

Excel Lookup Functions Guide

XLOOKUP · VLOOKUP · INDEX + MATCH · XMATCH · FILTER

FREE CHEAT SHEET

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arumsoft.com

Which function should I use?

Question	Excel 2021+ / 365	Older Excel
Need one value?	XLOOKUP	INDEX + MATCH, or VLOOKUP if the result is to the right
Need several matching rows?	FILTER	AutoFilter or Advanced Filter (no simple formula)
Result column is left of the key?	XLOOKUP	INDEX + MATCH (VLOOKUP can't look left)
Need the position, not the value?	XMATCH	MATCH(..., 0)
Two or more conditions?	XLOOKUP(1, (...)*(...), ...) or FILTER	INDEX + MATCH with Ctrl+Shift+Enter, or LOOKUP(2, 1/...)

Example data (A1:D6)

	A	B	C	D
1	ID	Product	Region	Price
2	P-101	Notebook	East	3.50
3	P-102	Pen	West	1.20
4	P-103	Stapler	East	8.90
5	P-104	Tape	West	2.40
6	P-105	Pen	East	1.10

XLOOKUP, XMATCH and FILTER work in Excel 2021, Excel 2024, Microsoft 365 and Excel for the web (Windows and Mac). They are not in Excel 2019 or earlier. VLOOKUP, INDEX, MATCH and LOOKUP work in every version.

Syntax and a worked example for each

XLOOKUP

Excel 2021+ · 365 · web

Your first choice for one value. Exact match by default, looks left or right, and has a built-in "not found" message.

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

`=XLOOKUP("P-103", A2:A6, D2:D6, "Not found")` → 8.90

lookup_array and return_array must be the same size, or you get #VALUE!.

VLOOKUP

All versions

Older files. The key must be in the first column of the table and the result to its right.

`=VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])`

`=VLOOKUP("P-103", A2:D6, 4, FALSE)` → 8.90

Always type FALSE for an exact match. If you leave it out, VLOOKUP does an approximate match.

INDEX + MATCH

All versions

Left lookups, or a lookup that survives inserted columns, in any version of Excel.

`=INDEX(return_range, MATCH(lookup_value, lookup_range, 0))`

`=INDEX(A2:A6, MATCH("Stapler", B2:B6, 0))` → P-103

The 0 at the end of MATCH means exact match.

XMATCH

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When you need the position, not the value. Unlike MATCH, exact match is the default.

`=XMATCH(lookup_value, lookup_array, [match_mode], [search_mode])`

`=XMATCH("P-104", A2:A6)` → 4

Pair it with INDEX as a modern INDEX + MATCH.

FILTER

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When several rows match. The results spill into the cells below.

`=FILTER(array, include, [if_empty])`

`=FILTER(B2:B6, C2:C6="East", "None")` → Notebook, Stapler, Pen

The cells below must be empty, or you get #SPILL!.

Lookup by two criteria

Match two columns at once, like Product and Region. Multiplying the tests (*) gives 1 only where both are true.

Excel 2021+ `=XLOOKUP(1, (B2:B6="Pen")*(C2:C6="East"), D2:D6)`

All versions `=INDEX(D2:D6, MATCH(1, (B2:B6="Pen")*(C2:C6="East"), 0))`

All versions `=LOOKUP(2, 1/((B2:B6="Pen")*(C2:C6="East")), D2:D6)`

→ 1.10 In Excel 2019 or earlier, confirm the INDEX + MATCH version with Ctrl+Shift+Enter. The LOOKUP version works with plain Enter and returns the last match.

Common errors and fixes

#N/A

The value was not found.

Check spelling and extra spaces (TRIM), numbers stored as text, and that you used an exact match (FALSE or 0). Show a message instead with XLOOKUP's if_not_found or IFNA.

#REF!

A reference points to nothing.

In VLOOKUP, col_index_num is larger than the number of columns in table_array. Also happens when referenced cells were deleted. Fix the range or column number.

#SPILL!

A spilled result is blocked.

FILTER (or XLOOKUP returning several cells) needs empty cells to spill into. Clear the cells in the way. Spilling formulas also don't work inside an Excel table.

#NAME?

Excel doesn't know the function.

Usually a typo, or XLOOKUP, XMATCH or FILTER opened in Excel 2019 or earlier. Use INDEX + MATCH there.