

Excel – the XLOOKUP Function

What is the XLOOKUP function?

The XLOOKUP function (available in Microsoft 365) searches for an item in a range of cells and returns a corresponding piece of information from the same row as the search item. For example, you could enter a Student ID as the search item and have the XLOOKUP return their name.

Why would I use it?

It's a very flexible function as it can look for information anywhere in a range of cells; it can round up or down for approximate matches; there are more choices about how the information is sorted and you can use wildcards like * or ? in search items. Older functions like VLOOKUP were limited in where they could look, how information was sorted and 'broke' if you changed the columns in the table you were searching. XLOOKUP can also be combined with other functions in Excel to create complex formulas.

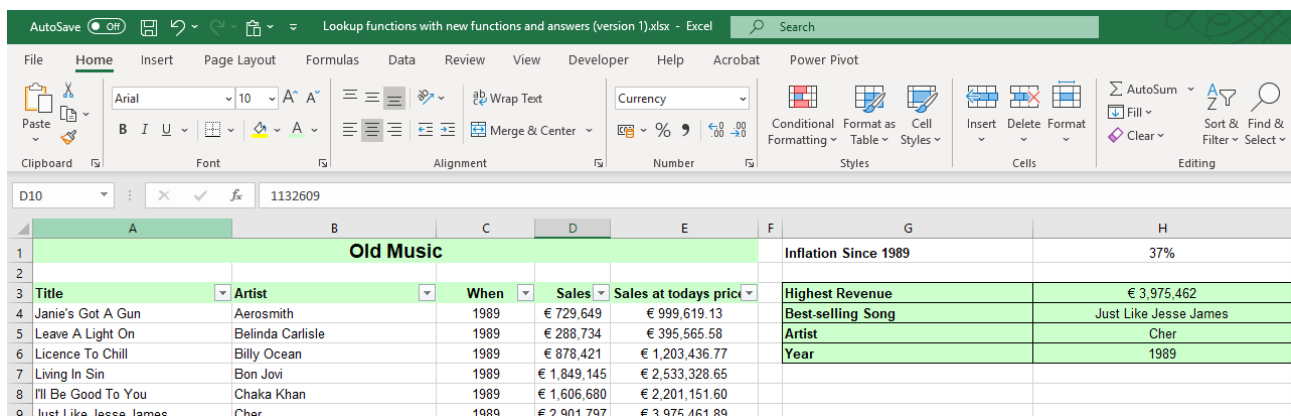
What is the syntax for it?

=XLOOKUP(lookup_value, lookup_array, return_array, [if_not_found], [match_mode], [search_mode])

- **Lookup-value** = the item you use for the search (e.g. StudentID)
- **Lookup-array** = the range of cells where you'd find the search item
- **Return_array** = the range of cells containing the information you're looking for (e.g. Name)
- **[if-not-found]** = what you want to return if there are no results, e.g. "No result for that ID"
- **[match mode]** = whether you're looking for an exact match or an approximate match
- **[search_mode]** = the order you want to search, e.g. top to bottom, bottom to top

Example

In cell H3, I have calculated the highest sales value of the songs listed in the table but I want to know the name of the song, the artist and the year it was released.



Title	Artist	When	Sales	Sales at today's price
Janie's Got A Gun	Aerosmith	1989	€ 729,649	€ 999,619.13
Leave A Light On	Belinda Carlisle	1989	€ 288,734	€ 395,565.58
Licence To Chill	Billy Ocean	1989	€ 878,421	€ 1,203,436.77
Living In Sin	Bon Jovi	1989	€ 1,849,145	€ 2,533,328.65
I'll Be Good To You	Chaka Khan	1989	€ 1,606,680	€ 2,201,151.60
Just Like Jesse James	Cher	1989	€ 2,901,797	€ 3,975,461.89

Cell H4: =XLOOKUP(\$H\$3,\$E\$4:\$E\$102,\$A\$4:\$A\$102,"No tunes",0,1)

Cell H5: =XLOOKUP(\$H\$3,\$E\$4:\$E\$102,\$B\$4:\$B\$102,"No tunes",0,1)

Cell H6: =XLOOKUP(\$H\$3,\$E\$4:\$E\$102,\$C\$4:\$C\$102,"No tunes",0,1)

For each formula;

- **Cell H3** is the **lookup_value**
- The cells containing the Sales values at today's prices (**column E**) are the **lookup_array**
- The cells containing the song titles (**column A**) are the **return_array**
- The optional **[if_not_found]** is "No tunes"
- The optional **[match_mode]** is **0** to find an **exact** match
- The optional **[search_mode]** is **1** to start searching **from the top** of the list



The default setting for the match mode is Exact match and the default search mode is top-to-bottom, so I could have left them out of the formulas in the example.

For the formulas in H5:H6 (to return the Artist and Year) all that needs to change are the column references for the return_array.

This formula structure removes two of the limitations of VLOOKUP:

- it can search for items whichever column in the table they're located in (to the right or left)
- it adjusts automatically if columns are added or removed from the table of data you're searching.

Settings for match_mode and search-mode

match-mode

- 0** = exact match
- 1** = exact match or next smaller item
- 1** = exact match or next larger item
- 2** = wildcard character match

search_mode

- 1** = search first to last
- 1** = search last to first
- 2** = binary search (sorted in ascending order)
- 2** = binary search (sorted in descending order)

Further information and help

Use MyIT to log calls with the IT Service Desk: <https://myit.abdn.ac.uk>

For more information and examples of the XLOOKUP function, see the

The XLOOKUP function (Microsoft website)

wildcard-match-example (exceljet website)