

# Convert Date to Number in Excel (3 Examples)

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Mastering date manipulation is critical for effective data analysis, and this starts with understanding how Microsoft Excel fundamentally handles temporal data. Unlike simple text strings, dates in [Excel](#) are stored as unique [serial numbers](#). This numerical system is the backbone of all date-related calculations, enabling complex functions, accurate comparisons, and efficient sorting within vast datasets.

Each serial number represents the total count of days elapsed since the designated starting point, or epoch, which for the standard Windows version of [Excel](#) is January 1, 1900. By converting visible date formats (like 02/10/2022) into their numeric equivalents, users unlock the ability to perform high-precision mathematical operations that are essential for tasks such as calculating durations, generating financial reports, or integrating data across different systems that require purely numerical formats.

This comprehensive tutorial serves as an expert guide to transitioning dates into their underlying numerical structure. We will explore three vital and distinct methods that cover single-cell conversions, large-scale data transformations, and the calculation of time spans between two fixed points. Employing these techniques will significantly enhance your analytical proficiency and streamline your data workflow.

## Overview of Essential Date Conversion Techniques

To ensure you can handle any scenario encountered in data management, we will detail three practical approaches to converting date values into quantifiable numbers in [Excel](#). Each method is tailored for a specific operational context, whether you are dealing with text-based dates or pre-formatted date ranges.

1. Utilizing the [DATEVALUE function](#) for converting a date string into its corresponding single serial number.
2. Applying direct cell formatting changes to efficiently transform a selected range of recognized dates into their numerical representations.
3. Employing the [DATEDIF function](#) to accurately calculate the total number of days between any two specified dates.

Understanding when and how to apply each of these methods is key to mastering date-based data analysis in [Excel](#).

### Example 1: Converting a Single Date to Its Numeric Equivalent

When working with imported data or specific entries where dates are entered as text strings--such as "February 10, 2022" or "2/10/2022"--the most reliable way to convert this representation into a usable number is by leveraging the dedicated [DATEVALUE function](#). This powerful function is

explicitly designed to parse a date stored as text and return the precise numeric value recognized by the [Excel date system](#).

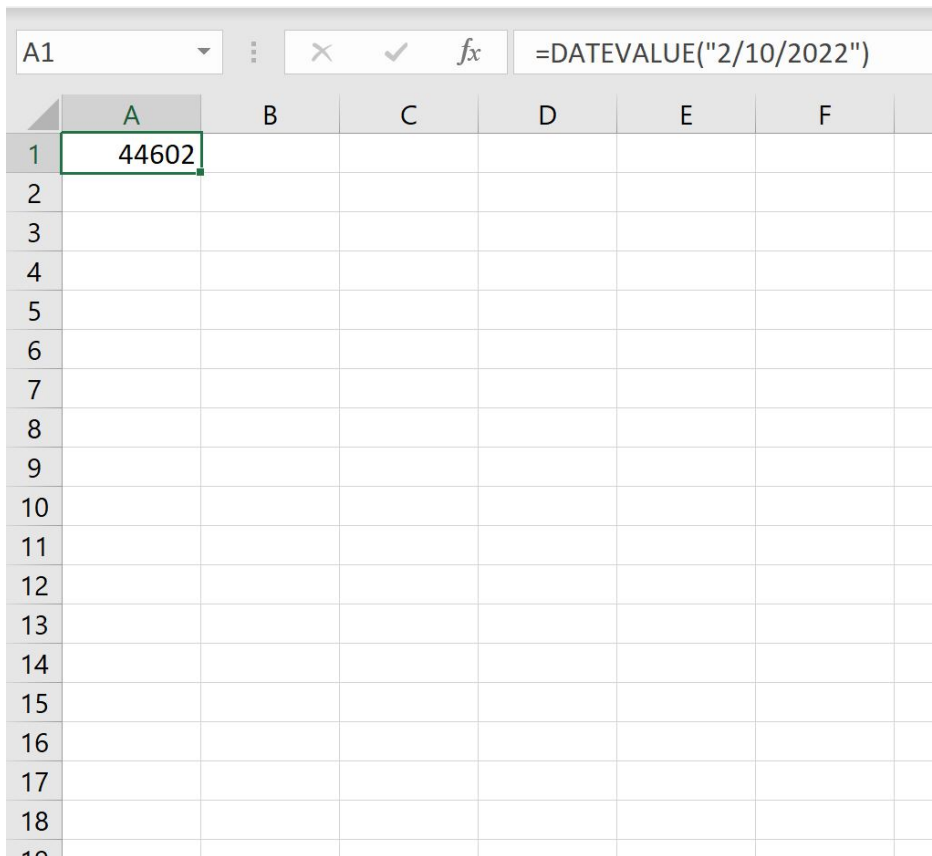
The core utility of the [DATEVALUE function](#) is that it correctly interprets the text string based on your system's date settings and returns the integer representing the number of days since January 1, 1900. It is crucial to note that the date argument must be enclosed in double quotation marks if entered directly into the formula, or it must reference a cell containing the date text.

To convert the date "2/10/2022" into its serial format, you would input the following formula into an empty cell:

```
=DATEVALUE("2/10/2022")
```

Upon execution, the [DATEVALUE function](#) calculates the total number of days that have elapsed from the epoch date (January 1, 1900) up to the specified date. This calculation is foundational to how [Excel](#) manages and calculates time differences, treating every date as a large integer rather than a complex structure of month, day, and year components.

The following illustration clearly depicts the transition from the familiar date format to the raw, underlying numerical value:



The screenshot shows an Excel spreadsheet with the following data:

	A	B	C	D	E	F
1	44602					
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						

As demonstrated in the resulting output, the date February 10, 2022, corresponds to the numerical value **44,602**. This means 44,602 days have passed since January 1, 1900. This resulting [serial number](#) is now a quantifiable integer, immediately ready for any statistical analysis or arithmetic operation you need to perform.

## Example 2: Transforming Multiple Dates into Serial Numbers Using Formatting

A frequent task involves converting an entire column of dates simultaneously. If the dates in your spreadsheet are already recognized by [Excel](#) as valid date types (even if currently displayed in a visual date format), manually applying a formula to thousands of cells is unnecessary. [Excel](#) offers a much more efficient, built-in method for bulk conversion by simply changing the cell formatting.

Consider a scenario where you have a list of dates, perhaps tracking transaction timelines, as illustrated below:

	A	B	C	D	E	F
1	1/4/2022					
2	1/9/2022					
3	1/15/2022					
4	1/16/2022					
5	2/3/2022					
6	2/5/2022					
7	2/11/2022					
8	2/15/2022					
9	2/27/2022					
10	3/5/2022					
11	3/14/2022					
12						
13						
14						
15						
16						
17						

The quickest way to reveal the underlying [serial numbers](#) for this range is through direct application of the [Number format](#). This process exploits the fact that [Excel](#) always stores the date numerically, regardless of how it is visually presented to the user.

The bulk conversion process involves three simple steps. First, select the entire range of cells containing the dates you intend to convert. Next, navigate to the [Home tab](#) on the Excel ribbon.

Finally, locate the **Number format** group (typically found near the middle of the ribbon) and select the dropdown menu. Change the format from the current date setting (e.g., "Short Date") to "Number" or "General." Choosing "Number" often provides better control over decimal places, which are used for time components.

	A	B	C	D	E	F	G
1	1/4/2022						
2	1/9/2022						
3	1/15/2022						
4	1/16/2022						
5	2/3/2022						
6	2/5/2022						
7	2/11/2022						
8	2/15/2022						
9	2/27/2022						
10	3/5/2022						
11	3/14/2022						
12							
13							
14							
15							
16							

Immediately after applying the "Number" format, **Excel** will display the underlying integers for every selected date. This instantaneous transformation is powerful because it converts an entire dataset with minimal effort, allowing data analysts to quickly move from visualization to computation. This conversion ensures that all mathematical models referencing these cells will treat the dates as pure, measurable quantities.

	A	B	C	D	E	F
1	44565.00					
2	44570.00					
3	44576.00					
4	44577.00					
5	44595.00					
6	44597.00					
7	44603.00					
8	44607.00					
9	44619.00					
10	44625.00					
11	44634.00					
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						

### Example 3: Calculating Days Between Two Specific Dates

While converting dates to serial numbers is essential, an even more common requirement is calculating the precise difference--in days, months, or years--between two defined points in time. For this specific analytical need, [Excel](#) provides the highly specialized and versatile [DATEDIF function](#). Although it is an older, "hidden" function, it remains the standard tool for robust duration calculations.

The [DATEDIF function](#) requires three arguments: the starting date, the ending date, and a unit specifier indicating the desired output (e.g., days, months, or years). To determine the exact number of complete days between two dates, the unit specifier must be set to "d".

The general structure for calculating the difference in days is as follows:

**=DATEDIF(B2, A2, "d")**

In this formula, the cell reference `B2` represents the [start date](#), and `A2` represents the [end](#)

**date**. The critical third argument, "d", dictates that the function should return the total count of days between the two points. It is imperative that the **start date** chronologically precedes the **end date**; otherwise, the function will typically return a #NUM! error, or an incorrect result.

The visual example below applies the **DATEDIF function** to a fixed reference point (January 1, 2022) and calculates the corresponding day count for subsequent dates listed in column A. This scenario is common when determining the age of an account or the duration of time since a project launch.

	A	B	C	D	E	F
1	<b>Date</b>	<b>Date Difference</b>		<b>Starting Date</b>	1/1/2022	
2	1/4/2022	3				
3	1/9/2022	8				
4	1/15/2022	14				
5	1/16/2022	15				
6	2/3/2022	33				
7	2/5/2022	35				
8	2/11/2022	41				
9	2/15/2022	45				
10	2/27/2022	57				
11	3/5/2022	63				
12	3/14/2022	72				
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The resulting values in column B are straightforward numerical outputs, representing the exact duration in days. This method proves invaluable for precise timeline management and tracking durations where whole-day counts are required. For example, the value of 3 means exactly three full days have elapsed between the reference date and the date in the corresponding cell, simplifying complex time-tracking tasks dramatically.

### Conclusion: Mastering Date-to-Number Conversions in Excel

The ability to fluently convert between visual dates and their numerical **serial number** representations is a cornerstone of sophisticated data handling in **Excel**. By internalizing that every

date is fundamentally an integer count beginning from January 1, 1900, you gain the necessary insight to perform robust calculations and analyses that are impossible with text-based dates.

We have explored three high-utility methods: the [DATEVALUE function](#), which converts text strings into numbers; the efficient application of the [Number format](#) for rapid bulk transformation; and the essential [DATEDIF function](#) for calculating time intervals. Integrating these techniques into your analytical toolkit ensures that time-sensitive data is processed accurately and efficiently, leading to more reliable insights in financial modeling, project management, and reporting.

Proficiency in these date conversion skills moves you beyond basic spreadsheet management toward advanced data analysis. Leverage these methods consistently to streamline your workflow and unlock the full potential of your temporal data in [Excel](#).

### **Additional Resources for Excel Proficiency**

To further expand your knowledge and skills in [Excel](#), consider exploring additional tutorials focused on advanced formulas and data aggregation techniques. Continued learning in these areas will help you master other common and complex tasks, enabling you to become a highly proficient expert in spreadsheet management and comprehensive data analysis.