

Welcome

Plan for Today

- How to find data in Excel
- How to use Lookup Functions
- Specific Lookup Function
MATCH, XMATCH, VLOOKUP, HLOOKUP, XLOOKUP, INDEX
- Combining Functions
- TechMentor Services

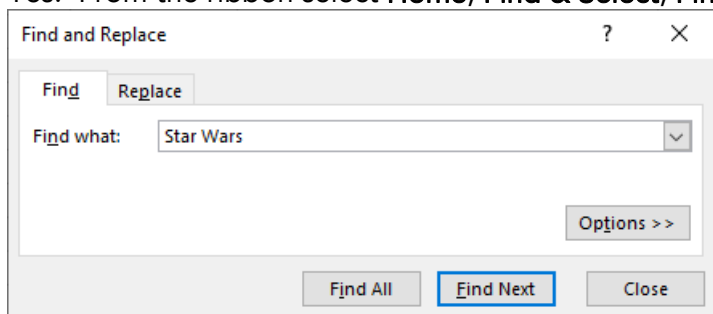
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How to find data in Excel

Does Excel have a search feature?

Yes. From the ribbon select **Home, Find & Select, Find...**



Enter the desired value.

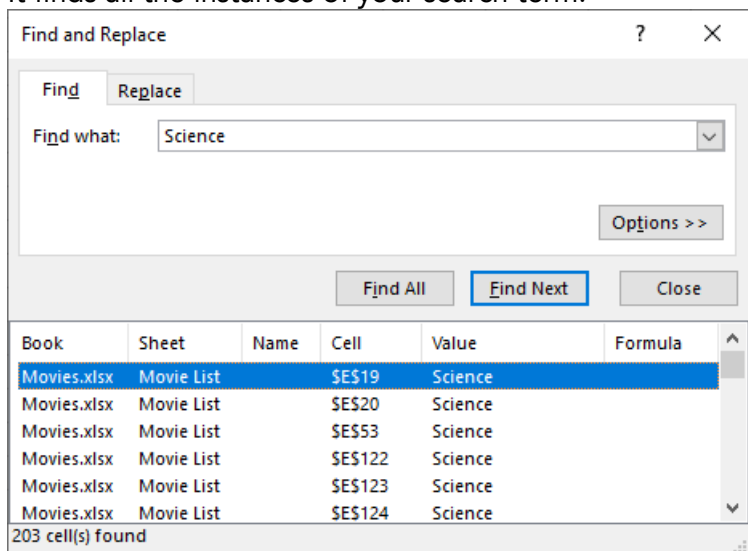
Click **Find Next**.

Is there a keyboard shortcut for Find?

Yes, use **Ctrl F**.

What does the Find All button do?

It finds all the instances of your search term.



Can I limit my search to specific cells?

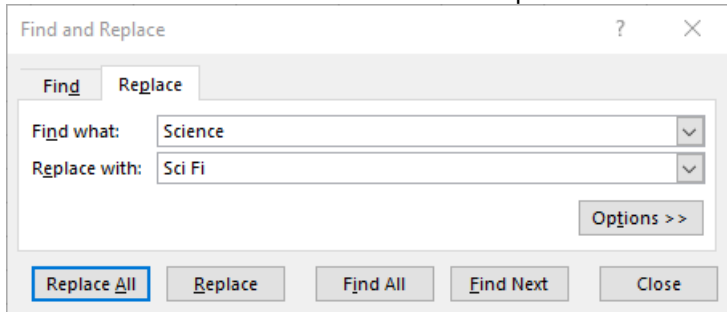
Yes. It is a two-step process.

1. First select the rows, columns, or range of cells you want to search.
2. Press **Ctrl F** or from the ribbon select **Home, Find & Select, Find...**

Can I do a Search and Replace?

Yes. From ribbon select **Home, Find & Select, Replace...**

Then enter the search value and the replacement value.

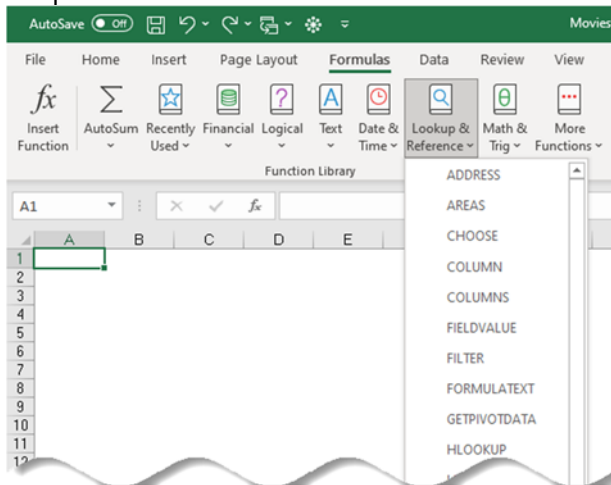


Click the **Replace** button to replace the next found instance or click the **Replace All** button replace all found instances.

How to use Lookup Functions

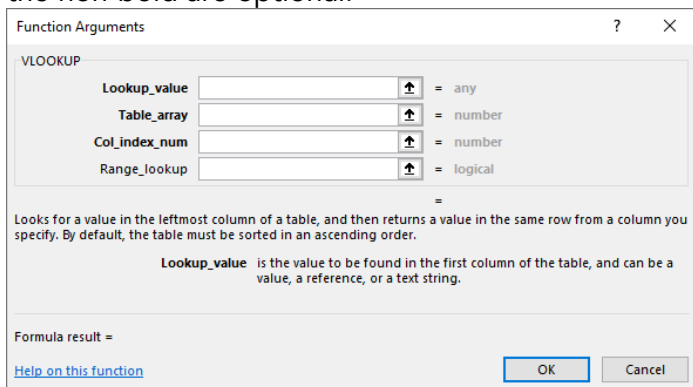
How do you get a formula to lookup information?

Microsoft Excel has many functions that can be used to lookup data from the spreadsheet. These can be found on the ribbon's Formulas tab under the Lookup & Reference drop down.



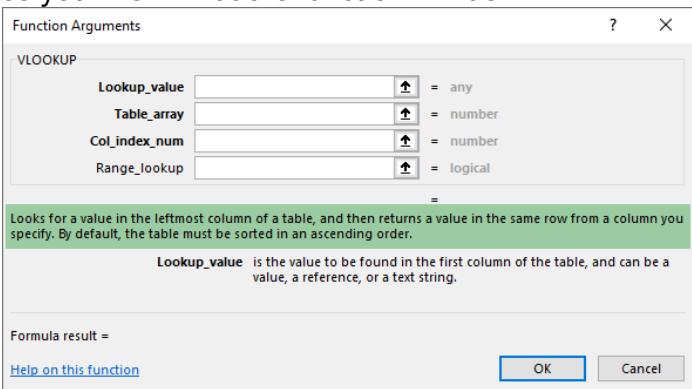
Arguments

Each of these functions will have one or more required arguments, and sometimes some optional arguments. As shown below, the arguments names in bold are required, and the non-bold are optional.



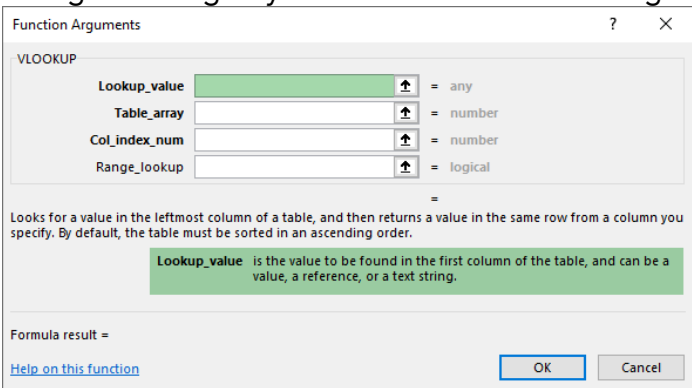
Function Description

Below the arguments the dialog box gives you a short description of the function. This description is worth reading so you know what the function will do.



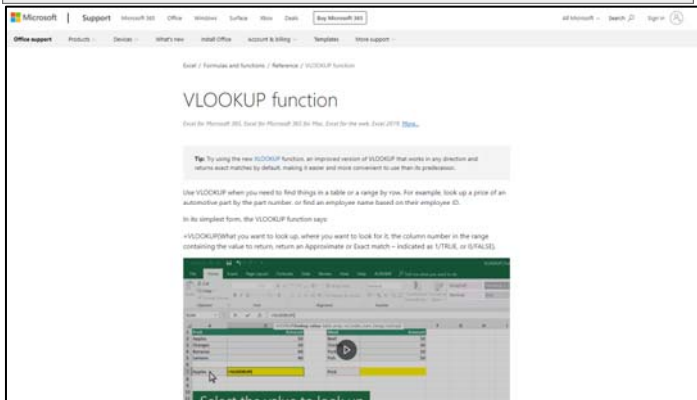
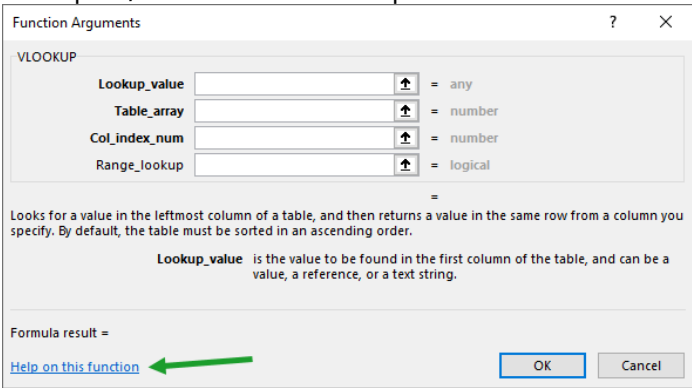
Argument Information

As you move your cursor through the various arguments, the dialog box will give you information about the argument.



Help

The dialog box includes a "Help on this function" hyperlink that will take you to a Microsoft webpage with descriptions, examples, and sometimes helpful videos.



Specific Lookup Functions

MATCH

Description:

Calculates the relative position of an item in a range of cells.

Syntax:

MATCH(Lookup_value, Lookup_array, match_type)

Arguments:

Lookup_value Required	The value you want to find
Lookup_array Required	The range of cells that will contain the lookup_value.
Match_type Optional	Enter 0 to find the position of an exact match. Leave blank or enter 1 to find the closest value without going over. The data must be sorted in ascending order or weird things happen. Enter -1 to find the closest value without going under. The data must be in descending order or weird things happen.

XMATCH

Description:

New and improved version of Match. It also calculates the relative position of an item in a range of cells, but the default is an exact match.

Syntax:

XMATCH(Lookup_value, Lookup_array, match_type)

Arguments

Lookup_value Required	The value you want to find
Lookup_array Required	The range of cells that will contain the lookup_value.
Match_mode Optional	Leave blank or enter 0 to find the position of an exact match. Enter -1 to find exact match or next smaller item. Enter 1 to find exact match or next larger item.
Search_mode Optional	Enter 1 to search from first to last Enter -1 to search from last to first Enter 2 to search with data in ascending order -2 : Search with data in descending order

VLOOKUP

Description:

Performs a vertical lookup. Looks for a value in the leftmost column of a table or range of cells, and then returns the value from the specified column of that same row.

Syntax:

VLOOKUP(Lookup_value, Table_array, Col_index_num, Range_lookup)

Arguments

Lookup_value Required	The value to find
Table_array Required	The table or range of cells where the value can be found.
Col_index_num Required	The column number in the table from which the value is to be returned.
Range_lookup Optional	Leave blank or enter TRUE to find the closest match . Enter FALSE to find only an exact match .

VLOOKUP Tip #1

Make sure the search column is the leftmost column of the Table_array, otherwise the function will return an error.

The lookup value (score) should be the leftmost column of the source table.

Score should be in column H.
Grade should be in column I.

VLOOKUP Tip #2

Make sure the table_array is sorted from lowest to highest (ascending order) otherwise the function will return the wrong results when searching for the closest value.

The lookup value (score) should be sorted from lowest to highest (ascending order).

VLOOKUP Tip #3

Remember the column_index_num is relative to the table_array not to the sheet.

Even though Grade is the 3rd column of the sheet, the column_index_num should be 2 because Grade is the 2nd column of the table_array.

VLOOKUP Tip #4

Create a named ranges and use them in the formula because named ranges are easier to read than range addresses.

	A	B	C	D	E	F	G	H	I	J
1										
2										
3			Name	Score	Grade	=VLOOKUP(C3,GradeTable,2) 🟢		Score	Grade	
4			Rose	88	B	=VLOOKUP(C3,\$H\$3:\$I\$7,2) 🟡		50	F	
5			Summer	95	A			60	D	
6			Winter	55	F			70	C	
7			Daisy	67	D			80	B	
8			Titan	93	A			90	A	
9			Bud	71	C					
10			Peanut	82	B					

Named ranges like "GradeTable" are easier to read than range addresses like \$H\$3:\$I\$7.

VLOOKUP Tip #5

Put the VLOOKUP function inside an IFERROR function to replace unfriendly error messages with friendly ones.

	A	B	C	D	E	F	G	H	I	J
1										
2										
3			Name	Score	Grade	=VLOOKUP(C3,GradeTable,2) 🟡		Score	Grade	
4			Salty	?	#N/A	=IFERROR(VLOOKUP(C4,GradeTable,2),"Not found") 🟢		50	F	
5			Pepper	?	Not found			60	D	
6								70	C	
7								80	B	
8								90	A	
9										
10										

Since ? is not in the source table the #N/A error appears. The IFERROR function lets us replace the error with something more user friendly.

HLOOKUP

Description:

Performs a horizontal lookup. Looks for a value in the top row of a table or range of cells, and then returns the value from the specified row of that same column.

Syntax:

HLOOKUP(Lookup_value, Table_array, Row_index_num, Range_lookup)

Arguments

Lookup_value Required	The value to find
Table_array Required	The table or range of cells where the value can be found.
Row_index_num Required	The row number in the table from which the value is to be returned.
Range_lookup Optional	Leave blank or enter TRUE to find the closest match . Enter FALSE to find only an exact match .

XLOOKUP

Description:

Looks for a value in one range of cells and returns the corresponding value from a second range of cells.

Syntax:

XLOOKUP(Lookup_value, Lookup_array, Return_array, If_not_found, Match_mode, Search_mode)

Arguments

Lookup_value Required	The value to find
Lookup_array Required	The range of cells to search

Return_array Required	The range of cells where the return value is located.
If_not_found Optional	When the search value is not found, this value will be returned if provided. If this is left blank, and the search value is not found, #N/A is returned.
Match_mode Optional	Enter 0 or blank to find an exact match . Enter -1 to find an exact match or a smaller value . Enter 1 to find an exact match or a larger value . Enter 2 if your search value includes a wildcard.
Search_mode Optional	Enter 1 or blank to search from the first item to the last item. Enter -1 to search from the last item to the first item. Enter 2 to do a case sensitive search of data that is in ascending order. Enter -2 to do a case sensitive search of data that is in descending order.

INDEX

Description:

Finds the value from a table or range of cells that is at the intersection of the specified row and column numbers.

Syntax:

INDEX(Array, Row_num, Column_num)

Arguments

Array Required	The table or range of cells to search
Row_num Required	Specifies the desired row number within the table or range of cells.
Column_num Optional	Specifies the desired column number within the table or range of cells.

INDEX and XMATCH

Description:

Using INDEX and XMATCH together is like a VLOOKUP that uses ID and Field Name

Syntax:

INDEX(Array, Row_num, **XMATCH**(Field, ColHeadings))

Arguments

Array Required	The table or range of cells to search
Row_num Required	Specifies the desired row number within the table or range of cells.

Field Required	Specifies the name of the field whose data you want to view.
ColHeadings Required	Specifies the location of the column headings

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