

VLOOKUP troubleshooting tips



VLOOKUP isn't complicated, but it's easy to accidentally type the wrong thing or make other mistakes that lead to errors in your formula. On this page, you'll find tips for troubleshooting the VLOOKUP syntax. The following pages describe techniques for troubleshooting #N/A errors, which most frequently occur when you're trying to find an exact match.

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

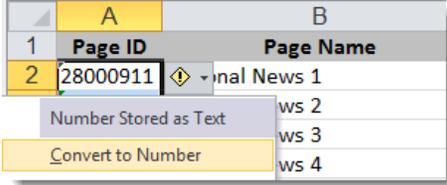
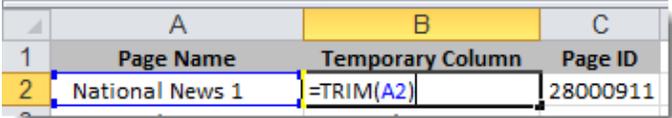
Unexpected results?

- Does this value exist in the leftmost column of your lookup table?** If not, and it's impractical to move the column, you must use another solution, such as INDEX and MATCH. Note that the column's physical position in the worksheet doesn't matter. If your lookup table starts at column R and ends at column T, column R is the leftmost column.
- Does the format of the lookup value match the format of the matching value in the lookup table?** Errors often occur when one of these values is not formatted correctly.
- If you're using text, did you remember to put quotation marks around that text?** If you're typing text directly (vs. using a cell reference such as A2), you must use quotation marks.
- Are you using a relative reference (e.g., A2:G145) when an absolute reference (e.g., \$A\$2:\$G\$145) is necessary?** This is important when you're copying the VLOOKUP formula to other cells. In this case, you typically want to "lock" the lookup table to prevent misleading results. To quickly switch between reference types, select the range you entered for this argument, and then press F4. Or, better yet, use a defined name instead of a range; names use absolute cell references by default.
- Is your lookup table on a different sheet or workbook?** If so, is it referenced correctly in this argument? Double-check the sheet names, especially if you're switching back and forth between sheets as you're building the formula.
- Are you pointing to the correct column in the lookup table?** To figure out what this number should be, count over to the right from the first column in your lookup table. Count that first column as 1.
- Be careful here. You won't necessarily see an error if you're off by a column, but Excel may return the wrong data—e.g., March sales numbers instead of April numbers.

 Do you see the #REF! error? If so, make sure the number you specify for this argument isn't greater than the number of columns in your lookup table.
- Have you swapped the arguments?** Remember, use FALSE for an exact match—e.g., when you're looking up a proper name or specific product code. Use TRUE to find the closest match to the lookup value if an exact match doesn't exist—e.g., when you're mapping test scores to a table of letter grades or income to a table of tax rates.
- If you're using TRUE, are the values in the first column of your lookup table sorted in ascending (A to Z) order?** If not, you may see unexpected results. (This sorting isn't required for FALSE.)
- If you're using FALSE, do you see a #N/A error?** If so, Excel can't find a match. This may be because one doesn't exist. Or, a match may exist, but Excel doesn't interpret it as such because of formatting problems or other issues.

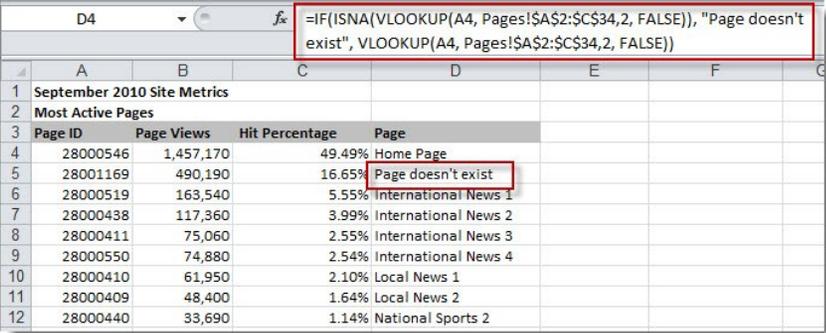
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Scenario 1: Excel returns a #N/A error in the cell. However, you're not sure why, because it looks like a match exists in the leftmost column of your lookup table.

Cause of #N/A error	What to do about it	Example
<p><input checked="" type="checkbox"/> The number format of the lookup value may not match the format of the matching value in the lookup table.</p>	<p>Verify that the number formats are identical. Although values may <i>look</i> like numbers, Excel may be, in fact, storing these values as text. Numbers stored as text are left-aligned instead of right-aligned in the cell, and a little green triangle usually appears in the upper-left corner of the cell.</p>	<p>In the following example, the lookup table contains '2800911 (text), whereas the value in the lookup value is 2800911 (a number). To fix the problem, select the cell(s) that have the green triangles. When the error button appears, click it, and then click Convert to Number.</p> 
<p><input checked="" type="checkbox"/> The first column or lookup value contains unnecessary leading or trailing spaces, or extra spaces between words.</p>	<p>These spaces often occur when you bring data into Excel from databases or other external sources. You can remove the spaces manually or use the find and replace feature to do it. You can also use the TRIM function, which removes extra spaces from text, except for single spaces between words.</p>	<p>In the following lookup table, there are extra spaces before the page names in column A. To remove these spaces, insert a temporary column next to column A, type =TRIM(A2) in cell B2, and then press ENTER to remove the spaces. Then, copy the formula to the rest of the cells in column B.</p>  <p>After the spaces are gone, paste the "clean" data from column B over the data in column A, taking care to copy the values, not the underlying formula. Finally, delete column B since it is no longer needed.</p>
<p><input checked="" type="checkbox"/> The first column or lookup value contains carriage returns, linefeeds, nonbreaking spaces, or other special characters that are embedded into the text.</p>	<p>These characters sometimes show up when you copy or import data into Excel from the web or other external sources. TRIM won't work here, at least not on its own. Instead, you can use CLEAN or SUBSTITUTE — or a combination of these functions — to get rid of the characters.</p>	<p>In the following example, SUBSTITUTE replaces the errant CHAR(160) character with an empty space, CLEAN removes nonprinting characters, and TRIM removes extra spaces, if they exist.</p> <p>=TRIM(CLEAN(SUBSTITUTE(A2,CHAR(160)," ")))</p> <p>If you need more information about any of the functions mentioned here, open Excel, press F1, and then search for the function name in Help.</p>

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Scenario 2: Excel returns a #N/A error in the cell because no match actually exists in the first column of the lookup table.

Cause of #N/A error	What to do about it	Example
<p><input checked="" type="checkbox"/> The lookup value doesn't exist in the leftmost column of the lookup table.</p>	<p>If you like, you can replace the #N/A error with a helpful message.</p> <p>You can also show an empty cell or a zero, so that you successfully sum a column of numbers. (#N/A errors will prevent you from correctly using VLOOKUP results in other formulas.)</p>	<p>In Excel 2003 or later, you can use a combination of the IF, ISNA, and VLOOKUP functions to show a message instead of the #N/A error. For example, you can use a formula like so:</p> <p>=IF(ISNA(VLOOKUP(A4, Pages!\$A\$2:\$C\$34,2, FALSE)), "Page doesn't exist", VLOOKUP(A4, Pages!\$A\$2:\$C\$34,2, FALSE))</p>  <p>Use similar formulas to show an empty cell, or to show a zero in the cell:</p> <ul style="list-style-type: none"> =IF(ISNA(VLOOKUP(A4, Pages!\$A\$2:\$C\$34,2, FALSE)), "", VLOOKUP(A4, Pages!\$A\$2:\$C\$34,2, FALSE)) =IF(ISNA(VLOOKUP(A4, Pages!\$A\$2:\$C\$34,2, FALSE)), "0", VLOOKUP(A4, Pages!\$A\$2:\$C\$34,2, FALSE)) <p>In Excel 2007 or later, you can use the IFERROR function:</p> <ul style="list-style-type: none"> =IFERROR(VLOOKUP(A4, Pages!\$A\$2:\$C\$34,2, FALSE), "Page doesn't exist")