

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					

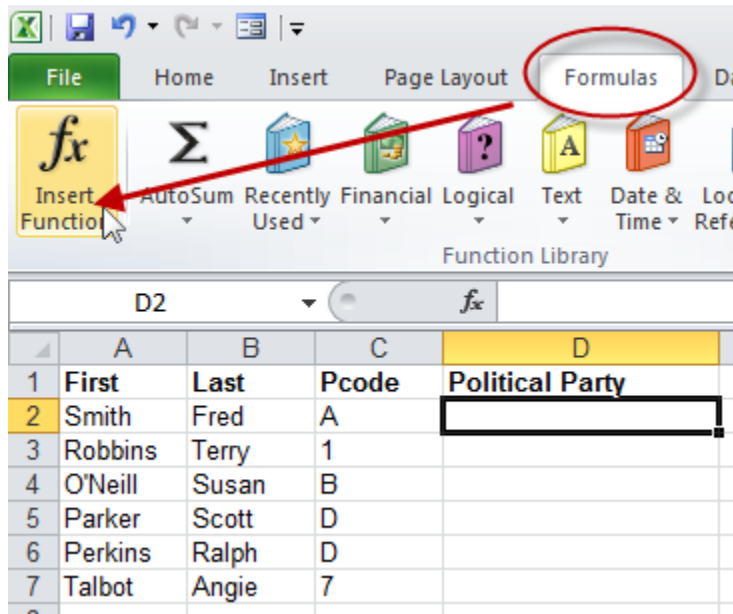
The workbook will have 2 sheets at the bottom: **Voters** and **Party Codes**. The first sheet is a listing of registered voters and the second contains names of political parties.

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, and the search field contains the text 'vlookup'. A red circle highlights the search field, and a red arrow points from it to the 'Go' button. The background spreadsheet shows a table with columns labeled 'First', 'Last', 'Pcode', and 'Political Party'. The data rows are as follows:

	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					

6. Highlight VLOOKUP and click OK.

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	=				
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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The **Insert Function** dialog box is open, showing the search results for 'vlookup'. The **VLOOKUP** function is selected in the list. The dialog box also displays the function syntax: **VLOOKUP(lookup_value,table_array,col_index_num,range_lookup)** and a brief 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." The **OK** button is highlighted with a mouse cursor.

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 the VLOOKUP function is open. The 'Lookup_value' field contains 'c2' and displays the value 'A'. The 'Table_array' field is empty. The 'Col_index_num' field is empty. The 'Range_lookup' field is empty. A red arrow points from the 'A' in the 'Lookup_value' field to the 'A' in cell C2. A red box highlights the 'Lookup_value' field and its description, with a green star next to it.

Function Arguments

VLOOKUP

Lookup_value: c2 = "A"

Table_array: = number

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 =

[Help on this function](#) OK Cancel

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 function being configured. The formula bar at the top displays `=VLOOKUP(c2,'Party Codes'!A2:B45)`. The 'Function Arguments' dialog box is open, showing the following fields:

- Lookup_value:** c2
- Table_array:** 'Party Codes'!A2:B45
- Col_index_num:** (empty)
- Range_lookup:** (empty)

The dialog box also includes a description of the VLOOKUP function and a 'Formula result =' field. A red arrow points from the 'Table_array' field in the dialog box to the range A2:B45 in the worksheet, which is highlighted with a dashed border. The worksheet shows a table with columns 'PARTY CODE' and 'NAME' and rows 1 through 46. The 'Party Codes' worksheet tab is selected at the bottom.

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 the following data:

	A	B	C	D	E	F	G	H
1	First	Last	Pcode	Political Party				
2	Smith	Fred	A	=VLOOKUP(c2,'Party Codes'!A2:B45,2,false)				
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 the VLOOKUP formula 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

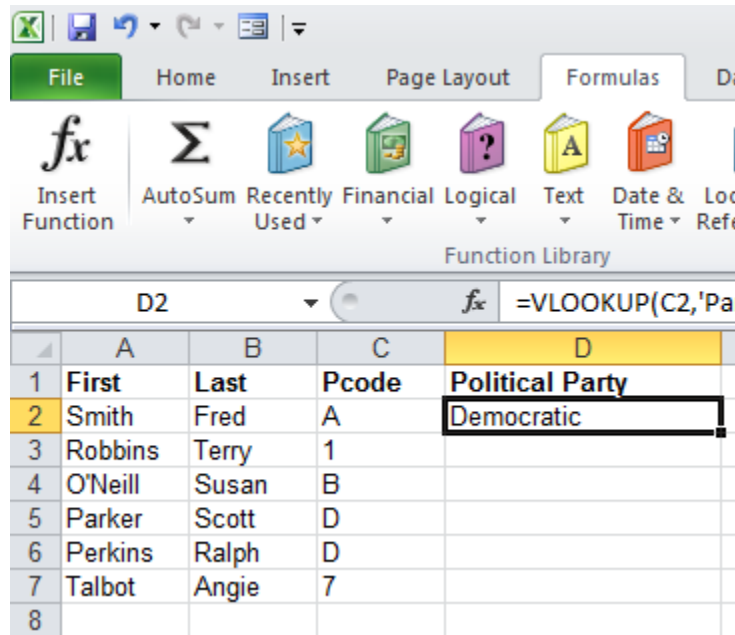
The dialog box also displays the formula result: = "Democratic".

Help on this function

OK Cancel

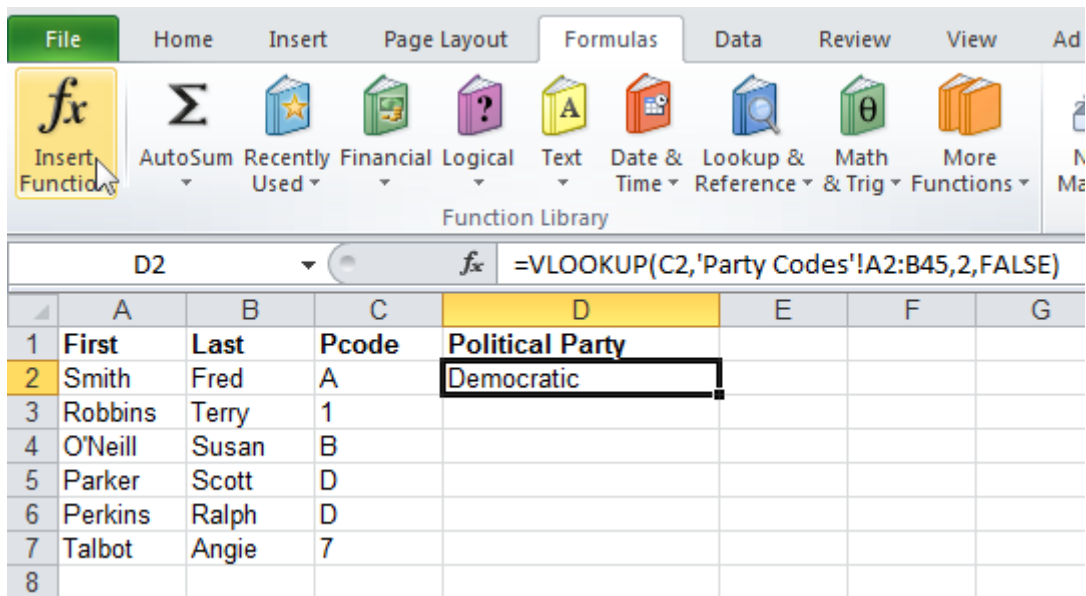
Note: Excel also provides tips for the function arguments below the text boxes.

12. Click OK



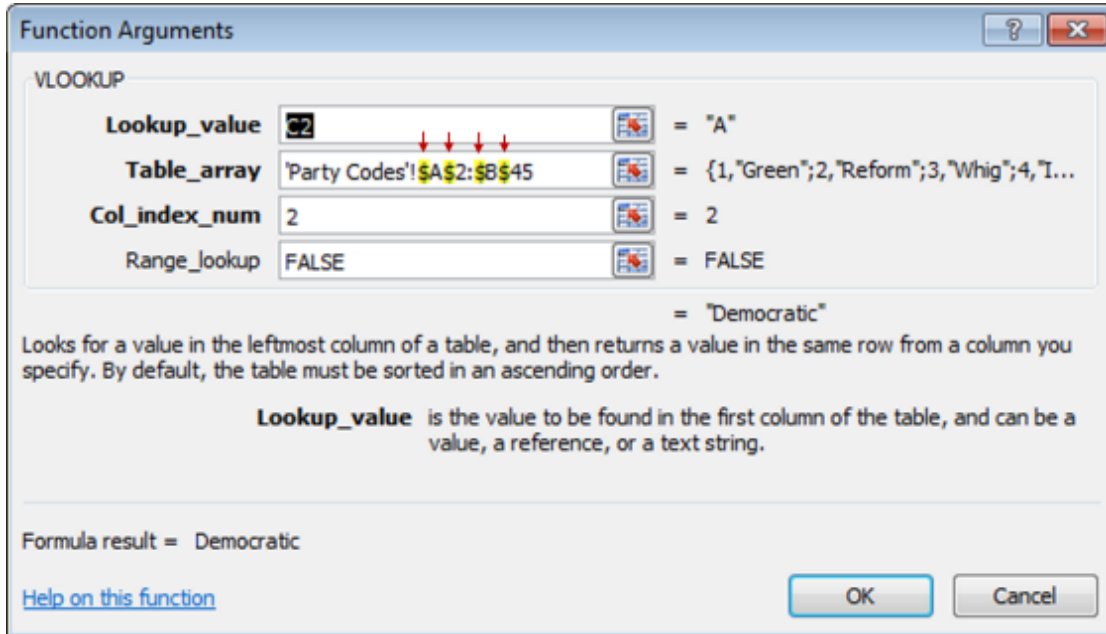
Note how Excel translated the formula to "Democratic"

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.

