

LOOKUP

Lookup returns a value either from a one-row or one-column range or from an array. The LOOKUP function has two syntax forms: vector and array.

- 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. Use this form of LOOKUP when you want to specify the location of the column or row.

Syntax:

LOOKUP (Lookup_value, Lookup_vector, Result_vector)

Example:

	A	B	C
3	Frequency	Color	
4	4.14234	red	=LOOKUP(4.91,A4:A9,B4:B9)
5	4.19342	orange	
6	5.17234	yellow	
7	5.77343	green	
8	6.38987	blue	
9	7.31342	violet	

- The **array** form of LOOKUP looks in the first row or column of an array for the specified value and returns a value from the same position in the last row or column of the array. Use this form of LOOKUP when the values you want to match are in the first row or column of the array.

Syntax

LOOKUP (lookup_value, array)

Example

	A	B	C
3	Frequency	Color	
4	4.14234	red	=LOOKUP(4.91,B4:C9)
5	4.19342	orange	
6	5.17234	yellow	
7	5.77343	green	
8	6.38987	blue	
9	7.31342	violet	

HLOOKUP

HLOOKUP searches for a value in the top row of a table or an array of values, and then returns a value in the same column from a row you specify in the table or array. Use HLOOKUP when your comparison values are located in a row across the top of a table of data, and you want to look down a specified number of rows.

Syntax

HLOOKUP (lookup_value, table_array, row_index_num, range_lookup)

Example

	A	B	C
3	Frequency	Color	
4	4.14234	red	
5	4.19342	orange	=HLOOKUP(red,A3:B9,6,TRUE)
6	5.17234	yellow	
7	5.77343	green	
8	6.38987	blue	
9	7.31342	violet	

VLOOKUP

VLOOKUP searches for a value in the left most column of a table, and then returns a value in the same row from a column you specify. By default, the table MUST be sorted in ASCENDING order.

Syntax

VLOOKUP (lookup_value, table_array, col_index_num, range_lookup)

Example

	A	B	C
3	Frequency	Color	
4	4.14234	red	
5	4.19342	orange	=VLOOKUP(4.14234,A2:C9,3)
6	5.17234	yellow	
7	5.77343	green	
8	6.38987	blue	
9	7.31342	violet	

Notes/Tips

- **Array** is a range of cells that contains text, numbers or logical values that you want to compare with LOOKUP function. LOOKUP function searches according to dimension of the array. Also note, that values must be in ascending order, otherwise LOOKUP may not give you the correct values. LOOKUP function is NOT Case sensitive.
- You can name a single cell (A1) or range of cells (A2:C9) to make formulas easier to read and remember. Here's how to create a *named range*.
 - Click Insert —> Name —> Define...
 - Type in the name into "Names into workbook"
 - Click on "Refers to:" box
 - Using Mouse highlight the area you want to name
 - Click OK – YOU ARE DONE

DATA TABLES

A what-if worksheet is used to answer a question based on one or more factors that might influence the outcome. One easy method of solving this type of problem is to use Data Tables. There are three rules for creating a data table:

1. The **column and row input values** that the formula will refer to must be outside the table.
2. The **formula** must be in the top-left cell of the table range and must refer to the column and row input values.
3. The **substitution values** for the table must be arranged in the first row and column of the table.

PIVOT TABLES

Excel provides a very powerful tool for summarizing data in a list called a **pivot table**. Using pivot table you can:

- Use functions to summarize data fields.
- Show only the fields you specify.
- Hide or show details in the pivot table.
- Change the orientation of labels in the pivot table to rows or columns.
- Filter the results to summarize only the records you specify.