

## How to do a two-way lookup in Excel with XLOOKUP()

A two-way or two-dimensional lookup in Excel allows users to search for a value at the intersection of a specific row and column within a table. This method is useful for retrieving data based on two lookup values: one identifying the row and the other specifying the column.

For example, a two-way lookup on this dataset could be used to find the sales figures for *Jungle Beat* at the Regal Dome theater, as seen below:

	A	B	C	D	E
1	Movie	Majestic	Starlight	Regal Dome	Cinema Plex
2	Galactic Quest	\$120,000	\$150,000	\$180,000	\$200,000
3	Ocean's Whisper	\$300,000	\$330,000	\$360,000	\$390,000
4	Jungle Beat	\$450,000	\$480,000	\$510,000	\$540,000
5	Vampire Nights	\$600,000	\$630,000	\$660,000	\$690,000
6	Desert Winds	\$750,000	\$780,000	\$810,000	\$840,000
7					

What did Excel users do here before XLOOKUP()?

Traditionally, Excel users would accomplish a two-way lookup using the INDEX() and MATCH() functions together, where MATCH() would find the row and column indexes, and INDEX() would retrieve the value at that intersection.

Another method combined VLOOKUP() with MATCH(), using VLOOKUP() to search for the row and MATCH() to specify the column index within that row.

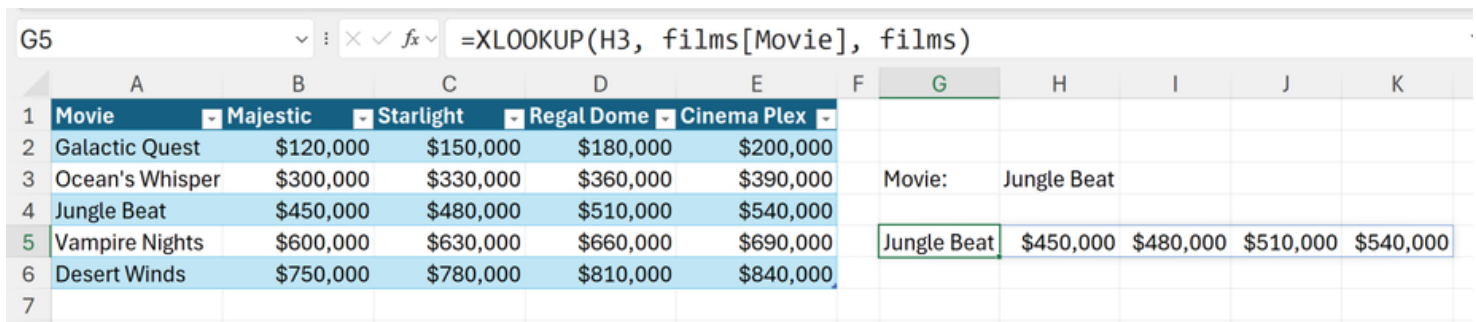
With the introduction of XLOOKUP(), the approach changes slightly because XLOOKUP() does not inherently handle column positions. Let's take a look in this blog post. You can follow along with the exercise file below:

[DOWNLOAD THE EXERCISE FILE HERE](#)

The first step is to search vertically down the rows of the first column to find a match for Jungle Beat. Since XLOOKUP() does not use index number positions, we specify the location of an array rather than its position.

By looking up the entire table, we retrieve a dynamic array containing all the data in the matched row:

**=XLOOKUP(H3, FILMS[MOVIE], FILMS)**

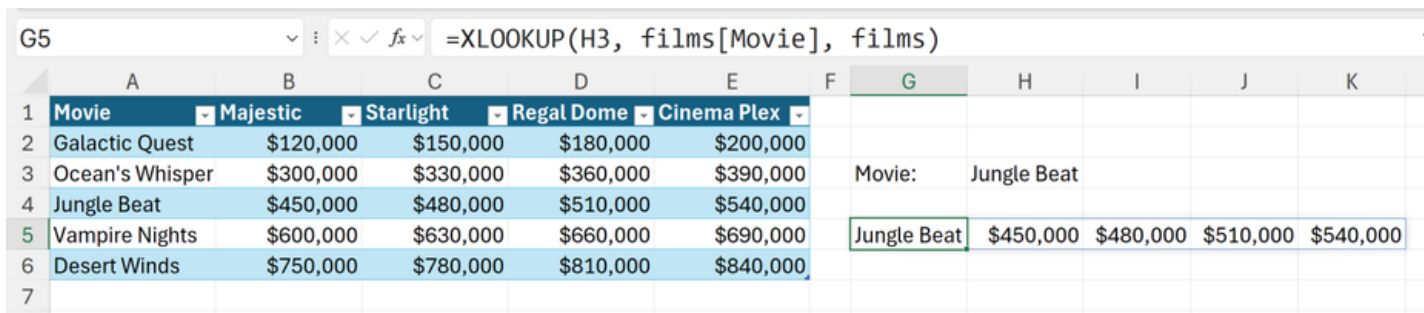
An Excel spreadsheet showing a table of movies and their box office earnings. The formula bar at the top shows '=XLOOKUP(H3, films[Movie], films)'. The table has columns for Movie, Majestic, Starlight, Regal Dome, and Cinema Plex. The row for 'Jungle Beat' is highlighted, and its data is displayed in a separate cell range (G5:K5).

	A	B	C	D	E	F	G	H	I	J	K
1	Movie	Majestic	Starlight	Regal Dome	Cinema Plex						
2	Galactic Quest	\$120,000	\$150,000	\$180,000	\$200,000						
3	Ocean's Whisper	\$300,000	\$330,000	\$360,000	\$390,000	Movie:	Jungle Beat				
4	Jungle Beat	\$450,000	\$480,000	\$510,000	\$540,000						
5	Vampire Nights	\$600,000	\$630,000	\$660,000	\$690,000		Jungle Beat	\$450,000	\$480,000	\$510,000	\$540,000
6	Desert Winds	\$750,000	\$780,000	\$810,000	\$840,000						
7											

From this point, we need to search for the relevant column by its name, in this case, Regal Dome. This can be achieved with a nested XLOOKUP(), which adds a few steps to our initial example.

I will search the headers to find a match for Regal Dome, and then I can look up the corresponding movie data by row:

```
=XLOOKUP(H2, FILMS[#HEADERS],  
XLOOKUP(H3, FILMS[MOVIE], FILMS))
```

The image shows an Excel spreadsheet with a formula bar at the top containing '=XLOOKUP(H3, films[Movie], films)'. The spreadsheet has columns A through K and rows 1 through 7. Row 1 contains headers: A1 'Movie', B1 'Majestic', C1 'Starlight', D1 'Regal Dome', E1 'Cinema Plex'. Rows 2-6 contain movie data with revenue values. Row 7 is empty. In column G, there is a 'Movie:' label in G4 and 'Jungle Beat' in G5. In column H, there is a 'Jungle Beat' label in H4. The formula in G5 returns the revenue values for 'Jungle Beat' from the 'Regal Dome' column: \$450,000, \$480,000, \$510,000, and \$540,000.

	A	B	C	D	E	F	G	H	I	J	K
1	Movie	Majestic	Starlight	Regal Dome	Cinema Plex						
2	Galactic Quest	\$120,000	\$150,000	\$180,000	\$200,000						
3	Ocean's Whisper	\$300,000	\$330,000	\$360,000	\$390,000		Movie:	Jungle Beat			
4	Jungle Beat	\$450,000	\$480,000	\$510,000	\$540,000						
5	Vampire Nights	\$600,000	\$630,000	\$660,000	\$690,000		Jungle Beat	\$450,000	\$480,000	\$510,000	\$540,000
6	Desert Winds	\$750,000	\$780,000	\$810,000	\$840,000						
7											

What do you think of this solution? Although it's a bit unintuitive and XLOOKUP() doesn't significantly enhance older methods for two-dimensional lookups, it does compute faster and offers the ability to return a dynamic array instead of just a single cell.

## THANK YOU

Thanks for checking out this post on XLOOKUP()!

Do you have any questions? Let me know in the comments.

And if you're interested in getting started with dynamic array functions in Excel, check out my book, *Modern Data Analytics in Excel*:

