

If you want to experiment with lookup functions before you try them out with your own data, here's some sample data.

### VLOOKUP Example at work

Copy the following data into a blank spreadsheet.

**Tip:** Before you paste the data into Excel, set the column widths for columns A through C to 250 pixels, and click **Wrap Text** (Home tab, Alignment group).

Density	Viscosity	Temperature
0.457	3.55	500
0.525	3.25	400
0.606	2.93	300
0.675	2.75	250
0.746	2.57	200
0.835	2.38	150
0.946	2.17	100
1.09	1.95	50
1.29	1.71	0
Formula	Description	Result
=VLOOKUP(1,A2:C10,2)	Using an approximate match, searches for the value 1 in column A, finds the largest value less than or equal to 1 in column A which is 0.946, and then returns the value from column B in the same row.	2.17
=VLOOKUP(1,A2:C10,3,TRUE)	Using an approximate match, searches for the value 1 in column A, finds the largest value less than or equal to 1 in column A, which is 0.946, and then returns the value from column C in the same row.	100
=VLOOKUP(0.7,A2:C10,3,FALSE)	Using an exact match, searches for the value 0.7 in column A. Because there is	#N/A

Density	Viscosity	Temperature
	no exact match in column A, an error is returned.	
=VLOOKUP(0.1,A2:C10,2,TRUE)	Using an approximate match, searches for the value 0.1 in column A. Because 0.1 is less than the smallest value in column A, an error is returned.	#N/A
=VLOOKUP(2,A2:C10,2,TRUE)	Using an approximate match, searches for the value 2 in column A, finds the largest value less than or equal to 2 in column A, which is 1.29, and then returns the value from column B in the same row.	1.71

### HLOOKUP Example

Copy all the cells in this table and paste it into cell A1 on a blank worksheet in Excel.

**Tip:** Before you paste the data into Excel, set the column widths for columns A through C to 250 pixels, and click **Wrap Text** (Home tab, Alignment group).

Axles	Bearings	Bolts
4	4	9
5	7	10
6	8	11
Formula	Description	Result
=HLOOKUP("Axles", A1:C4, 2, TRUE)	Looks up "Axles" in row 1, and returns the value from row 2 that's in the same column (column A).	4
=HLOOKUP("Bearings", A1:C4, 3, FALSE)	Looks up "Bearings" in row 1, and returns the value from row 3 that's in the same column (column B).	7
=HLOOKUP("B", A1:C4, 3, TRUE)	Looks up "B" in row 1, and returns the value from row 3 that's in the same column. Because an exact match for "B" is not found, the largest	5

Axles	Bearings	Bolts
	value in row 1 that is less than "B" is used: "Axles," in column A.	
=HLOOKUP("Bolts", A1:C4, 4)	Looks up "Bolts" in row 1, and returns the value from row 4 that's in the same column (column C).	11
=HLOOKUP(3, {1,2,3;"a","b","c";"d","e","f"}, 2, TRUE)	Looks up the number 3 in the three-row array constant, and returns the value from row 2 in the same (in this case, third) column. There are three rows of values in the array constant, each row separated by a semicolon (;). Because "c" is found in row 2 and in the same column as 3, "c" is returned.	c

### INDEX and MATCH Examples

This last example employs the INDEX and MATCH functions together to return the earliest invoice number and its corresponding date for each of five cities. Because the date is returned as a number, we use the TEXT function to format it as a date. The INDEX function actually uses the result of the MATCH function as its argument. The combination of the INDEX and MATCH functions are used twice in each formula – first, to return the invoice number, and then to return the date.

Copy all the cells in this table and paste it into cell A1 on a blank worksheet in Excel.

**Tip:** Before you paste the data into Excel, set the column widths for columns A through D to 250 pixels, and click **Wrap Text** (Home tab, Alignment group).

Invoice	City	Invoice Date	Earliest invoice by city, with date
3115	Atlanta	4/7/12	= "Atlanta = "&INDEX(\$A\$2:\$C\$33,MATCH("Atlanta",\$B\$2:\$B\$33,0),1)& ", Invoice date: " & TEXT(INDEX(\$A\$2:\$C\$33,MATCH("Atlanta",\$B\$2:\$B\$33,0),3), "m/d/yy")
3137	Atlanta	4/9/12	= "Austin = "&INDEX(\$A\$2:\$C\$33,MATCH("Austin",\$B\$2:\$B\$33,0),1)& ", Invoice date: " & TEXT(INDEX(\$A\$2:\$C\$33,MATCH("Austin",\$B\$2:\$B\$33,0),3), "m/d/yy")

Invoice	City	Invoice Date	Earliest invoice by city, with date
3154	Atlanta	4/11/12	= "Dallas = "&INDEX(\$A\$2:\$C\$33,MATCH("Dallas",\$B\$2:\$B\$33,0),1)& ", Invoice date: " & TEXT(INDEX(\$A\$2:\$C\$33,MATCH("Dallas",\$B\$2:\$B\$33,0),3),"m/d/yy")
3191	Atlanta	4/21/12	= "New Orleans = "&INDEX(\$A\$2:\$C\$33,MATCH("New Orleans",\$B\$2:\$B\$33,0),1)& ", Invoice date: " & TEXT(INDEX(\$A\$2:\$C\$33,MATCH("New Orleans",\$B\$2:\$B\$33,0),3),"m/d/yy")
3293	Atlanta	4/25/12	= "Tampa = "&INDEX(\$A\$2:\$C\$33,MATCH("Tampa",\$B\$2:\$B\$33,0),1)& ", Invoice date: " & TEXT(INDEX(\$A\$2:\$C\$33,MATCH("Tampa",\$B\$2:\$B\$33,0),3),"m/d/yy")
3331	Atlanta	4/27/12	
3350	Atlanta	4/28/12	
3390	Atlanta	5/1/12	
3441	Atlanta	5/2/12	
3517	Atlanta	5/8/12	
3124	Austin	4/9/12	
3155	Austin	4/11/12	
3177	Austin	4/19/12	
3357	Austin	4/28/12	
3492	Austin	5/6/12	

Invoice	City	Invoice Date	Earliest invoice by city, with date
3316	Dallas	4/25/12	
3346	Dallas	4/28/12	
3372	Dallas	5/1/12	
3414	Dallas	5/1/12	
3451	Dallas	5/2/12	
3467	Dallas	5/2/12	
3474	Dallas	5/4/12	
3490	Dallas	5/5/12	
3503	Dallas	5/8/12	
3151	New Orleans	4/9/12	
3438	New Orleans	5/2/12	
3471	New Orleans	5/4/12	
3160	Tampa	4/18/12	
3328	Tampa	4/26/12	
3368	Tampa	4/29/12	
3420	Tampa	5/1/12	
3501	Tampa	5/6/12	

