

How to use Excel's VLOOKUP function

Before you start, you should understand the basics of functions. VLOOKUP works the same in all versions of Excel, and it even works in other spreadsheet applications like Google Sheets. Download **vlookuppractice** file from moodle.

What exactly is VLOOKUP?

Basically, VLOOKUP lets you **search for specific information** in your spreadsheet. For example, if you have a list of products with prices, you could search for the price of a specific item.

We're going to use VLOOKUP to find the price of the **Photo frame**. You can probably already see that the price is \$9.99, but that's because this is a simple example. Once you learn how to use VLOOKUP, you'll be able to use it with larger, more complex spreadsheets, and that's when it will become truly useful.

	A	B	C	D	E	F
1	Item	Price				
2	Spice rack	\$19.99				
3	Stationery	\$5.49				
4	Gift basket	\$25.99				
5	Cutting board	\$24.99				
6	Landscape painting	\$35.99				
7	Greeting card	\$4.99				
8	T-shirt	\$15.49				
9	Scarf	\$29.99				
10	Coffee mug	\$8.99				
11	Tea set	\$16.99				
12	Serving bowl	\$12.99				
13	Wrapping paper	\$3.99				
14	Photo frame	\$9.99				
15	Handmade soap	\$4.49				
16	Gourmet hot cocoa	\$5.99				

We'll add our formula to cell **E2**, but you can add it to any blank cell. As with any formula, you'll start with an equals sign (=). Then type the formula name. Our arguments will need to be in parentheses, so type an open parenthesis. So far, it should look like this:

=VLOOKUP(

Adding the arguments

Now, we'll add our arguments. The arguments will tell VLOOKUP what to search for and where to search.

The first argument is the **name of the item** you're searching for, which in this case is **Photo frame**. Because the argument is text, we'll need to put it in double quotes:

=VLOOKUP("Photo frame"

(Note: We could have also referred to "Photo frame" by its **cell reference**. This would actually make it easier if we intend to **copy** this formula.)

The second argument is the **cell range that contains the data**. In this example, our data is in A2:B16. As with any function, you'll need to use a comma to separate each argument:

=VLOOKUP("Photo frame", A2:B16

Note: It's important to know that VLOOKUP will **always search the first column** in this range. In this example, it will search column A for "Photo frame". In some cases, you may need to move the columns around so the first column contains the correct data.

Furthermore if you intend to **copy** this formula it's important that you ensure that this cell range uses **absolute cell references**.

The third argument is the **column index number**. It's simpler than it sounds: The first column in the range is 1, the second column is 2, etc. In this case, we are trying to find the **price of the item**, and the prices are contained in the **second column**. This means our third argument will be **2**:

=VLOOKUP("Photo frame", A2:B16, 2

The fourth argument tells VLOOKUP whether to look for **approximate matches**, and it can be either TRUE or FALSE. If it is TRUE, it will look for approximate matches. Generally, this is only useful if the first column has numerical values that have been sorted. Because we're only looking for exact matches, the fourth argument should be **FALSE**. This is our last argument, so go ahead and close the parentheses:

=VLOOKUP("Photo frame", A2:B16, 2, FALSE)

When you press Enter, it should give you the answer, which is **9.99**.

fx		=VLOOKUP("Photo frame", A2:B16, 2, FALSE)				
C	D	E	F	G		
		9.99				

How it works

Let's take a look at how this formula works. It first **searches vertically** down the first column (VLOOKUP is short for **vertical lookup**). When it finds "Photo frame", it **moves to the second column** to find the price.

	A	B	C	D
1	Item	Price		
2				
3				
4				
5				
6				
7	Greeting card	\$4.99		
8	T-shirt	\$15.49		
9	Scarf			
10	Coffee mug			
11	Tea set			
12	Serving bowl			
13	Wrapping paper			
14	Photo frame	\$9.99		
15	Handmade soap	\$4.49		
16	Gourmet hot cocoa	\$5.99		
17				

First, it searches
the first column for
"Photo frame"

Then, it finds
the price in the
second column

If we want to find the price of a different item, we can just change the first argument:

=VLOOKUP("T-shirt", A2:B16, 2, FALSE)

or:

=VLOOKUP("Gift basket", A2:B16, 2, FALSE)

Another example

Are you ready for a slightly more complicated example? Let's say we have a third column that has the category for each item. This time, instead of finding the price we'll find the category.

	A	B	C	
1	Item	Price	Category	
2	Spice rack	\$19.99	Kitchen	
3	Stationery	\$5.49	Writing	
4	Gift basket	\$25.99	Gifts	
5	Cutting board	\$24.99	Kitchen	
6	Landscape painting	\$35.99	Art	
7	Greeting card	\$4.99	Gifts	
8	T-shirt	\$15.49	Clothing	
9	Scarf	\$29.99	Clothing	
10	Coffee mug	\$8.99	Kitchen	
11	Tea set	\$16.99	Kitchen	
12	Serving bowl	\$12.99	Kitchen	
13	Wrapping paper	\$3.99	Gifts	
14	Photo frame	\$9.99	Gifts	
15	Handmade soap	\$4.49	Gifts	
16	Gourmet hot cocoa	\$5.99	Food	

To find the category, we'll need to **change the second and third arguments** in our formula. First, we'll change the range to **A2:C16** so it includes the third column. Next, we'll change the column index number to **3** because our categories are in the third column:

=VLOOKUP("Gift basket", A2:C16, 3, FALSE)

When you press Enter, you'll see that the Gift basket is in the **Gifts** category. (Note: We could have also referred to "Gift basket" by its cell reference)

fx				
=VLOOKUP("Gift basket", A2:C16, 3, FALSE)				
D	E	F	G	H
	Gifts			

Challenge!

Try to find out the following:

- The price of the coffee mug
- The category of the landscape painting
- The price of the serving bowl

- The category of the scarf

Now you know the basics of using VLOOKUP. Although advanced users sometimes use VLOOKUP in different ways, you can do a lot with the techniques we've covered. For example, if you have a contact list you could search for someone's name to find his or her phone number. If your contact list has columns for the email address or company name, you could search for those by simply changing the second and third arguments, as we did in our example.