

How to Cross Reference Cells Between Microsoft Excel Spreadsheets

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In Microsoft Excel, it's a common task to refer to cells on other worksheets or even in different Excel files. At first, this can seem a little daunting and confusing, but once you understand how it works, it's not so hard.

In this article, we'll look at how to reference another sheet in the same Excel file and how to reference a different Excel file. We'll also cover things like how to reference a cell range in a function, how to make things simpler with defined names, and how to use VLOOKUP for dynamic references.

How to Reference Another Sheet in the Same Excel File

A basic cell reference is written as the column letter followed by the row number.

So the cell reference B3 refers to the cell at the intersection of column B and row 3.

When referring to cells on other sheets, this cell reference is preceded with the other sheet's name. For example, below is a reference to cell B3 on a sheet name "January."

```
=January!B3
```

The exclamation point (!) separates the sheet name from the cell address.

If the sheet name contains spaces, then you must enclose the name with single quotation

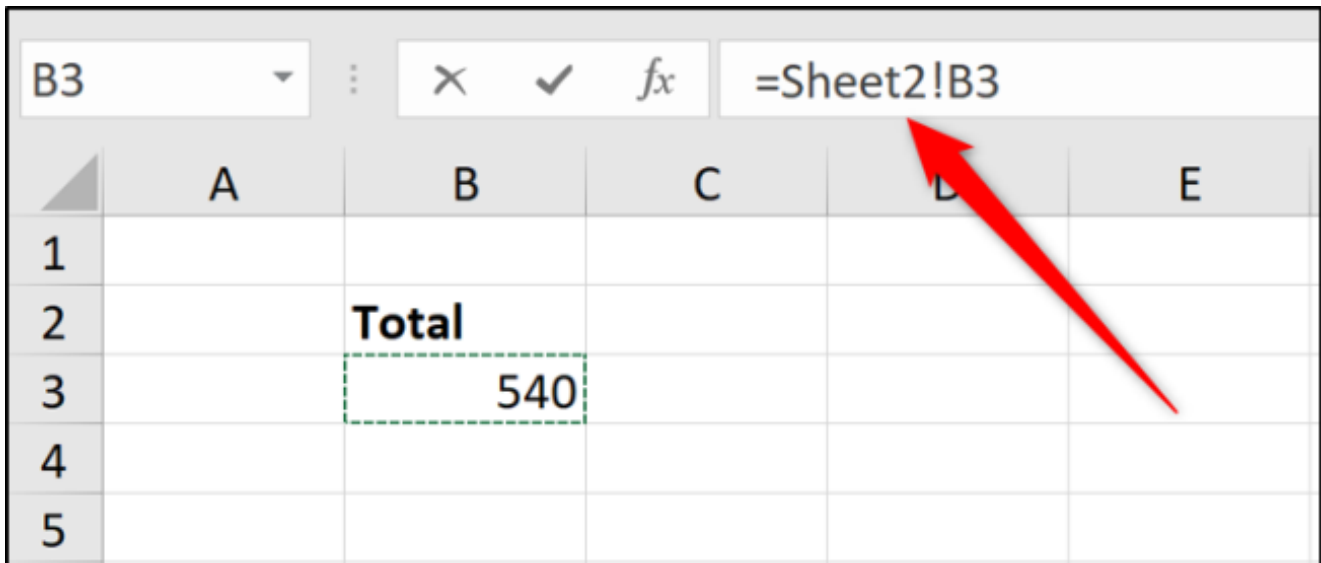
marks in the reference.

=January Sales!B3

To create these references, you can type them directly into the cell. However, it is easier and more reliable to let Excel write the reference for you.

Type an equal sign (=) into a cell, click on the Sheet tab, and then click the cell that you want to cross-reference.

As you do this, Excel writes the reference for you in the Formula Bar.



Press Enter to complete the formula.

How to Reference Another Excel File

You can refer to cells of another workbook using the same method. Just be sure that you have the other Excel file open before you begin typing the formula.

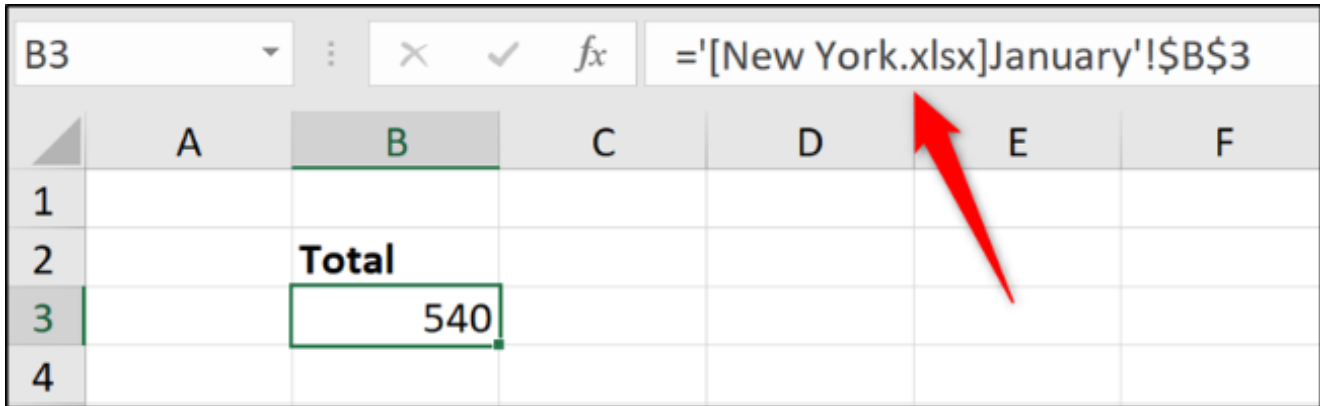
Type an equal sign (=), switch to the other file, and then click the cell in that file you want to reference. Press Enter when you're done.

The completed cross-reference contains the other workbook name enclosed in square brackets, followed by the sheet name and cell number.

=[Chicago.xlsx]January!B3

If the file or sheet name contains spaces, then you'll need to enclose the file reference (including the square brackets) in single quotation marks.

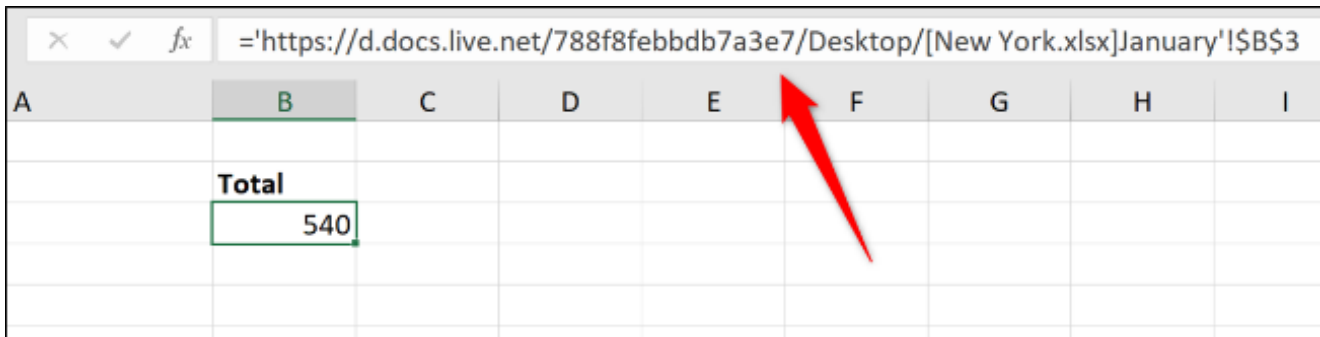
='[New York.xlsx]January!B3



In this example, you can see dollar signs (\$) amongst the cell address. This is an absolute cell reference ([Find out more about absolute cell references](#)).

When referencing cells and ranges on different Excel files, the references are made absolute by default. You can change this to a relative reference if required.

If you look at the formula when the referenced workbook is closed, it will contain the entire path to that file.



Although creating references to other workbooks is straightforward, they are more susceptible to issues. Users creating or renaming folders and moving files can break these references and cause errors.

Keeping data in one workbook, if possible, is more reliable.

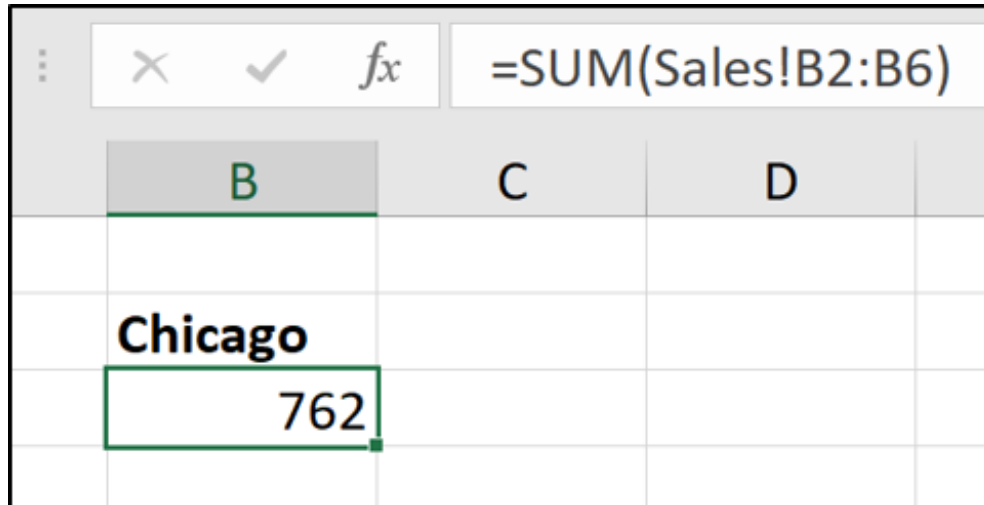
How to Cross Reference a Cell Range in a Function

Referencing a single cell is useful enough. But you might want to write a function (such as SUM) that references a range of cells on another worksheet or workbook.

Start the function as usual and then click on the sheet and the range of cells—the same way you did in the previous examples.

In the following example, a SUM function is summing the values from range B2:B6 on a worksheet named Sales.

=SUM(Sales!B2:B6)



How to Use Defined Names for Simple Cross References

In Excel, you can assign a name to a cell or range of cells. This is more meaningful than a cell or range address when you look back at them. If you use a lot of references in your spreadsheet, naming those references can make it much easier to see what you've done.

Even better, this name is unique for all the worksheets in that Excel file.

For example, we could name a cell 'ChicagoTotal' and then the cross-reference would read:

=ChicagoTotal

This is a more meaningful alternative to a standard reference like this:

=Sales!B2

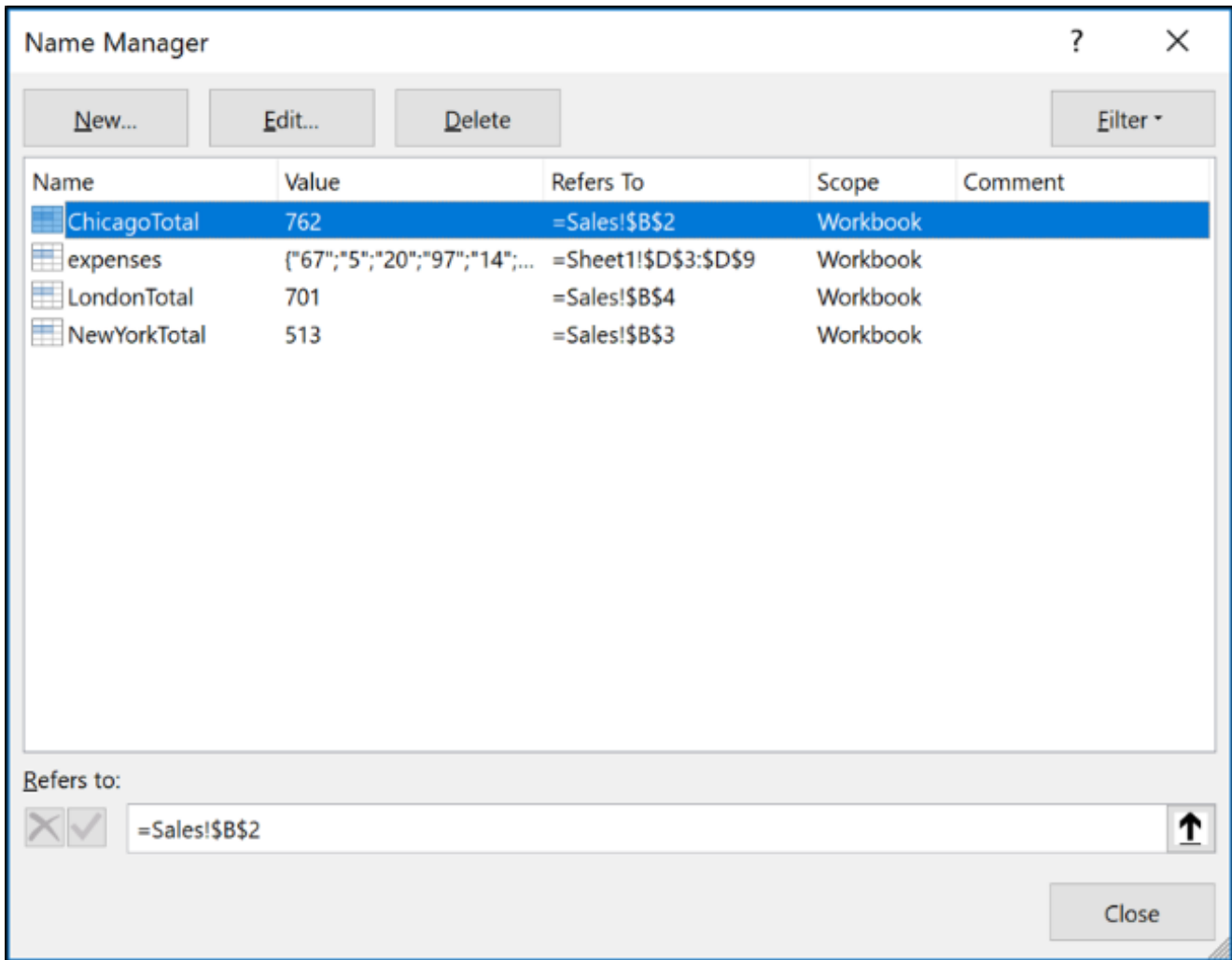
It's easy to create a defined name. Start by selecting the cell or range of cells that you want to name.

Click in the Name Box in the top left corner, type the name you want to assign, and then press Enter.

ChicagoTotal			
	A	B	C
1		Sales	
2	Chicago	762	
3	New York	513	
4	London	701	
5			

When creating defined names, you cannot use spaces. Therefore, in this example, the words have been joined in the name and separated by a capital letter. You could also separate words with characters like a hyphen (-) or underscore (_).

Excel also has a Name Manager that makes monitoring these names in the future easy. Click Formulas > Name Manager. In the Name Manager window, you can see a list of all of the defined names in the workbook, where they are, and what values they currently store.



You can then use the buttons along the top to edit and delete these defined names.

How to Format Data as a Table

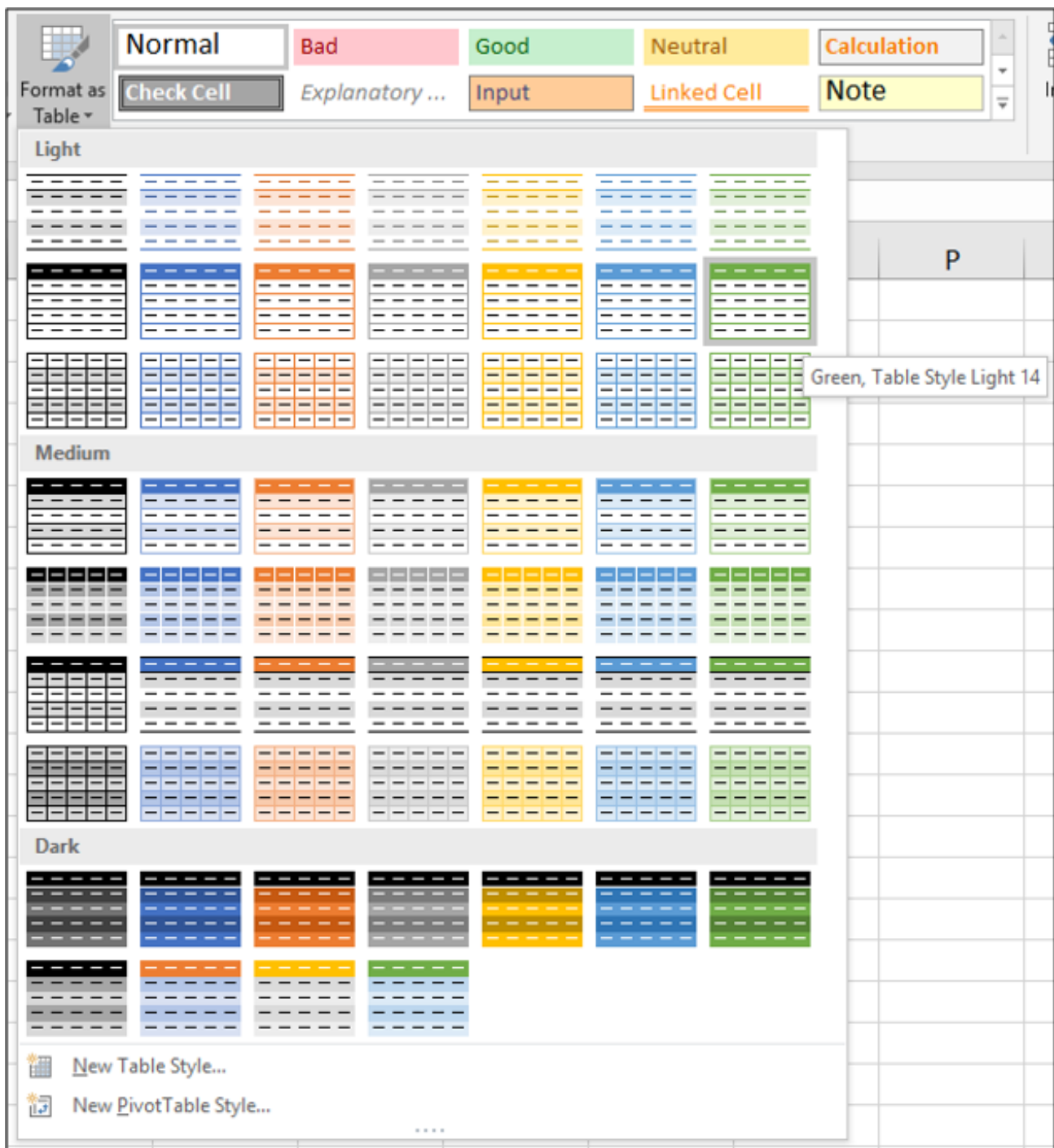
When working with an extensive list of related data, using Excel's Format as Table feature can simplify the way that you reference data in it.

Take the following simple table.

	A	B	C	D
1	Product	Chicago	New York	London
2	Product A	55	24	43
3	Product B	181	182	179
4	Product C	193	163	190
5	Product D	162	106	103
6	Product E	171	38	186

This could be formatted as a table.

Click on a cell in the list, switch to the “Home” tab, click the “Format as Table” button, and then select a style.



Confirm that the range of cells is correct and that your table has headers.

You can then assign a meaningful name to your table from the “Design” tab.

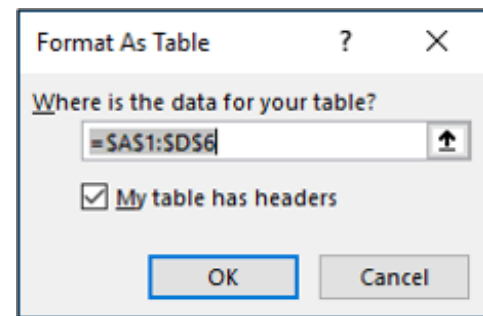


Table Name: Sales		Summarize with PivotTable	Remove Duplicates	Convert to Range	Insert Slicer	Export	Refresh	Properties	Open in Browser	Unlink
C3										
1	Product	Chicago	New York	London						
2	Product A	55	24	43						
3	Product B	181	182	179						
4	Product C	193	163	190						
5	Product D	162	106	103						
6	Product E	171	38	186						
7										

Then, if we needed to sum the sales of Chicago, we could refer to the table by its name (from any sheet), followed by a square bracket ([]) to see a list of the table’s columns.

COUNTA				Formula Bar: =sum(Sales[
1		Sales		
2	Chicago	Sales[SUM(number1, [number2], ...)
3	New York			
4	London			
5				
6				

- @ - This Row
- Product
- Chicago
- New York
- London
- #All
- #Data
- #Headers
- #Totals

Select the column by double-clicking it in the list and enter a closing square bracket. The resulting formula would look something like this:

=SUM(Sales[Chicago])

You can see how tables can make referencing data for aggregation functions such as SUM and AVERAGE easier than standard sheet references.

This table is small for the purposes of demonstration. The larger the table and the more sheets you have in a workbook, the more benefits you'll see.

How to Use the VLOOKUP Function for Dynamic References

The references used in the examples thus far have all been fixed to a specific cell or range of cells. That's great and is often sufficient for your needs.

However, what if the cell you are referencing has the potential to change when new rows are inserted, or somebody sorts the list?

In those scenarios, you could not guarantee the value you want will still be in the same cell that you initially referenced.

An alternative in these scenarios is to use a lookup function within Excel to search for the value in a list. This makes it more durable against changes to the sheet.

In the following example, we use the VLOOKUP function to look up an employee on another sheet by their employee ID and then return their start date.

Below is the example list of employees.

	A	B	C	D	E
1	Emp ID	Name	Age	Date Joined	Gender
2	1273	Maurine Krieger	20	02/07/2006	Female
3	1274	Rosalina Reach	22	07/06/2005	Female
4	1275	Mikki Rein	24	03/05/2018	Male
5	1276	Li Xi	47	26/05/2010	Female
6	1277	Reena Hentz	21	06/05/2008	Female
7	1278	June Foster	35	23/04/2014	Female
8	1279	Dan Brown	20	25/12/2006	Female
9	1280	Brett Jones	20	24/08/2017	Male
10	1281	Jerri Ebron	22	11/01/2011	Male
11	1282	Aliza Fekete	24	06/08/2018	Female
12	1283	Jean Shagall	18	20/08/2011	Male
13	1284	Miguel Shuck	19	02/02/2008	Male
14	1285	Beverly Blair	44	29/04/2009	Female
15	1286	Andrew Baker	27	12/08/2008	Male
16	1287	Ruthann Lee	71	29/05/2010	Male
17	1288	Glennie Butters	19	12/07/2012	Female
18	1289	Sherley Rhymes	21	24/01/2019	Female
19	1290	Jim Oyama	22	30/03/2006	Male

The VLOOKUP function looks down the first column of a table and then returns information from a specified column to the right.

The following VLOOKUP function searches for the employee ID entered into cell A2 in the list shown above and returns the date joined from column 4 (fourth column of the table).

=VLOOKUP(A2,Employees!A:E,4,FALSE)

B2					
	A	B	C	D	E
1	Emp ID	Date Joined			
2	1282	06/08/2018			
3					

Below is an illustration of how this formula searches the list and returns the correct information.

	A 1	B 2	C 3	D 4	E 5
1	Emp ID	Name	Age	Date Joined	Gender
2	1273	Maurine Krieger	20	02/07/2006	Female
3	1274	Rosalina Reach	22	07/06/2005	Female
4	1275	Mikki Rein	24	03/05/2018	Male
5	1276	Li Xi	47	26/05/2010	Female
6	1277	Reena Hentz	21	06/05/2008	Female
7	1278	June Foster	35	23/04/2014	Female
8	1279	Dan Brown	20	25/12/2006	Female
9	1280	Brett Jones	20	24/08/2017	Male
10	1281	Jerri Ebron	22	11/01/2011	Male
11	1282	Aliza Fekete	4	06/08/2018	Female
12	1283	Jean Shagall	18	20/08/2011	Male
13	1284	Miguel Shuck	19	02/02/2008	Male
14	1285	Beverly Blair	44	29/04/2009	Female
15	1286	Andrew Baker	27	12/08/2008	Male
16	1287	Ruthann Lee	71	29/05/2010	Male
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18	1289	Sherley Rhymes	21	24/01/2019	Female
19	1290	Jim Oyama	22	30/03/2006	Male

The great thing about this VLOOKUP over the previous examples is that the employee will be found even if the list changes in order.

Note: VLOOKUP is an incredibly useful formula, and we've only scratched the surface of its value in this article. You can find out more about how to use VLOOKUP from [our article on the subject](#). And you can learn even more tricks for using it in [this article on Computergaga](#) (also written by Alan Murray).

In this article, we have looked at multiple ways to cross-reference between Excel spreadsheets and workbooks. Choose the approach that works for your task at hand, and that you feel comfortable working with.

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