

VLOOKUP Formula

VLOOKUP is a function in Excel that allows you to type the value of one cell to look up the value of a corresponding cell in the same row. Use it to look up information from a large spreadsheet or if you have to find repetitive information.

- Have two sets of data available – in this example we will look at the summer school students. The goal is to pull the student's home address from the "Home Primary Address" tab into the "Final Reg Summer" tab without manually searching each student's address in the "Home Primary Address" tab. This is where we will apply the VLOOKUP function.

Reg Summer Report Excel - Excel

	A	B	C	D	E	F	G	H
1	ID#	LN	FN	Counselor	Summer Course Name 1	Room 1	Q# 1	Quarter Dates
2	794695	Gonzalez	Belen	Joni Gordon	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
3	787683	Cortez Pille	Miguel	Joni Gordon	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
4	794670	Alvarez Moreno	Rosario	Joel Rebello	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
5	794886	Manzo Garcia	Hector	Joel Rebello	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
6	794607	Escorza	Esmeralda	Joel Rebello	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
7	794492	Larios	Edward	Joni Gordon	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
8	791285	Lopez Ponce	Hector	Guadalupe Navarrete	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
9	787708	Mora Osorio	Rosa	Guadalupe Navarrete	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
10	791086	Esqueda	Eric	Shari Schussel	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
11	795223	Pichardo Garcia	Erick	Melissa Perez	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
12	794618	Guzman	Salvador	Melissa Perez	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
13	791211	Hernandez Nepomuceno	Jonathan	Joni Gordon	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
14	791486	Perez	Jeanet	Joni Gordon	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
15	791712	Victoria	Jael	Guadalupe Navarrete	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
16	793808	Ake Cauich	Gleisy	Shari Schussel	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
17	791353	Mendez	Reyna	Joni Gordon	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
18	794527	Vargas	Angel	Cynthia Wilde	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
19	794920	Perez	Jasmine	Guadalupe Navarrete	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
20	788095	Rios Contreras	Cristian	Joel Rebello	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
21	796226	Dumont	Khree	Guadalupe Navarrete	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
22	794927	Ramirez	Jair	Joel Rebello	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
23	790135	Vicente Ramirez	Rene	Joni Gordon	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
24	788240	Rodriguez	Sophia	Cynthia Wilde	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
25	792519	Schuster	Anthony	Melissa Perez	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
26	791454	Ortega	Alberto	Guadalupe Navarrete	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
27	795176	Flores Gonzalez	Moises	Melissa Perez	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
28	787651	Ruiz Toledo	Viridiana	Melissa Perez	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
29	788364	Buenrostro	Giovanni	Joel Rebello	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
30	787960	Rivera	Alex	Guadalupe Navarrete	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
31	795148	Alvarez	Jessica	Shari Schussel	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
32	795174	Erazo	Yenifer	Guadalupe Navarrete	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
33	797222	Flores	Jennifer	Melissa Perez	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
34	794693	Garcia Ontiveros	Julian	Melissa Perez	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017
35	791441	Oliva Juarez	Julissa	Guadalupe Navarrete	Biology-P Sem 1	147	Q1	06/19/2017 - 07/07/2017
36	788664	Ebens	Kai	Melissa Perez	Biology-P Sem 1	147	Q1	06/19/2017 - 07/07/2017
37	791548	Rodriguez	Alexa	Joel Rebello	Biology-P Sem 1	147	Q1	06/19/2017 - 07/07/2017
38	787548	Jugo	Jenna	Joel Rebello	Biology-P Sem 1	147	Q1	06/19/2017 - 07/07/2017
39	794237	Bowman	James	Joel Rebello	Biology-P Sem 1	147	Q1	06/19/2017 - 07/07/2017
40	794218	Alvarez	Alexandro	Melissa Perez	Biology-P Sem 1	147	Q1	06/19/2017 - 07/07/2017
41	791261	Lazo	Omar	Joel Rebello	Biology-P Sem 1	147	Q1	06/19/2017 - 07/07/2017
42	794768	Arreola	Michael	Joel Rebello	Biology-P Sem 1	147	Q1	06/19/2017 - 07/07/2017
43	787071	Gomez Garcia	Yader	Cynthia Wilde	Biology-P Sem 1	147	Q1	06/19/2017 - 07/07/2017

FINAL Reg Summer Home Primary Address 2 courses

- The VLOOKUP formula will be input in the first empty cell under the header “Address”

A	B	C	D	E	F	G	H	I	J	K	L
ID#	LN	FN	Counselor	Summer Course Name 1	Room 1	Q# 1	Quarter Dates	Address	City	State	Zip Code
794695	Gonzalez	Belen	Joni Gordon	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017				
787683	Cortez Pille	Miguel	Joni Gordon	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017				
794670	Alvarez Moreno	Rosario	Joel Rebello	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017				
794886	Manzo Garcia	Hector	Joel Rebello	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017				
794607	Escorza	Esmeralda	Joel Rebello	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017				
794492	Larios	Edward	Joni Gordon	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017				
791285	Lopez Ponce	Hector	Guadalupe Navarrete	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017				
787708	Mora Osorio	Rosa	Guadalupe Navarrete	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017				
791086	Esqueda	Eric	Shari Schussel	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017				
795223	Pichardo Garria	Erick	Melissa Perez	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017				

- Here are a few tips before starting to input the formula
 - Use VLOOKUP when you need to find things in a table or a range by row.
 - The data you will be referencing in both tabs/ reports/ sets of data
 - There are four pieces of information that you will need in order to build the VLOOKUP syntax:
 1. The value you want to look up, also called the lookup value.
 2. The range where the lookup value is located. Remember that the lookup value should always be in the first column in the range for VLOOKUP to work correctly. For example, if your lookup value is in cell C2 then your range should start with C.
 3. The column number in the range that contains the return value. For example, if you specify B2: D11 as the range, you should count B as the first column, C as the second, and so on.
 4. Optionally, you can specify TRUE if you want an approximate match or FALSE if you want an exact match of the return value. If you don't specify anything, the default value will always be TRUE or approximate match.
 - =VLOOKUP(Value you want to look up, range where you want to lookup the value, the column number in the range containing the return value, Exact Match or Approximate Match – indicated as 0/FALSE or 1/TRUE).

- In the I2 cell start typing in the VLOOKUP formula as shown below

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O		
1	ID#	LN	FN	Counselor	Summer Course Name 1	Room 1	Q# 1	Quarter Dates	Address	City	State	Zip Code					
2	794695	Gonzalez	Belen	Joni Gordon	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017	=VLOOKUP(I								
3	787683	Cortez Pille	Miguel	Joni Gordon	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017	VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])								
4	794670	Alvarez Moreno	Rosario	Joel Rebello	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017									
5	794886	Manzo Garcia	Hector	Joel Rebello	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017									
6	794607	Escorza	Esmeralda	Joel Rebello	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017									

1. **A2** is the **lookup_value**, or the value you want to look up.
2. **'Home Primary Address'!A:H** (highlighted in yellow in the table) is **table_array**, or the range where the lookup value is located – this comes from the tab entitled “Home Primary Address”.

	A	B	C	D	E	F	G	H	I	J	K	L
	ID	Last	First	Grade	Address	City	State	Zip				
	794749	Abad	Amy	9	630 Fan Tail Way 702	Redwood City	CA	94063				
	787007	Abad	Joseph	12	630 Fan Tail Way 702	Redwood City	CA	94063				
	784199	Abarca Duran	Bryan	12	341 Poplar Ave 1	Redwood City	CA	94061-3016				
	787116	Abdel Malek	Rita	11	122 Lincoln Ave	Redwood City	CA	94061-2323				
	797349	Abdelgawad	Hamdi	9	1107 Second Ave 111	Redwood City	CA	94063				

3. **5** is col_index_num, or the column number in table_array that contains the return value. In this example, the fifth column in the table array is the street address, so the formula output will be a value from the "Address" column.

```
=VLOOKUP(A2,'Home Primary Address'!A:H,5, FALSE)
```

4. **FALSE** is range_lookup, so the return value will be an exact match.

```
=VLOOKUP(A2,'Home Primary Address'!A:H,5, FALSE)
```

5. Output of the VLOOKUP formula is *505 Hampshire Ave 2*, the street address of that specific student.

ID#	LN	FN	Counselor	Summer Course Name 1	Room 1	Q# 1	Quarter Dates	Address
794695	Gonzalez	Belen	Joni Gordon	Algebra I-P Sem 1	B-8	Q1	06/19/2017 - 07/07/2017	505 Hampshire Ave 2

- You can quickly copy the formula into adjacent cells by using the fill handle. When you drag the handle to other cells, Excel will show different results for each cell.



1. Select the cell that has the formula you want to fill into adjacent cells.
2. Rest your cursor in the lower-right corner so that it turns into a plus sign (+), like this:

	A	B	C	D
1		Jan	Feb	TOTAL
2	Bikes	100	200	300
3	Toys	200	50	
4	Games	300	100	
5				

3. Drag the fill handle down, up, or across the cells that you want to fill. In this example, we are dragging the fill handle down:

	A	B	C	D
1		Jan	Feb	TOTAL
2	Bikes	100	200	300
3	Toys	200	50	
4	Games	300	100	
5				

4. When you let go, the formula gets automatically filled to the other cells:

	A	B	C	D
1		Jan	Feb	TOTAL
2	Bikes	100	200	300
3	Toys	200	50	250
4	Games	300	100	400
5				

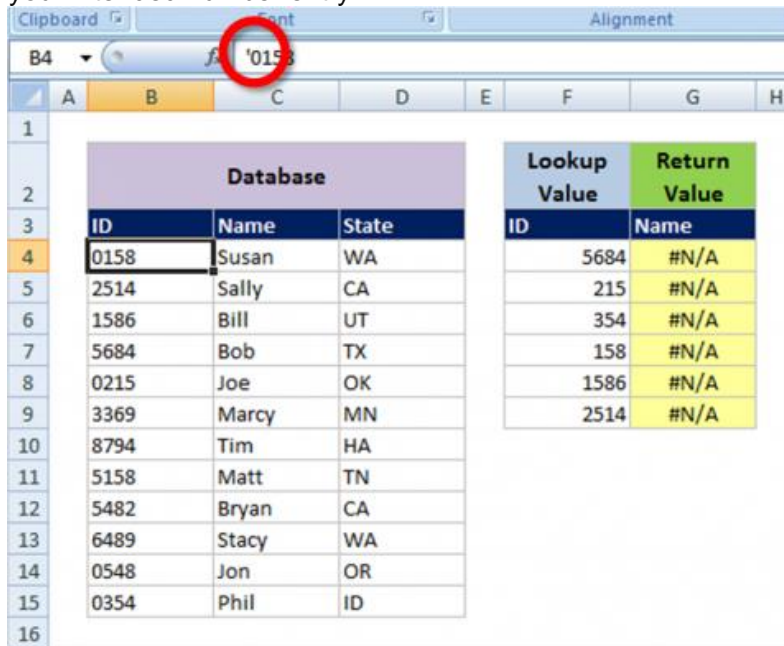
VLOOKUP Not Working?

Here are some reasons why your VLOOKUP formula may not work:

1. You Have Your Numbers Formatted as Text
2. You Have a Trailing Space at the End of Your Values
3. You Forgot to Reference Lock Your Arrays

1. You Have Your Numbers Formatted as Text

None of your [VLOOKUPs](#) are working, so you click on the lookup reference of your data set. In the formula bar you see an apostrophe before your intended number entry.



Database		
ID	Name	State
0158	Susan	WA
2514	Sally	CA
1586	Bill	UT
5684	Bob	TX
0215	Joe	OK
3369	Marcy	MN
8794	Tim	HA
5158	Matt	TN
5482	Bryan	CA
6489	Stacy	WA
0548	Jon	OR
0354	Phil	ID

Lookup Value	Return Value
ID	Name
5684	#N/A
215	#N/A
354	#N/A
158	#N/A
1586	#N/A
2514	#N/A

Solution: **Multiply** all of your lookup values by 1.

This usually occurs when someone is trying to show a leading zero in front a number. (A better way to do that is with custom formatting) This can also happen from standard outputs of common source systems, such as Great Plains.

Multiplying a value by 1 is the easiest way to convert a value to a number. Notice how your values are now aligned to the right, indicating that it is actually a number.

Database			Lookup Value	Return Value
ID	Name	State	ID	Name
158	Susan	WA	5684	Bob
2514	Sally	CA	215	Joe
1586	Bill	UT	354	Phil
5684	Bob	TX	158	Susan
215	Joe	OK	1586	Bill
3369	Marcy	MN	2514	Sally
8794	Tim	HA		
5158	Matt	TN		
5482	Bryan	CA		
6489	Stacy	WA		
548	Jon	OR		
354	Phil	ID		

It is possible to do a VLOOKUP of the TEXT of your lookup values, but this method doesn't truly solve the problem. Additionally, if your error comes from a data set that has both text and numbers, all your number lookups will then become erroneous. Using the multiply by 1 technique is the best way to address this issue.

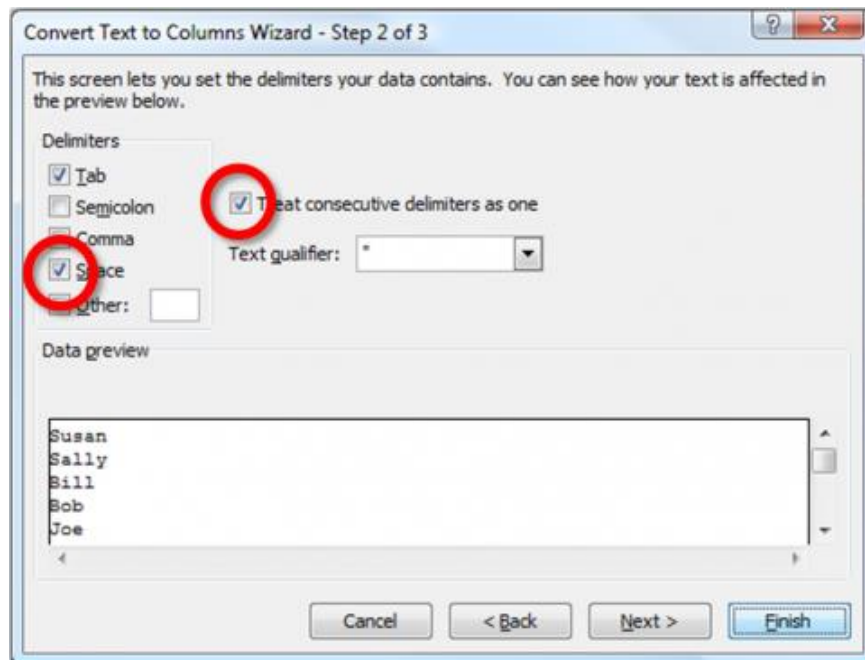
2. You Have a Trailing Space at the End of Your Values

In this example, we have a VLOOKUP formula that, from a surface view, should work as planned. But why are none of the values returning results? The answer is invisible to the naked eye. To actually see your problem, you need to highlight your lookup values and click your cursor past the very end of the entry. Yes, there's an extra space at the end of the input.

Database			Lookup Value	Return Value
ID	Name	State	ID	Name
158	Susan	WA	Bob	#N/A
2514	Sally	CA	Joe	#N/A
1586	Bill	UT	Phil	#N/A
5684	Bob	TX	Susan	#N/A
215	Joe	OK	Bill	#N/A
3369	Marcy	MN	Sally	#N/A
8794	Tim	HA		
5158	Matt	TN		
5482	Bryan	CA		
6489	Stacy	WA		
548	Jon	OR		
354	Phil	ID		

Typically this error occurs in the lookup reference of your larger data set. It happens when people import their data from different source systems, or through flawed programming logic that neglects to remove the space in the first place. Whatever the case, the solution to this problem is easy.

Solution: Use **Data – Text to Columns** on your data set. Check the box to delimit new columns with “spaces” and to treat consecutive delimiters as one, just in case there is more than one space. Assuming your data entries are each only one word, you won't run the risk of deleting any data.



3. You Forgot to Reference Lock Your Arrays

People rarely use the [VLOOKUP formula](#) to lookup just one value. If you're adding an additional field to your data set or looking up based on a set of values, you're going to need to drag your formula to copy it downward. So you double click the lower right hand corner of the cell to populate the formula down, and lo and behold, only half the formulas are working.

Clipboard		Font		Alignment			
G4		fx		=VLOOKUP(F4,B4:D15,,FALSE)			
A	B	C	D	E	F	G	H
1							
2	Database						
3	ID	Name	State				
4	158	Susan	WA				
5	2514	Sally	CA				
6	1586	Bill	UT				
7	5684	Bob	TX				
8	215	Joe	OK				
9	3369	Marcy	MN				
10	8794	Tim	HA				
11	5158	Matt	TN				
12	5482	Bryan	CA				
13	6489	Stacy	WA				
14	548	Jon	OR				
15	354	Phil	ID				
16							

Lookup Value	Return Value
ID	Name
5684	Bob
215	Joe
354	Phil
158	#N/A
1586	#N/A
2514	#N/A

Solution: Use the **F4 Key** to reference lock your arrays before dragging your formula down.

If you look at the example below, the lookup values you are trying to match are no longer in the lookup array and has actually shifted down. This is because you dragged the formula down without highlighting your array references and hitting F4. While the solution to this problem is relatively simple, it's still amazes me how many times people encounter this problem. Even if you don't intend to drag your formulas down, it's good practice to always reference lock your arrays when writing a VLOOKUP formula.

Clipboard		Font		Alignment		Nu			
SUM X ✓ fx =VLOOKUP(F7,B7:D18,2,FALSE)									
	A	B	C	D	E	F	G	H	I
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									

Database		
ID	Name	State
158	Susan	WA
2514	Sally	CA
1586	Bill	UT
5684	Bob	TX
215	Joe	OK
3369	Marcy	MN
8794	Tim	HA
5158	Matt	TN
5482	Bryan	CA
6489	Stacy	WA
548	Jon	OR
354	Phil	ID

Lookup Value	Return Value
ID	Name
5684	Bob
215	Joe
354	Phil
158	=VLOOKUP(F7,B7:D18,2,FALSE)
1586	#N/A
2514	#N/A

Database		
ID	Name	State
158	Susan	WA
2514	Sally	CA
1586	Bill	UT
5684	Bob	TX
215	Joe	OK
3369	Marcy	MN
8794	Tim	HA
5158	Matt	TN
5482	Bryan	CA
6489	Stacy	WA
548	Jon	OR
354	Phil	ID

Lookup Value	Return Value
ID	Name
5684	Bob
215	Joe
354	Phil
158	
1586	#N/A
2514	#N/A

=VLOOKUP(F7,B7:D18,2,FALSE)