VLookup

VLOOKUP is an Excel and Google Sheets function that stands for "Vertical Lookup." It's used to find a specific piece of information in a table or range of data and return a corresponding value from a different column in the same row. Think of it as a search tool for your spreadsheet.

**How it Works**

The VLOOKUP function works by searching down the **first column** of a designated table for a specified value. Once it finds an exact (or approximate) match, it moves horizontally across that same row to a column you specify and retrieves the data from that cell.

**VLOOKUP Syntax**

The basic syntax for the VLOOKUP function is:

=VLOOKUP(lookup\_value, table\_array, col\_index\_num, [range\_lookup])

Here's a breakdown of each part of the formula:

* **lookup\_value**: This is the value you want to search for, like a product ID or an employee name. You can either type the value directly (in quotes) or, more commonly, reference a cell that contains the value.
* **table\_array**: This is the range of cells that contains all your data. The lookup\_value must be in the very first column of this range.
* **col\_index\_num**: This is the column number within your table\_array that contains the data you want to retrieve. The first column of the table\_array is 1, the second is 2, and so on.
* **[range\_lookup]** (Optional): This argument tells VLOOKUP whether to look for an exact or approximate match.
  + FALSE: Finds an **exact** match. This is the most common and recommended choice for most lookups, as it prevents errors from accidental approximate matches.
  + TRUE: Finds an **approximate** match. This is used when your lookup data is sorted and you need to find the closest value less than or equal to your lookup\_value. If you omit this argument, it defaults to TRUE.

For example, to find the price of a specific product using its name:

=VLOOKUP("Apple", A2:C10, 3, FALSE)

In this formula:

* "Apple" is the lookup\_value.
* A2:C10 is the table\_array, where column A contains the product names and column C contains the prices.
* 3 is the col\_index\_num because the price is in the third column of the table\_array.
* FALSE ensures VLOOKUP only returns the price for "Apple" and not a similar-sounding product like "Applesauce."

HLookup

HLOOKUP, which stands for **Horizontal Lookup**, is a function in Excel and other spreadsheet programs that searches for a value across the **top row** of a table. Once it finds a match, it returns a corresponding value from a specific row below it in the same column.

**How it Works**

Imagine your data is set up with categories like "Quarter 1," "Quarter 2," and "Quarter 3" in a row, and the sales figures for each quarter are in the rows below. HLOOKUP lets you find a specific quarter and then pull the sales number from the row you specify. It is the horizontal counterpart to VLOOKUP, which is used for vertically-oriented data.

**HLOOKUP Syntax**

The basic syntax is as follows:

=HLOOKUP(lookup\_value, table\_array, row\_index\_num, [range\_lookup])

* **lookup\_value**: The value you want to search for in the first row. This can be a value, a cell reference, or a text string.
* **table\_array**: The range of cells that contains your data. The lookup\_value must be in the top row of this range.
* **row\_index\_num**: The row number within the table\_array from which you want to retrieve the data. The top row of the table\_array is considered row 1.
* **[range\_lookup]** (Optional): A logical value (TRUE or FALSE) that determines the type of match.
  + FALSE: Finds an **exact** match. This is the most common and safest option. If no exact match is found, it returns an #N/A error.
  + TRUE: Finds an **approximate** match. It will return the largest value that is less than or equal to the lookup\_value. This requires the top row of your table\_array to be sorted in ascending order. If you omit this argument, it defaults to TRUE.

For instance, to find the sales for "Q3" from a table where the quarters are in the first row and sales figures are in the second, you'd use a formula like this:

=HLOOKUP("Q3", A1:C2, 2, FALSE)

In this example, HLOOKUP will search for "Q3" in the range A1:C2 and, upon finding it, will return the value from the second row in that same column.

How to Use HLOOKUP in Excel

This video provides a tutorial on how to use the HLOOKUP function in Excel.