

MS Excel: How to use the VLOOKUP Function (WS)

<https://www.techonthenet.com/excel/formulas/vlookup.php>

The VLOOKUP function performs a vertical lookup by searching for a value in the first column of a *table* and returning the value in the same row in the *index_number* position.

	A	B	C	D	E	F	G
1	Order ID	Product	Unit Price	Quantity		Pears	
2	10247	Apples	\$14.00	12			
3	10249	Oranges	\$9.80	10			
4	10250	Bananas	\$34.80	5			
5	10251	Pears	\$18.60	9			
6	10252	Grapes	\$42.30	40			
7							

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VLOOKUP(value, table, index_number, [approximate_match])

Syntax

- **value:** The value to search for in the first column of the *table*.
- **table:** Two or more columns of data that is sorted in ascending order.
- **index_number:** The column number in *table* from which the matching value must be returned. When counting, the first column is column 1.
- **approximate_match:** Optional. Enter FALSE to find an exact match. Enter TRUE to find an approximate match. If this parameter is omitted, TRUE is the default.

Returns

- The VLOOKUP function returns any datatype such as a string, numeric, date, etc.
- If you specify FALSE for the *approximate_match* parameter and no exact match is found, then the VLOOKUP function will return #N/A.
- If you specify TRUE for the *approximate_match* parameter and no exact match is found, then the next smaller value is returned.

- **Example (as Worksheet Function)**

Let's explore how to use VLOOKUP as a worksheet function in Microsoft Excel.

	A	B	C	D	E	F	G
1	Order ID	Product	Unit Price	Quantity		Pears	
2	10247	Apples	\$14.00	12			
3	10249	Oranges	\$9.80	10			
4	10250	Bananas	\$34.80	5			
5	10251	Pears	\$18.60	9			
6	10252	Grapes	\$42.30	40			
7							

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Based on the Excel spreadsheet above, the following VLOOKUP examples would return:

```
=VLOOKUP(10251, A1:B6, 2, FALSE)
```

Result: "Pears" 'Returns value in 2nd column

```
=VLOOKUP(10251, A1:C6, 3, FALSE)
```

Result: \$18.60 'Returns value in 3rd column

```
=VLOOKUP(10251, A1:D6, 4, FALSE)
```

Result: 9 'Returns value in 4th column

```
=VLOOKUP(10248, A1:B6, 2, FALSE)
```

Result: #N/A 'Returns #N/A error (no exact match)

```
=VLOOKUP(10248, A1:B6, 2, TRUE)
```

Result: "Apples" 'Returns an approximate match

Example: Merging Spotify and iTunes data

Using VLOOKUP(value, table, index_number, FALSE)

yr	mon	day	date	streams	iTunes
2013	5	5	20130505	31,942,073	=VLOOKUP(D2,iTunes!\$D\$1:\$E\$202,2,FALSE)
2013	5	12	20130512	31,371,968	=VLOOKUP(D3,iTunes!\$D\$1:\$E\$202,2,FALSE)
2013	5	19	20130519	31,017,323	=VLOOKUP(D4,iTunes!\$D\$1:\$E\$202,2,FALSE)
2013	5	26	20130526	34,001,875	=VLOOKUP(D5,iTunes!\$D\$1:\$E\$202,2,FALSE)
2013	6	2	20130602	31,184,484	#N/A
2013	6	9	20130609	29,343,206	#N/A
2013	6	16	20130616	28,705,940	#N/A
2013	6	23	20130623	32,237,249	#N/A
2013	6	30	20130630	29,214,515	#N/A
2013	7	7	20130707	26,108,416	#N/A
2013	7	14	20130714	32,277,073	#N/A
2013	7	21	20130721	29,812,877	#N/A
2013	7	28	20130728	28,677,559	#N/A
2013	8	4	20130804	27,762,893	#N/A
2013	8	11	20130811	27,642,587	#N/A
2013	8	18	20130818	29,782,019	#N/A
2013	8	25	20130825	32,028,083	#N/A
2013	9	1	20130901	35,123,359	#N/A
2013	9	8	20130908	34,893,383	#N/A
2013	9	15	20130915	37,840,228	#N/A
2013	9	22	20130922	36,588,412	4128
2013	9	29	20130929	43,524,629	3570
2013	10	6	20131006	40,531,003	3432
2013	10	13	20131013	37,620,258	3512
2013	10	20	20131020	34,964,826	3596

Using Stata's merge command

```
. import excel "Spotify iTunes v2.xls", sheet("Spotify") firstrow
. list in 1/2
```

```
+-----+
|   yr   mon   day       date   streams |
+-----+
1. | 2013     5     5   20130505   31942073 |
2. | 2013     5    12   20130512   31371968 |
+-----+
```

```
. save "spotify v2.dta"
. clear
. import excel "Spotify iTunes v2.xls", sheet("iTunes") firstrow
. list in 1/2
```

```
+-----+
|   yr   mon   day       date   iTunes |
+-----+
1. | 2013     9    22   20130922     4128 |
2. | 2013     9    29   20130929     3570 |
+-----+
```

```
. merge 1:1 date using "spotify v2.dta"
```

```
Result                                # of obs.
-----
not matched                            21
  from master                           0  (_merge==1)
  from using                             21  (_merge==2)

matched                                201  (_merge==3)
-----
```

```
. format streams iTunes %15.0fc
. list
```

```
+-----+
|   yr   mon   day       date   iTunes   streams   _merge |
+-----+
1. | 2013     9    22   20130922     4,128   36,588,412   matched (3) |
2. | 2013     9    29   20130929     3,570   43,524,629   matched (3) |
+-----+
195. | 2017     7    13   20170713     1,319   240,124,437   matched (3) |
196. | 2017     7    20   20170720     1,229     .         matched (3) |
197. | 2017     7    27   20170727     1,204   232,019,884   matched (3) |
+-----+
201. | 2017     8    24   20170824     1,165   225,211,159   matched (3) |
202. | 2013     5     5   20130505     .       31,942,073   using only (2) |
203. | 2013     5    12   20130512     .       31,371,968   using only (2) |
204. | 2013     5    19   20130519     .       31,017,323   using only (2) |
205. | 2013     5    26   20130526     .       34,001,875   using only (2) |
+-----+
```

Could have used:

```
. merge 1:1 yr mon day using "spotify v2.dta"
```