How can I use the LOOKUP function in Excel to find specific data values within a table?

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June 30, 2024

The LOOKUP function in Excel is a powerful tool that allows users to easily find specific data values within a table. This function searches for a specified value in a range of cells and returns the corresponding value from a different location in the same table. It can be used to quickly retrieve information such as names, numbers, or dates from a large dataset. By specifying the lookup value and the table array, users can easily locate and extract the desired data from their spreadsheet. This function is especially useful for organizing and analyzing large amounts of data, saving users time and effort in manually searching for specific values.

Use LOOKUP, one of the lookup and reference functions, when you need to look in a single row or column and find a value from the same position in a second row or column.

For example, let's say you know the part number for an auto part, but you don't know the price. You can use the LOOKUP function to return the price in cell H2 when you enter the auto part number in cell H1.

B	C	D	E	F	G	H
Part Number	**Part Name**	**Part Price**	**Status**		**Part Number**	
A001	water pump	$68.39	In stock		**Part Price**	<enter the LOOKUP forumula here>
A002	alternator	$380.73	In stock			
A003	air filter	$15.49	In stock			
A004	wheel bearing	$35.16	In stock			

Use the LOOKUP function to search one row or one column. In the above example, we're searching prices in column D.

Tips: Consider one of the newer lookup functions, depending on which version you are using.

Use **VLOOKUP** to search one row or column, or to search multiple rows and columns (like a table). **It's a much improved version of LOOKUP**. **Watch this video about how to use VLOOKUP**.

If you are using Microsoft 365, use **XLOOKUP** - it's not only faster, it also lets you search in any direction (up, down, left, right).

There are two ways to use LOOKUP: Vector form and Array form

Vector form: Use this form of LOOKUP to search one row or one column for a value. Use the vector form when you want to specify the range that contains the values that you want to match. For example, if you want to search for a value in column A, down to row 6.

	A	B	C
1	Frequency	Color	
2	4.14	red	
3	4.19	orange	
4	5.17	yellow	
5	5.77	green	
6	6.39	blue	
7			

Array form: We strongly recommend using **VLOOKUP** or **HLOOKUP** instead of the array form. **Watch this video about using VLOOKUP**. The array form is provided for compatibility with other spreadsheet programs, but it's functionality is limited.

An array is a collection of values in rows and columns (like a table) that you want to search. For example, if you want to search columns A and B, down to row 6. LOOKUP will return the nearest match. To use the array form, your data must be sorted.

	A	B
1	Frequency	Color
2	4.14	red
3	4.19	orange
4	5.17	yellow
5	5.77	green
6	6.39	blue
7	8.44	white
8	9.33	purple

Vector form

The vector form of **LOOKUP** looks in a one-row or one-column range (known as a vector) for a value and returns a value from the same position in a second one-row or one-column range.

Syntax

LOOKUP(lookup_value, lookup_vector,)

The **LOOKUP** function vector form syntax has the following arguments:

lookup_value Required. A value that **LOOKUP** searches for in the first vector. **Lookup_value** can be a number, text, a logical value, or a name or reference that refers to a value.

lookup_vector Required. A range that contains only one row or one column. The values in **lookup_vector** can be text, numbers, or logical values.

Important: The values in **lookup_vector** must be placed in ascending order: ..., -2, -1, 0, 1, 2, ..., A-Z, FALSE, TRUE; otherwise, **LOOKUP** might not return the correct value. Uppercase and lowercase text are equivalent.

result_vector Optional. A range that contains only one row or column. The **result_vector** argument must be the same size as **lookup_vector**. It has to be the same size.

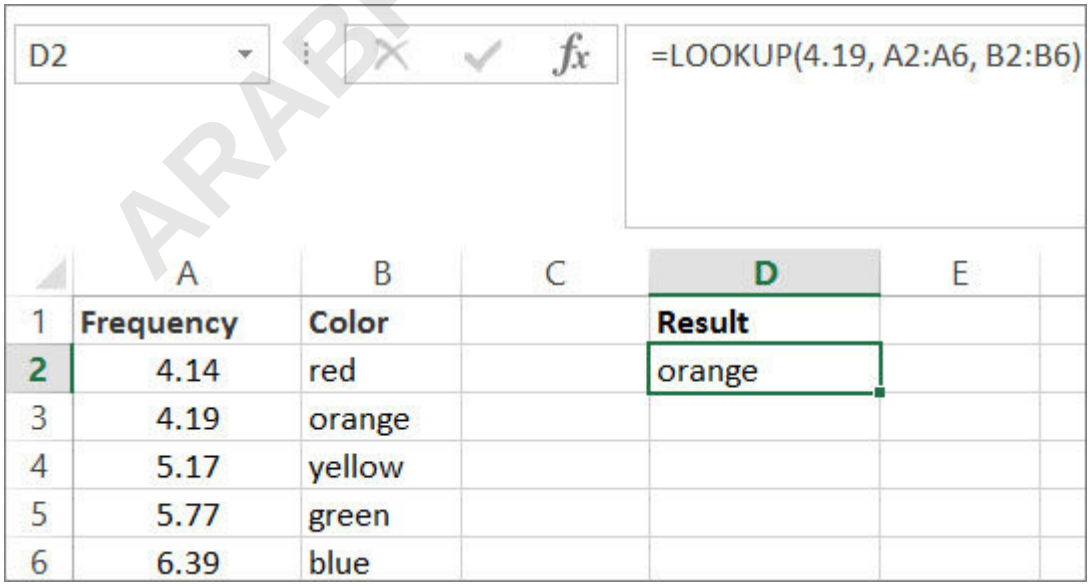
Remarks

If the **LOOKUP** function can't find the **lookup_value**, the function matches the largest value in **lookup_vector** that is less than or equal to **lookup_value**.

If **lookup_value** is smaller than the smallest value in **lookup_vector**, **LOOKUP** returns the #N/A error value.

Vector examples

You can try out these examples in your own Excel worksheet to learn how the LOOKUP function works. In the first example, you're going to end up with a spreadsheet that looks similar to this one:



Copy the data in following table, and paste it into a new Excel worksheet.

Copy this data into column A	Copy this data into column B
Frequency 4.14	**Color** red
4.19	orange
5.17	yellow
5.77	green
6.39	blue

Next, copy the LOOKUP formulas from the following table into column D of your worksheet.

Copy this formula into the D column	Here's what this formula does	Here's the result you'll see
Formula		
=LOOKUP(4.19, A2:A6, B2:B6)	Looks up 4.19 in column A, and returns the value from column B that is in the same row.	orange
=LOOKUP(5.75, A2:A6, B2:B6)	Looks up 5.75 in column A, matches the nearest smaller value (5.17), and returns the value from column B that is in the same row.	yellow
=LOOKUP(7.66, A2:A6, B2:B6)	Looks up 7.66 in column A, matches the nearest smaller value (6.39), and returns the value from column B that is in the same row.	blue
=LOOKUP(0, A2:A6, B2:B6)	Looks up 0 in column A, and returns an error because 0 is less than the smallest value (4.14) in column A.	#N/A

For these formulas to show results, you may need to select them in your Excel worksheet, press F2, and then press Enter. If you need to, adjust the column widths to see all the data.