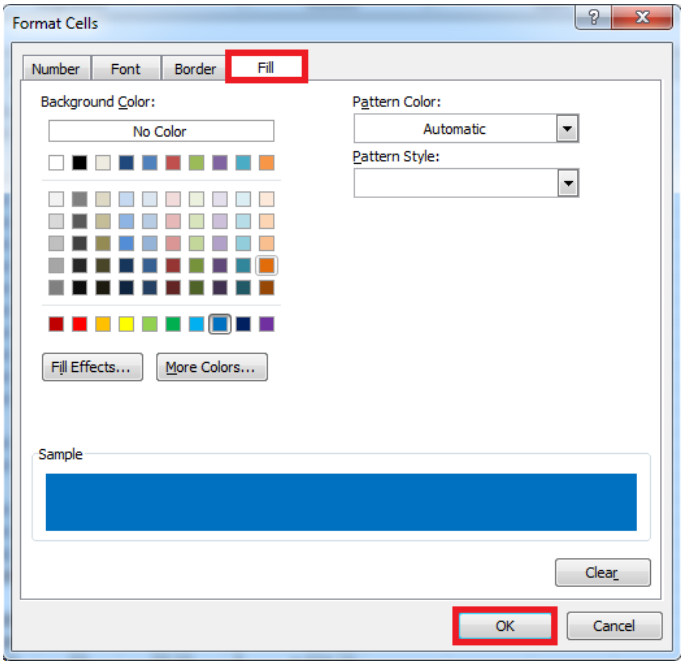
4. Select a rule type and description as shown below.



5. To format the cells click on the **Format** button.



6. Select the color of choice and click **OK.**



7. Click **OK** to complete the process.

	A	B	C	D	E	F
1	**Product No**	**Product Name**	**Date**	**Quantity**	**Unit Price**	**Selling Price**
2	21	Sir Rodney's Scones	January 09, 2009	12	8.00	$ 96.00
3	14	Tofu	January 09, 2009	12	18.60	$ 223.20
4	44	Gula Malacca		40	15.50	$ 496.00
5	59	Raclette Courdavault	January 10, 2009	25		$ 1 020.80
6	33	Geitost	January 10, 2009	49	2.00	$ 98.00
7	41		January 10, 2009	25	7.70	$ 154.00
8	14	Tofu	January 13, 2009	20	18.60	$ 334.80
9	76	Lakkalikööri	January 14, 2009	14	14.40	
10	1	Chai	January 14, 2009	24		$ 345.60
11	62	Tarte au sucre	January 14, 2009	40	39.40	$ 1 576.00
12	19	Teatime Chocolate Biscuits	January 14, 2009	18		$ 124.83
13	33		January 14, 2009	50	2.00	$ 100.00
14	33	Geitost	January 15, 2009	20	2.00	$ 40.00
15	17	Alice Mutton	January 15, 2009	2	31.20	$ 62.40
16		Côte de Blaye		50	210.80	
17	77	Original Frankfurter grüne Soße	January 16, 2009	35	10.40	$ 364.00
18	68	Scottish Longbreads	January 16, 2009	36	10.00	$ 270.00
19	57	Ravioli Angelo		20		$ 312.00
20	53	Perth Pasties	January 16, 2009	10	26.20	$ 262.00
21	46	Spegesild	January 16, 2009	2	9.60	
22	2		January 17, 2009	60	15.20	$ 912.00
23	61	Sirop d'érable	January 17, 2009	16	22.80	
24	47	Zaanse koeken		55	7.60	$ 418.00
25	74	Longlife Tofu	January 17, 2009	15	8.00	$ 120.00
26		Gudbrandsdalsost	January 20, 2009	20	28.80	$ 547.20
27	60	Camembert Pierrot	January 20, 2009	60	27.20	$ 1 550.40

As you can see, all the blank cells are highlighted in blue, so the blank cells can quickly be filled in with the relevant information ensuring that the data integrity of your worksheet is maintained.

Easily recover a previously unsaved Microsoft Excel Workbook

If you have experienced the mishap of mistakenly closing a file while working on it or losing it due to a power failure or a gremlin in your computer, you'll know how frustrating it can be. Fortunately, changes were made in Microsoft® Excel® 2010 and 2013 which make the process of restoring workbooks simpler.

To take advantage of these changes you need to have the following options enabled:

- Save AutoRecover information
- Keep the last autosaved version if I close without saving

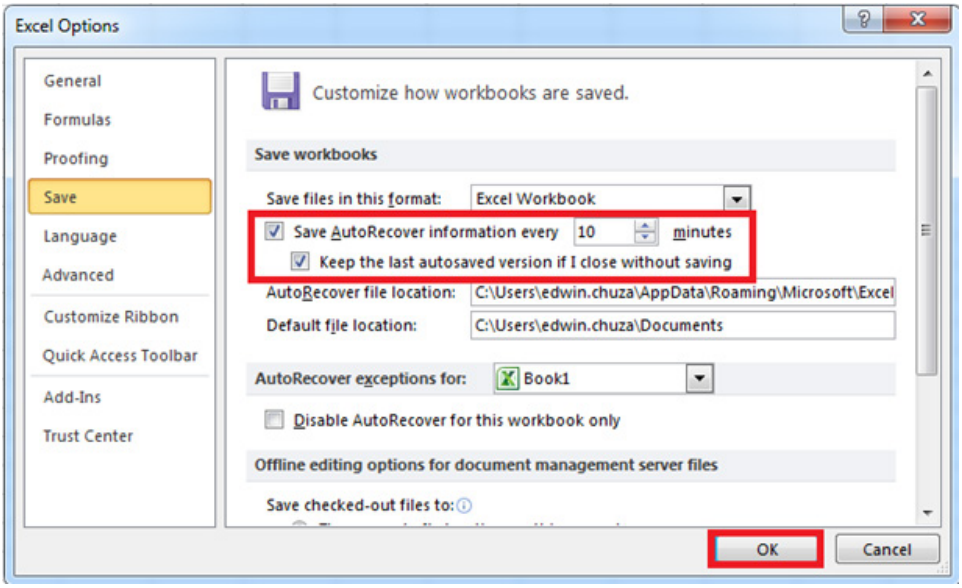
Applies to: Microsoft Excel 2007, 2010 and 2013

1. To enable the Save AutoRecover information options:

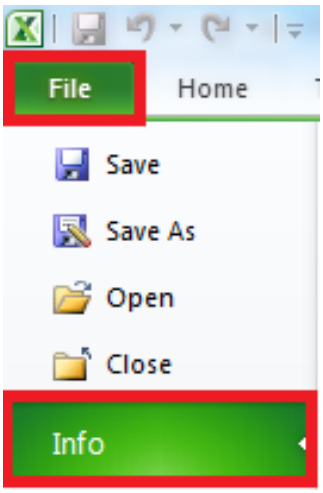
a) Select **File**.

b) Select **Options**.

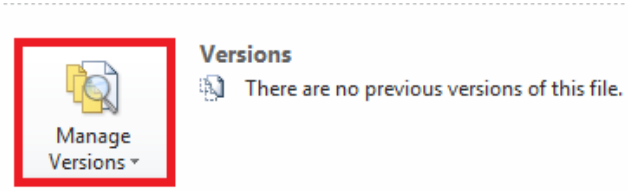
c) Select **Save** and tick the **Save AutoRecover** boxes as shown below.



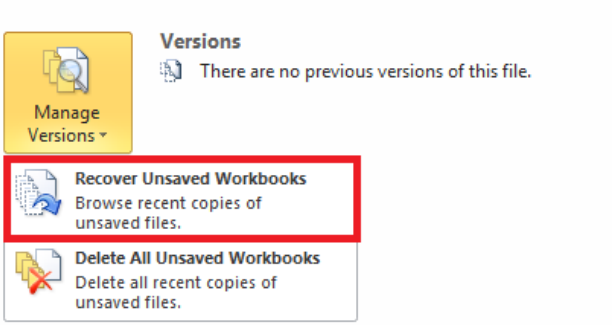
2. Select the **File** menu tab and **Info** option.



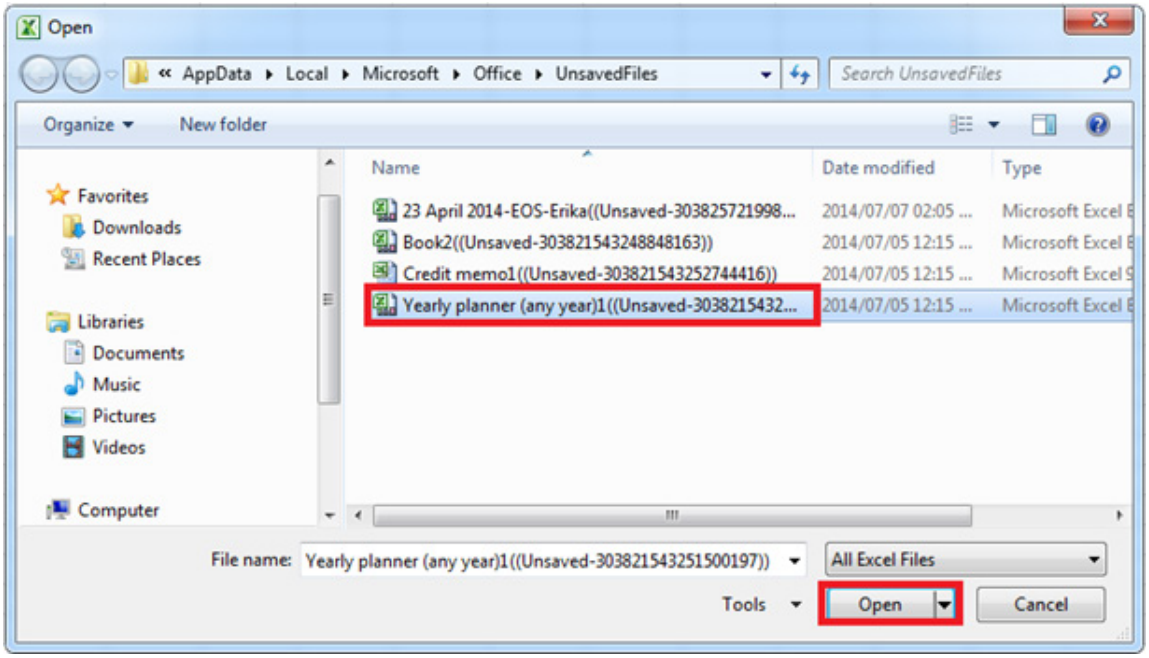
3. On the info page, click on the **Manage Versions** button.



4. Select **Recover Unsaved Workbooks**.



5. Select the respective file and click **Open**.



The unsaved version of the workbook will be opened and no data will have been lost.

How to remove hidden data and personal information from a Microsoft Excel workbook

Before you share an electronic copy of a Microsoft® Excel® workbook, it's a good idea to review the workbook for hidden data or personal information that might be stored in it, or in its document properties. This could be information about your organization or about the workbook itself that you do not want to share such as comments, personal information, headers and footers, hidden rows/ columns/ worksheets, document server properties and invisible content.

You can remove the information easily, however, if your workbook has been saved as shared you first need to copy and un-share it.

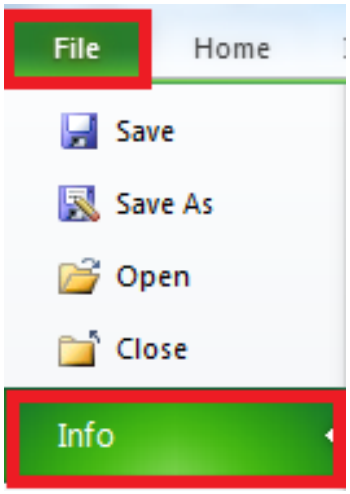
Note: Download the **workbook** to practice this exercise.

Applies to: Microsoft Excel 2010 and 2013

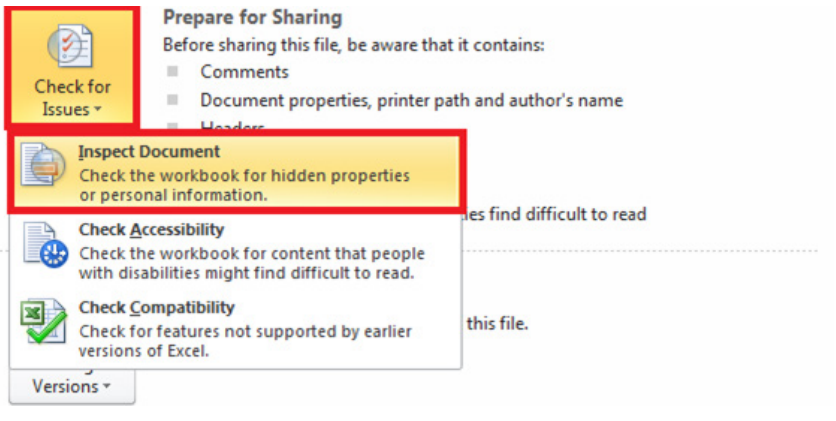
1. The workbook contains the following details:
a. Comments
b. Personal information
c. Headers and footers
d. Hidden rows

2. Save a copy of the workbook.
a. It is vital that you save the original workbook and work from the copy. Because you are not able to undo the inspect document process.

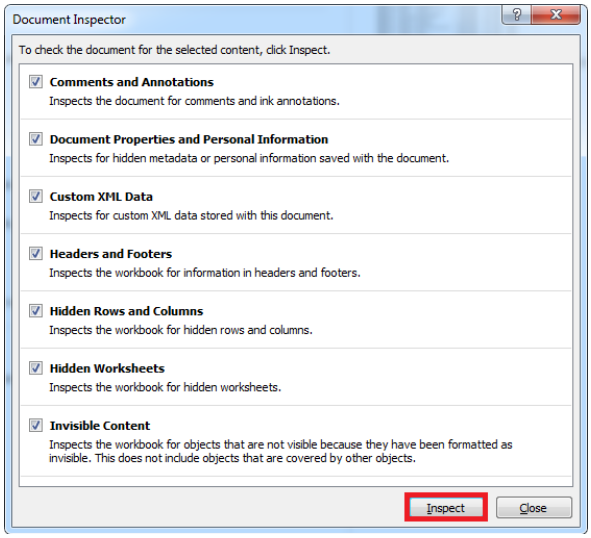
3. Select the **File menu** then **Info**.



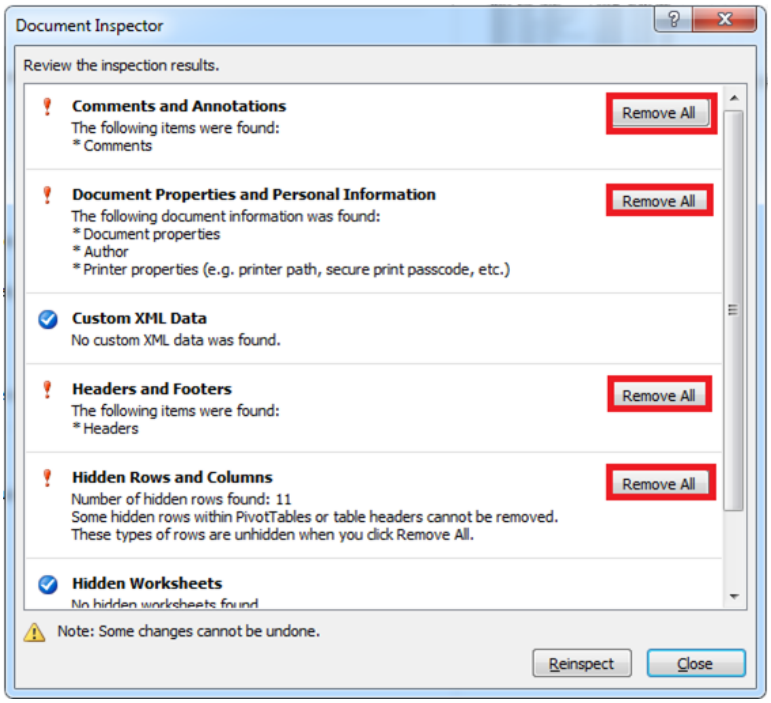
4. Select **Check for Issues** and **Inspect Document** as shown below.



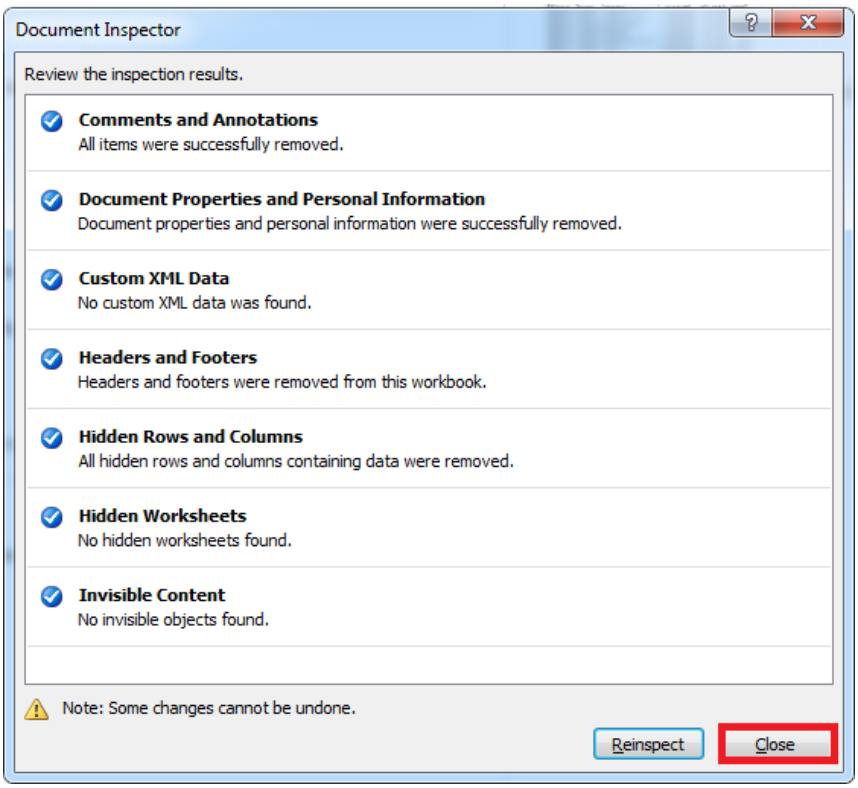
5. Select **Inspect**.



6. To remove the personal information click the **remove all** buttons (one at a time)



7. The personal information and hidden data will be removed.
8. Click the **Close** button.



You can thus send your workbook without hidden row/columns and personal information that might contain sensitive company details.

How to sort your data using a customized list

If you would like to sort your data differently, and not in ascending or descending order using the Sort feature in Microsoft® Excel®, you can customize it! The Custom Lists feature allows you to define your own order. For example, if a Sales Manager wants to sort product categories in a specific order instead of dates, they can do so using Custom Lists.

Note: Download the **workbook** to practice this exercise

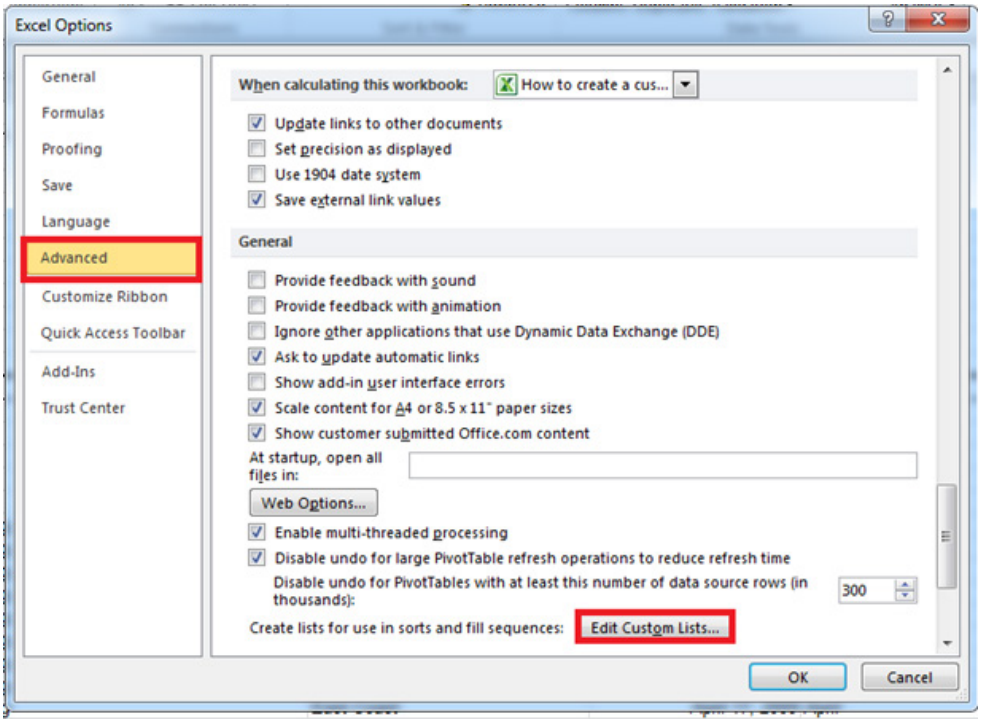
Applies to: Microsoft® Excel® 2007, 2010 and 2013

1. We will create a custom list for the sales transactions data.

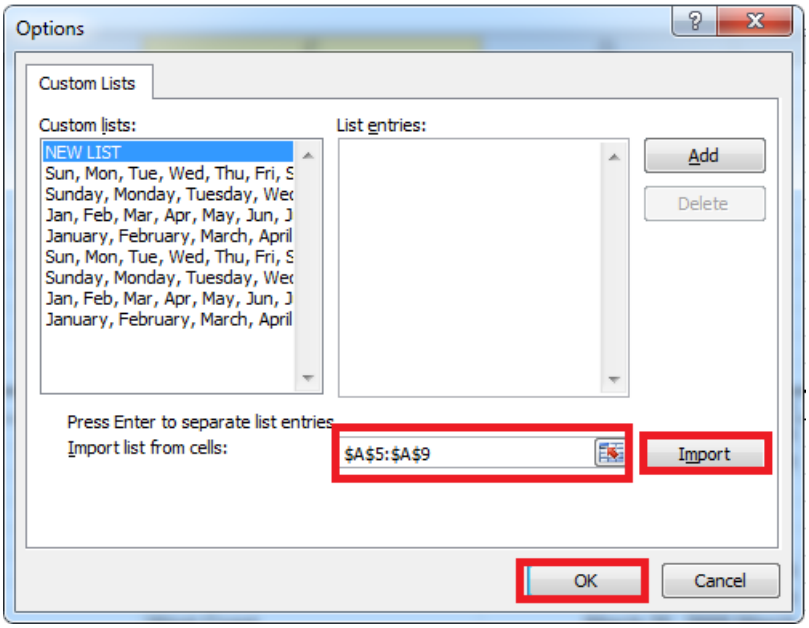
a. Highlight the data range **A5:A9** as below.

	A	B
1	Sales Transactions 2009	
2	From	March
3	To	May
4		
5	Dairy Products	
6	Beverages	
7	Grains/Cereals	
8	Condiments	
9	Meat/Poultry	
10		
11		
12		
13	*Category Name*	*Product Name*
14	Beverages	Chai
15	Beverages	Chai
16	Beverages	Chai
17	Beverages	Chai
18	Beverages	Chai
19	Beverages	Chang
20	Beverages	Chang
21	Beverages	Chang
22	Beverages	Chang

2. Select **File** then **Options**.
3. Select **Advanced** and thereafter **Edit Custom Lists** as shown below.

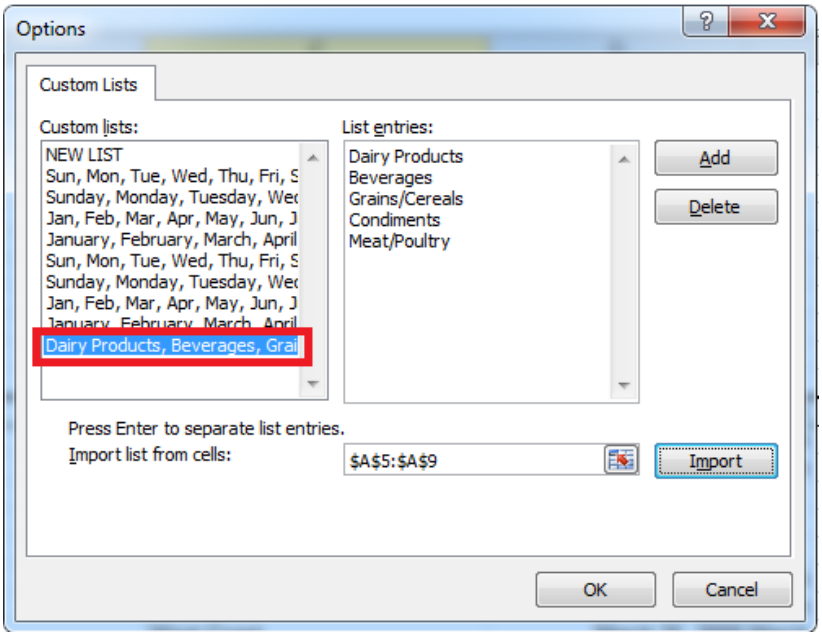


4. Then import the list by clicking on **Import** and **OK**.

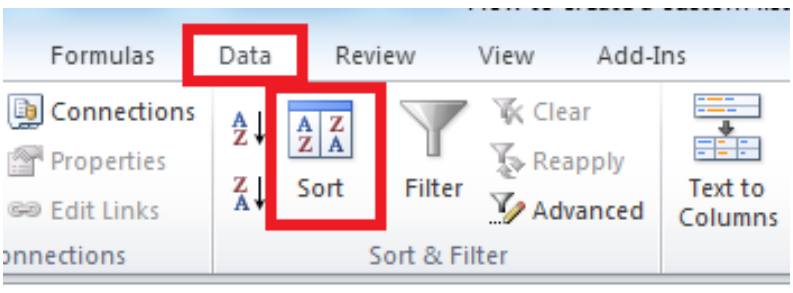


a. The list is imported from the data range A5:A9 in the spreadsheet.
b. You can also type the custom list by entering under list entries and clicking Add.

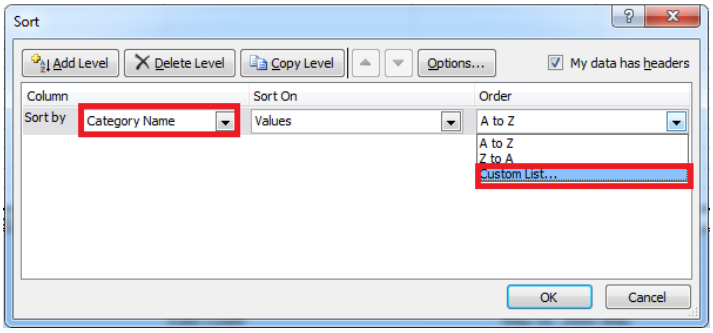
5. After you click **Import** the list will be displayed as below.



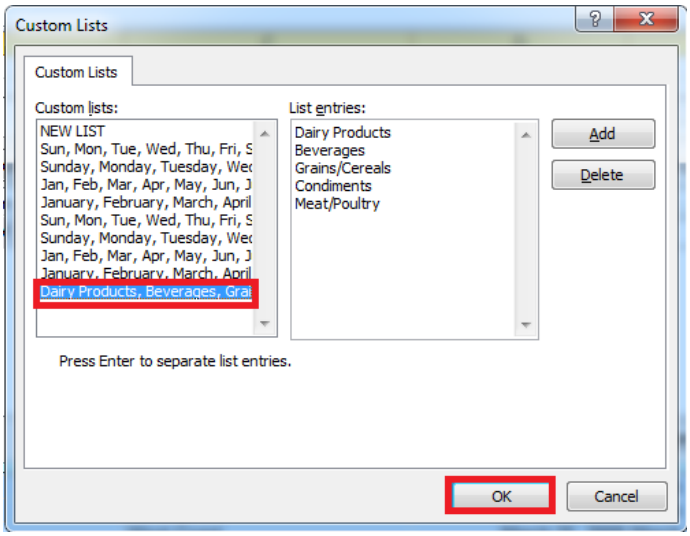
6. Click **OK** and **OK** again.
7. To sort by the custom list, click on the **Data tab** then **Sort**.



8. Select **Category Name** and **Custom List** as shown below.



a. Then select the custom list that shows Dairy Products, Beverages etc. Then click **OK.**



12	
13	*Category Name*
14	Dairy Products
15	Dairy Products
16	Dairy Products
17	Dairy Products
18	Dairy Products
19	Dairy Products
20	Dairy Products
21	Beverages
22	Beverages
23	Grains/Cereals
24	Grains/Cereals
25	Grains/Cereals
26	Grains/Cereals
27	Grains/Cereals
28	Grains/Cereals
29	Grains/Cereals
30	Grains/Cereals
31	Condiments
32	Condiments
33	Condiments
34	Condiments
35	Condiments
36	Condiments
37	Condiments
38	Condiments
39	Meat/Poultry
40	Meat/Poultry
41	Meat/Poultry
42	Meat/Poultry
43	Meat/Poultry

The list will be sorted in a customised order with Dairy Products appearing on top of the list. You can also use custom lists to sort the months or days in chronological order and not alphabetically.

02

Functions & Formulas

How to locate and remove a circular reference

When a formula refers back to its own cell, either directly or indirectly, it creates a circular reference. A circular reference can have a significant impact on performance because it can iterate indefinitely. Iteration is the repeated recalculation of a worksheet until a specific numeric condition is met. By default, iterative calculations are turned off in Microsoft® Excel®. You can handle a circular reference by doing one of the following: remove the circular reference or enable iterative calculations. In this tip we explain how you can locate and remove a circular reference.

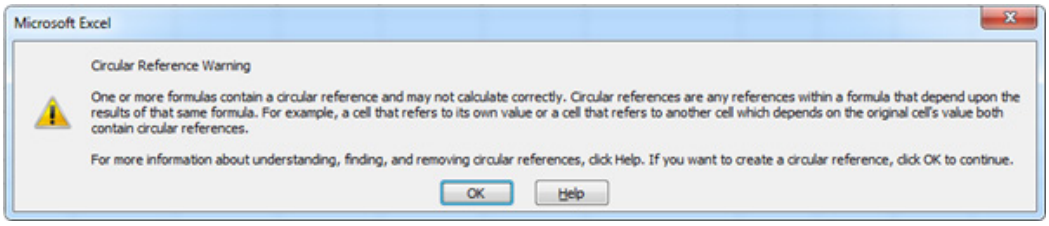
Note: Download the **workbook** to practice this exercise.

Applies to: Microsoft Excel 2007, 2010 and 2013

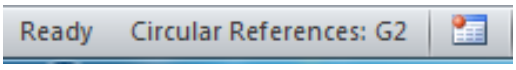
The screenshot below will be used for this example.

	A	B	C	D	E	F	G
1	AccCategoryName	BalCur01	BalCur02	BalCur03	BalCur04	BalCur05	Total
2	Revenue	$296 516.05	$357 062.15	$396 896.00	$276 963.33	$245 133.03	
3	Overheads	$ 70 207.72	$ 92 041.00	$ 73 651.10	$ 47 281.64	$ 29 852.00	
4	Other Revenue	$ 817.61	$ 2 110.69	$ 1 587.42	$ 3 378.03	$ 5 000.00	
5	Current Assets	$266 323.42	$ 22 964.22	$250 911.95	$ 29 801.58	$552 569.41	
6	Cost of Sales	$177 390.92	$215 841.47	$250 604.32	$215 321.23	$ 20 192.20	
7	Bank	$241 779.31	$125 632.45	$163 657.83	$127 531.75	$142 587.00	

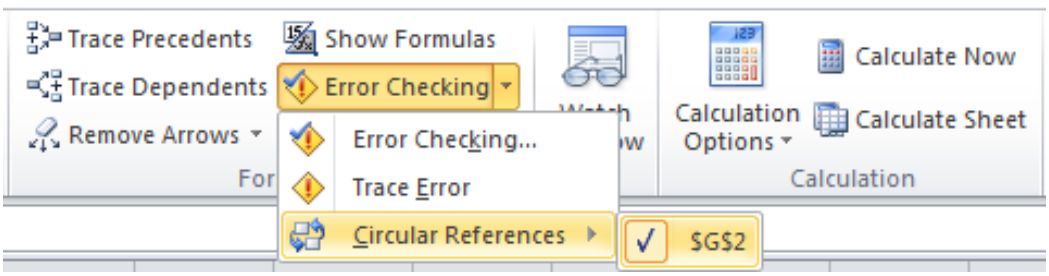
1. To find the total for the revenue balances enter the formula **=SUM(B2:G2)** into **cell G2**. This will create a circular reference because the formula lives in **cell G2** and it is trying to calculate itself.
2. An error message will be displayed.



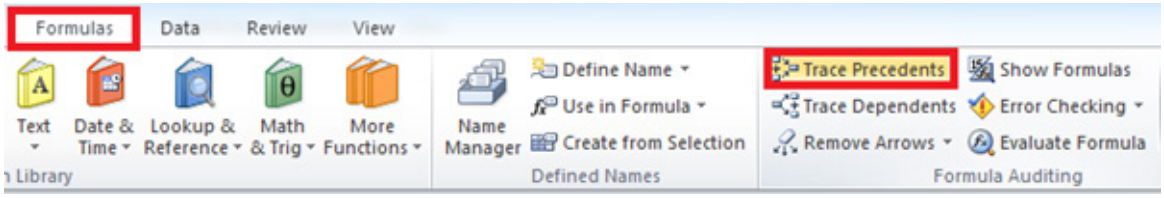
3. Click **OK.**
4. The status bar also displays the message “circular references” as shown in the screen shot below.



5. If you can't find the error, select **Formulas**, click the arrow next to **Error Checking**, point to **Circular References**, and then click the first cell listed in the submenu.



6. Review the formula in the cell (G2). In this case type the correct formula as **=Sum(B2:F2)**.
7. If cell G2 is not the cause of the circular reference error, click the next cell in the **Circular References** sub-menu as per screenshot above.
8. Continue to review and correct circular references in the workbook until the status bar no longer displays the message "Circular References".
9. If you have circular references in other worksheets, but not in the active worksheet, the status bar displays only "Circular References" with no cell addresses.
10. You can move between cells in a circular reference by double-clicking the tracer arrows. Tracer arrows indicate the cells that affect the value of the currently selected cell.
11. To show tracer arrows for this example, select the **Formulas tab** and **Trace Precedents** as shown in the screenshot below.



12. The result will be as shown in the screenshot below.

	A	B	C	D	E	F	G
1	AccCategoryName	BalCur01	BalCur02	BalCur03	BalCur04	BalCur05	Total
2	Revenue	$296 516.05	$357 062.15	$396 896.00	$276 963.33	$245 133.03	$ -
3	Overheads	$ 70 207.72	$ 92 041.00	$ 73 651.10	$ 47 281.64	$ 29 852.00	
4	Other Revenue	$ 817.61	$ 2 110.69	$ 1 587.42	$ 3 378.03	$ 5 000.00	
5	Current Assets	$266 323.42	$ 22 964.22	$250 911.95	$ 29 801.58	$552 569.41	
6	Cost of Sales	$177 390.92	$215 841.47	$250 604.32	$215 321.23	$ 20 192.20	
7	Bank	$241 779.31	$125 632.45	$163 657.83	$127 531.75	$142 587.00	

Calculating the frequency of specific values within a range of values

If you need to calculate how often a value occurs within a range of values, you can use the FREQUENCY function. For example if you are a Sales Manager you might need to determine how often a sales figure occurs within an interval or bracket to determine the most frequent or least frequent sales figures that your sales team brings in. The FREQUENCY function can help you achieve that.

The FREQUENCY function calculates how often values occur within a range of values, and then returns a vertical array of numbers. Because FREQUENCY returns an array, it must be entered as an array formula.

The FREQUENCY function syntax has the following arguments:

Data_array Required:
An array of, or reference to a set of values for which you want to count frequencies. If data_array contains no values, FREQUENCY returns an array of zeros.

Bins_array Required:
An array of, or reference to intervals into which you want to group the values in data_array. If bins_array contains no values, FREQUENCY returns the number of elements in data_array.

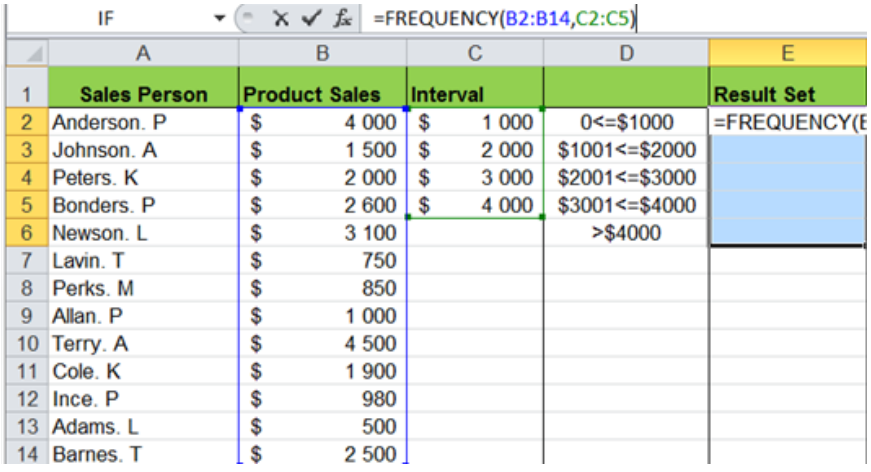
Note: Download the **workbook** to practice this exercise.

Applies to: Microsoft® Excel® 2007, 2010 and 2013

The screenshot below will be used for this example.

	A	B	C	D	E
1	Sales Person	Product Sales	Interval		Result Set
2	Anderson. P	$ 4 000	1000	0<=$1000	
3	Johnson. A	$ 1 500	2000	$1001<=$2000	
4	Peters. K	$ 2 000	3000	$2001<=$3000	
5	Bonders. P	$ 2 600	4000	$3001<=$4000	
6	Newson. L	$ 3 100		>$4000	
7	Lavin. T	$ 750			
8	Perks. M	$ 850			
9	Allan. P	$ 1 000			
10	Terry. A	$ 4 500			
11	Cole. K	$ 1 900			
12	Ince. P	$ 980			
13	Adams. L	$ 500			
14	Barnes. T	$ 2 500			

1. Highlight the data **range E2:E6** as it is an array formula.
2. Type the formula **=FREQUENCY(B2:B14,C2:C5)** in the formula bar.



3. Press **CTRL+SHIFT+ENTER**.
4. The result will display as shown below. The frequency of sales in each interval or bracket has been tabulated and the Sales Manager can make decisions about key account strategies, for example, based on the frequency of sales in each interval or bracket.

	A	B	C	D	E
1	**Sales Person**	**Product Sales**	**Interval**		**Result Set**
2	Anderson. P	$ 4 000	$ 1 000	0<=$1000	5
3	Johnson. A	$ 1 500	$ 2 000	$1001<=$2000	3
4	Peters. K	$ 2 000	$ 3 000	$2001<=$3000	2
5	Bonders. P	$ 2 600	$ 4 000	$3001<=$4000	2
6	Newson. L	$ 3 100		>$4000	1
7	Lavin. T	$ 750			
8	Perks. M	$ 850			
9	Allan. P	$ 1 000			
10	Terry. A	$ 4 500			
11	Cole. K	$ 1 900			
12	Ince. P	$ 980			
13	Adams. L	$ 500			
14	Barnes. T	$ 2 500			

NOTE:

- FREQUENCY is entered as an array formula after you select a range of adjacent cells into which you want the returned distribution to appear.
- The number of elements in the returned array is one more than the number of elements in bins_array, the extra element in the returned array returns the count of any values above the highest interval. For example, when counting three ranges of values (intervals) that are entered into three cells, be sure to enter FREQUENCY into four cells for the results. The extra cell returns the number of values in data_array that are greater than the third interval value.
- FREQUENCY ignores blank cells and text.
- Formulas that return arrays must be entered as array formulas.

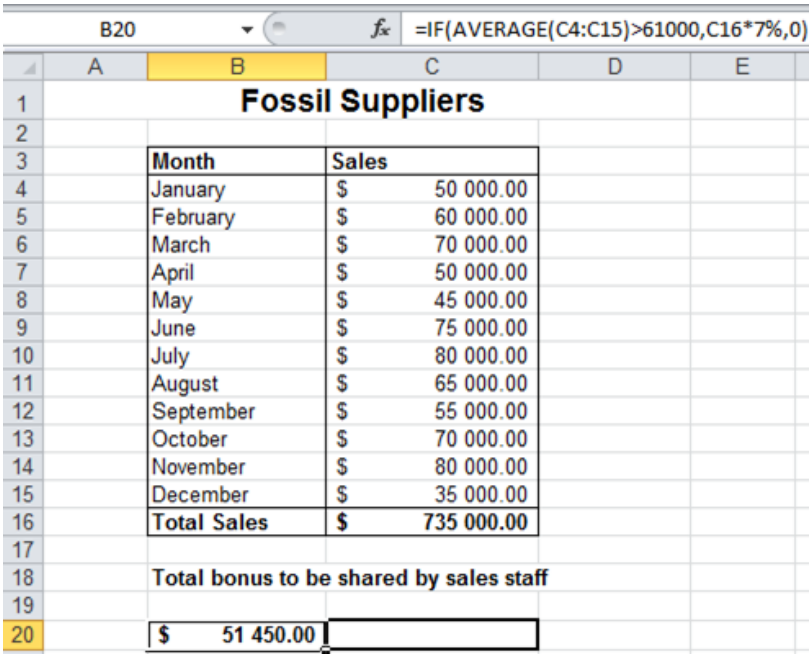
How to evaluate a nested formula one step at a time

Sometimes, understanding how a figure is calculated is difficult because the formula seems quite complicated; comprising of several intermediate calculations and logical tests. Luckily Microsoft® Excel® has a powerful auditing tool, Evaluate Formula, which will help you to unravel the different parts of a formula, in the order that it is calculated, to understand how the end result is constructed. For instance, a formula like =IF(AVERAGE(C4:C15)>61000,7%*C16),0) is easier to understand when you can see the intermediate steps using the Evaluate Formula tool. Our example in this tip shows you how to evaluate a formula that calculates a bonus for sales staff.

Note: Download the **workbook** to practice this exercise.

Applies to: Microsoft Excel 2007, 2010 and 2013

The screenshot below will be used for this example.

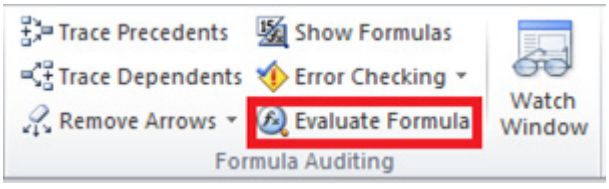


B20 =IF(AVERAGE(C4:C15)>61000,C16*7%,0)

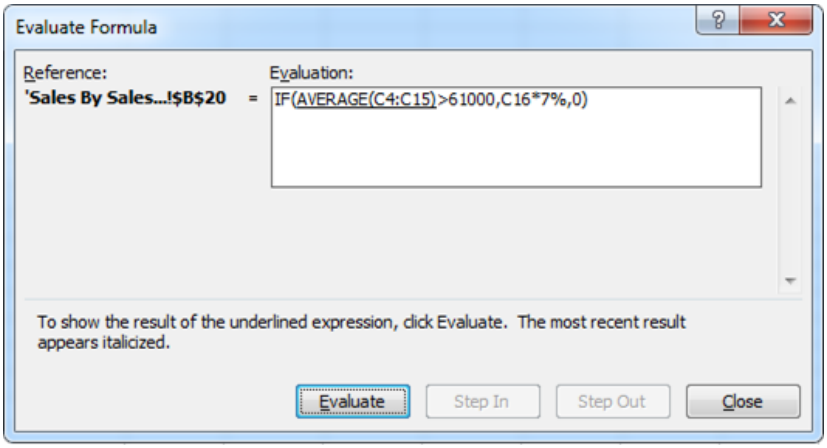
	A	B	C	D	E
1		**Fossil Suppliers**			
2					
3		**Month**	**Sales**		
4		January	$ 50 000.00		
5		February	$ 60 000.00		
6		March	$ 70 000.00		
7		April	$ 50 000.00		
8		May	$ 45 000.00		
9		June	$ 75 000.00		
10		July	$ 80 000.00		
11		August	$ 65 000.00		
12		September	$ 55 000.00		
13		October	$ 70 000.00		
14		November	$ 80 000.00		
15		December	$ 35 000.00		
16		**Total Sales**	**$ 735 000.00**		
17					
18		**Total bonus to be shared by sales staff**			
19					
20		**$ 51 450.00**			

To evaluate the formula for the amount $51 450.00 in cell B20 follow the steps below.

1. Select **cell B20**.
2. Under the **Formulas Tab**, in the **Formula Auditing** group, select **Evaluate Formula**.

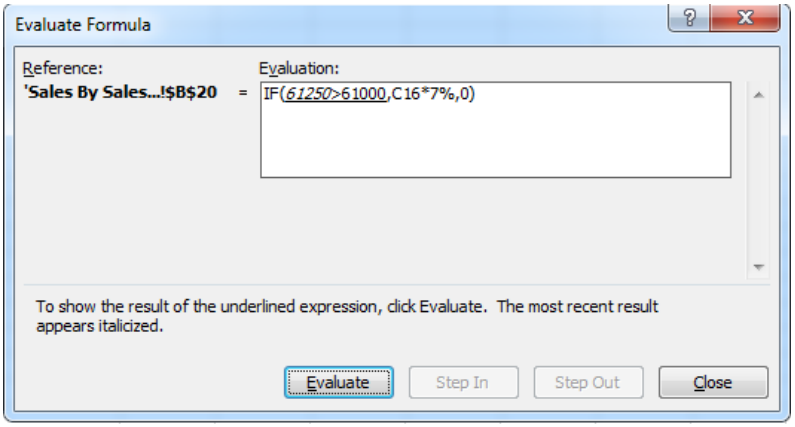


3. The **Evaluate Formula** screen will pop up.



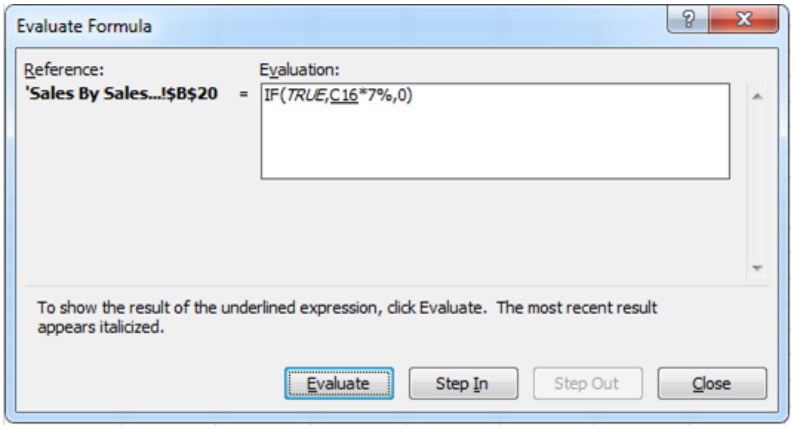
NOTE: The 'IF' statement has the following syntax
Logical test: Average(C4:C15)>6100
Value if true: C16(Total Sales) * 7%
Value if false: 0

4. Select **Evaluate** and the values will be displayed in the formula.



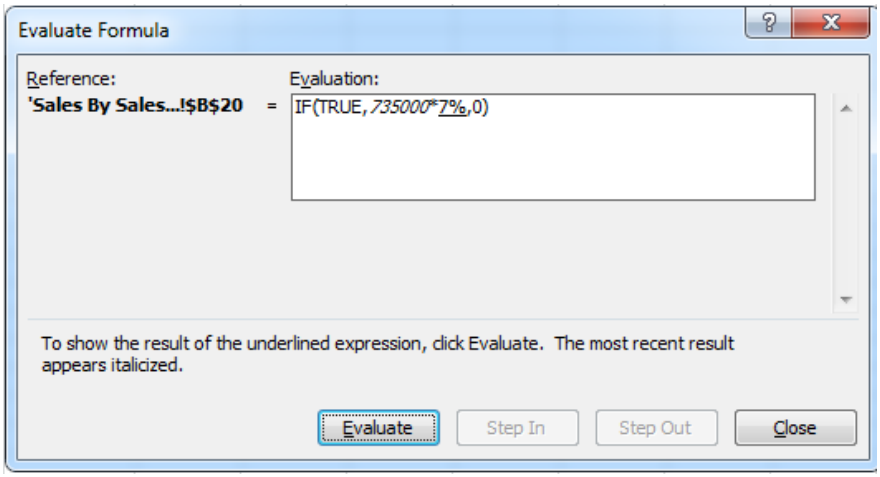
5. Select **Evaluate** again.

a. As the value of 61250 is higher than 6100, it will be evaluated to True which means the next part of the formula will be calculated (C16*7%).

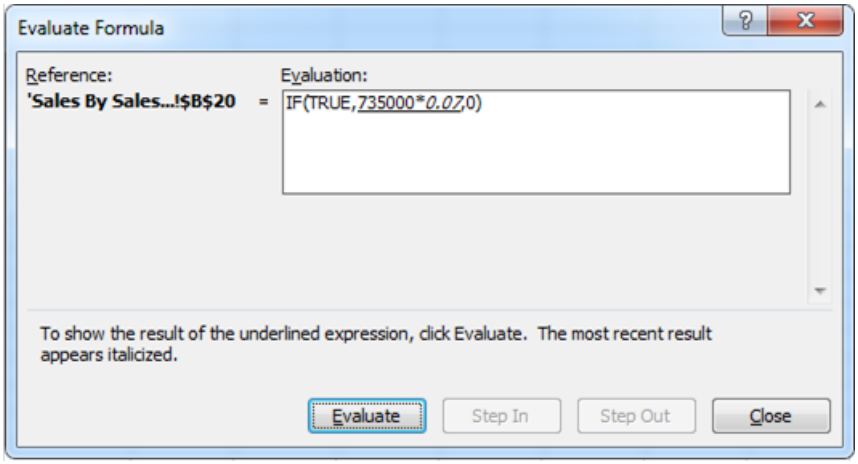


6. Select **Evaluate** again.

a. The value 735000 is the total sales figure in cell **C16** which is multiplied by 7% to get the bonus amount for the sale staff.

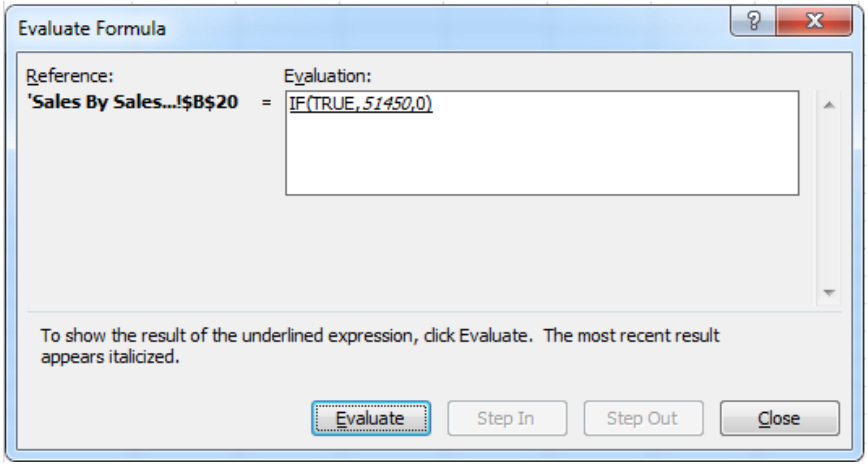


7. After selecting **Evaluate** again the evaluation will be displayed as shown below. The value 7% is converted to 0.07.

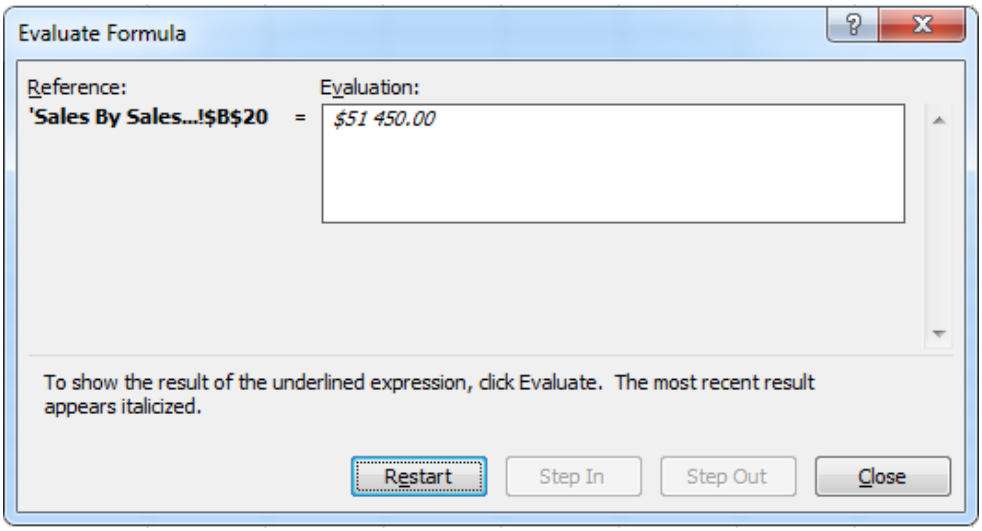


8. The final result of 51450 is displayed.

a. The 'IF' statement returns **True,** since the value of average (C4:C15) > 61000.



9. Select **Evaluate** one last time to arrive at the final value.



NOTE:

- If the underlined part of the formula is a reference to another formula, click **Step** In to display the other formula in the Evaluation box. Click **Step Out** to go back to the previous cell and formula.
- The Step In button is not available for a reference the second time the reference appears in the formula, or if the formula refers to a cell in a separate workbook.

Using an Array Formula to display top five values

If you would like to see a specific set of values within a given range. For example, if you are a Debtor's Clerk and want to see what your top five outstanding balances are you can use an Array Formula. An Array Formula is a formula that can perform multiple calculations on one or more items in an array. You can think of an array as a row of values, a column of values, or a combination of rows and columns of values. In this tip we use the 'Large' function in an array formula to show the top five values, but they can also be displayed by using Filters, Tables, PivotTables, PivotCharts and Conditional Formatting.

Note: Download the **workbook** to practice this exercise.

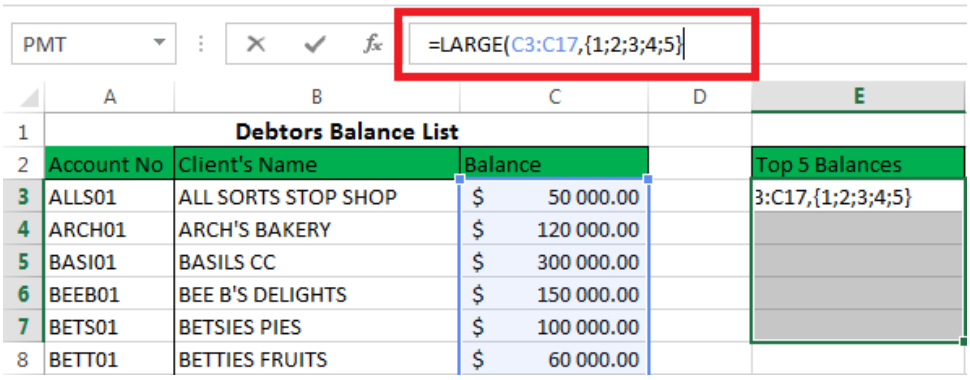
Applies to: Microsoft® Excel® 2007, 2010 and 2013

To illustrate this example we use the screen shot below.

	A	B	C	D	E
1		**Debtors Balance List**			
2	Account No	Client's Name	Balance		Top 5 Balances
3	ALLS01	ALL SORTS STOP SHOP	$ 50 000.00		
4	ARCH01	ARCH'S BAKERY	$ 120 000.00		
5	BASI01	BASILS CC	$ 300 000.00		
6	BEEB01	BEE B'S DELIGHTS	$ 150 000.00		
7	BETS01	BETSIES PIES	$ 100 000.00		
8	BETT01	BETTIES FRUITS	$ 60 000.00		
9	BOBS01	BOBS UNCLE	$ 40 000.00		
10	BOTT01	BOTTLE SHOP	$ 10 000.00		
11	BRON01	BRONNIES CC	$ 30 000.00		
12	CDGS01	CDG'S	$ 25 000.00		
13	CIND01	CINDEES BAR	$ 15 000.00		
14	CIND02	CINDYS DELI	$ 5 000.00		
15	DAYB01	DAYBREAK CAFÉ	$ 95 000.00		
16	DCEE01	DCEES TEAS	$ 85 000.00		
17	DRAN01	D-RANGOS	$ 75 000.00		

1. Select **cells E3 to E7**. This set of cells will hold the top five client balances.

2. In the formula bar, enter the following formula: **=LARGE(C3:C17,{1;2;3;4;5}**



3. Then press **Ctrl+Shift+Enter**.

4. The **top five** balances will be displayed.

	A	B	C	D	E
1		**Debtors Balance List**			
2	Account No	Client's Name	Balance		Top 5 Balances
3	ALLS01	ALL SORTS STOP SHOP	$ 50 000.00		300000
4	ARCH01	ARCH'S BAKERY	$ 120 000.00		150000
5	BASI01	BASILS CC	$ 300 000.00		120000
6	BEEB01	BEE B'S DELIGHTS	$ 150 000.00		100000
7	BETS01	BETSIES PIES	$ 100 000.00		95000
8	BETT01	BETTIES FRUITS	$ 60 000.00		
9	BOBS01	BOBS UNCLE	$ 40 000.00		
10	BOTT01	BOTTLE SHOP	$ 10 000.00		
11	BRON01	BRONNIES CC	$ 30 000.00		
12	CDGS01	CDG'S	$ 25 000.00		
13	CIND01	CINDEES BAR	$ 15 000.00		
14	CIND02	CINDYS DELI	$ 5 000.00		
15	DAYB01	DAYBREAK CAFÉ	$ 95 000.00		
16	DCEE01	DCEES TEAS	$ 85 000.00		
17	DRAN01	D-RANGOS	$ 75 000.00		

NOTE:

- To display the **bottom five** balances, replace the function; **LARGE** with **SMALL** in the formula in step 2.
- To display the **top ten** values add numbers 6-10 separated by a semi colon in the formula in step 2.

Using the Large Function with Conditional Formatting to highlight the top five

In the previous tip we explain how, by using the LARGE function, you can extract the greatest value from a given range of values. For example, a Debtors Clerk can extract the top five largest outstanding balances from a range of outstanding balances to a separate worksheet or a new set of rows. In this tip, we share an alternative to that; highlighting the top five debtors, their account number and outstanding balance from a data set. To do this, we use the LARGE function which will return the top five largest values in the data set and Conditional Formatting which will highlight the data based on set criteria.

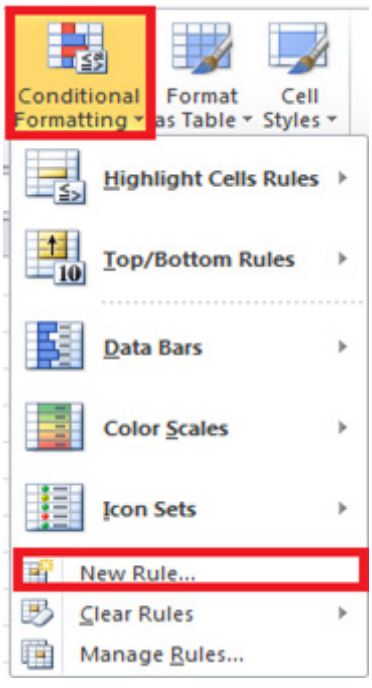
Note: Download the **workbook** to practice this exercise

Applies to: Microsoft Excel 2003, 2007, 2010 and 2013

To illustrate this example we use the screen shot below for our example.

	A	B	C
1		**Debtors Balance List**	
2	Account No	Client's Name	Balance
3	ALLS01	ALL SORTS STOP SHOP	$ 50 000.00
4	ARCH01	ARCH'S BAKERY	$ 120 000.00
5	BASI01	BASILS CC	$ 300 000.00
6	BEEB01	BEE B'S DELIGHTS	$ 150 000.00
7	BETS01	BETSIES PIES	$ 100 000.00
8	BETT01	BETTIES FRUITS	$ 60 000.00
9	BOBS01	BOBS UNCLE	$ 40 000.00
10	BOTT01	BOTTLE SHOP	$ 10 000.00
11	BRON01	BRONNIES CC	$ 30 000.00
12	CDGS01	CDG'S	$ 25 000.00
13	CIND01	CINDEES BAR	$ 15 000.00
14	CIND02	CINDYS DELI	$ 5 000.00
15	DAYB01	DAYBREAK CAFÉ	$ 95 000.00
16	DCEE01	DCEES TEAS	$ 85 000.00
17	DRAN01	D-RANGOS	$ 75 000.00

1. Select **cells A3 to C17**.
2. Under the **Home Tab**, select **Conditional Formatting**, then select **New Rule** as in the screen shot below.

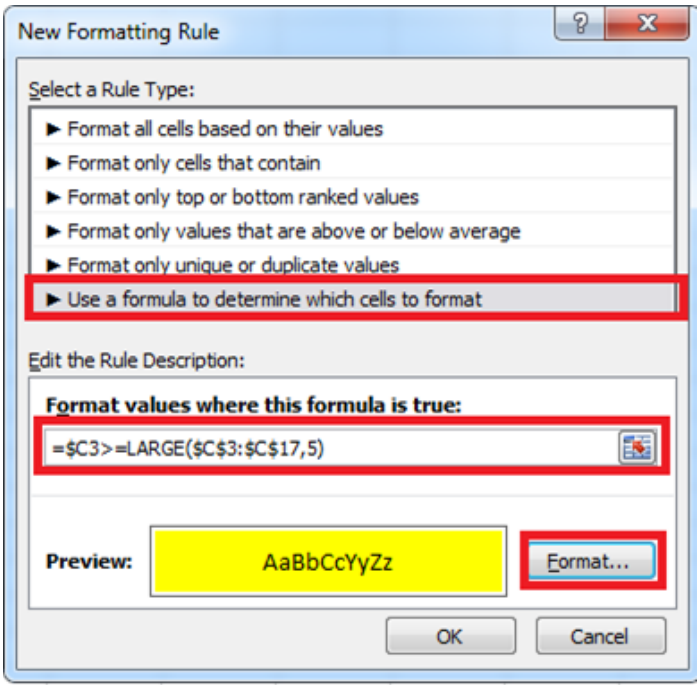


3. A pop up will appear resembling the screen shot below
4. Select 'Use a formula to determine which cells to format' as above.
5. Type in the following formula:

=$C3>=LARGE($C$3:$C$17,5).

NOTE: This can be **narrated** as follows:

- $C3 is a mixed cell reference(only the column is fixed)
- Various rows of data can be selected because the row number is not fixed(absolute cell referencing)
- $C$3:$C$17 refers to the data range for the balances
- 5 implies that the top five balances will be highlighted
- Select the Format button and choose the Format color



6. Select **OK**.
7. The rows with the top five values will be highlighted as below.

	A	B	C
1		**Debtors Balance List**	
2	Account No	Client's Name	Balance
3	ALLS01	ALL SORTS STOP SHOP	$ 50 000.00
4	ARCH01	ARCH'S BAKERY	$ 120 000.00
5	BASI01	BASILS CC	$ 300 000.00
6	BEEB01	BEE B'S DELIGHTS	$ 150 000.00
7	BETS01	BETSIES PIES	$ 100 000.00
8	BETT01	BETTIES FRUITS	$ 60 000.00
9	BOBS01	BOBS UNCLE	$ 40 000.00
10	BOTT01	BOTTLE SHOP	$ 10 000.00
11	BRON01	BRONNIES CC	$ 30 000.00
12	CDGS01	CDG'S	$ 25 000.00
13	CIND01	CINDEES BAR	$ 15 000.00
14	CIND02	CINDYS DELI	$ 5 000.00
15	DAYB01	DAYBREAK CAFÉ	$ 95 000.00
16	DCEE01	DCEES TEAS	$ 85 000.00
17	DRAN01	D-RANGOS	$ 75 000.00

Reducing the size of a workbook using a single formula

Sometimes large Microsoft® Excel® workbooks can be slow which can cause frustration. To reduce the size of a workbook, consider replacing several formulas with a single array formula. Array formulas can perform multiple calculations and they also ensure consistency which can lead to greater accuracy. Furthermore array formulas provide security since a cell within an array formula data range cannot be deleted.

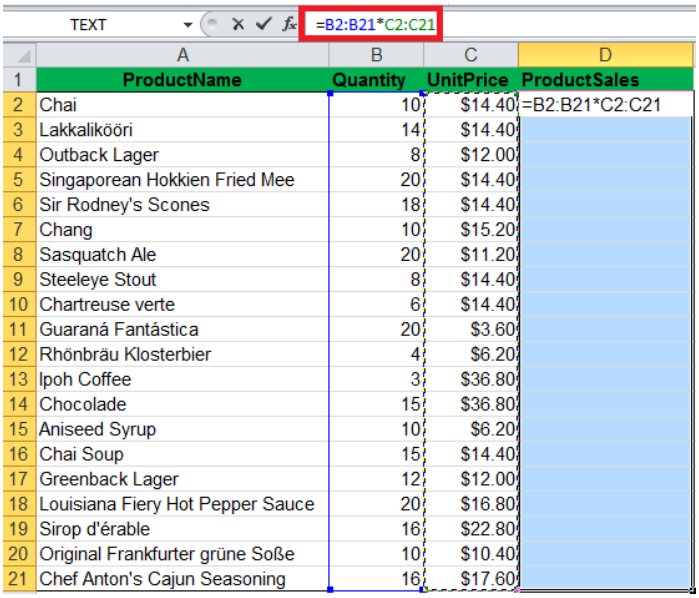
Note: Download the **workbook** to practice this exercise.

Applies to: Microsoft Excel 2003, 2007, 2010 and 2013

1. Select the data range **D2:D21**.
2. Type the formula **=B2:B21*C2:C21** in the formula bar.

NOTE: The data range D2:D21 should remain highlighted as you enter the formula in the formula bar.

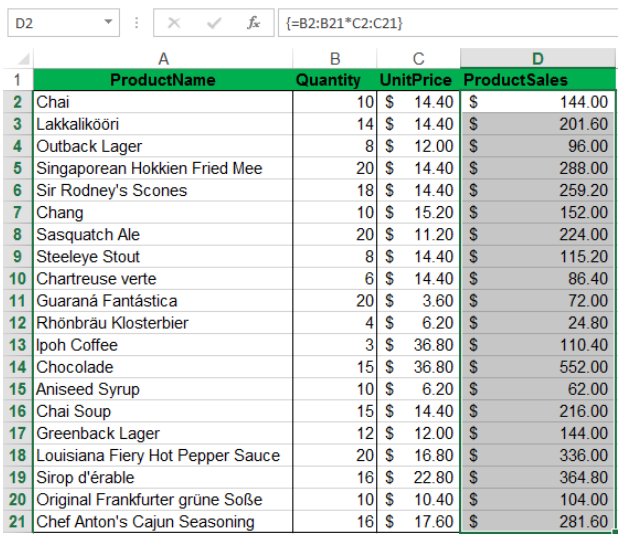
Refer to the screen shot below:



	A	B	C	D
1	ProductName	Quantity	UnitPrice	ProductSales
2	Chai	10	$14.40	=B2:B21*C2:C21
3	Lakkalikööri	14	$14.40	
4	Outback Lager	8	$12.00	
5	Singaporean Hokkien Fried Mee	20	$14.40	
6	Sir Rodney's Scones	18	$14.40	
7	Chang	10	$15.20	
8	Sasquatch Ale	20	$11.20	
9	Steeleye Stout	8	$14.40	
10	Chartreuse verte	6	$14.40	
11	Guaraná Fantástica	20	$3.60	
12	Rhönbräu Klosterbier	4	$6.20	
13	Ipoh Coffee	3	$36.80	
14	Chocolade	15	$36.80	
15	Aniseed Syrup	10	$6.20	
16	Chai Soup	15	$14.40	
17	Greenback Lager	12	$12.00	
18	Louisiana Fiery Hot Pepper Sauce	20	$16.80	
19	Sirop d'érable	16	$22.80	
20	Original Frankfurter grüne Soße	10	$10.40	
21	Chef Anton's Cajun Seasoning	16	$17.60	

3. Press **CTRL + SHIFT + ENTER**.

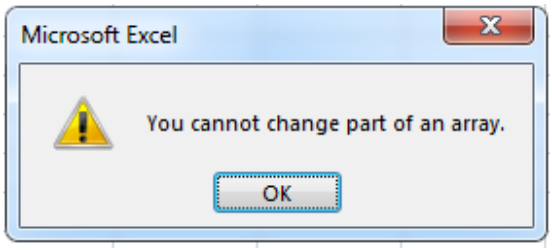
The result will be as below:



	A	B	C	D
1	ProductName	Quantity	UnitPrice	ProductSales
2	Chai	10	$ 14.40	$ 144.00
3	Lakkalikööri	14	$ 14.40	$ 201.60
4	Outback Lager	8	$ 12.00	$ 96.00
5	Singaporean Hokkien Fried Mee	20	$ 14.40	$ 288.00
6	Sir Rodney's Scones	18	$ 14.40	$ 259.20
7	Chang	10	$ 15.20	$ 152.00
8	Sasquatch Ale	20	$ 11.20	$ 224.00
9	Steeleye Stout	8	$ 14.40	$ 115.20
10	Chartreuse verte	6	$ 14.40	$ 86.40
11	Guaraná Fantástica	20	$ 3.60	$ 72.00
12	Rhönbräu Klosterbier	4	$ 6.20	$ 24.80
13	Ipoh Coffee	3	$ 36.80	$ 110.40
14	Chocolade	15	$ 36.80	$ 552.00
15	Aniseed Syrup	10	$ 6.20	$ 62.00
16	Chai Soup	15	$ 14.40	$ 216.00
17	Greenback Lager	12	$ 12.00	$ 144.00
18	Louisiana Fiery Hot Pepper Sauce	20	$ 16.80	$ 336.00
19	Sirop d'érable	16	$ 22.80	$ 364.80
20	Original Frankfurter grüne Soße	10	$ 10.40	$ 104.00
21	Chef Anton's Cajun Seasoning	16	$ 17.60	$ 281.60

4. When you select any cell within the data range D2:D21, you will see the same formula {=B2:B21*C2:C21}.
a. There is only a single formula in the entire data range instead of 19 different formulas; which would have been the case had we multiplied B2*C2 and copied the formula down.
b. The file size is thus reduced and data processing in the workbook will be faster.
5. Select any cell within the data range **D2:D21**.
6. Press **Delete**.

A message dialog like the below will be displayed:



7. For normal formulas any cells within the data range **D2:D21** can be deleted.
8. To delete an array formula, the entire data range will have to be selected and then you press the 'Delete' key.
9. To edit the formula, select the data range **D2:D21.** Edit from the formula bar then press **CTRL + SHIFT + ENTER**.

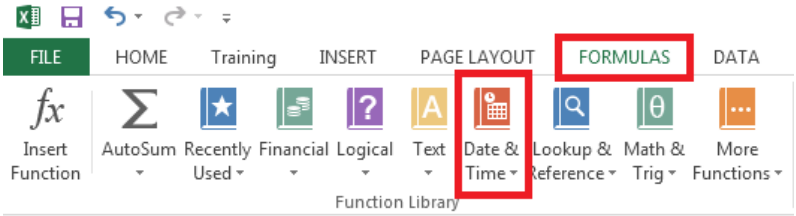
How to quickly calculate invoice due dates

Calculating invoice due dates in Microsoft® Excel® is easy. If you have struggled to calculate invoice due dates before, your worries are over – in this tip we'll show you how to do this quickly using the WORKDAY function. The WORKDAY function returns a number that represents a date, before or after a specified number of work days. You can use WORKDAY to exclude weekend or holidays when you calculate invoice due dates or expected delivery times.

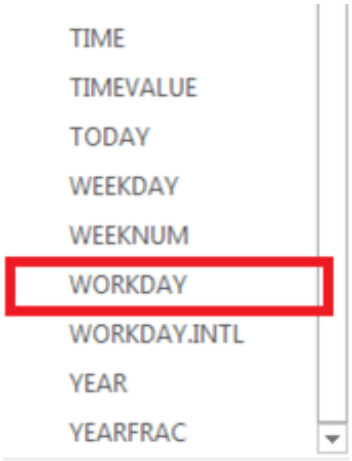
Note: Download the **workbook** to practice this exercise

Applies to: Microsoft® Excel® 2007,2010 and 2013

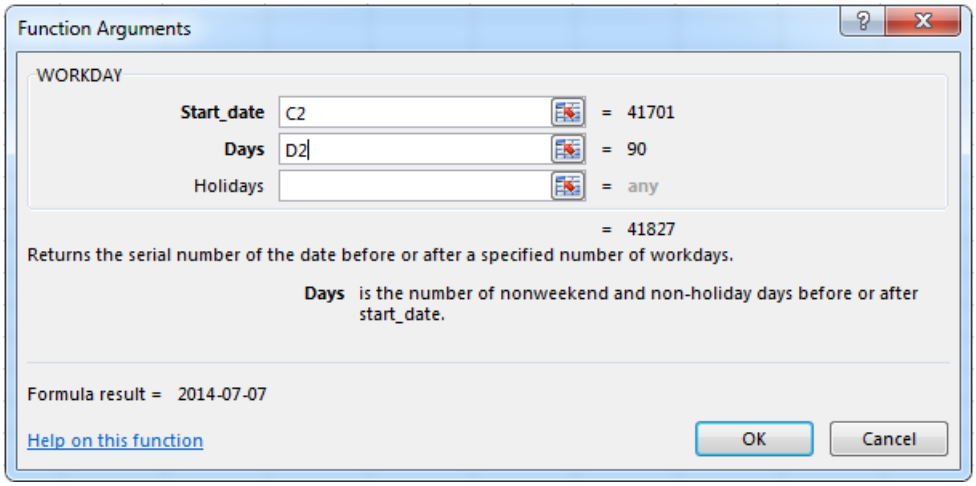
1. With reference to the workbook; select cell E2.
2. Select the **Formulas Tab** then **Date & Time**.



3. From the **Date & Time** function list ; select **WORKDAY**.



4. Then enter **C2** as the start date and **D2** as Days.



NOTE:

- **Start_date:** A date that represents the start date (required).
- **Days:** The number of working days before or after start_date. A positive value for days yields a future date; a negative value yields a past date (required).
- **Holidays:** A list of one or more dates to exclude from the working calendar. The list can be a range of cells that contain the dates (optional).

5. Select **OK** and copy the formula down to **cell E8.**
6. The value returned by WORKDAY function should be converted to a date as follows.

a. Right click on the value.
b. Select **Format Cells**.
c. Select **Date** under categories.
d. Select the Date type.
e. Select **OK**.

	A	B	C	D	E
1	**Invoice Number**	**Client**	**Processing Date**	**Due Days**	**Due Date**
2	INV001	ABC	2014-03-03	90	2014-07-07
3	INV002	General Traders	2014-02-17	60	2014-05-12
4	INV003	XYZ Wholesalers	2014-03-05	30	2014-04-16
5	INV004	ABC	2014-03-06	90	2014-07-10
6	INV005	General Traders	2014-01-30	120	2014-07-17
7	INV006	Standard Suppliers	2014-01-15	120	2014-07-02
8	INV007	Import & Export CC	2014-02-20	90	2014-06-26
9					

The due date has been returned for each Invoice number and it excludes weekends or holidays.

How to calculate the invoice due date with custom weekend days

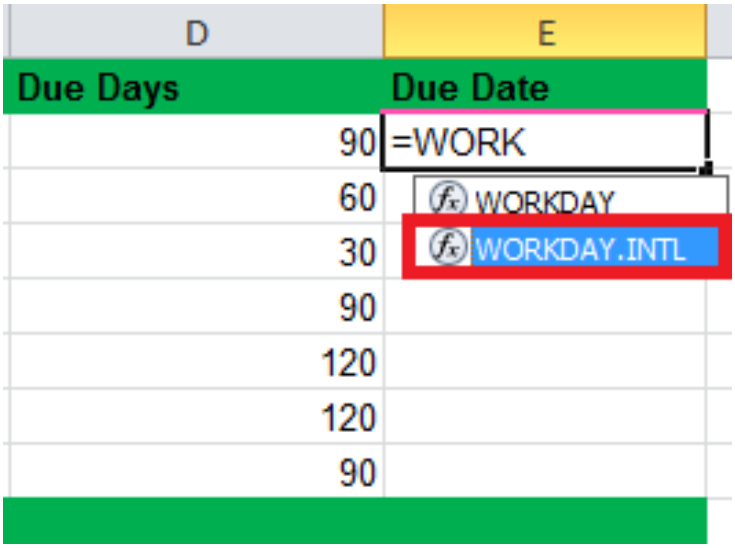
In the previous tip we explain how invoice due dates could quickly be calculated by using the WORKDAY function. But, suppose your weekend falls on Friday and Saturday, then how do you calculate the invoice due date? In that case you will have to use the WORKDAY.INTL function because the WORKDAY function uses standard weekend days.

WORKDAY.INTL returns a serial number of the date, before or after a specified number of workdays with custom weekend days. Just ensure that you convert the number to a date format of your choice. As you enter the formula a list of the custom weekend days will be displayed. This gives you a chance to select the custom weekend days of your choice.

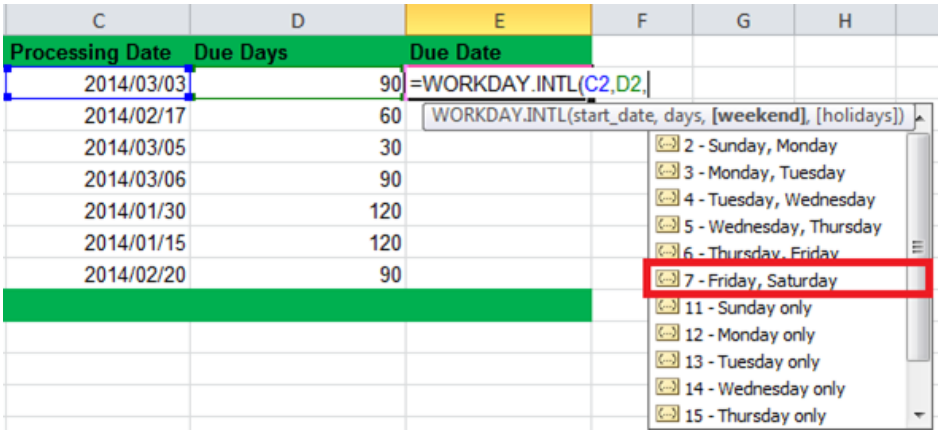
Note: Download the **workbook** to practice this exercise

Applies to: Microsoft® Excel® 2007, 2010 and 2013

1. With reference to the workbook; select **cell E2**.
2. Type **=WORK**.
3. Double click on WORKDAY.INTL from the list that will be displayed.



4. Enter the start date and days. From the custom weekend days list select number 7, where the custom weekend days falls on Friday and Saturday.



5. Press **Enter** and copy the formula to **cell E8**.

	A	B	C	D	E
1	**Invoice Number**	**Client**	**Processing Date**	**Due Days**	**Due Date**
2	INV001	ABC	2014/03/03	90	2014/07/07
3	INV002	General Traders	2014/02/17	60	2014/05/12
4	INV003	XYZ Wholesalers	2014/03/05	30	2014/04/16
5	INV004	ABC	2014/03/06	90	2014/07/10
6	INV005	General Traders	2014/01/30	120	2014/07/17
7	INV006	Standard Suppliers	2014/01/15	120	2014/07/02
8	INV007	Import & Export CC	2014/02/20	90	2014/06/26
9					

The invoice due dates will thus be calculated with custom weekend days. This function can also be used to calculate the date when a contract will expire; you replace due days with the duration of the contract and calculate the contract expiry date.

A quick way of looking up data with the VLOOKUP and MATCH functions

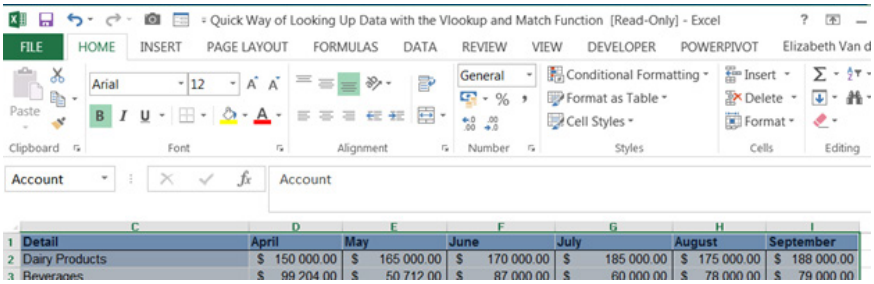
In the previous tip we've shared an Income and Expenditure template for you to download and customize as needed. Now we'll show you how you can quickly look up and retrieve data from the transactions worksheet to the Income and Expenditure Statement worksheet using the VLOOKUP and MATCH functions.

Identifying the column index number in the VLOOKUP function can be tedious and time wasting, especially If you are looking up data from a large worksheet. This is where the MATCH function (which returns the relative column or row position of a value in a given range) comes in, as it can be used with the VLOOKUP function to make it easier and quicker to identify the column number. This then leads to a quick look up and retrieval of data.

Note: Download the **workbook** to practice this exercise

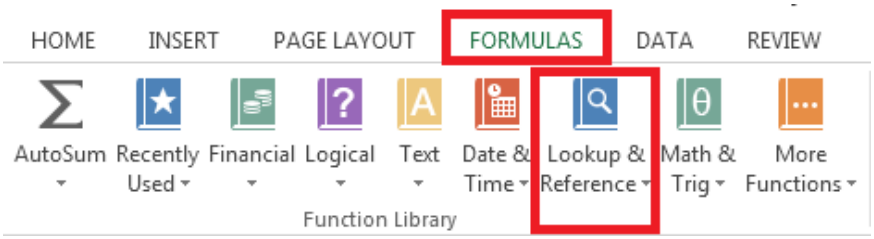
Applies to: Microsoft® Excel® 2007, 2010 and 2013

1. To define named ranges:
   a. Select the transactions worksheet.
   b. Highlight the data range **A1:I20**.
   c. Enter Account in the name box and press **Enter**.



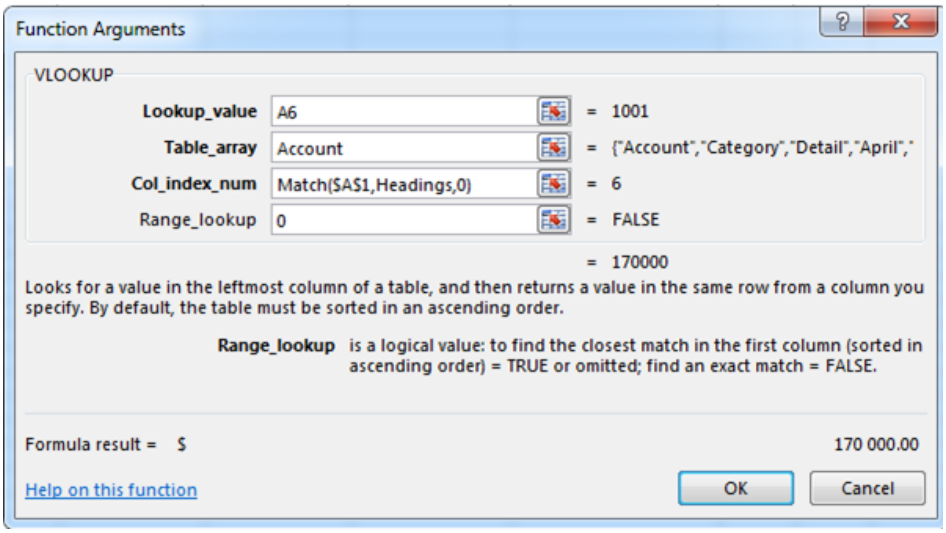
   d. Highlight the data range **A1:I1**.
   e. Enter "Headings" in the name box and press **Enter**.

2. To enter the VLOOKUP and MATCH function:
   a. Select **cell C6** on the monthly income statement worksheet.
   b. Select the **Formulas tab**.
   c. Select **Lookup and Reference**.



3. Then select VLOOKUP from the bottom of the list.
4. Enter as per screen shot below.
5. For the Table_array value, press **F3** and select **Account** from the list of defined names.

6. When you reach the second argument in the MATCH function (Col_index_num argument), press **F3** and select **Headings** from the list.



NOTE:

- A6 is the lookup value and represents the first Account Code
- Account is the defined name for the data array A1:I20 on the transactions worksheet
- We use the match function to retrieve the column number for the data to be retrieved
    - o $A$1 is the lookup value and represents the name of the month
    - o Headings is the defined named for the data range A1:I20 on the transactions worksheet
    - o The relative position for June with the range A1:I20 on the transactions worksheet is 6.
    - o Hence the column number is 6
    - o We enter the value 0 because we want the exact match
- 0 under range lookup represents the exact match for the Vlookup function.

7. Select **OK**.
8. Copy the formula down only in the white cells.

	A	B	C
4	**Account**		**June**
5	**1000**	**Sales**	**564000**
6	1001	Dairy Products	$ 170 000.00
7	1002	Beverages	$ 87 000.00
8	1003	Grains/Cereals	$ 72 000.00
9	1004	Condiments	$ 55 000.00
10	1005	Meat/Poultry	$ 180 000.00
11	**2000**	**Cost of Sales**	**$ 224 000.00**
12	2001	Opening Stock	$ 65 000.00
13	2002	Purchases	$ 55 000.00
14	2003	Freight	$ 11 000.00
15	2004	Stock adjustments	$ 4 000.00
16	2005	Closing Stock	$ 89 000.00
17	**3000**	**Direct Expenses**	**$ 69 625.00**
18	3001	Consumables	$ 13 600.00
19	3002	Salaries - direct	$ 56 000.00
20	3003	Other Expenses	$ 25.00
21		**Gross Profit**	**$ 270 375.00**
22	**4000**	**Other income**	**$ 23 867.00**
23	4001	Interest Received	$ 23 867.00
24	**5000**	**Expenses**	**$ 239 780.00**
25	5001	Advertising and Promotions	$ 25 000.00
26	5002	Bad Debts	$ -
27	5003	Bank Charges	$ 48 000.00
28	5004	Security	$ 21 700.00
29	5005	Depreciation	$ 145 080.00
30		**Net Profit**	**$ 54 462.00**

You did not have to identify the column index number as it was returned automatically. Besides retrieving data quickly, using the Vlookup and match functions helps in selecting the correct fields from the data list.

Looking up multiple fields with a single formula

Did you know that you can populate an entire data table using only on VLOOKUP formula?

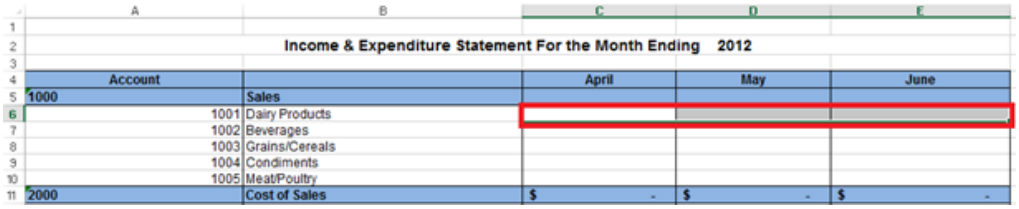
This can be done using VLOOKUP in an array formula. You benefit by saving loads of time which leads to efficiency and a quicker turn around of the work. Other benefits of Array formulas includes improved formula integrity and quicker processing time as you are using a single formula.

Lets say you want to retrieve the account details for the months of April, May and June, instead of trying to figure out which cell references should be absolute or relative you simply select the cells which you would like to populate with the single formula, enter your formula and there you go.

Note: Download the **workbook** to practice this exercise

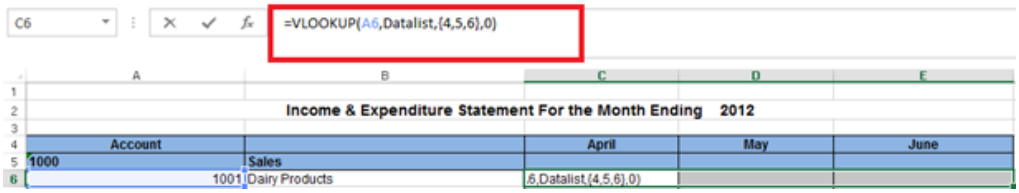
Applies to: Microsoft® Excel® 2007, 2010 and 2013

1. Select the **Monthly Income Statement** worksheet.
2. Select the range **C6:E6**.



	A	B	C	D	E
1					
2		Income & Expenditure Statement For the Month Ending 2012			
3					
4	Account		April	May	June
5	1000	Sales			
6	1001	Dairy Products			
7	1002	Beverages			
8	1003	Grains/Cereals			
9	1004	Condiments			
10	1005	Meat/Poultry			
11	2000	Cost of Sales	$ -	$ -	$ -

3. While this range is selected, enter the formula: **=VLOOKUP(A6,Datalist,{4,5,6},0)** in the formula bar and press **CTRL+SHIFT+ENTER** to return the results. (The values for April, May, June will be displayed).



	A	B	C	D	E
1					
2		Income & Expenditure Statement For the Month Ending 2012			
3					
4	Account		April	May	June
5	1000	Sales			
6	1001	Dairy Products	,6,Datalist,{4,5,6},0)		

NOTE:

- A6 is the lookup value
- Datalist is the named range for the source data on the Transactions worksheet. (Either type in Datalist or press F3 and select Datalist from the dialogue box.
- {4,5,6} refers to the column index numbers for the months of April,May,June on the transactions worksheet.
- 0 implies that an exact match will be found

4. Copy the formula down (in the white cells only).

Sales

- Highlight the data range **C6:E6**.
- Copy down the entire range/selection to **C10:E10**.

Cost of Sales

- Highlight the data range **C6:E6**.
- Copy and paste to **C12:E12**.
- Copy down the entire range/selection to **C16:E16**.

Direct Expenses

- Highlight the data range **C12:E12**.
- Copy and paste to **C18:E18**.
- Copy down the entire range/selection to **C20:E20**.

Other Income

- Highlight the data range **C18:E18**.
- Copy and paste to **C23:E23**.

Expenses

- Highlight the data range **C23:E23**.
- Copy and paste to **C25:E25**.
- Copy down the entire range/selection to **C29:E29**.

Account		April	May	June
1000	Sales	542190	487242	564000
1001	Dairy Products	$ 150 000.00	165000	170000
1002	Beverages	$ 99 204.00	50712	87000
1003	Grains/Cereals	$ 73 000.00	62000	72000
1004	Condiments	$ 49 986.00	36000	55000
1005	Meat/Poultry	$ 170 000.00	173530	180000
2000	Cost of Sales	$ 251 857.00	$ 206 333.00	$ 224 000.00
2001	Opening Stock	$ 70 000.00	51000	65000
2002	Purchases	$ 75 000.00	62000	55000
2003	Freight	$ 10 157.00	15333	11000
2004	Stock adjustments	$ 5 900.00	3000	4000
2005	Closing Stock	$ 90 800.00	75000	89000
3000	Direct Expenses	$ 66 348.00	$ 45 100.00	$ 69 625.00
3001	Consumables	$ 15 000.00	10000	13600
3002	Salaries - direct	$ 51 323.00	35000	56000
3003	Other Expenses	$ 25.00	100	25
	Gross Profit	$ 223 985.00	$ 235 809.00	$ 270 375.00
4000	Other income	$ 23 867.00	$ 35 000.00	$ 23 867.00
4001	Interest Received	$ 23 867.00	35000	23867
5000	Expenses	$ 232 156.00	$ 259 274.00	$ 239 780.00
5001	Advertising and Promotions	$ 26 657.00	55594	25000
5002	Bad Debts	$ -		
5003	Bank Charges	$ 45 419.00	43000	48000
5004	Security	$ 15 000.00	15600	21700
5005	Depreciation	$ 145 080.00	145080	145080
	Net Profit	$ 15 696.00	$ 11 535.00	$ 54 462.00

Instead of looking up the values for April, May and June separately the VLOOKUP array formula ensures that the data for the three months is retrieved in a single formula. This leads to time saving as tasks will be done quickly and efficiently.

How to remove stubborn spaces from a cell

If you have ever had problems sorting, filtering, or manipulating data in a Microsoft® Excel® workbook and realized that it was caused by stubborn leading spaces in the cells, this tip will show you how to get rid of the spaces quickly next time.

If you're wondering what causes the spaces, here are two possibilities:

- You may have mistakenly inserted extra spaces in your data by pressing the space bar more than once or,
- You may have imported data from external sources which has embedded characters in the text that may not be easily noticeable making the results difficult to understand.

The next time you're faced with this dilemma, you can quickly remove unwanted spaces and characters using a combination of the TRIM and SUBSTITUTE functions. The TRIM function removes leading and trailing spaces in data but not characters. The SUBSTITUTE function replaces non-breaking characters with characters that the TRIM function can remove.

Note: Download the **workbook** to practice this exercise.

Applies to: Microsoft Excel 2007, 2010 and 2013

1. To remove leading and trailing spaces from the example workbook; the TRIM function will be used.

a. Select cell **C2**.
b. Type the formula **=TRIM(B2)**.
c. Press **Enter** and copy the formula down.

As you can see the spaces have not yet been removed. This is because the TRIM and SUBSTITUTE functions must be nested. The stubborn characters set number 160 will be replaced with 32 than can be removed by the TRIM function.

B	C
Before	**After**
652400.25	652400.25
969000.50	969000.50
817360.00	817360.00
758237.25	758237.25
358388.75	358388.75
457711.11	457711.11
360758.25	360758.25
12352.25	12352.25
323778.75	323778.75
478685.00	478685.00
125934.00	125934.00
652044.75	652044.75
12365.85	12365.85
740000.75	740000.75
400000.00	400000.00
974000.00	974000.00
408223.50	408223.50
850000.94	850000.94
705823.00	705823.00

d. Select **cell C2** and delete the formula.
e. Enter the following formula and then copy it down:

=TRIM(SUBSTITUTE(B2,CHAR(160),CHAR(32)))

B	C
Before	**After**
652400.25	652400.25
969000.50	969000.50
817360.00	817360.00
758237.25	758237.25
358388.75	358388.75
457711.11	457711.11
360758.25	360758.25
12352.25	12352.25
323778.75	323778.75
478685.00	478685.00
125934.00	125934.00
652044.75	652044.75
12365.85	12365.85
740000.75	740000.75
400000.00	400000.00
974000.00	974000.00
408223.50	408223.50
850000.94	850000.94
705823.00	705823.00

The stubborn leading spaces and characters will be removed so you can easily manipulate your data.

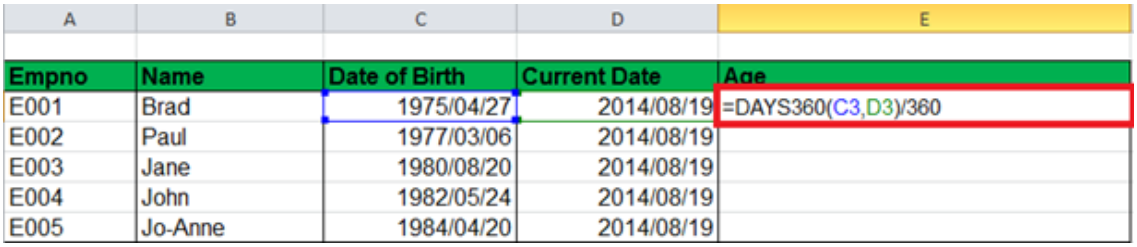
Calculating the age of an employee

I was presenting a workshop on the date and time functions in Microsoft® Excel®. One of the delegates, a Human Resource professional, asked me how they can calculate the age of an employee in Excel. I suggested they use the DATEDIF or the DAYS360 functions. For the sake of other HR professionals who weren't in the workshop last week, I will demonstrate how this can be achieved. However, since we have covered the DATEDIF function in a previous tip, I will show you how to use the Days360 function.
The Days360 function calculates the number of days between two dates in a 360-day year (twelve 30-day months), but it can also be used to calculate a person's age.

Note: Download the **workbook** to practice this exercise.

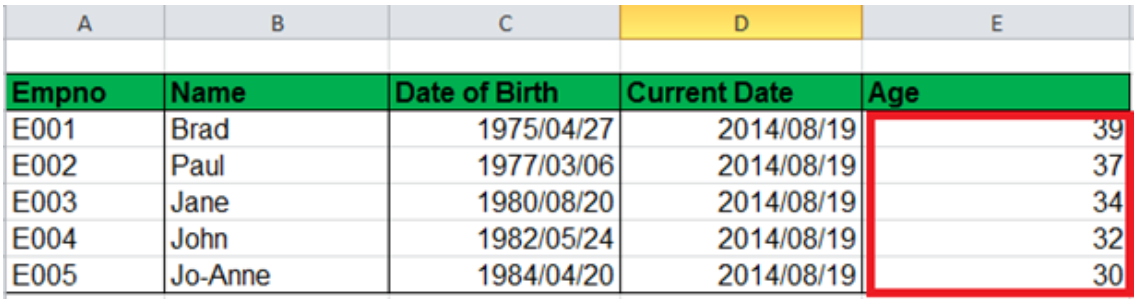
Applies to: Microsoft® Excel® 2010, 2013

1. Open the workbook.
2. To calculate the age of an individual.
3. Select **cell E3**.
4. Type **=DAYS360(**
5. Click on **cell C3** for the start date.
6. Add a comma and click on **cell D3** for the end date.
7. Add the closing bracket: **)**.
8. Then type **/360**.



	A	B	C	D	E
	Empno	Name	Date of Birth	Current Date	Age
	E001	Brad	1975/04/27	2014/08/19	=DAYS360(C3,D3)/360
	E002	Paul	1977/03/06	2014/08/19	
	E003	Jane	1980/08/20	2014/08/19	
	E004	John	1982/05/24	2014/08/19	
	E005	Jo-Anne	1984/04/20	2014/08/19	

9. Copy the formula down to **cell E7**.
10. The ages will be show like in the screenshot below.



	A	B	C	D	E
	Empno	Name	Date of Birth	Current Date	Age
	E001	Brad	1975/04/27	2014/08/19	39
	E002	Paul	1977/03/06	2014/08/19	37
	E003	Jane	1980/08/20	2014/08/19	34
	E004	John	1982/05/24	2014/08/19	32
	E005	Jo-Anne	1984/04/20	2014/08/19	30

In this example we sum the start date (date of birth) in cell C3 the current date in D3 and divide the answer by 360 days because we want to convert the days to years.

How to calculate the maturity date of an investment

If you have an investment and would like to know the exact date that it will mature, use the EDATE function. Let's say your investment will give a yield in 12 months, but you want to know the actual date, you can calculate it with the EDATE function which returns a serial number representing a date, which is a specified number of months before or after a start date. Try our example exercise to learn how.

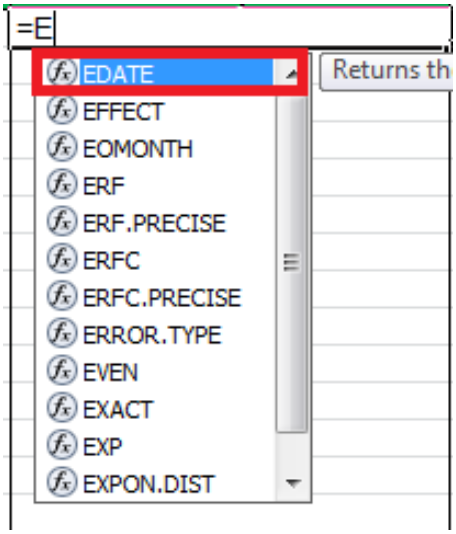
Note: Download the **workbook** to practice this exercise

Applies to: Microsoft® Excel® 2010 and 2013

1. With reference to the practice workbook, select **cell D2**.

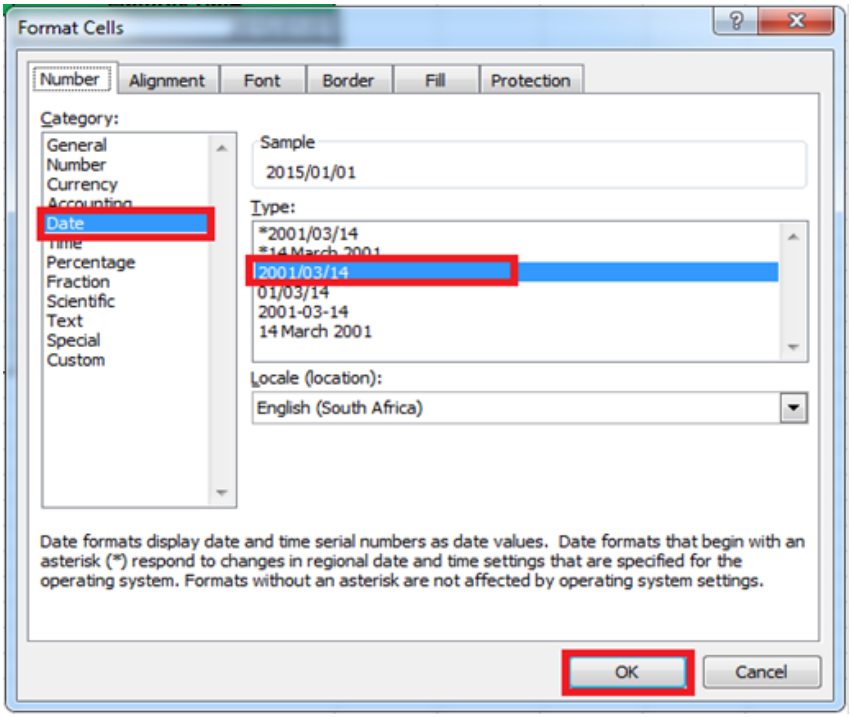
	A	B	C	D
1	Investment Type	Investment Date	Months	Maturity Date
2	A	2014/01/01	12	
3	B	2014/02/02	18	
4	C	2014/03/03	24	
5	D	2014/02/04	30	
6	E	2014/06/05	6	
7	F	2014/07/06	12	
8	G	2014/04/07	18	
9	H	2014/05/08	6	
10	U	2014/02/09	12	
11	J	2014/03/10	18	
12	K	2014/04/11	24	
13	L	2014/06/12	12	
14	M	2014/02/13	30	
15	N	2014/03/14	12	

2. Type **=E** and double click **EDATE** from the drop down list.



3. Select **cell B2**.
4. Add a comma(,) and select **cell C2**.
5. Press **Enter**.
6. A serial number representing the date will be displayed.

7. To convert the serial number to a date:
a. Right click **cell D2**.
b. Select **Format Cells**.
c. Select **Date**.
d. On the right hand side; select the **yyyy,mm,dd** date format.
e. Select **OK**.



8. Copy the formula down to **cell D15**.

	A	B	C	D
1	Investment Type	Investment Date	Months	Maturity Date
2	A	2014/01/01	12	2015/01/01
3	B	2014/02/02	18	2015/08/02
4	C	2014/03/03	24	2016/03/03
5	D	2014/02/04	30	2016/08/04
6	E	2014/06/05	6	2014/12/05
7	F	2014/07/06	12	2015/07/06
8	G	2014/04/07	18	2015/10/07
9	H	2014/05/08	6	2014/11/08
10	U	2014/02/09	12	2015/02/09
11	J	2014/03/10	18	2015/09/10
12	K	2014/04/11	24	2016/04/11
13	L	2014/06/12	12	2015/06/12
14	M	2014/02/13	30	2016/08/13
15	N	2014/03/14	12	2015/03/14

As you can see the maturity dates for investments can be calculated with an easy to use formula.

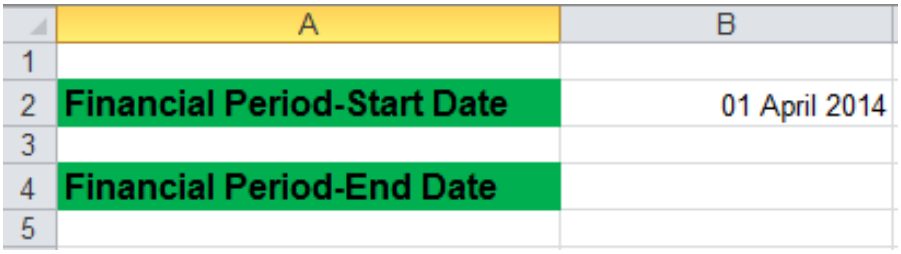
How to calculate your financial year-end date

In Fiscal Year 2015, you can imagine how much work was on our finance team's plate especially having our auditors in the office! If you haven't yet approached your financial year-end, this tip will help you ensure that you don't miss it, and are well prepared for it, by helping you to easily calculate your financial year-end date using the EOMONTH function. The EOMONTH function returns a serial number representing the last date of a month.
If, like us, you revisit your company strategy every fiscal year, you may get some inspiration on key focus areas for FY2015 from our Finance and Strategy Directors' blog article: Strategy – the Sage Alchemex way (with a little help from Thula Thula and Elon Musk).

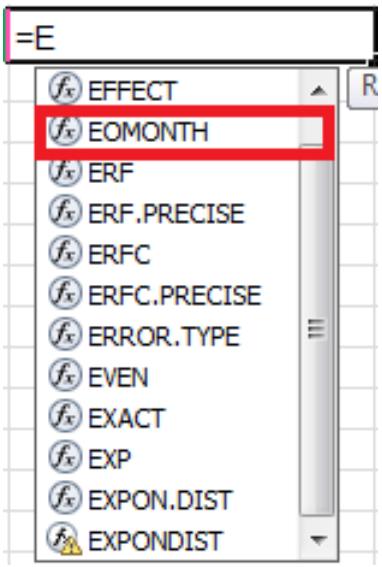
Note: Download the **workbook** to practice this exercise

Applies to: Microsoft Excel 2010 and 2013

1. With reference to the practice workbook, select **cell B2**.



2. Type **=E** and double click **EOMONTH** from the drop down list.



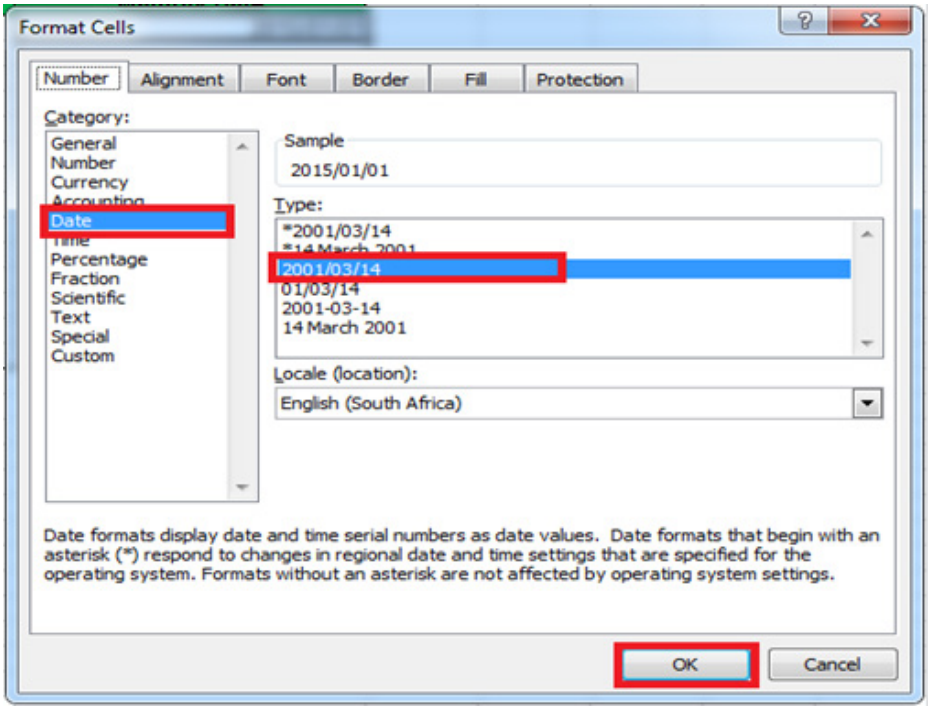
3. Select cell **B2**.
4. Add a comma(,) and enter **11**.

a. The 11 refers to the number of months after the start date in cell B2.
b. Enter a negative value for the number of months before a start date.

5. Press **Enter**.

6. A serial number representing the end of a period will be displayed.
7. To convert the serial number to a date:

a. Right click **cell B4**.
b. Select **Format Cells**.
c. Select **Date**.
d. On the right hand side; select the **yyyy,mm,dd** date format.
e. Select **OK**.



	A	B
1		
2	**Financial Period-Start Date**	01 April 2014
3		
4	**Financial Period-End Date**	31 March 2015

The end of the financial period has been calculated, with an easy but powerful formula.

03

PivotTables & PivotCharts

Using slicers with non pivot data

Sometimes you may want to present your data simply as a range, but would like to make use of Slicers (available in Microsoft® Excel® 2010 and 2013) to be able to quickly filter data. Commonly, slicers are applied only to data that is presented in Tables, PivotTables and PivotCharts – not non Pivot data, but there is a way around that, which is what we will show you in this tip.

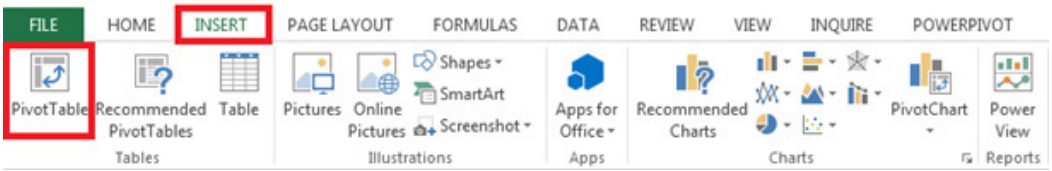
Note: Download the **workbook** to practice this exercise

Applies to: Excel 2007, 2010 and 2013

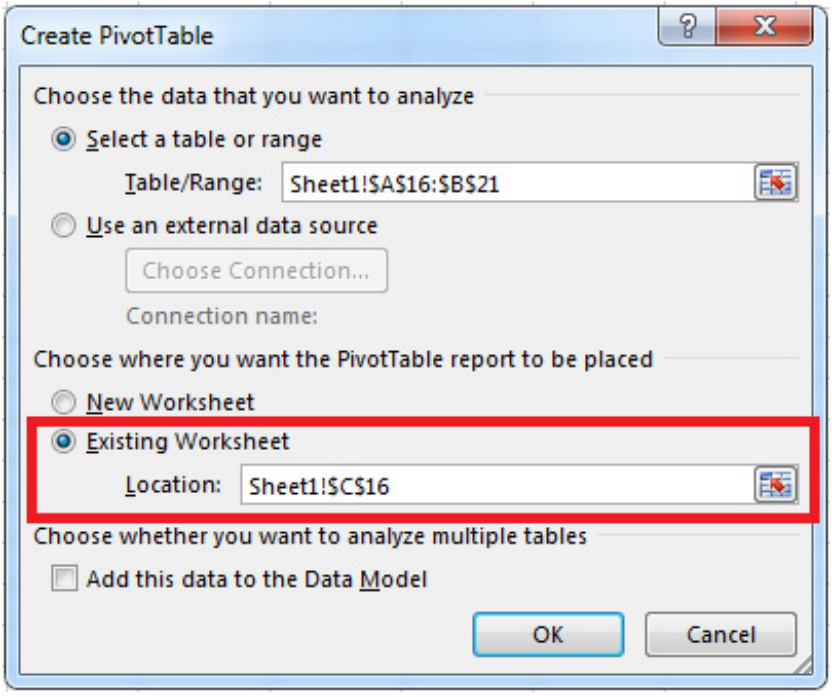
We start by inserting a Pivot Table using the cost centers.

16	**Cost Centre**	**Key**
17	**Sales**	**1**
18	**Cost of Sales**	**2**
19	**Expenses**	**3**
20	**Other Income**	**4**
21	**Net Income**	**5**

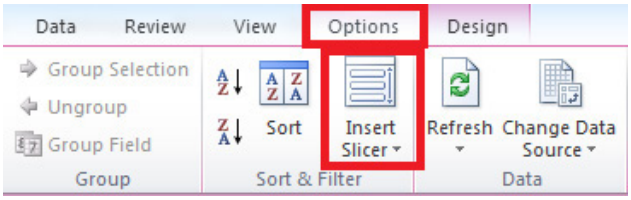
1. Select any cell within the Cost Centre table.
2. Select the Insert tab then **PivotTable**.



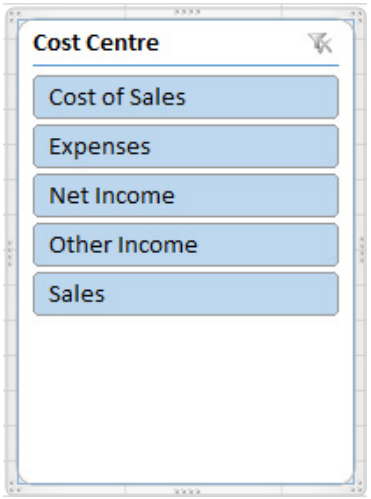
3. Add the PivotTable to the existing worksheet in **cell C16** and select **OK**.



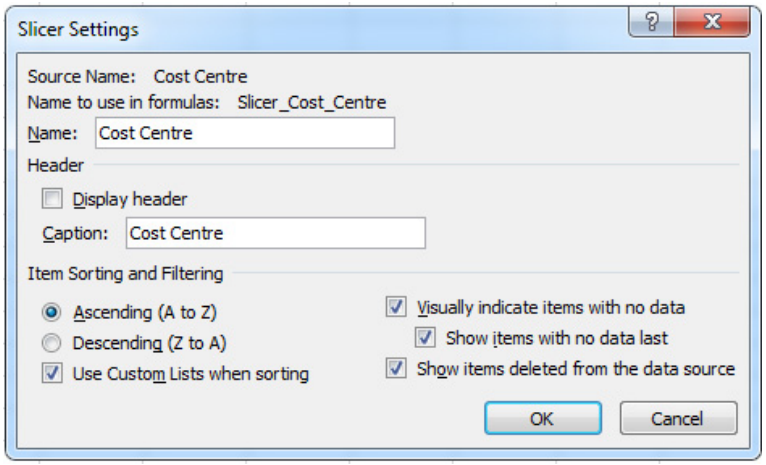
4. Place the Cost Center to the rows area.
5. Drag the Key field to the values area.
6. Select the PivotTable.
7. From PivotTable Tools, select **Options**.
8. Select **Insert Slicer**.



9. Select Cost Center.
10. Select **OK**.



11. Right click your Slicer and select **Slicer Settings**.
12. Uncheck the **Display header** box.



13. Select **OK**.
14. Select **Sales** on the Slicer.

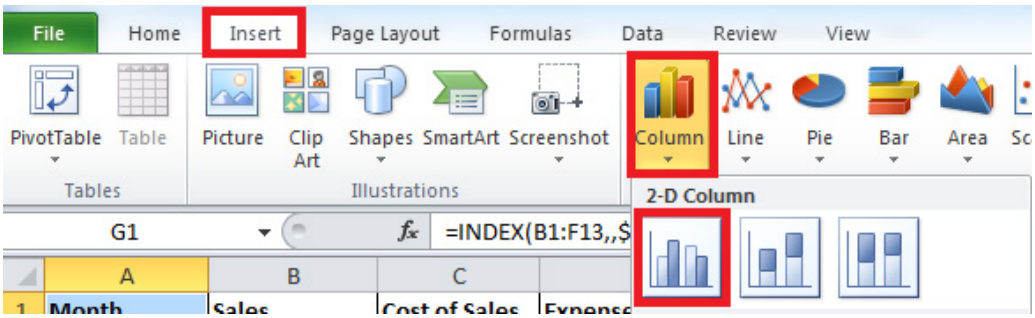
15. Select **cell G1** and enter the following formula:

=INDEX(B1:F13,,$D$17)

NOTE: The reference for D17 should be typed in not selected. Press the F4 key to make this cell absolute.

- The INDEX function returns the value in a table at the intersection of a given row and column number.
- B1:F13 is the data range
- There is no row number hence returning , , (two commas).
- The column number is returned by the value in $D$17(1).

16. Copy the formula down to **G17** (the values for Sales or the selected cost center will be copied down).
17. Select the data range **A1:A13** and **G1:G13** (Hold down the control key to make your selection).
18. Select the **Insert tab**.
19. Select the **Column chart** under the Charts group.



The chart data and the values in G1:G13 will change based on the selected Cost Center from the slicers list as can be seen the data in the range B1:F13 can be filtered with a slicer without inserting a PivotTable.

Using slicers to view different scenarios for forecasting

Forecasting the outcome of a financial model can lead to better planning and positive results for an organization. You can use scenarios to forecast the outcome of a financial model. A scenario is a set of values that Microsoft® Excel® saves and can substitute automatically in your worksheet. You can create and save different groups of values on a worksheet and then use slicers to switch to any of these new scenarios.

We have previously shown you how to insert scenarios using the What-If analysis tool. However in this tip we shall do it differently, by setting up the scenarios in a table. A PivotTable will then be inserted so that slicers can be used to switch between the best case and worst case scenarios.

Note: Download the **workbook** to practice this exercise

Applies to: Microsoft Excel 2007, 2010 and 2013

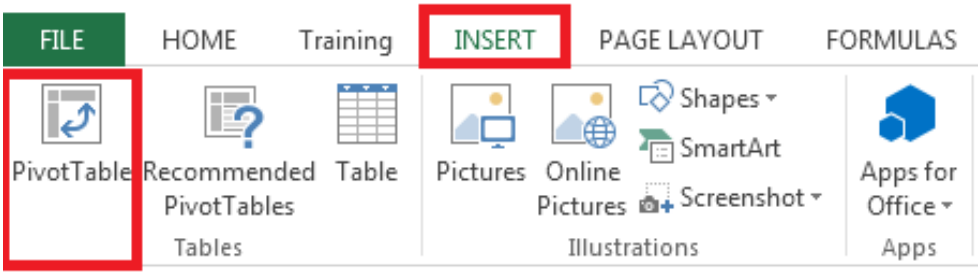
1. The first step is to create a table for the Best Case and Worst Case scenarios for the 4th quarter which has been created in the example workbook.

Scenario	Account Name	Value	
Best Case	Sales	$	3 500 000.00
Best Case	Cost of Sales	$	300 000.00
Best Case	Direct Expenses	$	200 000.00
Best Case	Other income	$	250 000.00
Best Case	Expenses	$	60 000.00
Worst Case	Sales	$	450 000.00
Worst Case	Cost of Sales	$	50 000.00
Worst Case	Direct Expenses	$	55 000.00
Worst Case	Other income	$	12 000.00
Worst Case	Expenses	$	45 000.00

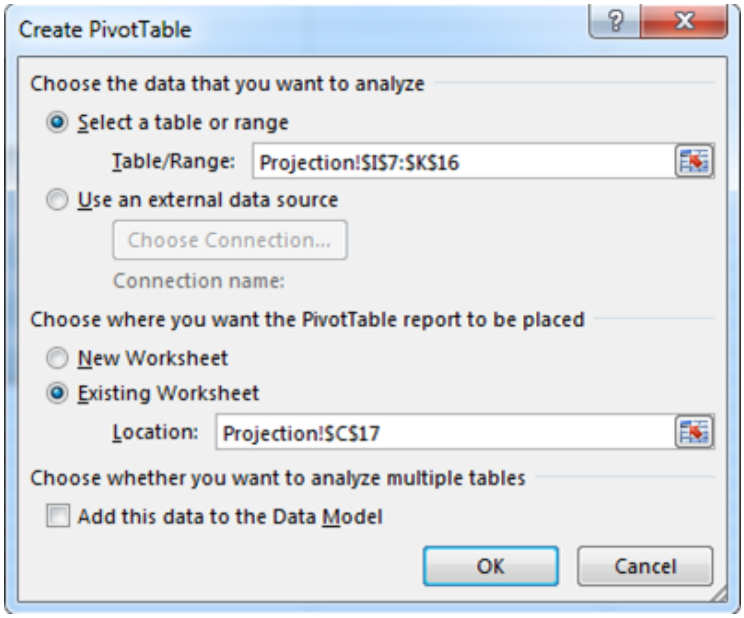
2. Then create a PivotTable from the scenario data:

a. Select any cell within the scenario table

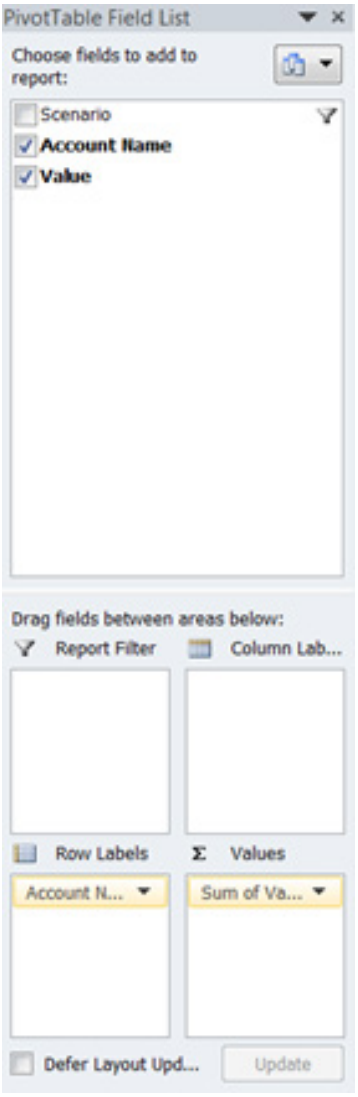
b. From the Insert Tab, select **PivotTable**



c. In the **Location box**, select any cell on the existing worksheet where you would like to place the PivotTable.



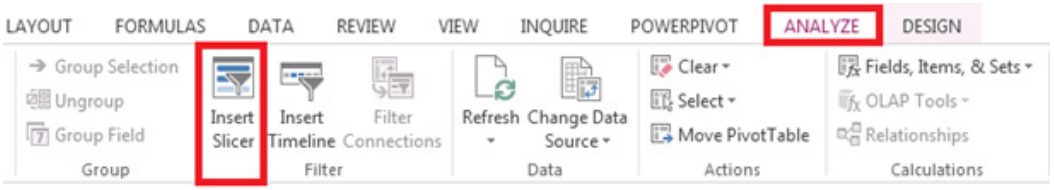
d. Drag **Account Name** and place it in the **Row Labels** and Value in the **Values** area.



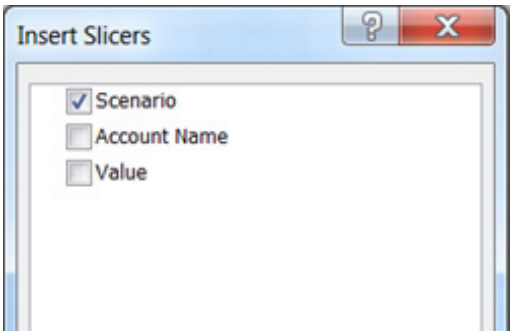
3. Insert a slicer:

a. Select any cell on the PivotTable.

b. From the Analyze tab, select **Insert Slicer** in Excel 2013. If you're using Excel 2010, go to Options and select **Insert Slicer**.

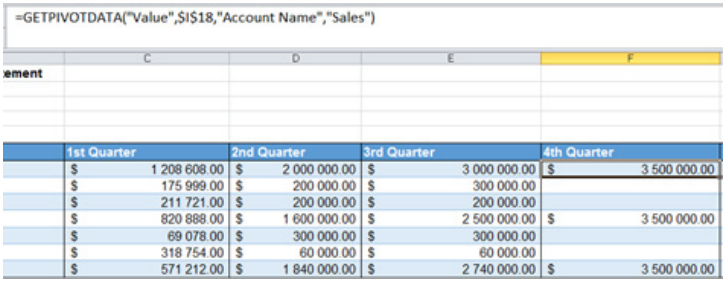


4. Select the scenario field from the slicer list and click **OK**.



5. Select **cell F8** in the financial model.

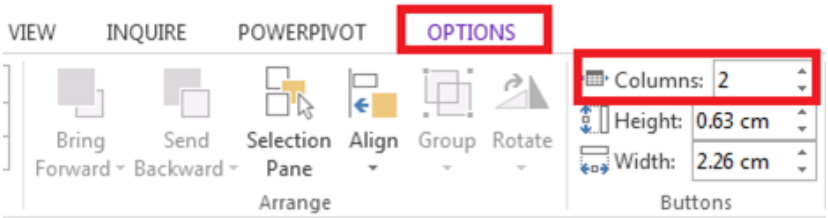
6. Press "**=**" and click on the value representing Sales in the PivotTable.



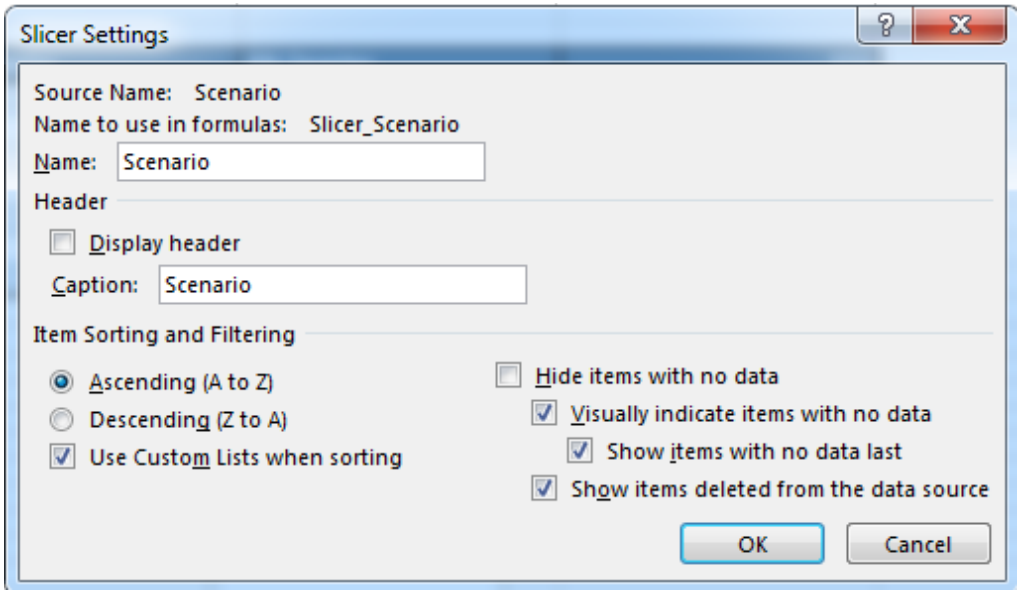
7. Repeat steps 5 and 6 until you have linked the cells in the financial model to the corresponding values in the PivotTable.

8. Click on the slicer and select **Options**.

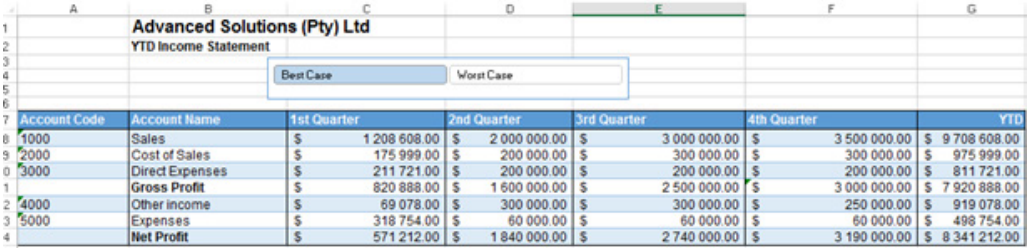
9. Change the number of columns to two.



10. Right click on the slicer and select slicer settings. Then uncheck the **display header** check box and click OK.



11. Resize and move the slicer above the financial model.



Advanced Solutions (Pty) Ltd
YTD Income Statement

Best Case | Worst Case

Account Code	Account Name	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	YTD
1000	Sales	$ 1 208 608.00	$ 2 000 000.00	$ 3 000 000.00	$ 3 500 000.00	$ 9 708 608.00
2000	Cost of Sales	$ 175 999.00	$ 200 000.00	$ 300 000.00	$ 300 000.00	$ 975 999.00
3000	Direct Expenses	$ 211 721.00	$ 200 000.00	$ 200 000.00	$ 200 000.00	$ 811 721.00
	Gross Profit	$ 820 888.00	$ 1 600 000.00	$ 2 500 000.00	$ 3 000 000.00	$ 7 920 888.00
4000	Other income	$ 69 078.00	$ 300 000.00	$ 300 000.00	$ 250 000.00	$ 919 078.00
5000	Expenses	$ 318 754.00	$ 60 000.00	$ 60 000.00	$ 60 000.00	$ 498 754.00
	Net Profit	$ 571 212.00	$ 1 840 000.00	$ 2 740 000.00	$ 3 190 000.00	$ 8 341 212.00

As can be seen one can quickly switch between the best case and worst case scenarios. This is also another method of creating scenarios without using the What if analysis option under the data tab.

How to forecast quickly using trendlines

Forecasting is integral to business success but it can be frustrating when you don't have the right tools. Fortunately Microsoft® Excel® gives you the ability to forecast quickly without cracking your head with complex mathematical models using trendlines.

When you have existing data for which you want to forecast a trend, you can create a trendline in a chart. For example, if you have a chart in Excel that shows sales data for the first few months of the year, you can add a trendline to the chart that shows the general trend of sales (increasing or decreasing or flat) or that shows the projected trend for months ahead.

Note: Download the **workbook** to practice this exercise

Applies to: Microsoft Excel 2007, 2010 and 2013

We start by creating a column chart for the data below.

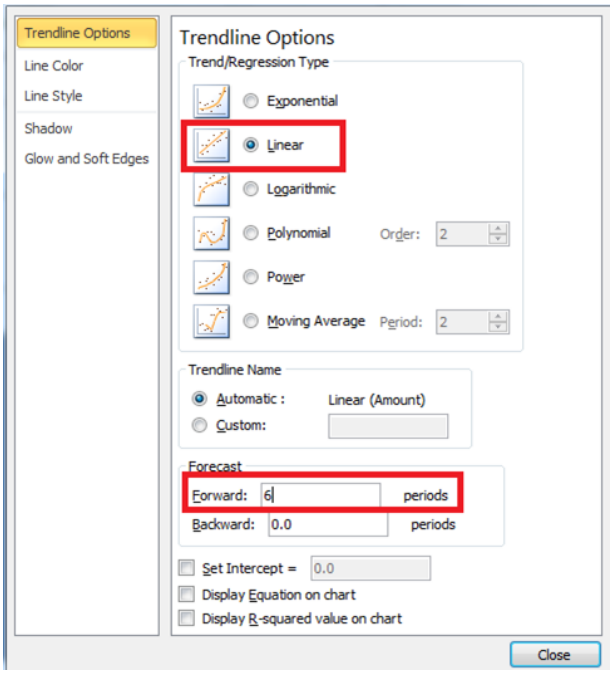
Sales Forecast Report		
Month	**Amount**	
Jan	$	35 000.00
Feb	$	35 000.00
Mar	$	40 000.00
Apr	$	38 000.00
May	$	42 000.00
Jun	$	41 000.00
Jul		
Aug		
Sep		
Oct		
Nov		
Dec		

1. Select a cell within the data range and press **F11**.
2. Click on the chart tittle and change to "**Sales Forecast Report**".
3. To create a linear trendline:

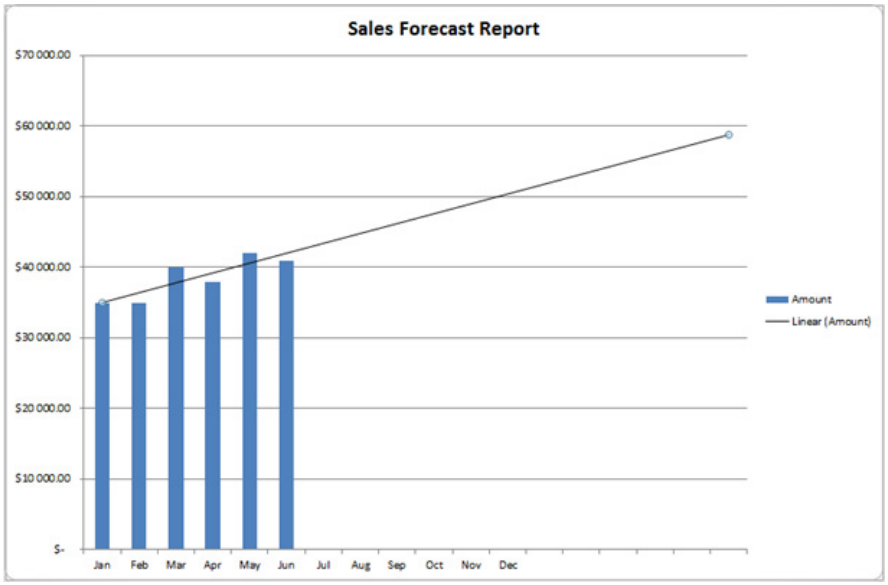
a. Right click on one of the series (blue bars).

b. Select **Add Trendline**.

c. Select Linear under Trend/Regression Type and type 6 as your forecast period as demonstrated below.



d) Select **Close**.



A linear trendline has been inserted and can help you to forecast future sales trends.

Enjoy greater flexibility in filtering dates with Timelines in Microsoft Excel 2013

To make it easier for you to drill down on data, Microsoft has provided a more flexible way of filtering PivotTables by dates in Microsoft® Excel® 2013 with the addition of Timelines. Timelines are a visual filter for dates, which make it easy for you to see what date range has been filtered, plus they add a nice aesthetic to your worksheet. Dates can be analyzed by years, quarters, months and days. Unfortunately Timelines can only filter PivotTables, they don't work on standard tables.

In our example we've already created the PivotTable. If you would like to learn how to create a PivotTable or learn about other PivotTable topics, download our **free 15 Excel PivotTables and PivotCharts Tips & Tricks eBook**.

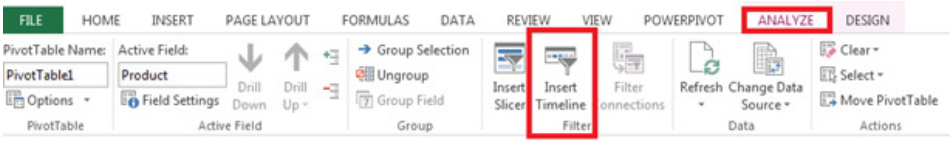
Note: Download the **workbook** to practice this exercise.

Applies to: Microsoft® Excel® 2013

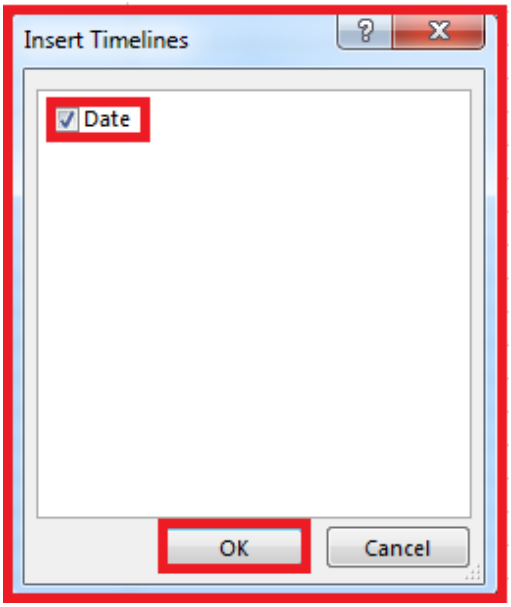
1. Open the workbook.
2. To insert a timeline:

a. Click on the PivotTable.

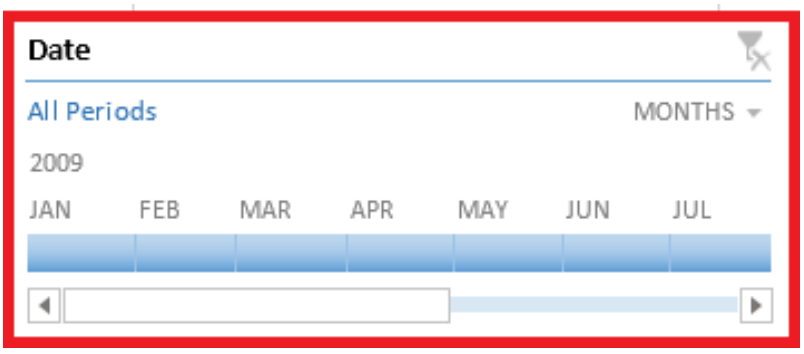
b. Select the **Analyze tab** and then select **Insert Timeline** in the **Filter** section.



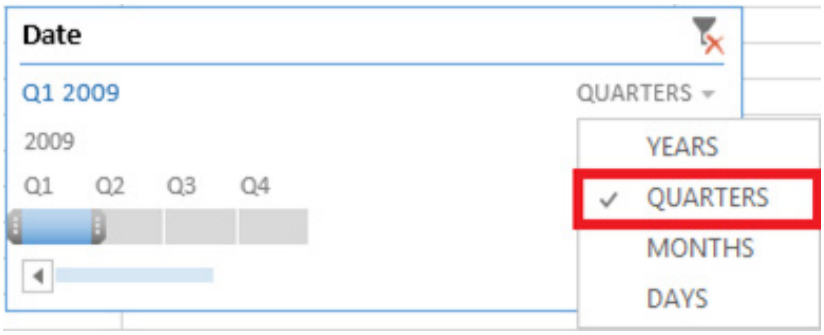
c. Then check the **Date box** and select **OK**.



d. The timeline will be inserted.



3. To filter the PivotTable by months, select a month from the timeline.
4. To filter by quarters; select **Quarters** in the top right hand corner.
5. Then select the quarter you would like to filter by.



As you can see, the PivotTable in our example has been filtered by Quarter 1.

SalesmanName	Product	Sum of InclusivePrice
B. Nixon		**66480.24**
	Hygenix Almond Toilet	3461.04
	Quadrant 900 White Clear Shower Door	26665.74
	Serenade Acrylic Cowrie Oval	36353.46
Gavin O Connor		**19365.18**
	CE900 White Clear Corner Entry Shower Door	13558.02
	Hygenix Almond Toilet	4326.3
	Rose De Grade	1480.86
K. Swartz		**57766.08**
	CE900 White Clear Corner Entry Shower Door	13558.02
	Noce De Grade	2961.72
	Saphire Sink Mixer	1588.02
	Serenade Acrylic Cowrie Oval	29743.74
	Serenade Acrylic Piazza Conversion Bath	9914.58
P. Cox		**22903.74**
	CE900 White Clear Corner Entry Shower Door	9684.3
	Serenade Acrylic Cowrie Oval	13219.44
Reagan Atkins		**34909.08**

The timeline can also be filtered by years and days giving you the ability to analyze data interactively.

How to rank items quickly without sorting them

This week we'll show you how to quickly rank items from smallest to largest using a feature that already exists in PivotTables. Let's say you're analyzing your products or even expenses and need to rank them from the smallest to the largest value, instead of writing your own formulas in calculated fields, you can use the Rank Smallest to Largest feature in PivotTables to assign ranks or position without sorting or list or re-arranging your list.

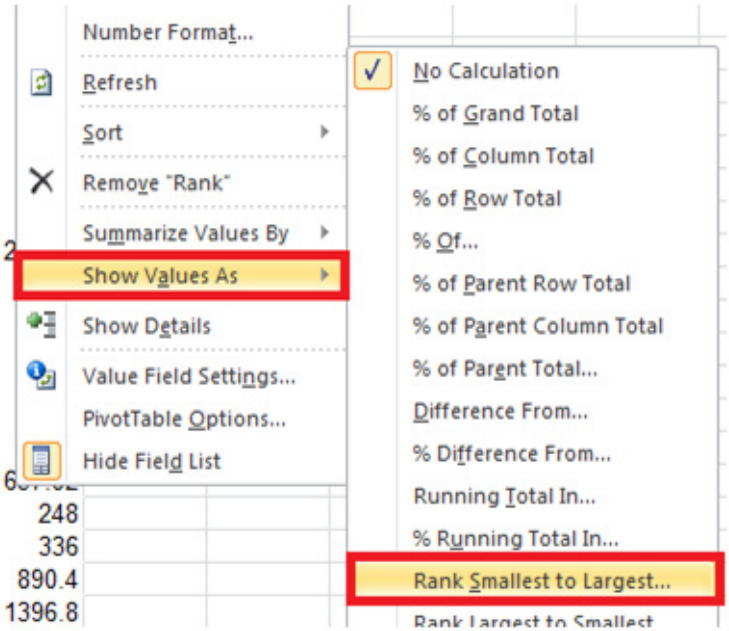
Note: Download the **workbook** to practice this exercise

Applies to: Microsoft® Excel® 2007, 2010 and 2013

In our example, the PivotTable has been set up with the Product Sales field allocated to the values area twice. In the second column the other Product Sales field has been renamed **Rank**.

Row Labels	ProductSales	Rank
Alice Mutton	374.4	374.4
Boston Crab Meat	320.46	320.46
Chai	360	360
Chang	152	152
Chartreuse verte	86.4	86.4
Chef Anton's Cajun Seasoning	225.28	225.28
Chocolade	137.7	137.7
Filo Mix	75.6	75.6
Fløtemysost	498.8	498.8
Geitost	64	64
Gnocchi di nonna Alice	608	608
Gorgonzola Telino	167	167
Gravad lax	208	208
Guaraná Fantástica	64.8	64.8
Gudbrandsdalsost	979.2	979.2
Gula Malacca	223.97	223.97
Gumbär Gummibärchen	821.7	821.7
Gustaf's Knäckebröd	201.6	201.6

1. Right click on one of the values in the Rank column and select as below.
2. Select **Show Values As**, and then **Rank Smallest to Largest**.



3. Select **OK**.

The items will be quickly ranked without sorting or re-arranging the list. The same approach can be used to rank other items like expenses.

Row Labels	ProductSales	Rank
Alice Mutton	374.4	31
Boston Crab Meat	320.46	26
Chai	360	29
Chang	152	13
Chartreuse verte	86.4	7
Chef Anton's Cajun Seasoning	225.28	22
Chocolade	137.7	11
Filo Mix	75.6	5
Fløtemysost	498.8	36
Geitost	64	2
Gnocchi di nonna Alice	608	40
Gorgonzola Telino	167	15
Gravad lax	208	19
Guaraná Fantástica	64.8	3
Gudbrandsdalsost	979.2	47
Gula Malacca	223.97	21
Gumbär Gummibärchen	821.7	45
Gustaf's Knäckebröd	201.6	18
Ikura	347.2	28
Inlagd Sill	68.4	4
Ipoh Coffee	662.4	43
Konbu	13.44	1
Lakkalikööri	637.92	42
Longlife Tofu	248	24

How to create custom PivotTable Groups

The PivotTable grouping option in Microsoft® Excel® allows you to see summaries of data by grouping it together so that less detail is shown. Grouping can be done automatically on date fields and the data summarised by days, months, quarters or years. However, you can also create your own custom groups. For instance, you can group your expenses by reporting categories, which is what we'll demonstrate in this tip.

Note: Download the **workbook** to practice this exercise

Applies to: Microsoft Excel 2007, 2010 and 2013

The example PivotTable has been populated with expenses and amounts.

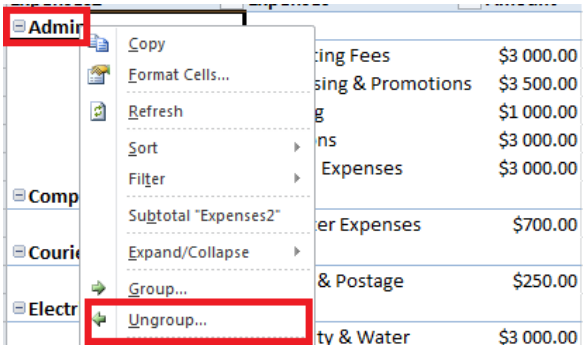
3	Expenses	Amount
4	Accounting Fees	$3 000.00
5	Advertising & Promotions	$3 500.00
6	Cleaning	$1 000.00
7	Computer Expenses	$700.00
8	Courier & Postage	$250.00
9	Donations	$3 000.00
10	Electricity & Water	$3 000.00
11	Entertainment Expenses	$2 000.00
12	General Expenses	$3 000.00
13	Insurance	$1 000.00
14	Motor Vehicle Expenses	$1 400.00
15	Printing & Stationery	$1 250.00
16	Rent Paid	$3 500.00
17	Repairs & Maintenance	$1 500.00
18	Salaries & Wages	$3 500.00
19	Staff Training	$2 000.00
20	Staff Welfare	$1 500.00
21	Telephone & Fax	$5 000.00
22	Travel & Accommodation	$2 500.00
23	**Grand Total**	**$42 600.00**

To create the grouping for Admin expenses:

1. Select all the expenses related to admin.
2. Right click on one of the selected expenses.
3. Select **Group**.
4. Select the cell in the PivotTable now named Group 1 and rename it to **Admin** in the formula bar.

3	Expenses2	Expenses	Amount
4	⊟Admin		
5		Accounting Fees	$3 000.00
6		Advertising & Promotions	$3 500.00
7		Cleaning	$1 000.00
8		Donations	$3 000.00
9		General Expenses	$3 000.00

5. Repeat step 2 for all subsequent grouping levels to be created.
6. To remove the grouping, right click on the group name and select **Ungroup**.



The PivotTable will thus be set up with the different grouping levels summarising the data.

How to install the PowerPivot add-in in Microsoft Excel 2010 and 2013

In this tip, we'll look at how to install the PowerPivot add-in which is available for free in Microsoft® Excel® 2010 and 2013.

PowerPivot enables you to process immense volumes of data that cannot be efficiently handled by PivotTables. Furthermore PowerPivot easily integrates with data from multiple sources and is flexible in handling data from Microsoft® SharePoint® and Microsoft® SQL Server®.

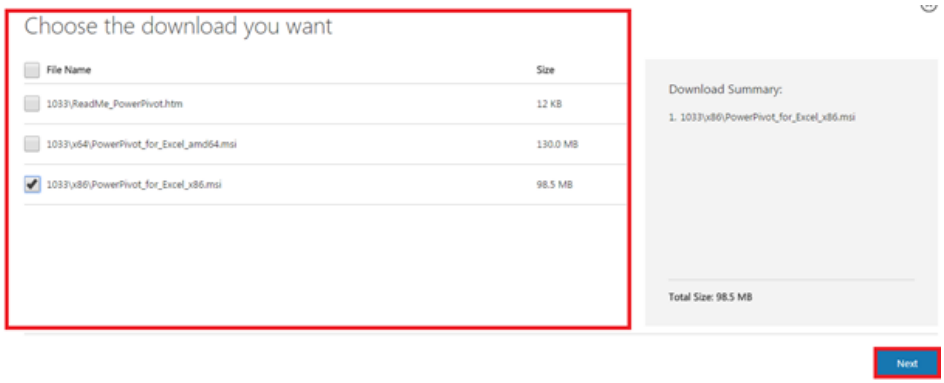
Applies to: Microsoft Excel 2010 and 2013.

1. Establish if your computer meets the applicable system requirements. The requirements for Microsoft® Excel® 2010 are:
- Windows XP with Service Pack 3, Windows Vista with Service Pack 2, Windows 7, or Windows Server 2008 or higher
- .NET Framework 3.5 SP1 may be required if you are not running Windows 7
- Excel 2010
- 3.5 gigabytes of free hard disk space
- 1 gigabyte of RAM (2 gigabytes or more is recommended)
- 500 MHz processor or higher

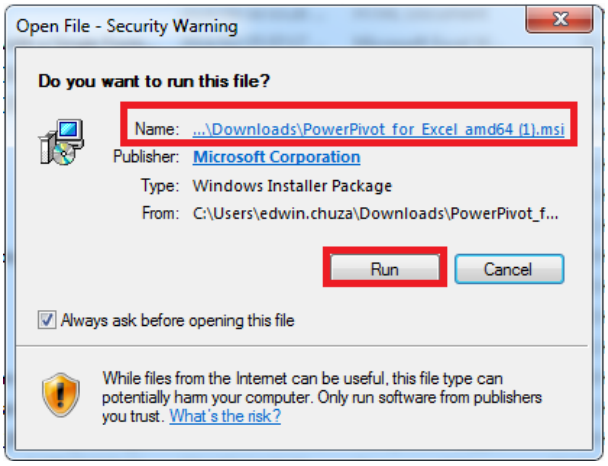
2. The PowerPivot installation must correspond to your Microsoft Excel 2010 installation. That is 32 or 64 bit installation.
3. Click on the link below from Microsoft to download the PowerPivot add-on.

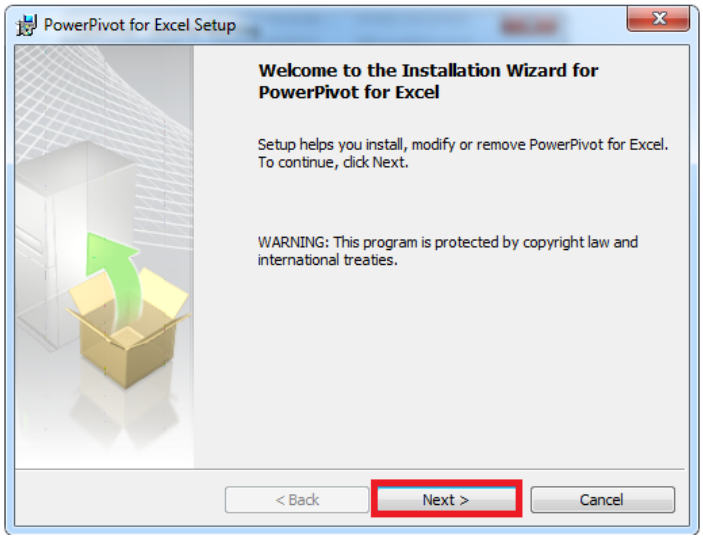
Download PowerPivot for Microsoft Excel 2010

4. Click on **Download**.
5. Choose the files to download and select **Next**.

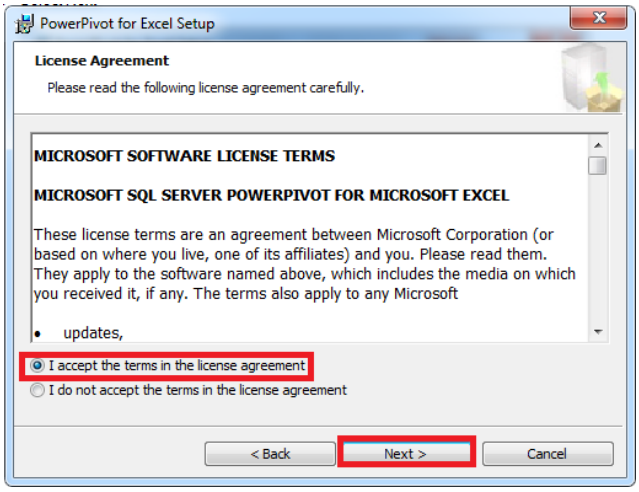


6. Select **Run**, and then **Next**.

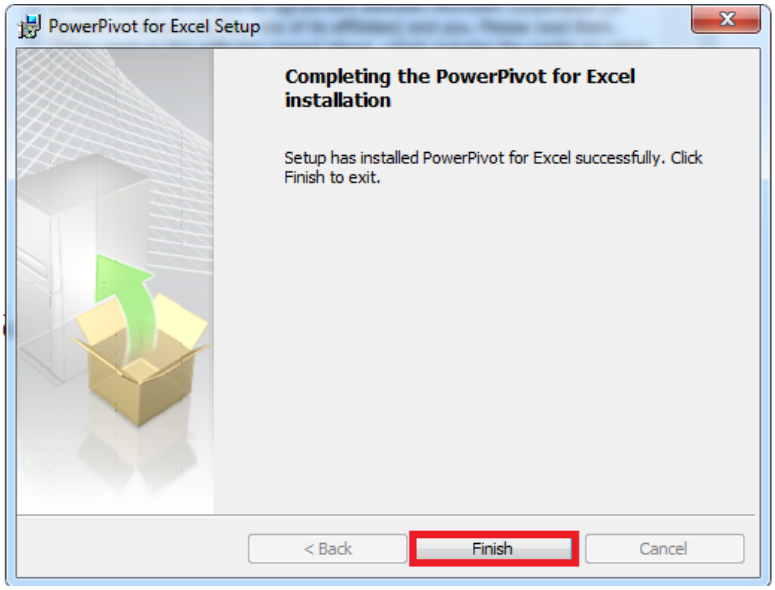




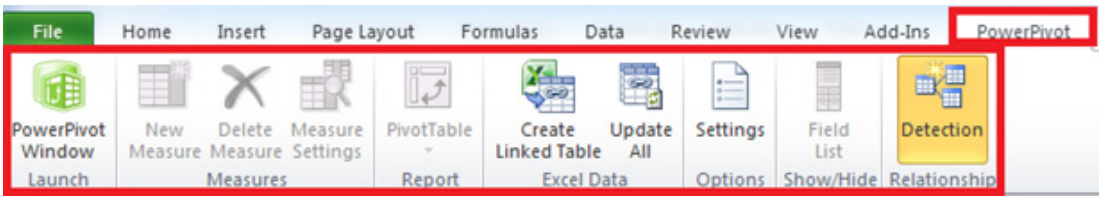
7. Click on "**I accept the terms in the license agreement**" and then click **Next**.



8. Select **Next**, then **Install,** and **Finish**.



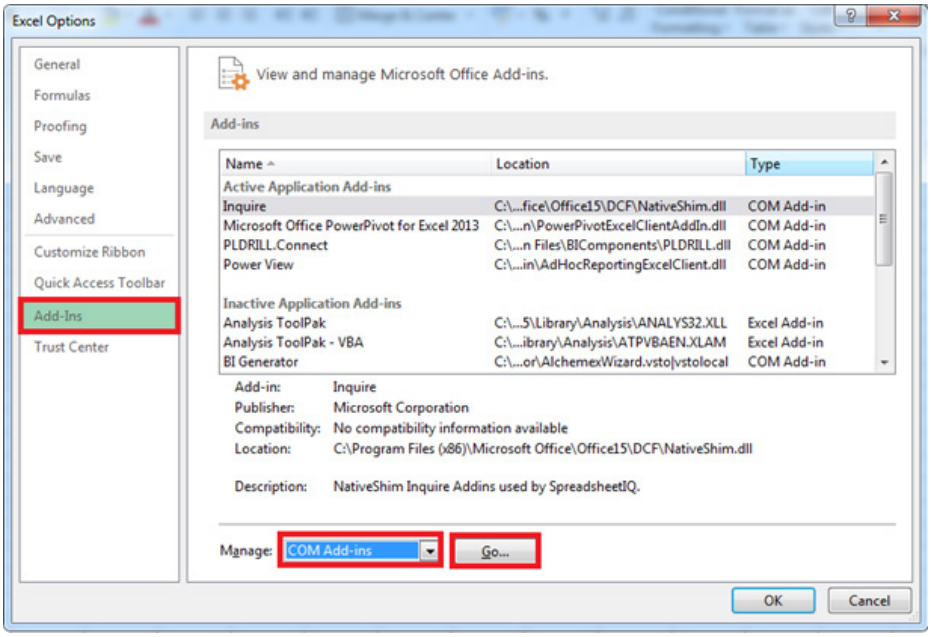
9. Open Microsoft Excel 2010. You will notice that after installation, a PowerPivot has been created.



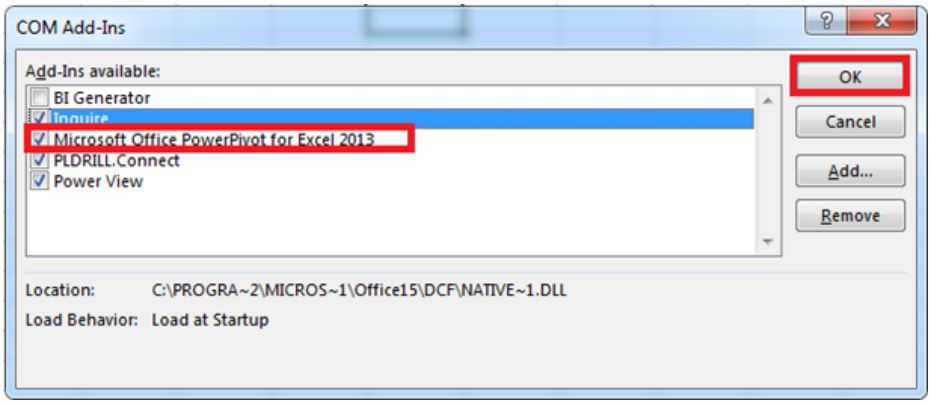
If you are using Microsoft Excel 2013 you will have to activate instead of install the PowerPivot add-on.

NOTE: PowerPivot is only available for Office Professional Plus and Office 365 Professional Plus editions. To activate PowerPivot in Excel 2013:

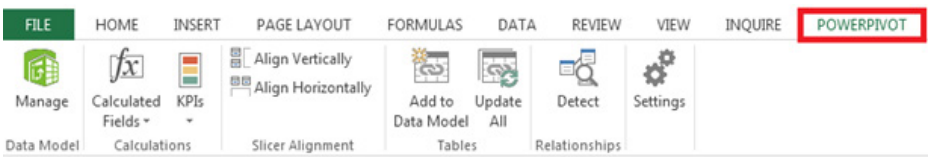
a. Select **File, Options, Add-Ins, COM Add-ins,** and **Go…**



b. Then select **Microsoft Office PowerPivot for Excel 2013** and **OK**.



After activating it, a PowerPivot tab will have been created and will show up on your menu.



Next week will show you how you can analyze huge volumes of data using PowerPivot.

How to set up a PivotTable using the PowerPivot add-on module

In the previous tip we showed you how to install the PowerPivot add-on module in Microsoft® Excel® 2010 and 2013 and how you can use it to process immense volumes of data that cannot be efficiently handled by PivotTables. In this tip we want to show you how to set up a PivotTable using PowerPivot to enable you to analyze large volumes of sales data efficiently. We will use a Product Sales by category report as our example.

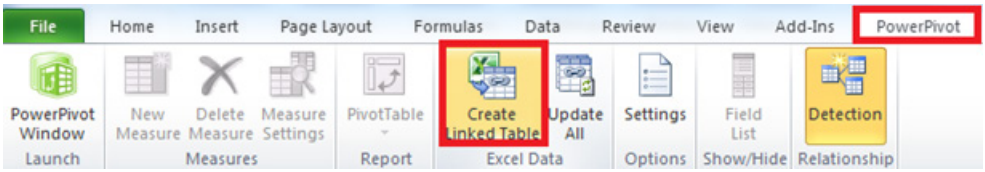
Note: Download the **workbook** to practice this exercise

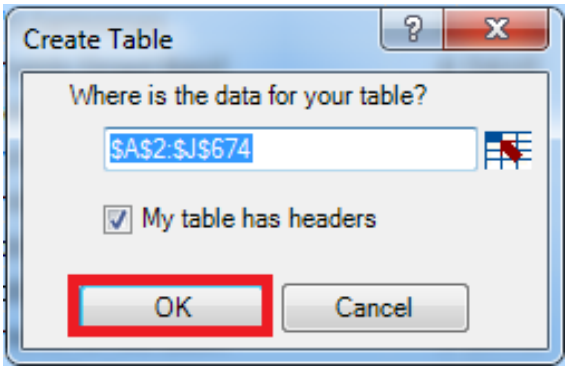
Applies to: Microsoft Excel 2010 and 2013

The data below will be used to create a PivotTable using PowerPivot.

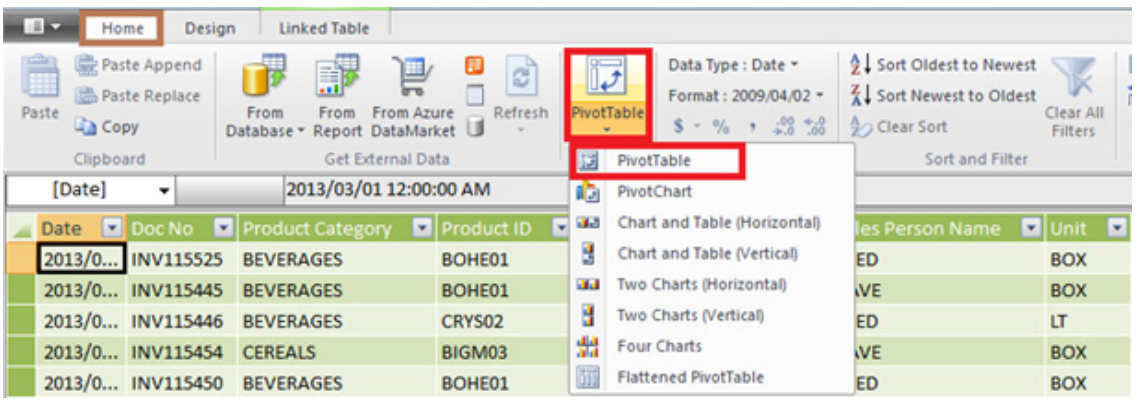
	Date	Doc No	Product Category	Product ID	Product Name	Qty	Sales Person Name	Unit	Unit Price	Total Sale
3	2013/03/01	INV115525	BEVERAGES	BOHE01	Bohemian Grapey Tea	4	FRED	BOX	$ 149.80	$ 599.20
4	2013/03/02	INV115445	BEVERAGES	BOHE01	Bohemian Grapey Tea	3	DAVE	BOX	$ 149.80	$ 449.40
5	2013/03/02	INV115446	BEVERAGES	CRYS02	Crystal Puddle Grape Juice	3	FRED	LT	$ 522.57	$ 1567.70
6	2013/03/03	INV115454	CEREALS	BIGM03	Big Max Health Bran	3	DAVE	BOX	$ 74.19	$ 222.58
7	2013/03/03	INV115450	BEVERAGES	BOHE01	Bohemian Grapey Tea	3	FRED	BOX	$ 173.03	$ 519.08
8	2013/03/03	INV115453	OTHER	DCS001	DC'S Samoosas	3	DAVE	BOX	$ 343.55	$ 1030.65
9	2013/03/03	INV115449	OTHER	RONA01	Ronalds Dried Basil	4	DAVE	PKT	$ 171.47	$ 685.88
10	2013/03/03	INV115456	ALCOHOL	YARD04	Yardville Sherry	5	FRED	LT	$ 281.68	$ 1408.39
11	2013/03/04	INV115466	BEVERAGES	CRYS03	Crystal Puddle Ranberry Juice	3	FRED	LT	$ 180.00	$ 540.00
12	2013/03/07	INV115476	CEREALS	HANK05	Hankles Mueseli	4	FRED	BOX	$ 147.27	$ 589.08
13	2013/03/07	INV115477	OTHER	PADD02	Paddys Rock Pepper	3	FRED	BTL	$ 160.04	$ 480.12
14	2013/03/07	INV115471	ALCOHOL	REDB06	Redberg Tequila	4	FRED	LT	$ 146.47	$ 585.88

1. Select the **PowerPivot tab**, and **Create Linked Table** in the Excel Data group, and them select **OK**.

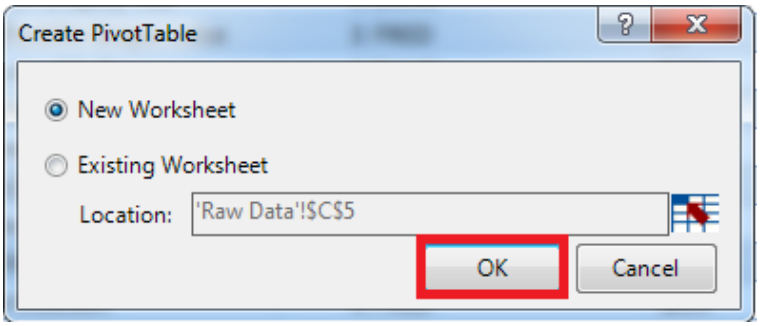




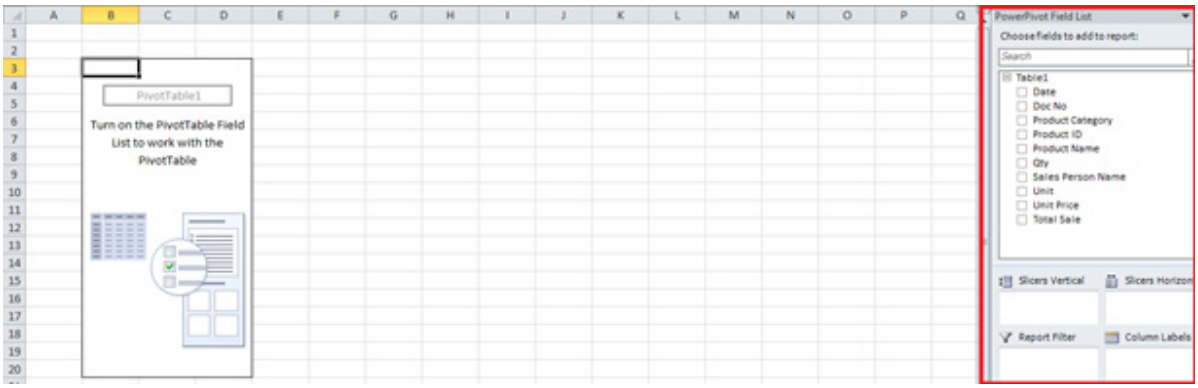
2. Select the Home tab and **PivotTable**.



3. A Create PivotTable screen will pop up. To place the PivotTable on a new worksheet, select **New Worksheet** and **OK**.

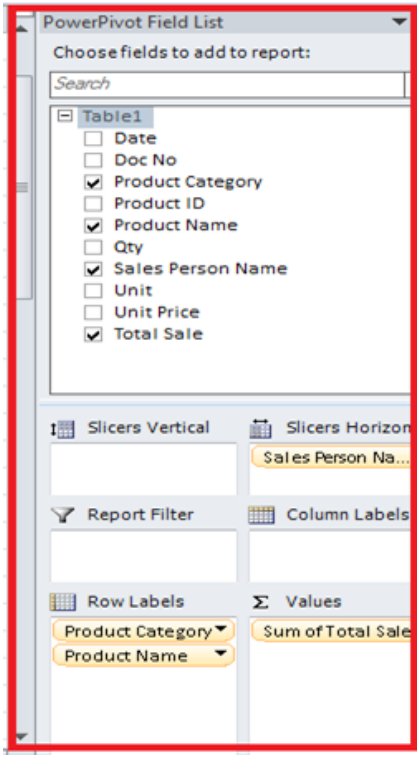


4. Using the field list placed on the right hand side of the worksheet arrange the fields into the different areas of the PivotTable.



5. Place the fields as follows:

- Product Category, Product Name (Rows labels area)
- Total Sale (Values area)
- Sales Persons Name (Slicers Horizontal)



6. The PivotTable will be displayed.

Sales Person Name

DAVE FRED TOM

Row Labels	Sum of Total Sale
ALCOHOL	191783.3871
Captain Vital Signs Cane	632.4387097
Captain Vital Signs Rum	2409.929032
Mexi Cactus Drops	34867.74194
Redberg Brandy	615.6580645
Redberg Cane	32882.89032
Redberg Cider	3123.870968
Redberg Tequila	10711.69032
Redberg Vodka	93693.83226
Ricky Liquors - Brandy	2945.419355
Ricky Liquors - Vodka	659.8193548
Ricky Liquors - Whisky	4633.548387
Yardville Health Ale	1589.032258
Yardville Lager	200.7741935
Yardville Sherry	2816.741935
BEVERAGES	176009.9097

The PivotTable displays the Product Sales by category. Slicers, which are used to easily filter components are part of the PivotTable field list and are automatically added to the PivotTable. By clicking on a Sales Person, say Dave, you are able to filter on the transactions or sales made by Dave.

How to calculate Sales Tax/Vat using PowerPivot Measures

In the previous tip we showed you how to set up a PivotTable using PowerPivot. In keeping to the same theme as the previous tip, we'll show you how we'll show you how you can easily calculate Sales Tax/Vat using the Measures feature in the PowerPivot tab. If you're an accountant you may want to analyze the Sales Tax/Vat that will be paid on the products you've sold, luckily the Measures feature in the PowerPivot tab enables you to create formulas in your PivotTable. We'll show you how in the steps below.

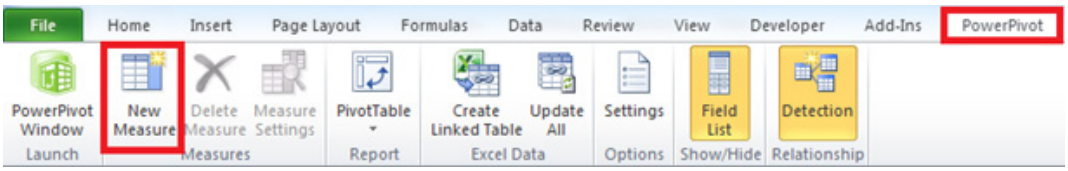
Note: Download the **workbook** to practice this exercise

Applies to: Microsoft® Excel® 2010 and 2013

1. Open the example exercise workbook, where a PivotTable is set up.

Row Labels	Sum of Total Sale
⊟ALCOHOL	191783.39
Captain Vital Signs Cane	632.44
Captain Vital Signs Rum	2409.93
Mexi Cactus Drops	34867.74
Redberg Brandy	615.66
Redberg Cane	32882.89
Redberg Cider	3123.87
Redberg Tequila	10711.69
Redberg Vodka	93693.83
Ricky Liquors - Brandy	2945.42
Ricky Liquors - Vodka	659.82
Ricky Liquors - Whisky	4633.55
Yardville Health Ale	1589.03
Yardville Lager	200.77
Yardville Sherry	2816.74
⊟BEVERAGES	176009.91

2. Select any cell within the PivotTable.
3. Select the **PowerPivot tab** and then **New Measures** under the **Measures** group. Refer to the screen shot below.



4. In the Measure settings screen:

a. Rename the custom name to **Sales Tax**.

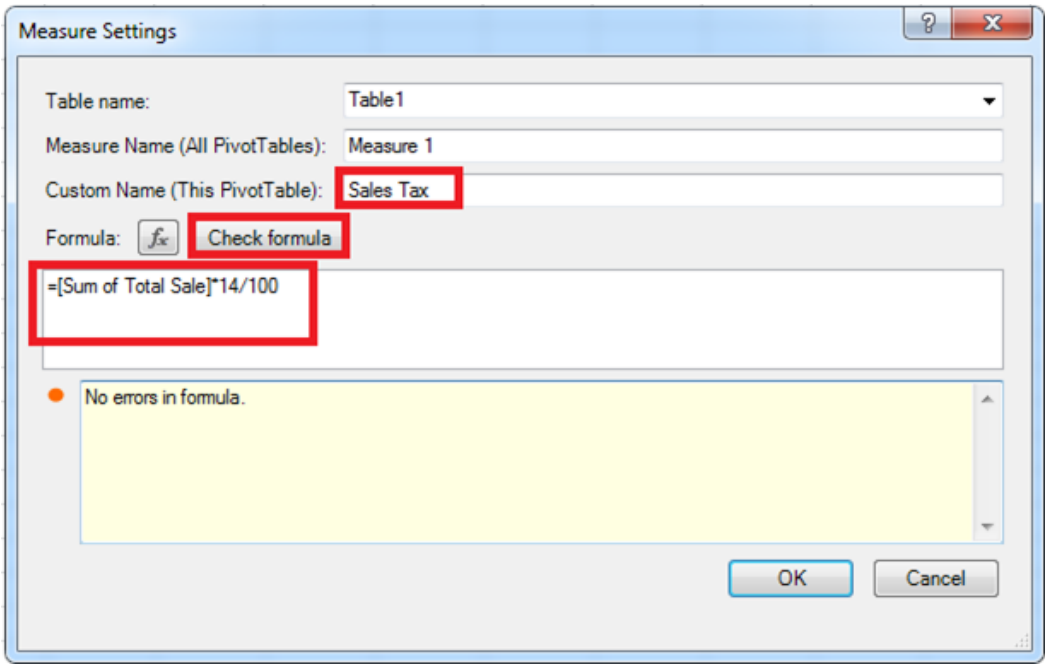
b. Enter the formula: **=[Sum of Total Sale]*14/100**

i. Press the l**eft square bracket key**.

ii. Select **Sum of Total Sale** from the drop down list.

iii. Then enter ***14/100**

c. Click on **Check formula**, to ensure that the formula is correct.



5. Select **OK**.

The PivotTable with a calculated field (Sales Tax) will be displayed. The percentage rate for Sales Tax will vary for each country, we used 14% for illustration purposes. Measures can also be used to create advanced functions on PowerPivot.

Row Labels	Sum of Total Sale	Sales Tax
ALCOHOL	191783.39	26849.67
Captain Vital Signs Cane	632.44	88.54
Captain Vital Signs Rum	2409.93	337.39
Mexi Cactus Drops	34867.74	4881.48
Redberg Brandy	615.66	86.19
Redberg Cane	32882.89	4603.60
Redberg Cider	3123.87	437.34
Redberg Tequila	10711.69	1499.64
Redberg Vodka	93693.83	13117.14
Ricky Liquors - Brandy	2945.42	412.36
Ricky Liquors - Vodka	659.82	92.37
Ricky Liquors - Whisky	4633.55	648.70
Yardville Health Ale	1589.03	222.46
Yardville Lager	200.77	28.11
Yardville Sherry	2816.74	394.34

How to set up custom subtotals in a PivotTable

PivotTables are a very useful tool for business reporting especially when you have a lot of data to report on. PivotTables help you quickly summarize, analyze, explore, and present large volumes of data. Did you know that you can summarize or analyze your data with more than one subtotal? To demonstrate this, we show you how to summarize expenses by using the Sum and Average functions.

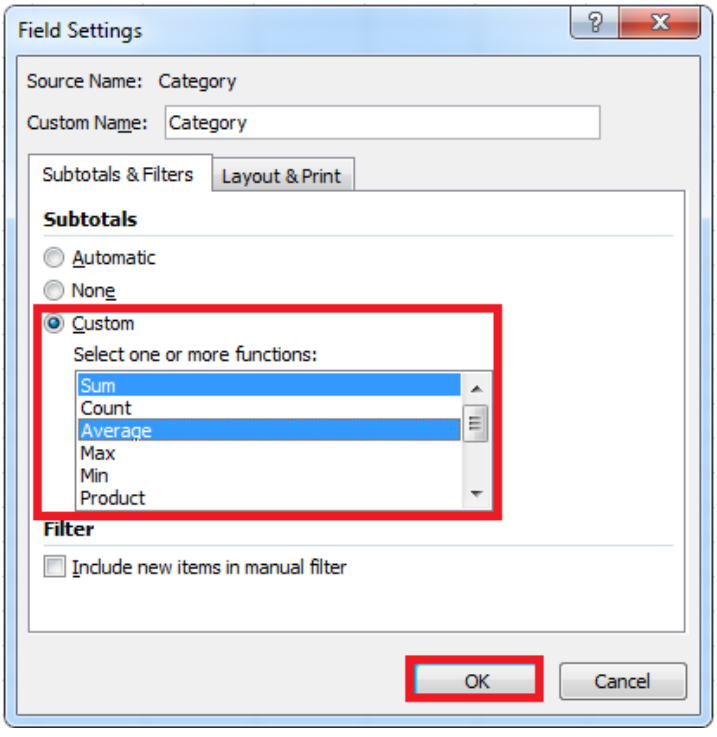
Note: Download the **workbook** to practice this exercise

Applies to: Microsoft® Excel® 2010 and 2013

1. Open the example exercise workbook, where a PivotTable is set up.

	A	B	C
1	**Category**	**Description**	**Amount**
2	**Communication Cost**		
3		Cell Phones	15529.33
4		Courier and Postage	7411.57
5		Telephone and Fax	78267.84
6	**Fees & Levies**		
7		Accounting Fees	3500
8		Consulting Fees	1991.21
9		Legal Fees	5923.04
10		Levies	5456.2
11		Skills Levies	3395.84
12	**Finance Charges & Fines**		
13		Finance Charges	1000
14		Fines	199806.74
15	**General Expenses**		

2. Right click on one of the categories within the PivotTable, for instance **General Expenses**.
3. Select **Field Settings** from the list.
4. Select **Custom** under Subtotals and Filters.
5. From the functions list, select **Sum** and **Average**.
6. Click **OK**.



The expenses will be analyzed by the Sum and Average functions. Thus you can see the total and average expenses under one subtotal.

	A	B	C
10		Consulting Fees	1991.21
11		Legal Fees	5923.04
12		Levies	5456.2
13		Skills Levies	3395.84
14	**Fees & Levies Sum**		**20266.29**
15	**Fees & Levies Average**		**4053.258**
16	⊟**Finance Charges & Fines**		
17		Finance Charges	1000
18		Fines	199806.74
19	**Finance Charges & Fines Sum**		**200806.74**
20	**Finance Charges & Fines Average**		**100403.37**
21	⊟**General Expenses**		
22		Donations	1716.18
23		Entertainment Expenses	10927.56
24		General Expenses	2046.67
25		Gifts	151.84
26		Insurance	55782.59
27	**General Expenses Sum**		**70624.84**
28	**General Expenses Average**		**14124.968**

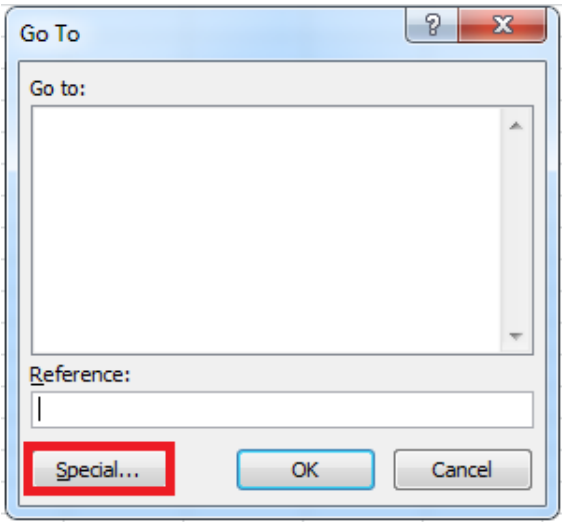
How to set the Sum function as the default in a PivotTable

Sometimes when working with PivotTables, the Count function is set as the default instead of the Sum function. This can be frustrating as you have to set each column value to Sum.

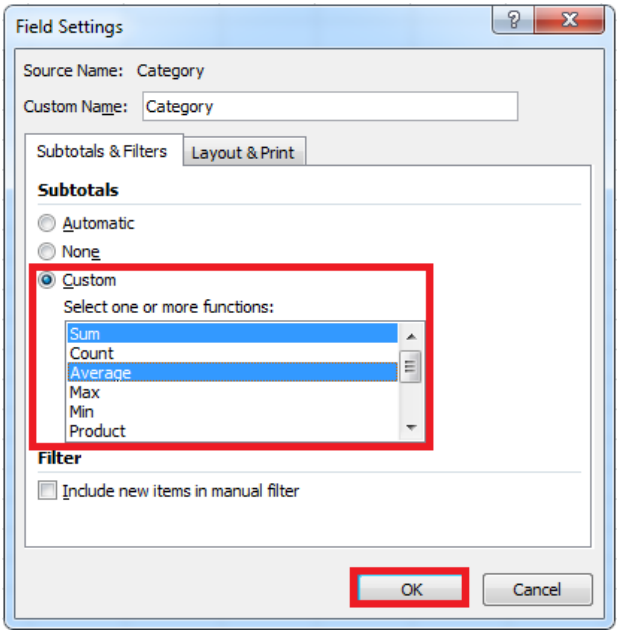
The problem is caused by having blank cells in the PivotTable source data and as a result the values default to count. In order to rectify the problem you have to replace the blank cells with zero values. Follow the instructions below to see how:

Applies to: Microsoft Excel 2010 and 2013

1. To replace the blank cells with zero values in the example workbook.
   a. Click on one of the values in the source worksheet.
   b. Press **F5**.
   c. Click **Special**.



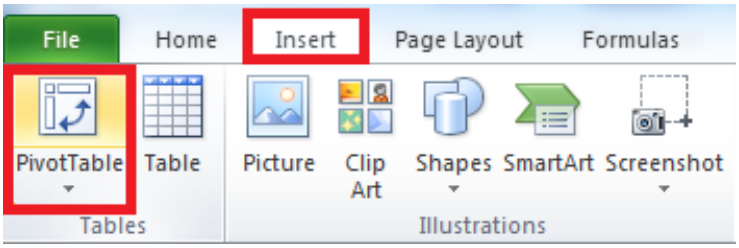
d. Select **Blanks** and then select **OK**.



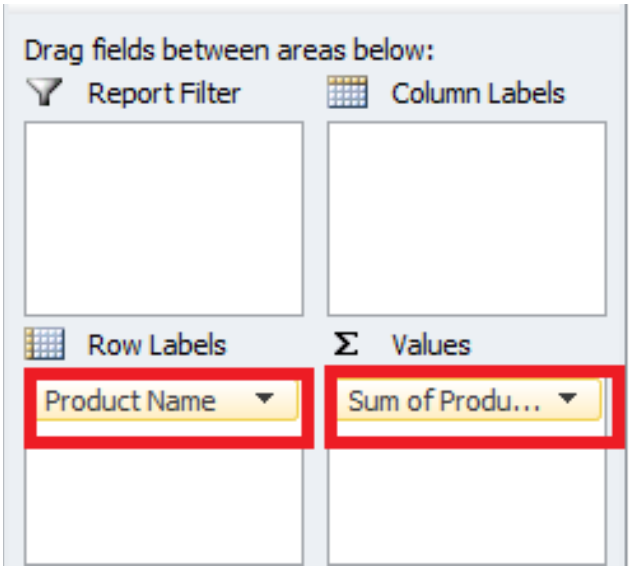
e. Enter **0** in one of the blank cells.
f. Press **CTRL + Enter**.

F	G	H
Quantity	***Unit Price***	***Product Sales***
60	7	432
21	14	248
40	11	426
2	15	26
5	15	68
10	14	144
15	29	432
0	17	504
0	14	346
20	0	146
35	10	364
50	211	10540
4	7	25
20	12	216
2	25	50
14	0	140
10	19	144

g. To create a PivotTable with the Sum as the default.
- Select any cell within the source worksheet.
- Click on the **Insert tab**.



- Select **PivotTable**.
- Click **OK**.
- Move the **Product Name** field to the rows area.
- Move the **Product Sales** field to the values area.



3	Row Labels	Sum of Product Sales
4	Alice Mutton	11537.06
5	Aniseed Syrup	2803.13
6	Boston Crab Meat	6622
7	Camembert Pierrot	13088.16
8	Carnarvon Tigers	3413.64
9	Chai	10042.02
10	Chang	7667.75
11	Chartreuse verte	6463.27
12	Chef Anton's Cajun Seasoning	9043.2
13	Chef Anton's Gumbo Mix	250
14	Chocolade	4115.32
15	Côte de Blaye	6499.9
16	Escargots de Bourgogne	2214.14
17	Filo Mix	13606.94
18	Fløtemysost	8411.61
19	Geitost	19623.7
20	Genen Shouyu	3192.21
21	Gnocchi di nonna Alice	13346.24
22	Gorgonzola Telino	8208.91
23	Grandma's Boysenberry Spread	1262
24	Gravad lax	125.4
25	Guaraná Fantástica	7735.61
26	Gudbrandsdalsost	10549.57
27	Gula Malacca	7762.31
28	Gumbär Gummibärchen	15903.96
29	Gustaf's Knäckebröd	6631.9

A PivotTable with the Sum function as the default will be created. However if a PivotTable was set up with blank cells in the source data the default for Products Sales would have been count instead of Sum.

04

Keyboard Shortcuts

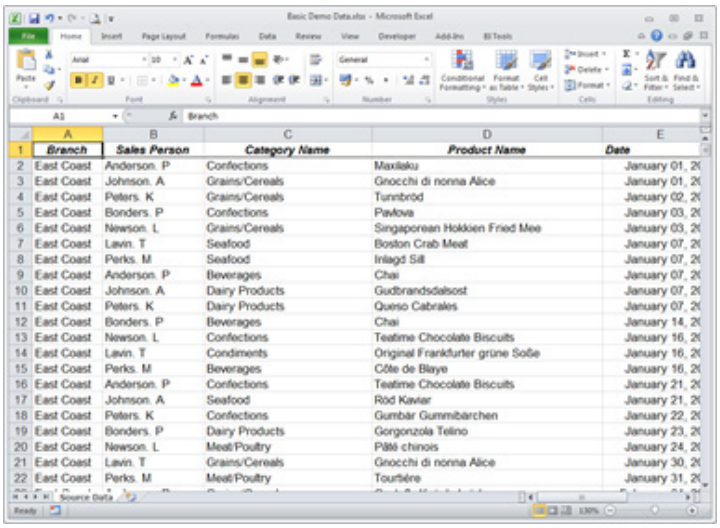
How to scroll across a screen in a quicker and more controlled way

If you have data in your Microsoft® Excel® worksheet that spans across a lot of columns, you won't see all of your data on your screen. To view different columns, you need to scroll from one side of the sheet to the other. Most people would use the scroll bar, but there's a quicker and more controlled way to scroll using keyboard shortcuts.

Applies to: Microsoft Excel 2007, 2010 and 2013

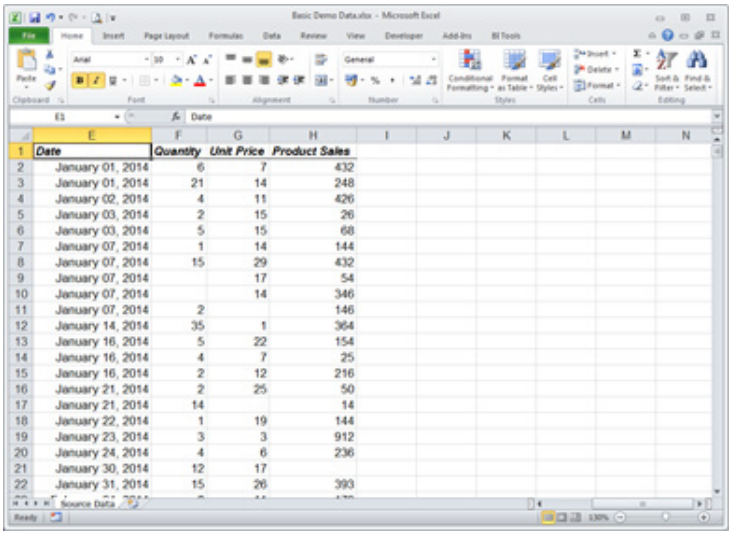
The 'Page Up' and 'Page Down' buttons on your keyboard allow you to move up and down your worksheet in a controlled manner. But, you can also use them to move across a sheet.

1. Open your workbook. Note that, in this screenshot, column E is not fully visible.



	A	B	C	D	E
1	Branch	Sales Person	Category Name	Product Name	Date
2	East Coast	Anderson. P	Confections	Maxilaku	January 01, 2(
3	East Coast	Johnson. A	Grains/Cereals	Gnocchi di nonna Alice	January 01, 2(
4	East Coast	Peters. K	Grains/Cereals	Tunnbröd	January 02, 2(
5	East Coast	Bonders. P	Confections	Pavlova	January 03, 2(
6	East Coast	Newson. L	Grains/Cereals	Singaporean Hokkien Fried Mee	January 03, 2(
7	East Coast	Lavin. T	Seafood	Boston Crab Meat	January 07, 2(
8	East Coast	Perks. M	Seafood	Inlagd Sill	January 07, 2(
9	East Coast	Anderson. P	Beverages	Chai	January 07, 2(
10	East Coast	Johnson. A	Dairy Products	Gudbrandsdalsost	January 07, 2(
11	East Coast	Peters. K	Dairy Products	Queso Cabrales	January 07, 2(
12	East Coast	Bonders. P	Beverages	Chai	January 14, 2(
13	East Coast	Newson. L	Confections	Teatime Chocolate Biscuits	January 16, 2(
14	East Coast	Lavin. T	Condiments	Original Frankfurter grüne Soße	January 16, 2(
15	East Coast	Perks. M	Beverages	Côte de Blaye	January 16, 2(
16	East Coast	Anderson. P	Confections	Teatime Chocolate Biscuits	January 21, 2(
17	East Coast	Johnson. A	Seafood	Röd Kaviar	January 21, 2(
18	East Coast	Peters. K	Confections	Gumbar Gummibärchen	January 22, 2(
19	East Coast	Bonders. P	Dairy Products	Gorgonzola Telino	January 23, 2(
20	East Coast	Newson. L	Meat/Poultry	Pâté chinois	January 24, 2(
21	East Coast	Lavin. T	Grains/Cereals	Gnocchi di nonna Alice	January 30, 2(
22	East Coast	Perks. M	Meat/Poultry	Tourtière	January 31, 2(

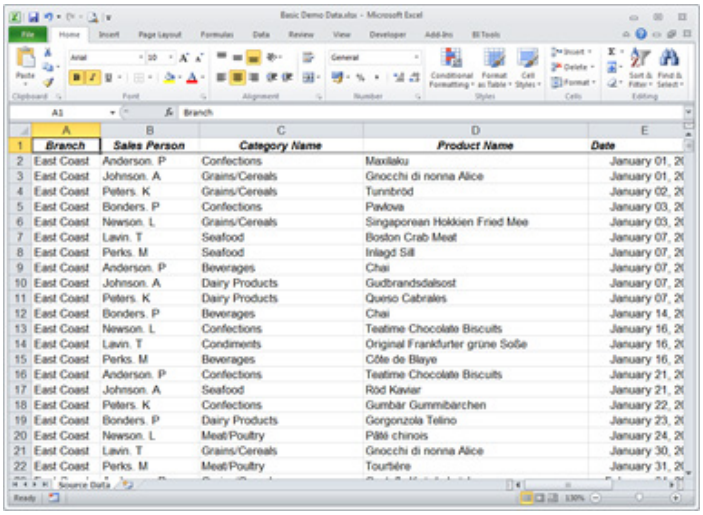
2. Press **'ALT' + 'Page Down'**.



	E	F	G	H
1	Date	Quantity	Unit Price	Product Sales
2	January 01, 2014	6	7	432
3	January 01, 2014	21	14	248
4	January 02, 2014	4	11	426
5	January 03, 2014	2	15	26
6	January 03, 2014	5	15	68
7	January 07, 2014	1	14	144
8	January 07, 2014	15	29	432
9	January 07, 2014		17	54
10	January 07, 2014		14	346
11	January 07, 2014	2		146
12	January 14, 2014	35	1	364
13	January 16, 2014	5	22	154
14	January 16, 2014	4	7	25
15	January 16, 2014	2	12	216
16	January 21, 2014	2	25	50
17	January 21, 2014	14		14
18	January 22, 2014	1	19	144
19	January 23, 2014	3	3	912
20	January 24, 2014	4	6	236
21	January 30, 2014	12	17	
22	January 31, 2014	15	26	393

The window will scroll to the right, moving to allow the next complete column of data (column E in this instance) to be fully visible.

3. Press **‘ALT’ + ‘Page Up’**.



	A	B	C	D	E
1	Branch	Sales Person	Category Name	Product Name	Date
2	East Coast	Anderson. P	Confections	Maxilaku	January 01, 2(
3	East Coast	Johnson. A	Grains/Cereals	Gnocchi di nonna Alice	January 01, 2(
4	East Coast	Peters. K	Grains/Cereals	Tunnbröd	January 02, 2(
5	East Coast	Bonders. P	Confections	Pavlova	January 03, 2(
6	East Coast	Newson. L	Grains/Cereals	Singaporean Hokkien Fried Mee	January 03, 2(
7	East Coast	Lavin. T	Seafood	Boston Crab Meat	January 07, 2(
8	East Coast	Perks. M	Seafood	Inlagd Sill	January 07, 2(
9	East Coast	Anderson. P	Beverages	Chai	January 07, 2(
10	East Coast	Johnson. A	Dairy Products	Gudbrandsdalsost	January 07, 2(
11	East Coast	Peters. K	Dairy Products	Queso Cabrales	January 07, 2(
12	East Coast	Bonders. P	Beverages	Chai	January 14, 2(
13	East Coast	Newson. L	Confections	Teatime Chocolate Biscuits	January 16, 2(
14	East Coast	Lavin. T	Condiments	Original Frankfurter grüne Soße	January 16, 2(
15	East Coast	Perks. M	Beverages	Côte de Blaye	January 16, 2(
16	East Coast	Anderson. P	Confections	Teatime Chocolate Biscuits	January 21, 2(
17	East Coast	Johnson. A	Seafood	Röd Kaviar	January 21, 2(
18	East Coast	Peters. K	Confections	Gumbär Gummibärchen	January 22, 2(
19	East Coast	Bonders. P	Dairy Products	Gorgonzola Telino	January 23, 2(
20	East Coast	Newson. L	Meat/Poultry	Pâté chinois	January 24, 2(
21	East Coast	Lavin. T	Grains/Cereals	Gnocchi di nonna Alice	January 30, 2(
22	East Coast	Perks. M	Meat/Poultry	Tourtière	January 31, 2(

The window will then scroll back to the left, using the same principle.

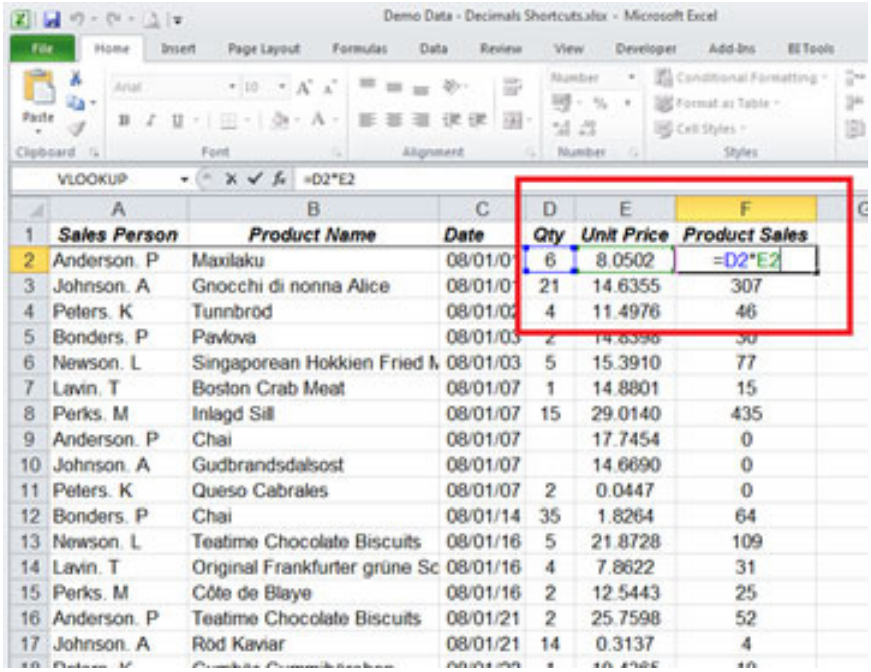
Increase and decrease decimal amounts quickly without using your mouse

To make a number easy to read, or to make it a 'round' number you can format it to only show a certain number of decimal places regardless of how many are actually in the cell. Instead of having to use your mouse to format the cell in a number of steps, you can do it quicker using keyboard shortcuts.

Note: Download the **workbook** to practice this exercise

Applies to: Microsoft Excel 2010 and 2013

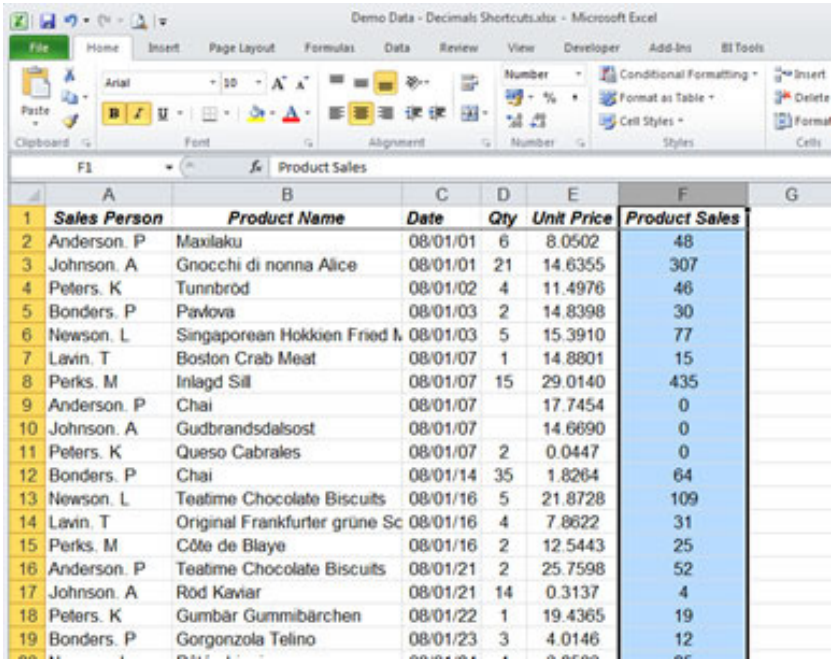
1. Open the demonstration workbook. You will note that the Product Sales price is a formula that multiplies the Quantity amount by the Unit Price.



	A	B	C	D	E	F
1	Sales Person	Product Name	Date	Qty	Unit Price	Product Sales
2	Anderson. P	Maxilaku	08/01/0	6	8.0502	=D2*E2
3	Johnson. A	Gnocchi di nonna Alice	08/01/0	21	14.6355	307
4	Peters. K	Tunnbröd	08/01/02	4	11.4976	46
5	Bonders. P	Pavlova	08/01/03	2	14.8398	30
6	Newson. L	Singaporean Hokkien Fried M	08/01/03	5	15.3910	77
7	Lavin. T	Boston Crab Meat	08/01/07	1	14.8801	15
8	Perks. M	Inlagd Sill	08/01/07	15	29.0140	435
9	Anderson. P	Chai	08/01/07		17.7454	0
10	Johnson. A	Gudbrandsdalsost	08/01/07		14.6690	0
11	Peters. K	Queso Cabrales	08/01/07	2	0.0447	0
12	Bonders. P	Chai	08/01/14	35	1.8264	64
13	Newson. L	Teatime Chocolate Biscuits	08/01/16	5	21.8728	109
14	Lavin. T	Original Frankfurter grüne Sc	08/01/16	4	7.8622	31
15	Perks. M	Côte de Blaye	08/01/16	2	12.5443	25
16	Anderson. P	Teatime Chocolate Biscuits	08/01/21	2	25.7598	52
17	Johnson. A	Röd Kaviar	08/01/21	14	0.3137	4

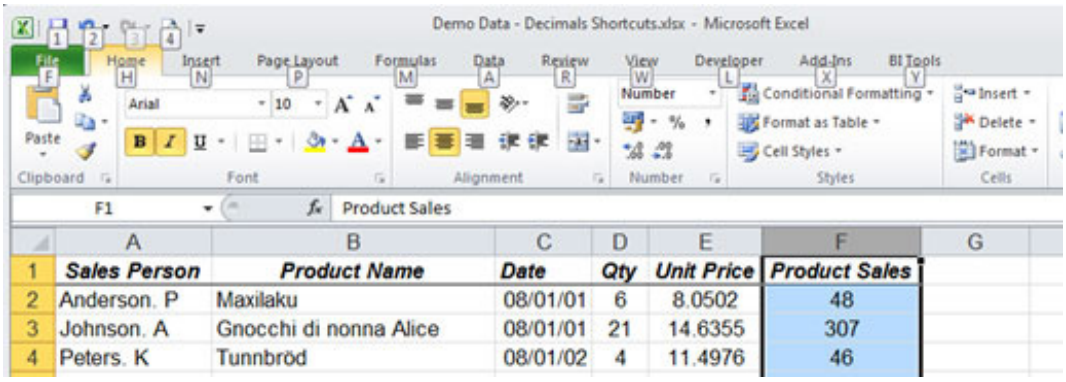
The Unit Price amount extends, in some instances, to four decimal places.

2. Select **column F**.



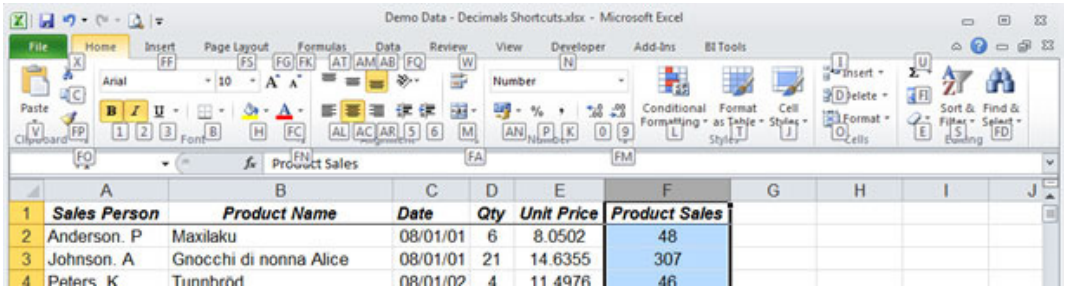
	A	B	C	D	E	F	G
1	Sales Person	Product Name	Date	Qty	Unit Price	Product Sales	
2	Anderson. P	Maxilaku	08/01/01	6	8.0502	48	
3	Johnson. A	Gnocchi di nonna Alice	08/01/01	21	14.6355	307	
4	Peters. K	Tunnbröd	08/01/02	4	11.4976	46	
5	Bonders. P	Pavlova	08/01/03	2	14.8398	30	
6	Newson. L	Singaporean Hokkien Fried M	08/01/03	5	15.3910	77	
7	Lavin. T	Boston Crab Meat	08/01/07	1	14.8801	15	
8	Perks. M	Inlagd Sill	08/01/07	15	29.0140	435	
9	Anderson. P	Chai	08/01/07		17.7454	0	
10	Johnson. A	Gudbrandsdalsost	08/01/07		14.6690	0	
11	Peters. K	Queso Cabrales	08/01/07	2	0.0447	0	
12	Bonders. P	Chai	08/01/14	35	1.8264	64	
13	Newson. L	Teatime Chocolate Biscuits	08/01/16	5	21.8728	109	
14	Lavin. T	Original Frankfurter grüne Sc	08/01/16	4	7.8622	31	
15	Perks. M	Côte de Blaye	08/01/16	2	12.5443	25	
16	Anderson. P	Teatime Chocolate Biscuits	08/01/21	2	25.7598	52	
17	Johnson. A	Röd Kaviar	08/01/21	14	0.3137	4	
18	Peters. K	Gumbär Gummibärchen	08/01/22	1	19.4365	19	
19	Bonders. P	Gorgonzola Telino	08/01/23	3	4.0146	12	

3. Press the **'ALT' key**. You will now see letters appearing along each tab on the Ribbon.

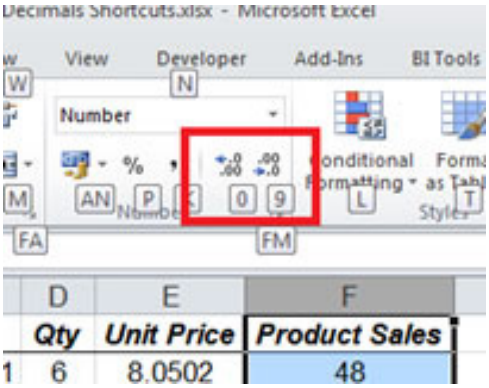


4. The 'Increase Decimal' and 'Decrease Decimal' commands are located on the 'Home' tab. Press the **letter 'H'** to activate the Home tab.

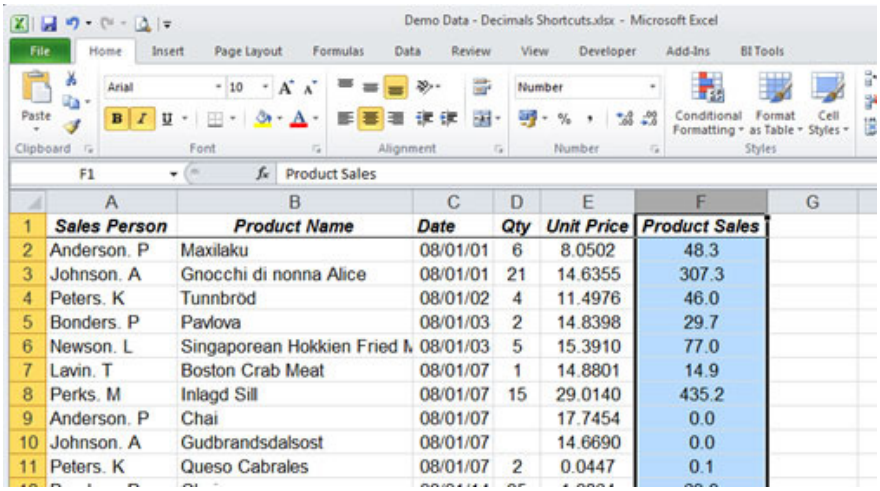
5. You will now see a reference for each icon on the Home Ribbon.



6. The Increase and Decrease Decimal icons have a '0' and a '9' as their respective shortcuts.



7. Press **'0'** to increment the number of decimal places.



	A	B	C	D	E	F	G
1	***Sales Person***	***Product Name***	***Date***	***Qty***	***Unit Price***	***Product Sales***	
2	Anderson. P	Maxilaku	08/01/01	6	8.0502	48.3	
3	Johnson. A	Gnocchi di nonna Alice	08/01/01	21	14.6355	307.3	
4	Peters. K	Tunnbröd	08/01/02	4	11.4976	46.0	
5	Bonders. P	Pavlova	08/01/03	2	14.8398	29.7	
6	Newson. L	Singaporean Hokkien Fried M	08/01/03	5	15.3910	77.0	
7	Lavin. T	Boston Crab Meat	08/01/07	1	14.8801	14.9	
8	Perks. M	Inlagd Sill	08/01/07	15	29.0140	435.2	
9	Anderson. P	Chai	08/01/07		17.7454	0.0	
10	Johnson. A	Gudbrandsdalsost	08/01/07		14.6690	0.0	
11	Peters. K	Queso Cabrales	08/01/07	2	0.0447	0.1	

8. To increase the decimal spacing by another digit, repeat steps 3 to 7.

NB: to decrease the decimal spacing, substitute '0' for '9'. Also, the F4 command which could normally be used to repeat the last command does not work with this shortcut.

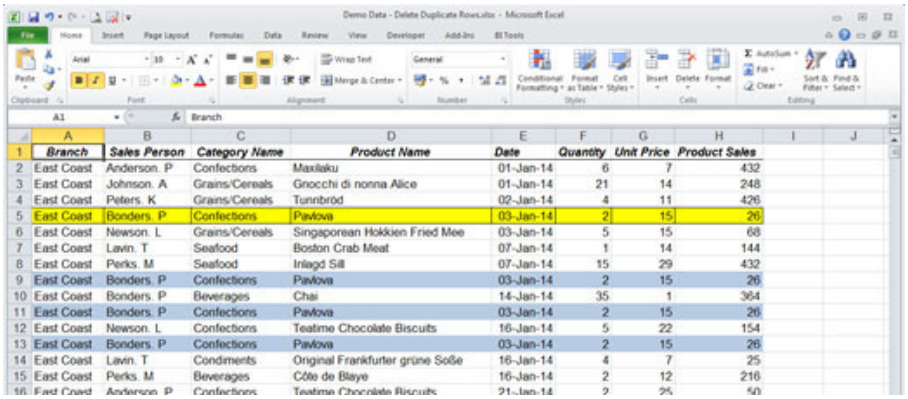
Search for and delete rows with duplicate data in two easy steps

If you have a worksheet with a lot of data and you want to ensure your data integrity, you need to make certain that there are no duplicates in your data. Trying to find and remove duplicates in your worksheet can be like trying to find a needle in a haystack. Fortunately the Remove Duplicates dialog box makes it easy and quick for you, and it's even quicker when you use keyboard shortcuts.

Note: Download the **workbook** to practice this exercise

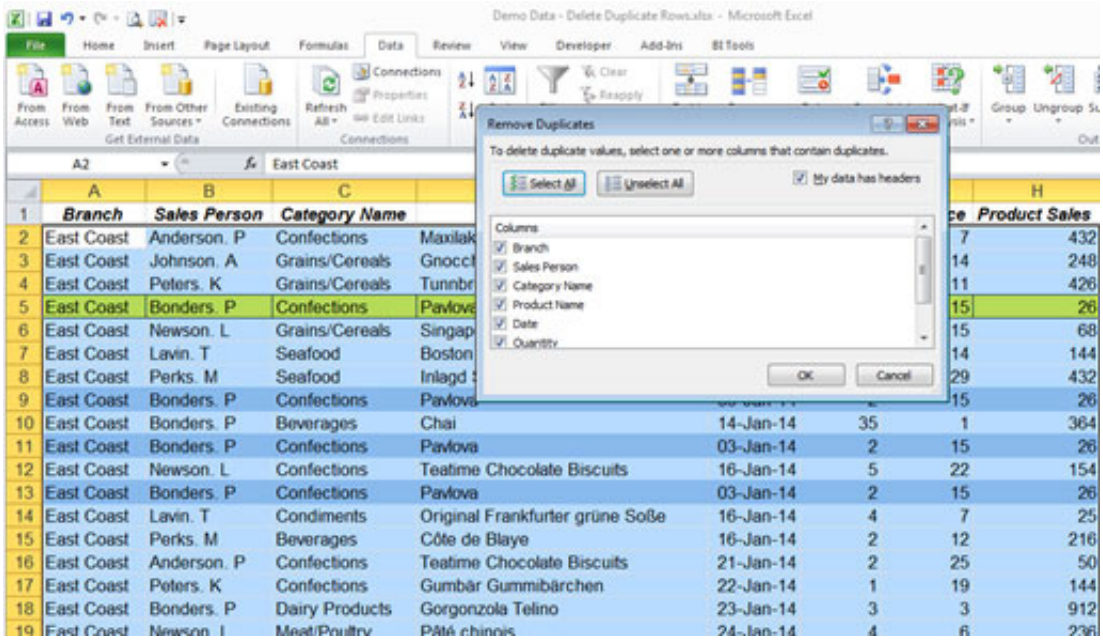
Applies to: Microsoft® Excel® 2007, 2010 and 2013

1. Open the demonstration workbook. Note that there are four rows highlighted: the yellow row is the original data row, and the three blue rows are duplicates of that row.



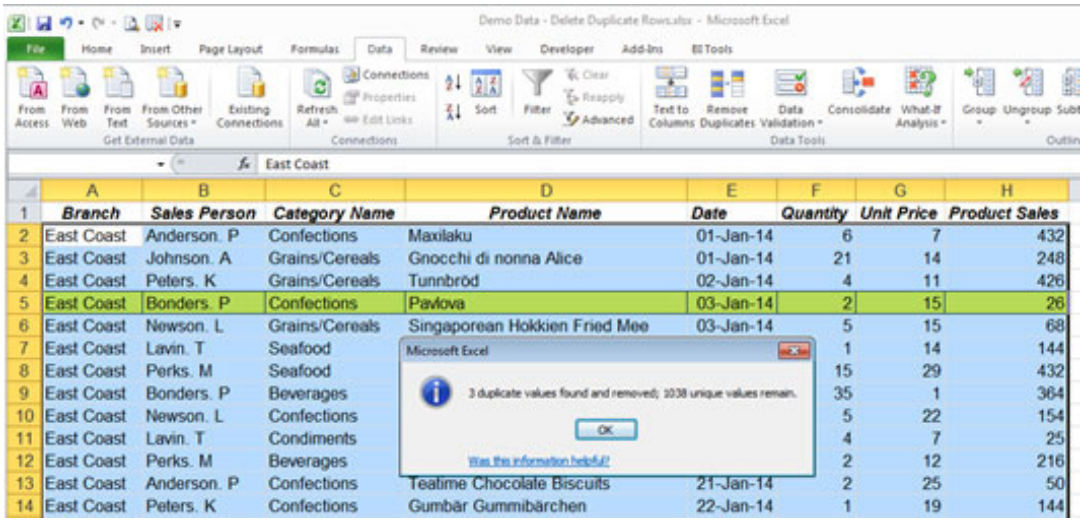
	A	B	C	D	E	F	G	H
1	Branch	Sales Person	Category Name	Product Name	Date	Quantity	Unit Price	Product Sales
2	East Coast	Anderson. P	Confections	Maxilaku	01-Jan-14	6	7	432
3	East Coast	Johnson. A	Grains/Cereals	Gnocchi di nonna Alice	01-Jan-14	21	14	248
4	East Coast	Peters. K	Grains/Cereals	Tunnbröd	02-Jan-14	4	11	426
5	East Coast	Bonders. P	Confections	Pavlova	03-Jan-14	2	15	26
6	East Coast	Newson. L	Grains/Cereals	Singaporean Hokkien Fried Mee	03-Jan-14	5	15	68
7	East Coast	Lavin. T	Seafood	Boston Crab Meat	07-Jan-14	1	14	144
8	East Coast	Perks. M	Seafood	Inlagd Sill	07-Jan-14	15	29	432
9	East Coast	Bonders. P	Confections	Pavlova	03-Jan-14	2	15	26
10	East Coast	Bonders. P	Beverages	Chai	14-Jan-14	35	1	364
11	East Coast	Bonders. P	Confections	Pavlova	03-Jan-14	2	15	26
12	East Coast	Newson. L	Confections	Teatime Chocolate Biscuits	16-Jan-14	5	22	154
13	East Coast	Bonders. P	Confections	Pavlova	03-Jan-14	2	15	26
14	East Coast	Lavin. T	Condiments	Original Frankfurter grüne Soße	16-Jan-14	4	7	25
15	East Coast	Perks. M	Beverages	Côte de Blaye	16-Jan-14	2	12	216

2. Press '**ALT' + 'A', 'M**. This will launch the 'Remove Duplicates' dialogue box.



To determine which rows have duplicate data, Excel searches data in columns. And, by default, the Remove Duplicates dialogue box opens with all column headings checked/ticked. In this case, since we want to remove rows that have the exact same data, we will leave all column headings checked.

3. Press '**ENTER**' to remove the duplicate rows.



	A	B	C	D	E	F	G	H
1	Branch	Sales Person	Category Name	Product Name	Date	Quantity	Unit Price	Product Sales
2	East Coast	Anderson. P	Confections	Maxilaku	01-Jan-14	6	7	432
3	East Coast	Johnson. A	Grains/Cereals	Gnocchi di nonna Alice	01-Jan-14	21	14	248
4	East Coast	Peters. K	Grains/Cereals	Tunnbröd	02-Jan-14	4	11	426
5	East Coast	Bonders. P	Confections	Pavlova	03-Jan-14	2	15	26
6	East Coast	Newson. L	Grains/Cereals	Singaporean Hokkien Fried Mee	03-Jan-14	5	15	68
7	East Coast	Lavin. T	Seafood			1	14	144
8	East Coast	Perks. M	Seafood			15	29	432
9	East Coast	Bonders. P	Beverages			35	1	364
10	East Coast	Newson. L	Confections			5	22	154
11	East Coast	Lavin. T	Condiments			4	7	25
12	East Coast	Perks. M	Beverages			2	12	216
13	East Coast	Anderson. P	Confections	Teatime Chocolate Biscuits	21-Jan-14	2	25	50
14	East Coast	Peters. K	Confections	Gumbär Gummibärchen	22-Jan-14	1	19	144

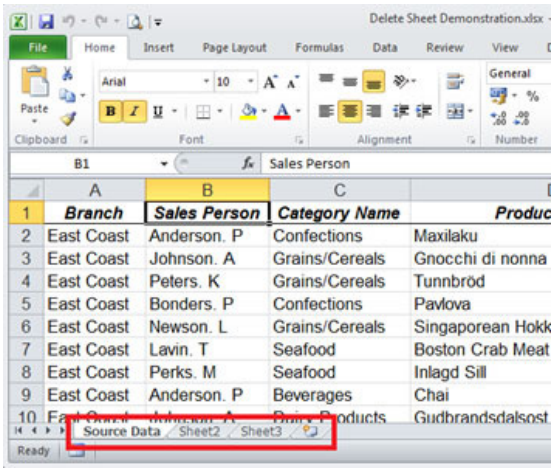
How to delete a worksheet quicker using keyboard shortcuts

To delete a worksheet in a Microsoft® Excel® workbook, you would normally right-click on the worksheet tab and select 'Delete'. However, to save you a bit of time, you can do it quicker using a keyboard shortcut combination that will execute the same command.

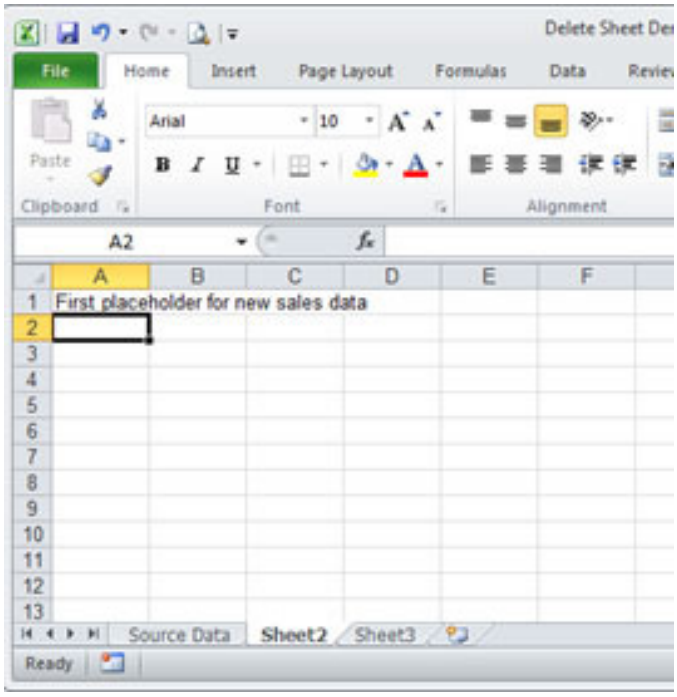
Note: Download the **workbook** to practice this exercise

Applies to: Microsoft Excel 2003, 2007, 2010 and 2013

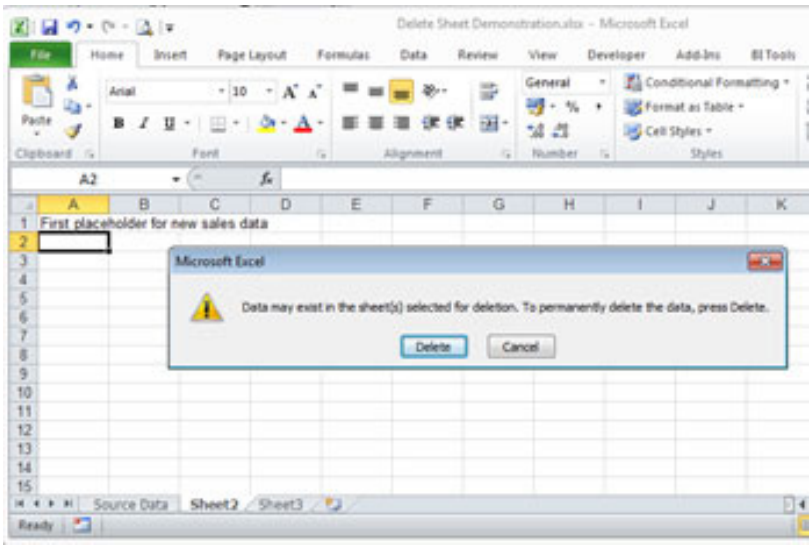
1. Open the workbook. There are three sheets, however we wish to delete the second and third sheets (Sheet2 and Sheet3 respectively).



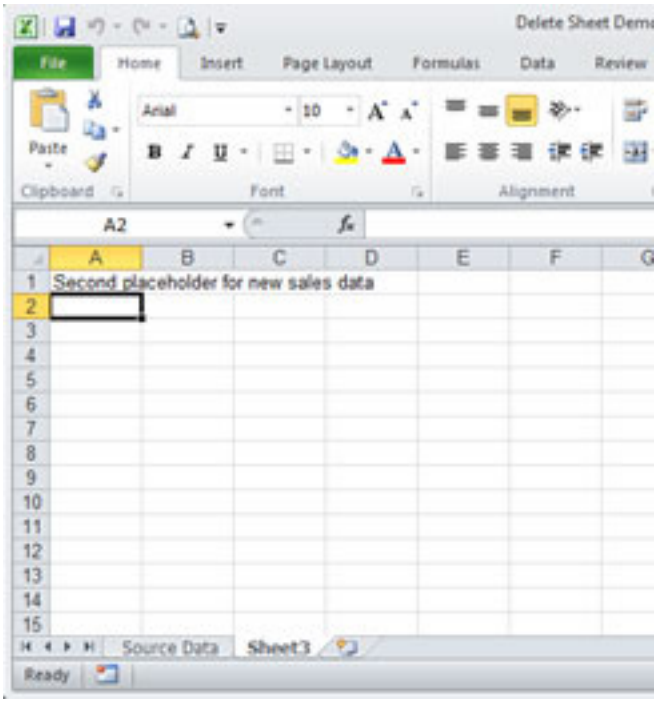
2. Select **Sheet2**.



3. Press '**ALT' + 'E**', then the '**L**' key.



4. Select **Delete** in the 'Confirm Deletion' window. The sheet will now be deleted.



5. Sheet3 will now be selected. Press **F4** to repeat your last command, and you will be able to delete this sheet as well.

The F4 keyboard shortcut repeats the last command. This shortcut will also apply if you chose to use the right-click method deletion method.

NOTE: Microsoft Excel 2010 and 2013 have a new keyboard shortcut for deleting a sheet – 'Alt' + 'H', 'D', 'S'. However, they will still recognise the original version, which involves one less keystroke.

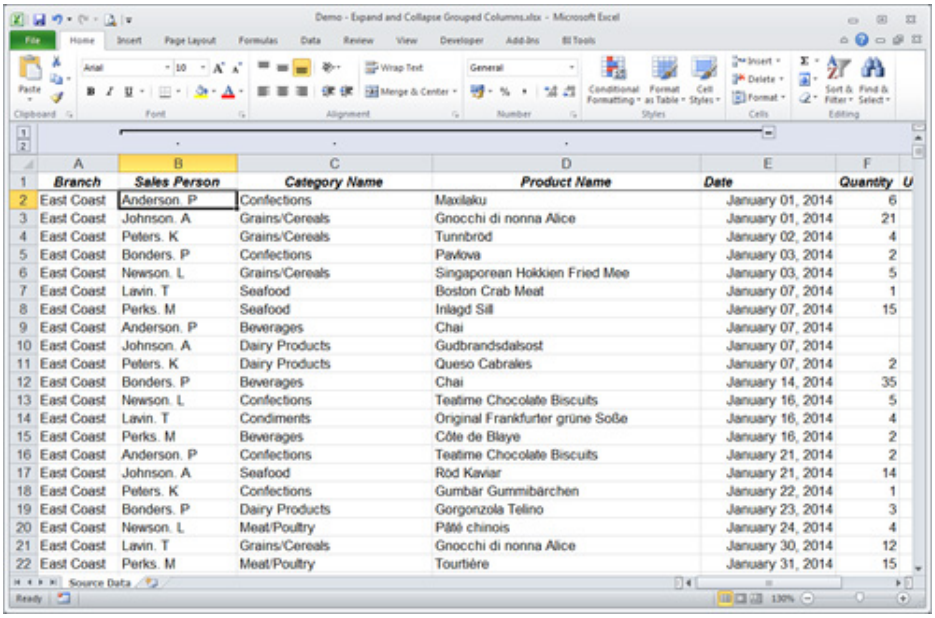
How to expand and collapse grouped columns using keyboard shortcuts

Grouped columns and rows (sometimes called Outline Data) are an alternative for hiding and showing data without using the Hide and Unhide function. Both options are great for organizing and de-cluttering worksheets which have a lot of data on display. Did you know that you can expand and collapse grouped columns using keyboard shortcuts? Follow the steps below to see how.
Example exercise – Expanding and collapsing group columns with keyboard shortcuts

Note: Download the **workbook** to practice this exercise

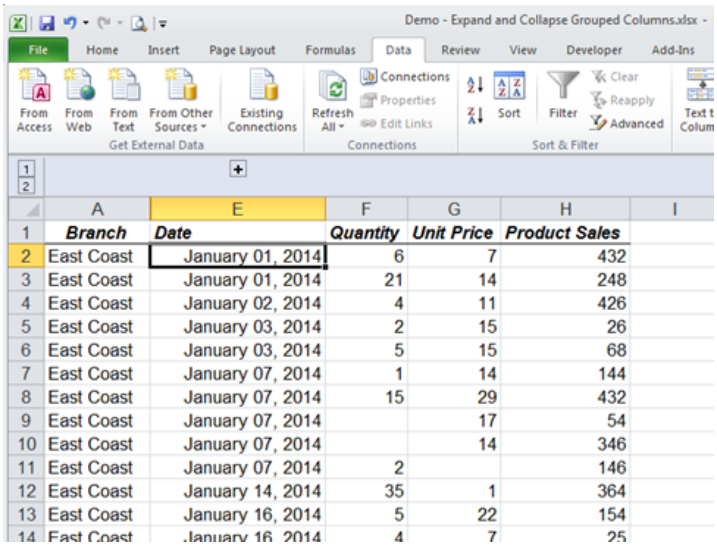
Applies to: Microsoft® Excel® 2010 and 2013

1. Open the exercise workbook. You will see that three columns (B, C and D) are grouped together.



	A	B	C	D	E	F
1	Branch	Sales Person	Category Name	Product Name	Date	Quantity
2	East Coast	Anderson. P	Confections	Maxilaku	January 01, 2014	6
3	East Coast	Johnson. A	Grains/Cereals	Gnocchi di nonna Alice	January 01, 2014	21
4	East Coast	Peters. K	Grains/Cereals	Tunnbröd	January 02, 2014	4
5	East Coast	Bonders. P	Confections	Pavlova	January 03, 2014	2
6	East Coast	Newson. L	Grains/Cereals	Singaporean Hokkien Fried Mee	January 03, 2014	5
7	East Coast	Lavin. T	Seafood	Boston Crab Meat	January 07, 2014	1
8	East Coast	Perks. M	Seafood	Inlagd Sill	January 07, 2014	15
9	East Coast	Anderson. P	Beverages	Chai	January 07, 2014	
10	East Coast	Johnson. A	Dairy Products	Gudbrandsdalsost	January 07, 2014	
11	East Coast	Peters. K	Dairy Products	Queso Cabrales	January 07, 2014	2
12	East Coast	Bonders. P	Beverages	Chai	January 14, 2014	35
13	East Coast	Newson. L	Confections	Teatime Chocolate Biscuits	January 16, 2014	5
14	East Coast	Lavin. T	Condiments	Original Frankfurter grüne Soße	January 16, 2014	4
15	East Coast	Perks. M	Beverages	Côte de Blaye	January 16, 2014	2
16	East Coast	Anderson. P	Confections	Teatime Chocolate Biscuits	January 21, 2014	2
17	East Coast	Johnson. A	Seafood	Röd Kaviar	January 21, 2014	14
18	East Coast	Peters. K	Confections	Gumbär Gummibärchen	January 22, 2014	1
19	East Coast	Bonders. P	Dairy Products	Gorgonzola Telino	January 23, 2014	3
20	East Coast	Newson. L	Meat/Poultry	Pâté chinois	January 24, 2014	4
21	East Coast	Lavin. T	Grains/Cereals	Gnocchi di nonna Alice	January 30, 2014	12
22	East Coast	Perks. M	Meat/Poultry	Tourtière	January 31, 2014	15

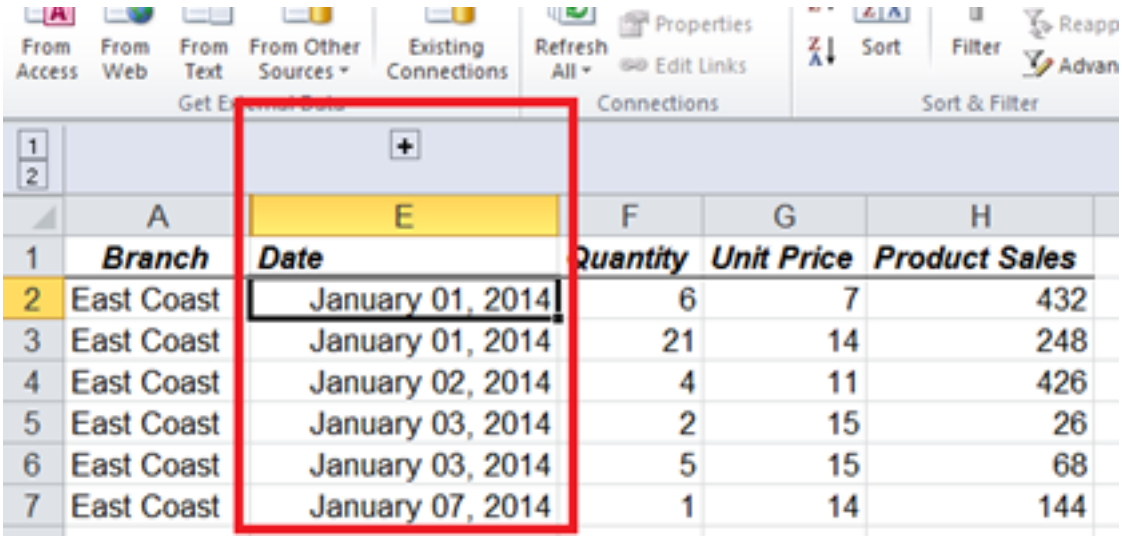
2. Select any cell in those three columns then press '**ALT', 'A', 'H**'.



	A	E	F	G	H	I
1	Branch	Date	Quantity	Unit Price	Product Sales	
2	East Coast	January 01, 2014	6	7	432	
3	East Coast	January 01, 2014	21	14	248	
4	East Coast	January 02, 2014	4	11	426	
5	East Coast	January 03, 2014	2	15	26	
6	East Coast	January 03, 2014	5	15	68	
7	East Coast	January 07, 2014	1	14	144	
8	East Coast	January 07, 2014	15	29	432	
9	East Coast	January 07, 2014		17	54	
10	East Coast	January 07, 2014		14	346	
11	East Coast	January 07, 2014	2		146	
12	East Coast	January 14, 2014	35	1	364	
13	East Coast	January 16, 2014	5	22	154	
14	East Coast	January 16, 2014	4	7	25	

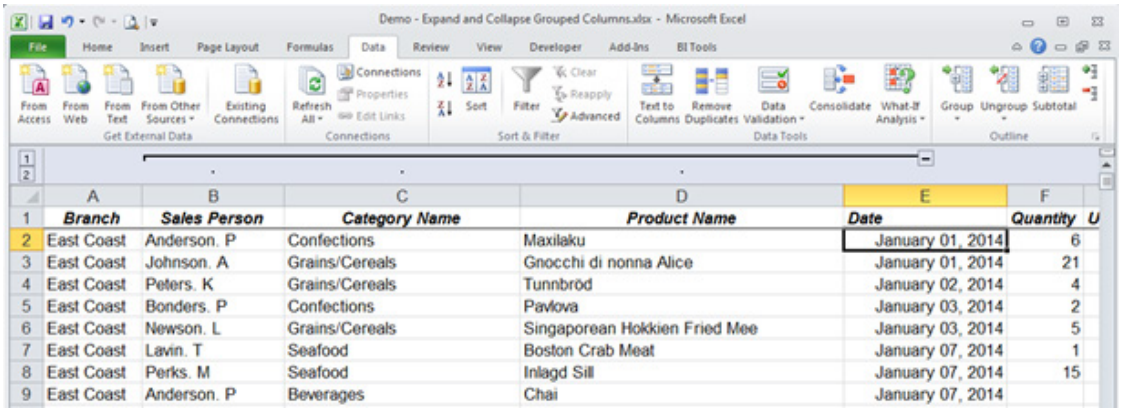
The grouped rows are now in a collapsed view.

3. In order to expand the selection, you must select a cell in the same column as the group symbol (in this case, column E).



	A	E	F	G	H
1	Branch	Date	Quantity	Unit Price	Product Sales
2	East Coast	January 01, 2014	6	7	432
3	East Coast	January 01, 2014	21	14	248
4	East Coast	January 02, 2014	4	11	426
5	East Coast	January 03, 2014	2	15	26
6	East Coast	January 03, 2014	5	15	68
7	East Coast	January 07, 2014	1	14	144

4. Press '**ALT', 'A', 'J**'.



	A	B	C	D	E	F
1	Branch	Sales Person	Category Name	Product Name	Date	Quantity
2	East Coast	Anderson. P	Confections	Maxilaku	January 01, 2014	6
3	East Coast	Johnson. A	Grains/Cereals	Gnocchi di nonna Alice	January 01, 2014	21
4	East Coast	Peters. K	Grains/Cereals	Tunnbröd	January 02, 2014	4
5	East Coast	Bonders. P	Confections	Pavlova	January 03, 2014	2
6	East Coast	Newson. L	Grains/Cereals	Singaporean Hokkien Fried Mee	January 03, 2014	5
7	East Coast	Lavin. T	Seafood	Boston Crab Meat	January 07, 2014	1
8	East Coast	Perks. M	Seafood	Inlagd Sill	January 07, 2014	15
9	East Coast	Anderson. P	Beverages	Chai	January 07, 2014	

The grouped columns are now expanded.

How to quickly format cells using keyboard shortcuts

There are a so many keyboard shortcuts available for performing very common tasks, which can save you a lot of time. For example, there are keyboard shortcuts available for formatting cells. In some instances, there is more than one shortcut combination that can be used to perform one function, like these:

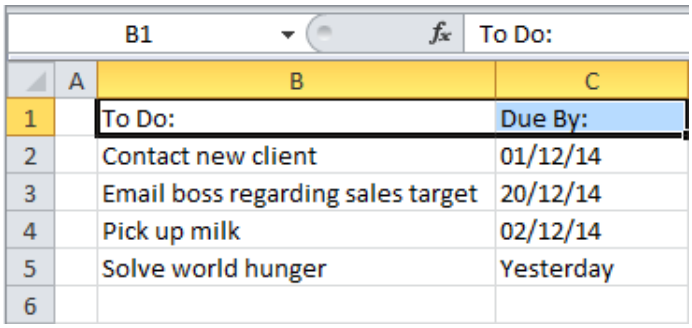
- Ctrl + 2 and Ctrl + B: apply or remove bold formatting
- Ctrl + 3 and Ctrl + I: apply or remove italic formatting
- Ctrl + 4 and Ctrl + U: apply or remove underline formatting

Another useful combination is the strikethrough keyboard shortcut, Ctrl + 5, helps identify items that have been completed in a list. In the steps that follow, we show you how to use all of the above keyboard shortcuts.

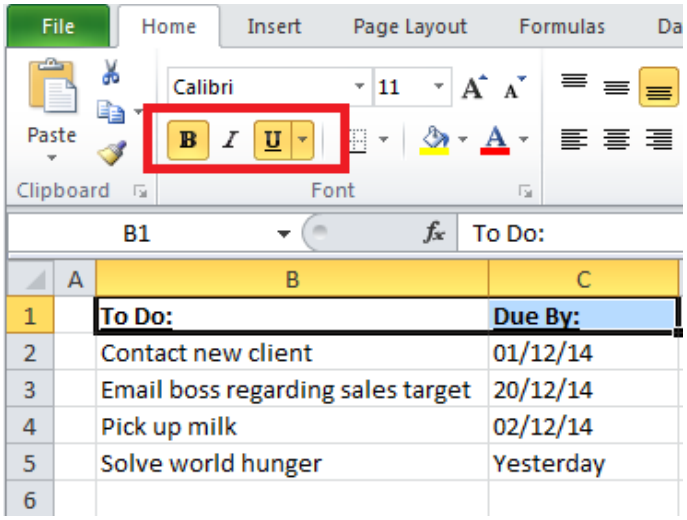
Note: Download the **workbook** to practice this exercise

Applies to: Microsoft® Excel® 2007, 2010 and 2013

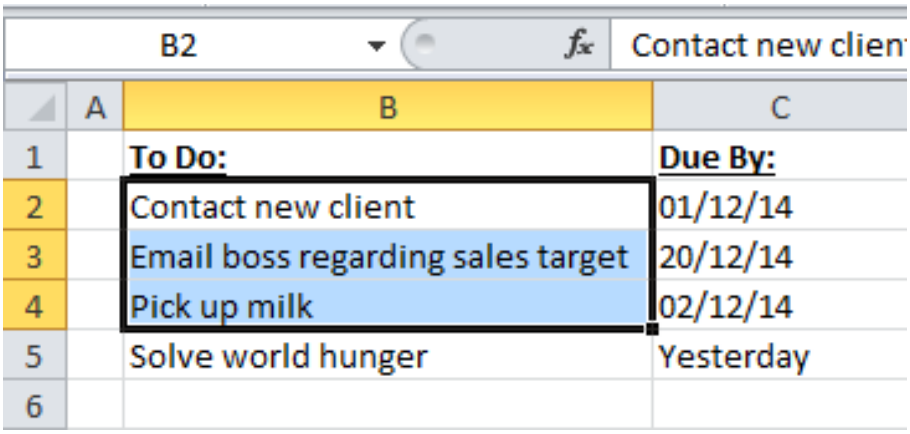
1. Highlight cells **B1:C1**.



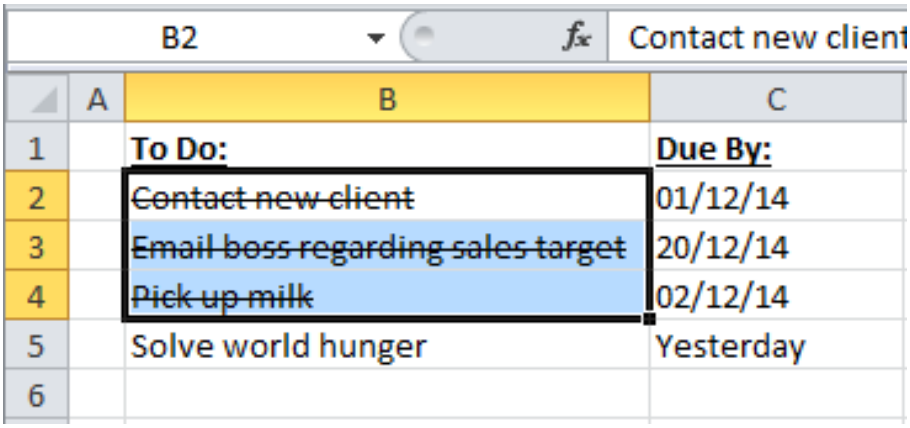
2. Press **Ctrl + 2 (or Ctrl + B)** to bold the cells, then **Ctrl +4 (or Ctrl + U)** to underline the cells.



3. Highlight **cells B2:B4**.



4. Press **Ctrl + 5** to apply strikethrough formatting to all cells.



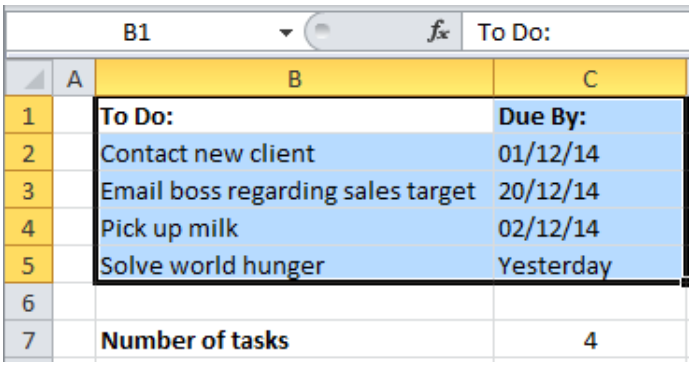
How to quickly add borders to cells using keyboard shortcuts

Adding borders to cells is a task that is commonly performed in Microsoft® Excel®. If you need to add borders to a couple of cells in a worksheet, you can do it quicker using keyboard shortcuts.

Note: Download the **workbook** to practice this exercise

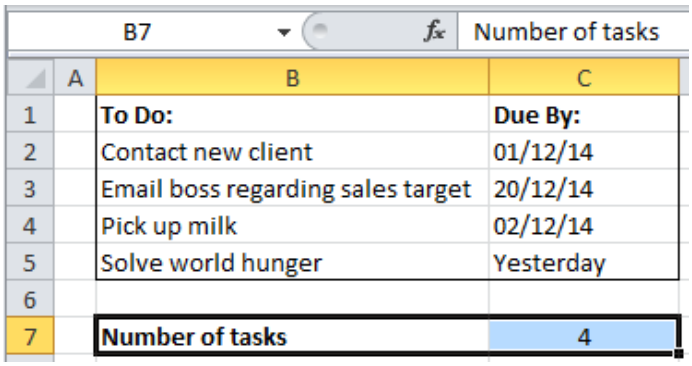
Applies to: Microsoft Excel 2010 and 2013

1. Open the workbook, then select cells **B1:C5**.



2. Press the **Ctrl + Shift + &** (the number 7 key on the top of row of the keyboard). This will apply a border around the entire table.

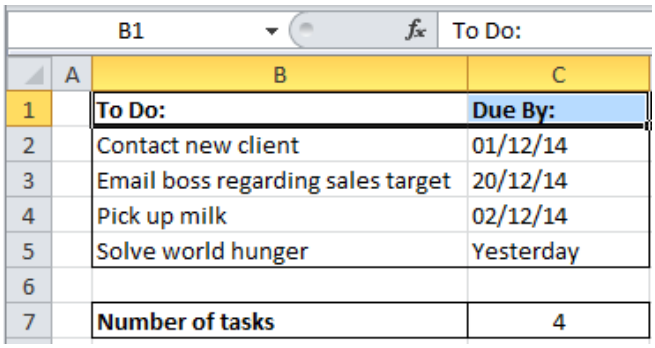
3. Select cells **B7:C7**.



4. Press **F4**. This will repeat the last command, which will also place a border around these two cells.

5. Select **cell B7** and press **F4**. The border command will again be repeated.

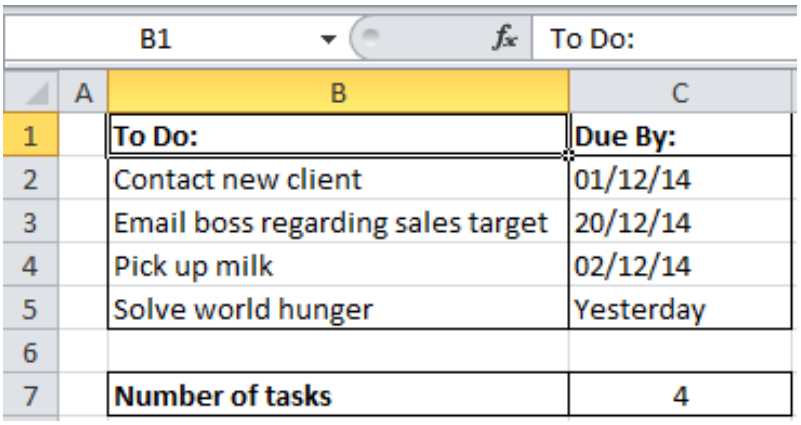
6. Select cells **B1:B5**, then press the **F4** key. This will create a border around just these cells.



B1 | To Do:

	A	B	C
1		**To Do:**	**Due By:**
2		Contact new client	01/12/14
3		Email boss regarding sales target	20/12/14
4		Pick up milk	02/12/14
5		Solve world hunger	Yesterday
6			
7		**Number of tasks**	4

7. Select cell **B1** and press **F4**. The border command will again be repeated.



B1 | To Do:

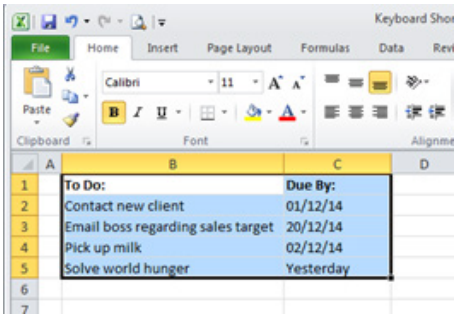
	A	B	C
1		**To Do:**	**Due By:**
2		Contact new client	01/12/14
3		Email boss regarding sales target	20/12/14
4		Pick up milk	02/12/14
5		Solve world hunger	Yesterday
6			
7		**Number of tasks**	4

How to add multiple styles of borders in cells using keyboard shortcuts

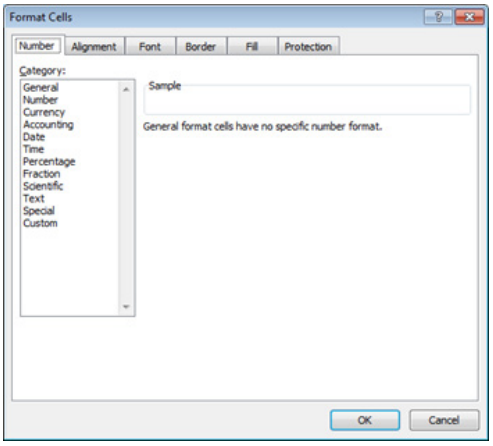
Keyboard shortcuts can be used to format cells in various ways, like applying multiple styles of borders to cells. We show you how in the steps that follow.

Applies to: Microsoft® Excel® 2010 and 2013

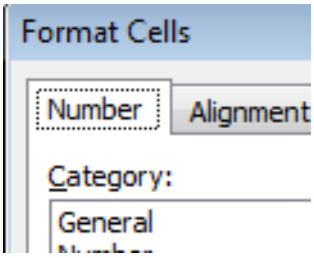
1. Select the range of cells you wish to apply border formatting to.



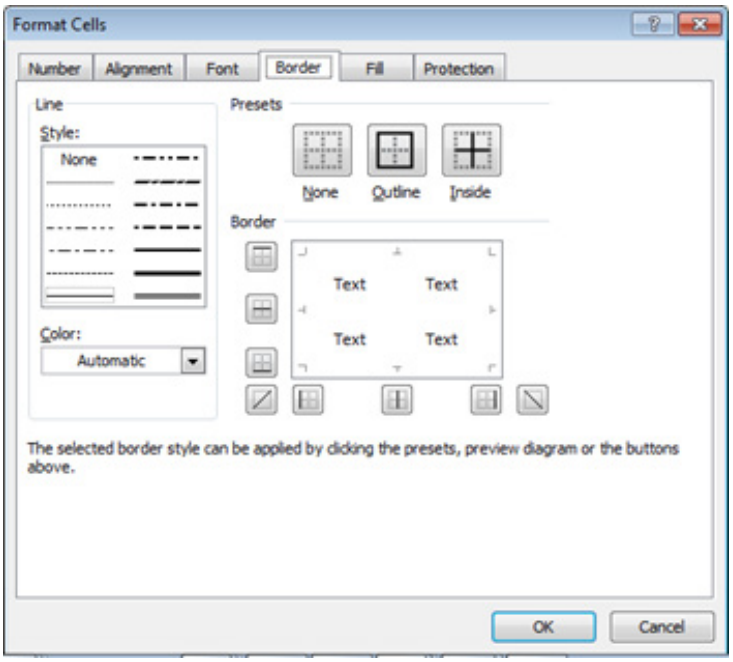
2. Press **'CTRL'+'1'** to open the 'Format Cells' screen.



Note that there is a dotted line surrounding the word 'Number'.

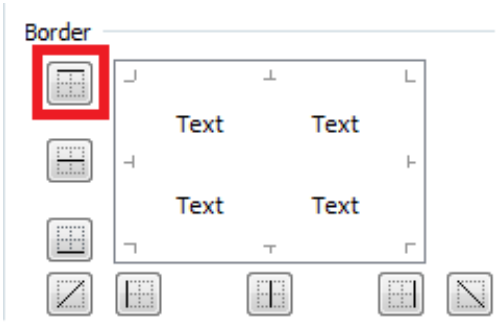


3. Press the '**Right Arrow**' key three times to move across to the 'Border' tab.

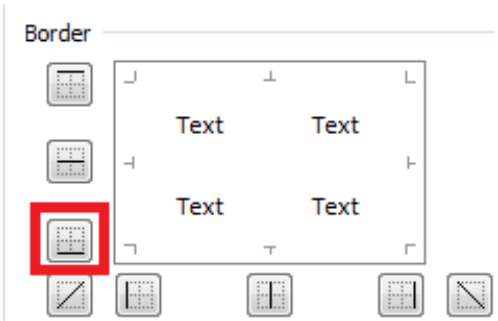


4. You can now use the following keys to apply specific border formats

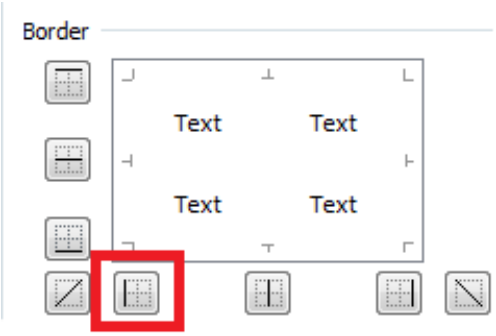
a. **'ALT'+'t'** to set the top border.



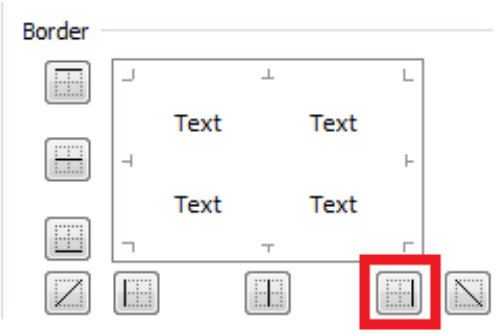
b. **'ALT'+'b'** to set the bottom border.



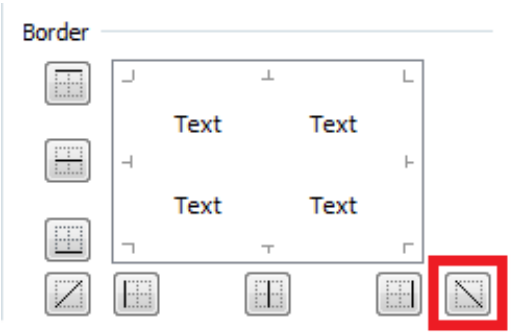
c. **‘ALT’+‘l’** to set the left border.



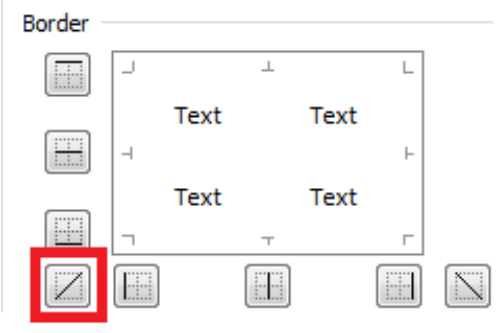
d. ‘**ALT’+‘r’** to set the right border.



e. ‘**ALT’+‘d’** to set the down diagonal border.



f. **‘ALT’ + ‘u’** to set the up diagonal border.



How to hide rows and columns without using a mouse

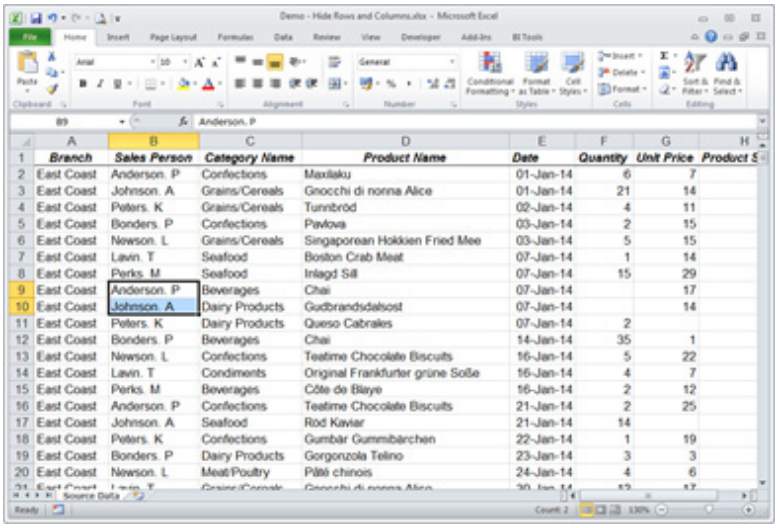
Hiding rows and columns of data helps you makes your worksheet look neater, and it makes it easier for you to only view the rows and columns that you need to. This tip shows you how to hide a range of rows or columns using a 'two key' keystroke combination – no mouse required!

Note: Download the **workbook** to practice this exercise

Applies to: Microsoft® Excel® 2010 and 2013

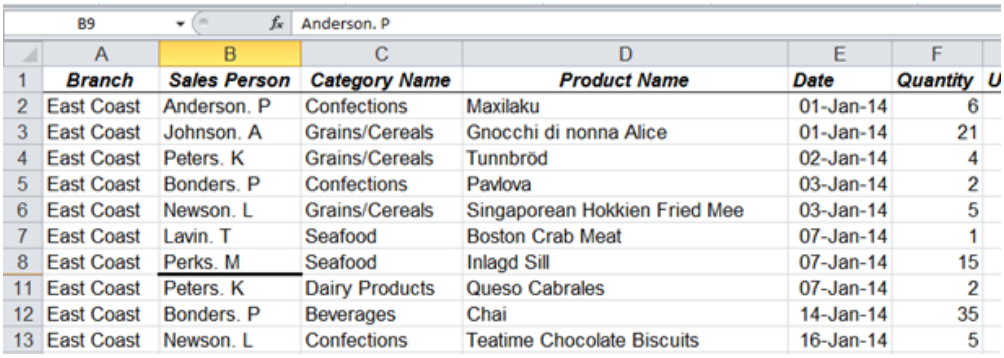
The demonstration data has some missing information, for example rows 9 and 10 are missing their quantity figures. Because these rows are incomplete, we will hide them so we can rather look at the rows that are complete.

1. Select cells **B9:B10**.



	A	B	C	D	E	F	G	H
1	Branch	Sales Person	Category Name	Product Name	Date	Quantity	Unit Price	Product S
2	East Coast	Anderson. P	Confections	Maxilaku	01-Jan-14	6	7	
3	East Coast	Johnson. A	Grains/Cereals	Gnocchi di nonna Alice	01-Jan-14	21	14	
4	East Coast	Peters. K	Grains/Cereals	Tunnbröd	02-Jan-14	4	11	
5	East Coast	Bonders. P	Confections	Pavlova	03-Jan-14	2	15	
6	East Coast	Newson. L	Grains/Cereals	Singaporean Hokkien Fried Mee	03-Jan-14	5	15	
7	East Coast	Lavin. T	Seafood	Boston Crab Meat	07-Jan-14	1	14	
8	East Coast	Perks. M	Seafood	Inlagd Sill	07-Jan-14	15	29	
9	East Coast	Anderson. P	Beverages	Chai	07-Jan-14		17	
10	East Coast	Johnson. A	Dairy Products	Gudbrandsdalsost	07-Jan-14		14	
11	East Coast	Peters. K	Dairy Products	Queso Cabrales	07-Jan-14	2		
12	East Coast	Bonders. P	Beverages	Chai	14-Jan-14	35	1	
13	East Coast	Newson. L	Confections	Teatime Chocolate Biscuits	16-Jan-14	5	22	
14	East Coast	Lavin. T	Condiments	Original Frankfurter grüne Soße	16-Jan-14	4	7	
15	East Coast	Perks. M	Beverages	Côte de Blaye	16-Jan-14	2	12	
16	East Coast	Anderson. P	Confections	Teatime Chocolate Biscuits	21-Jan-14	2	25	
17	East Coast	Johnson. A	Seafood	Röd Kaviar	21-Jan-14	14		
18	East Coast	Peters. K	Confections	Gumbär Gummibärchen	22-Jan-14	1	19	
19	East Coast	Bonders. P	Dairy Products	Gorgonzola Telino	23-Jan-14	3	3	
20	East Coast	Newson. L	Meat/Poultry	Pâté chinois	24-Jan-14	4	6	

2. Press '**Ctrl' + '9'**.

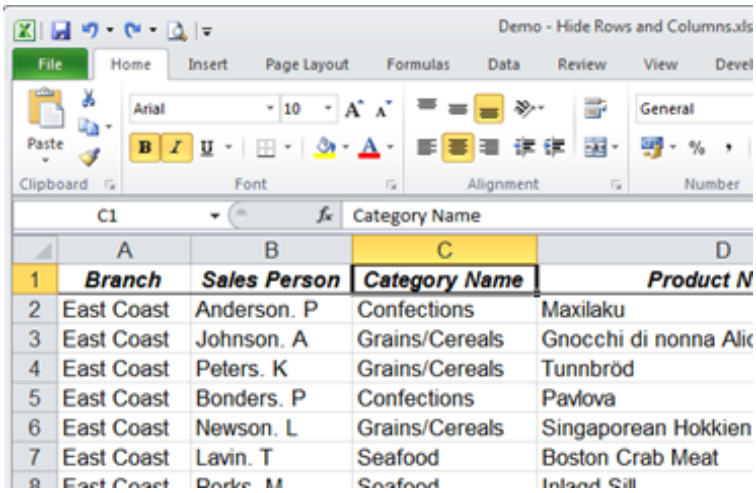


B9 fx Anderson. P

	A	B	C	D	E	F
1	Branch	Sales Person	Category Name	Product Name	Date	Quantity
2	East Coast	Anderson. P	Confections	Maxilaku	01-Jan-14	6
3	East Coast	Johnson. A	Grains/Cereals	Gnocchi di nonna Alice	01-Jan-14	21
4	East Coast	Peters. K	Grains/Cereals	Tunnbröd	02-Jan-14	4
5	East Coast	Bonders. P	Confections	Pavlova	03-Jan-14	2
6	East Coast	Newson. L	Grains/Cereals	Singaporean Hokkien Fried Mee	03-Jan-14	5
7	East Coast	Lavin. T	Seafood	Boston Crab Meat	07-Jan-14	1
8	East Coast	Perks. M	Seafood	Inlagd Sill	07-Jan-14	15
11	East Coast	Peters. K	Dairy Products	Queso Cabrales	07-Jan-14	2
12	East Coast	Bonders. P	Beverages	Chai	14-Jan-14	35
13	East Coast	Newson. L	Confections	Teatime Chocolate Biscuits	16-Jan-14	5

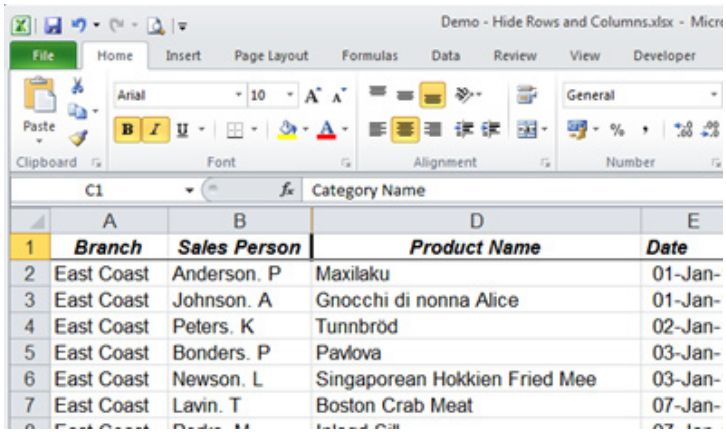
The rows containing the selected cells have now been hidden. We would now like to hide the Category Name information for the moment.

3. Select cell **C1**.



	A	B	C	D
1	Branch	Sales Person	Category Name	Product N
2	East Coast	Anderson. P	Confections	Maxilaku
3	East Coast	Johnson. A	Grains/Cereals	Gnocchi di nonna Alic
4	East Coast	Peters. K	Grains/Cereals	Tunnbröd
5	East Coast	Bonders. P	Confections	Pavlova
6	East Coast	Newson. L	Grains/Cereals	Singaporean Hokkien
7	East Coast	Lavin. T	Seafood	Boston Crab Meat

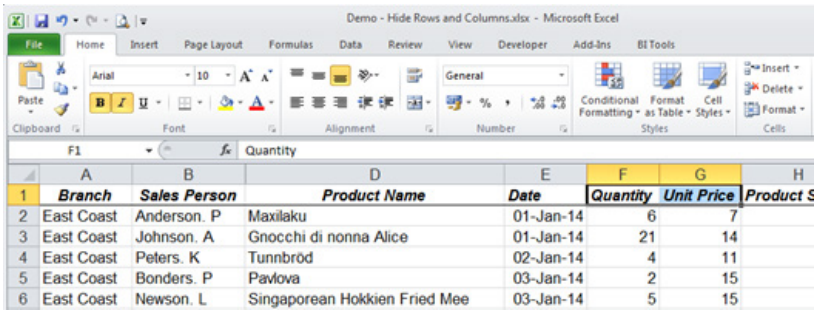
4. Press **'Ctrl' + 0** to hide column C.



	A	B	D	E
1	Branch	Sales Person	Product Name	Date
2	East Coast	Anderson. P	Maxilaku	01-Jan-
3	East Coast	Johnson. A	Gnocchi di nonna Alice	01-Jan-
4	East Coast	Peters. K	Tunnbröd	02-Jan-
5	East Coast	Bonders. P	Pavlova	03-Jan-
6	East Coast	Newson. L	Singaporean Hokkien Fried Mee	03-Jan-
7	East Coast	Lavin. T	Boston Crab Meat	07-Jan-

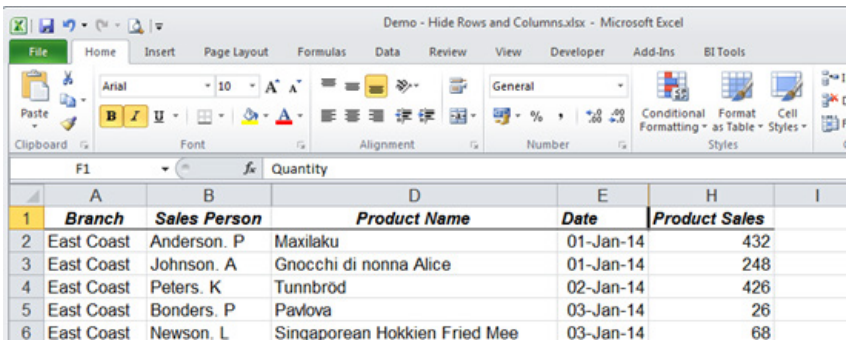
We would now like to hide the Quantity and Unit Price columns.

5. Highlight **cells F1:G1**.



	A	B	D	E	F	G	H
1	Branch	Sales Person	Product Name	Date	Quantity	Unit Price	Product S
2	East Coast	Anderson. P	Maxilaku	01-Jan-14	6	7	
3	East Coast	Johnson. A	Gnocchi di nonna Alice	01-Jan-14	21	14	
4	East Coast	Peters. K	Tunnbröd	02-Jan-14	4	11	
5	East Coast	Bonders. P	Pavlova	03-Jan-14	2	15	
6	East Coast	Newson. L	Singaporean Hokkien Fried Mee	03-Jan-14	5	15	

6. Press **F4** to repeat the last command (i.e. repeating the 'Ctrl' + '0' shortcut).



	A	B	D	E	H	I
1	Branch	Sales Person	Product Name	Date	Product Sales	
2	East Coast	Anderson. P	Maxilaku	01-Jan-14	432	
3	East Coast	Johnson. A	Gnocchi di nonna Alice	01-Jan-14	248	
4	East Coast	Peters. K	Tunnbröd	02-Jan-14	426	
5	East Coast	Bonders. P	Pavlova	03-Jan-14	26	
6	East Coast	Newson. L	Singaporean Hokkien Fried Mee	03-Jan-14	68	

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- Make better business decisions through improved report presentation and analysis

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Financial Controller, Jost South Africa / Jost Transport Equipment

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