

How To Use VLOOKUP in Excel

This short tutorial uses Excel 2010 and sample file to show you a working example of the VLOOKUP function.

Article reference: http://www.timeatlas.com/5_minute_tips/general/learning_vlookup_in_excel

Excel sample file: http://static.timeatlas.com/tutorials/VLOOKUP_Example.xls

Video reference: http://www.timeatlas.com/news/projects/vlookup_demo

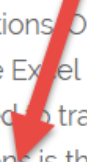
Last Revised: Feb 15, 2015

1. Download the Excel VLOOKUP sample file shown in the More VLOOKUP References section

Learning VLOOKUP in Excel

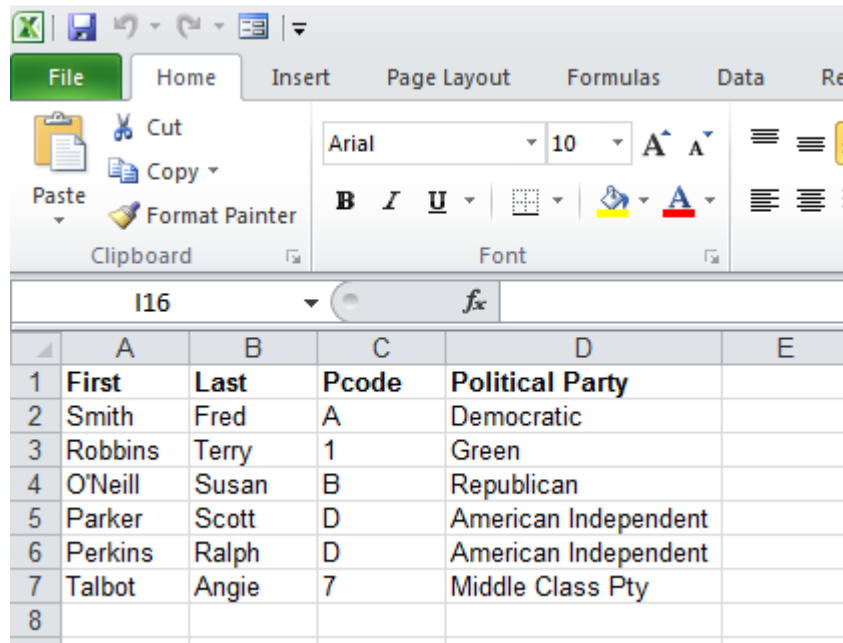
LAST UPDATED ON FEBRUARY 7, 2015 BY ANNEH (EDIT)

As September approaches, I can count on a series of spreadsheet questions. One of the popular Excel tutorial requests is how do you look up a value on one Excel worksheet and use it on another Excel worksheet. For example, you need to translate a product number into a product name. One of my favorite Excel functions is the VLOOKUP function and it can help with this task. (Includes [VLOOKUP_Example](#))



Note: For this tutorial, we will be deleting information on this sheet and recreating the VLOOKUP formula.

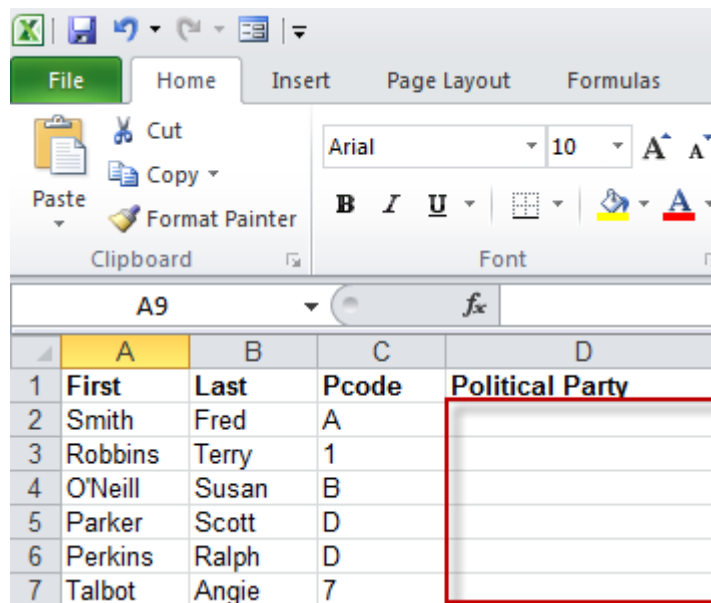
2. Open the sample file you downloaded from above in Excel.



	A	B	C	D	E
1	First	Last	Pcode	Political Party	
2	Smith	Fred	A	Democratic	
3	Robbins	Terry	1	Green	
4	O'Neill	Susan	B	Republican	
5	Parker	Scott	D	American Independent	
6	Perkins	Ralph	D	American Independent	
7	Talbot	Angie	7	Middle Class Pty	
8					

The workbook will have 2 sheets at the bottom: **Voters** and **Party Codes**. The first sheet is a listing of registered voters and the second contains names of political parties.

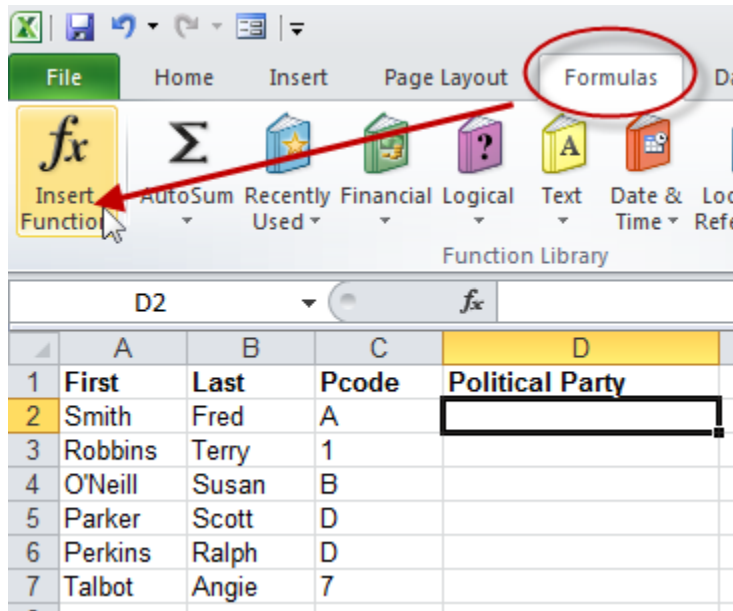
3. Delete the cell entries for D2:D7 because we will be rebuilding the formula.



	A	B	C	D
1	First	Last	Pcode	Political Party
2	Smith	Fred	A	
3	Robbins	Terry	1	
4	O'Neill	Susan	B	
5	Parker	Scott	D	
6	Perkins	Ralph	D	
7	Talbot	Angie	7	

Note: You can keep the column header "Political Party".

4. Place your cursor in cell D2. Click the Formulas tab and select Insert Function.



5. In the Search for a function: text box type "vlookup" and click the Go button.

The screenshot shows the Microsoft Excel interface with the 'Formulas' tab selected. The 'Insert Function' dialog box is open, displaying a search for the 'vlookup' function. The search results list several functions, with 'CONCATENATE' selected. The dialog box also shows the function's syntax and description.

	A	B	C	D	E	F	G	H
1	First	Last	Pcode	Political Party				
2	Smith	Fred	A	=				
3	Robbins	Terry	1					
4	O'Neill	Susan	B					
5	Parker	Scott	D					
6	Perkins	Ralph	D					
7	Talbot	Angie	7					
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Insert Function

Search for a function:

vlookup

Go

Or select a category: Most Recently Used

Select a function:

- CONCATENATE
- TRIM
- SUM
- AVERAGE
- IF
- HYPERLINK
- COUNT

CONCATENATE(text1,text2,...)
Joins several text strings into one text string.

[Help on this function](#)

OK Cancel

6. Highlight VLOOKUP and click OK.

CONCATENATE x ✓ *fx* =

	A	B	C	D	E	F	G	H
1	First	Last	Pcode	Political Party				
2	Smith	Fred	A	=				
3	Robbins	Terry	1					
4	O'Neill	Susan	B					
5	Parker	Scott	D					
6	Perkins	Ralph	D					
7	Talbot	Angie	7					
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Insert Function ? x

Search for a function:

vlookup Go

Or select a category: Recommended

Select a function:

- VLOOKUP
- LOOKUP
- HLOOKUP
- IF

VLOOKUP(lookup_value,table_array,col_index_num,range_lookup)
Looks for a value in the leftmost column of a table, and then returns a value in the same row from a column you specify. By default, the table must be sorted in an ascending order.

[Help on this function](#) OK Cancel

7. Now we will create the VLOOKUP formula that will translate the "A" Pcode in cell C2 to the description found from the Party Codes worksheet.

	A	B	C	D	E	F	G	H
1	First	Last	Pcode	Political Party				
2	Smith	Fred	A	=VLOOKUP()				
3	Robbins	Terry	1					
4	O'Neill	Susan	B					
5	Parker	Scott	D					
6	Perkins	Ralph	D					
7	Talbot	Angie	7					
8								

Function Arguments

VLOOKUP

Lookup_value 1 = any

Table_array 2 = number

Col_index_num 3 = number

Range_lookup 4 = logical

Looks for a value in the leftmost column of a table, and then returns a value in the same row from a column you specify. By default, the table must be sorted in an ascending order.

Lookup_value is the value to be found in the first column of the table, and can be a value, a reference, or a text string.

Formula result =

[Help on this function](#) OK Cancel

Note: VLOOKUP relies on 4 function arguments which are numbered above. The last item, Range_lookup [4] is optional and can be blank.

8. In the Lookup_value text box, type "C2"

The screenshot shows an Excel spreadsheet with the following data:

	A	B	C	D	E	F	G	H
1	First	Last	Pcode	Political Party				
2	Smith	Fred	A	=VLOOKUP(c2)				
3	Robbins	Terry	1					
4	O'Neill	Susan	B					
5	Parker	Scott	D					
6	Perkins	Ralph	D					
7	Talbot	Angie	7					

The 'Function Arguments' dialog box for VLOOKUP is open, showing the following arguments:

- Lookup_value: c2 = "A"
- Table_array: (empty)
- Col_index_num: (empty)
- Range_lookup: (empty)

The dialog box also includes a description of the function and a green star next to the 'Lookup_value' argument description:

Looks for a value in the leftmost column of a table, and then returns a value in the same row from a column you specify. By default, the table must be sorted in an ascending order.

Lookup_value is the value to be found in the first column of the table, and can be a value, a reference, or a text string.

In this step, we're asking excel to look up the contents of cell "c2". Notice how Excel displays the cell's value of "A" to the right of the text box. This helps you check your entries. Also, note in the red boxed area with the green star that Excel provides some info about the function argument.

9. In the Table_array text box, select the area Excel should use to find the description. Click the Party Codes worksheet and highlight the range A2:B45.

The screenshot shows an Excel spreadsheet with a VLOOKUP formula in cell C2: `=VLOOKUP(c2,'Party Codes'!A2:B45)`. The spreadsheet has two columns: 'PARTY CODE' (A) and 'NAME' (B). The 'PARTY CODE' column contains letters A through Z, and the 'NAME' column contains corresponding party names. A red arrow points from the 'Table_array' field in the 'Function Arguments' dialog box to the range 'Party Codes'!A2:B45 in the spreadsheet. The dialog box also shows the 'Lookup_value' as 'c2', 'Col_index_num' as a blank field, and 'Range_lookup' as a blank field. The 'Function Arguments' dialog box is titled 'Function Arguments' and contains the following text: 'VLOOKUP', 'Lookup_value: c2 = "A"', 'Table_array: 'Party Codes'!A2:B45 = {1, "Green";2, "Reform";3, "Whig";4, "I...}', 'Col_index_num: = number', 'Range_lookup: = logical', 'Looks for a value in the leftmost column of a table, and then returns a value in the same row from a column you specify. By default, the table must be sorted in an ascending order.', 'Lookup_value is the value to be found in the first column of the table, and can be a value, a reference, or a text string.', 'Formula result =', and 'Help on this function'.

PARTY CODE	NAME
16	God, Truth & Love Party
17	Superhappy Party
18	Working Families Party
A	Democratic
B	Republican
C	Decline to State
D	American Independent
E	Citizen Party
F	Communist
G	Conservative
H	Environmentalist
I	Ind. Progressive
J	Liberal
K	Peace & Freedom
L	Prohibition
M	New Economy
N	Socialist
O	Socialist Labor
P	Pot Party
Q	Libertarian
R	Amer. Natl. Socialist
S	Poor People's Party
T	Free
U	National
V	Constitution Party
W	Vision
X	Puritan
Y	Federal
Z	Misc.

Notice how Excel adds the worksheet name and range as you highlight an area.

10. In the Col_index_num field, type "2". This is our index column from the Party Codes worksheet that contains the descriptions of the political parties.

The screenshot shows an Excel spreadsheet with the following data:

	A	B	C	D	E	F	G	H
1	First	Last	Pcode	Political Party				
2	Smith	Fred	A	Codes!A2:B45,2)				
3	Robbins	Terry	1					
4	O'Neill	Susan	B					
5	Parker	Scott	D					
6	Perkins	Ralph	D					
7	Talbot	Angie	7					

The formula bar shows: `=VLOOKUP(c2,'Party Codes'!A2:B45,2)`

The Function Arguments dialog box for VLOOKUP is open, showing the following arguments:

- Lookup_value: c2 = "A"
- Table_array: 'Party Codes'!A2:B45 = {1,"Green";2,"Reform";3,"Whig";4,"Islar"
- Col_index_num: 2 = 2
- Range_lookup: (empty) = logical

The dialog box also includes a description of the VLOOKUP function and a preview of the formula result: "Democratic".

As before, Excel builds the cell's formula as we add the function arguments and shows the value it read. For the cell C2, Excel is saying the Pcode of "A" translates to "Democratic"

11. In the Range_lookup, type "false" as we want exact matches.

The screenshot shows an Excel spreadsheet with a VLOOKUP formula in cell D2. The formula is `=VLOOKUP(c2,'Party Codes'!A2:B45,2,false)`. The spreadsheet data is as follows:

	A	B	C	D	E	F	G	H
1	First	Last	Pcode	Political Party				
2	Smith	Fred	A	<code>=VLOOKUP(c2,'Party Codes'!A2:B45,2,false)</code>				
3	Robbins	Terry	1					
4	O'Neill	Susan	B					
5	Parker	Scott	D					
6	Perkins	Ralph	D					
7	Talbot	Angie	7					

The Function Arguments dialog box for VLOOKUP is open, showing the following arguments:

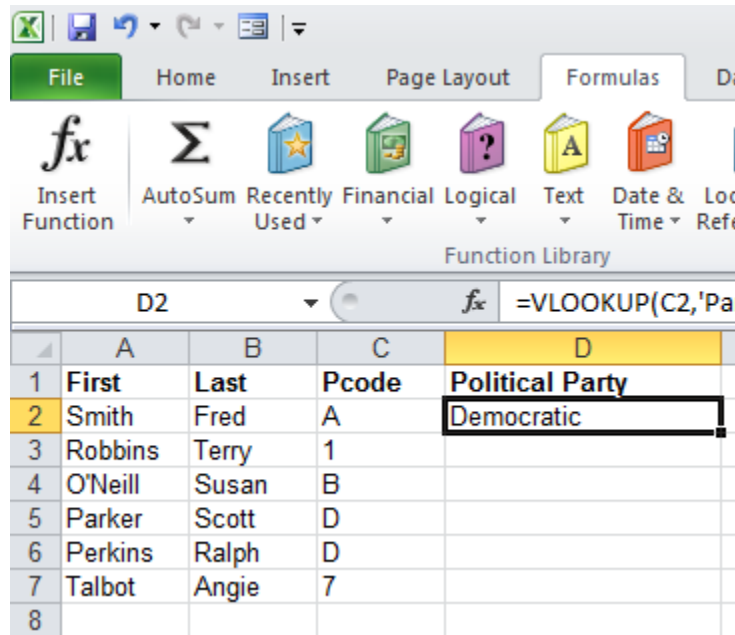
- Lookup_value:** c2 = "A"
- Table_array:** 'Party Codes'!A2:B45 = {1,"Green";2,"Reform";3,"Whig";4,"Islar"
- Col_index_num:** 2 = 2
- Range_lookup:** false = FALSE

Below the arguments, there is a description of the Range_lookup argument: **Range_lookup** is a logical value: to find the closest match in the first column (sorted in ascending order) = TRUE or omitted; find an exact match = FALSE.

The dialog box also shows the formula result: **Formula result = Democratic**.

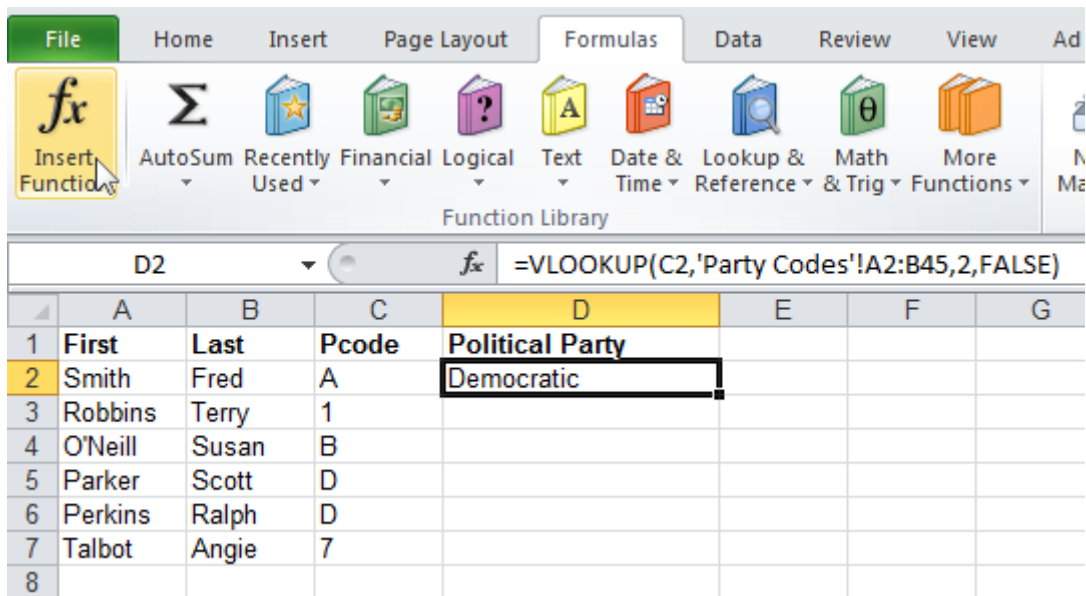
Note: Excel also provides tips for the function arguments below the text boxes.

12. Click OK



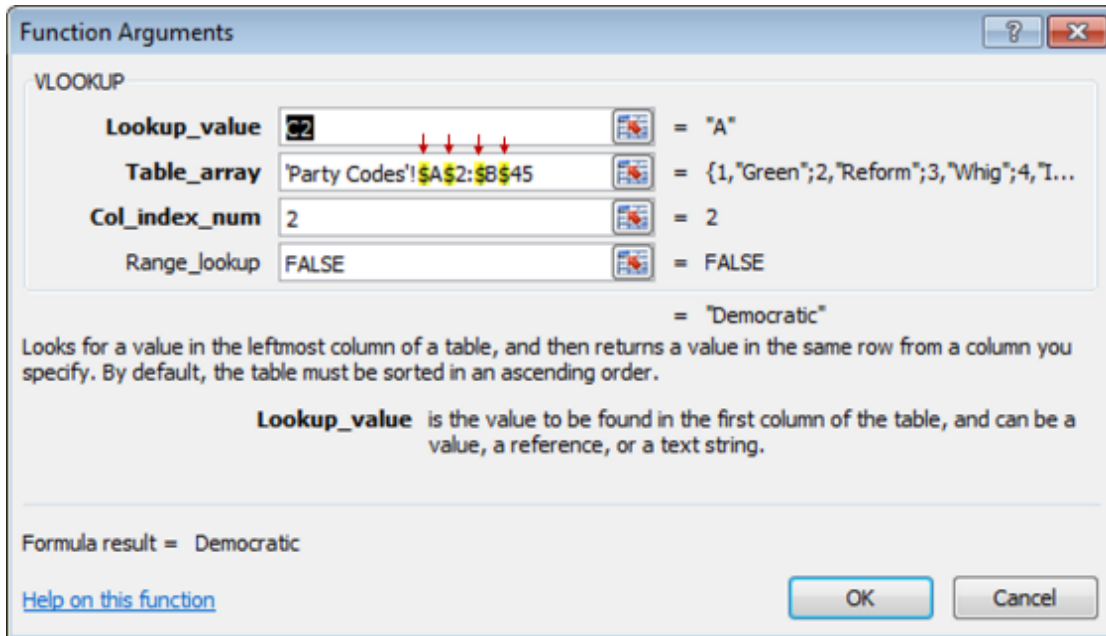
Note how Excel translated the formula to "Democratic"

13. If you plan to copy this formula to other cells, you need to make an adjustment. Click the Insert Function button again.



Note: You can make edits using the formula bar, but if you're just starting out, I find it easier to use the dialog box.

14. Edit the Table_array value by placing \$ signs around the cell references. This makes the cell reference absolute.



Note how the \$ precedes the column and row references.

15. Copy your formula to other cells in the column by dragging down.

