

# How to Calculate Years Between Two Dates in Google Sheets

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## Introduction: Mastering Date Difference Calculations

Determining the exact duration between two specific points in time is a fundamental requirement in financial modeling, project management, and data analysis. While calculating the difference in days is straightforward, accurately translating that difference into years, especially accounting for leap years and partial periods, requires specialized functionality. This comprehensive guide details the most reliable methods for calculating the number of years between two dates directly within [Google Sheets](#), focusing on two distinct outcomes: calculating **full, elapsed years**, and calculating the precise **fractional years**.

We rely primarily on the powerful built-in function, [YEARFRAC function](#), which is specifically designed to return the fraction of a year representing the number of whole days between two dates. Understanding how to integrate this function, sometimes alongside the [INT function](#), allows for flexible and accurate date metrics essential for high-precision reporting. The versatility of this approach ensures that users can confidently handle time-based calculations, whether they involve tenure tracking, financial accruals, or simple age determination.

The core principle across both methods is utilizing start and end dates stored in separate cells. For the purposes of demonstration, we will assume that cell **A2** contains the starting date of the period and cell **B2** contains the ending date. Mastering these techniques ensures that your time-based calculations are always consistent and reliable, regardless of the complexity of the dataset. Below, we introduce the two primary formulas that serve as the foundation for all subsequent examples.

The following formulas can be applied in [Google Sheets](#) to calculate the number of years between two dates based on your reporting requirements:

### Method 1: Calculating Full Years Between Two Dates

When measuring duration for official purposes, such as tenure or age calculation, users often require only the number of **complete, fully elapsed years**, ignoring any remaining months or days. To achieve this necessary precision, we combine the [YEARFRAC function](#) with the **Integer (INT) function**. The [INT function](#) serves to truncate the resulting fractional value, effectively isolating only the whole number component--the completed years.

This combination is crucial because simply subtracting the year components of the dates (e.g.,  $\text{YEAR}(B2) - \text{YEAR}(A2)$ ) is highly inaccurate, as it fails to account for whether the anniversary date has actually been reached. For instance, if the start date is December 31, 2021, and the end date is January 1, 2022, a simple year subtraction yields 1, even though only one day has passed. The **YEARFRAC** formula provides the exact fractional difference (in this case, approximately 0.003 years), and applying **INT** correctly results in 0, ensuring that the result reflects only the time duration that has reached a full year milestone.

The resulting formula is presented below. This calculation represents **Formula 1**, designed specifically for isolating the full annual cycle completions between your specified start date and end date:

### Formula 1: Calculate Full Years Between Two Dates

**=INT(YEARFRAC(A2,B2))**

## Method 2: Calculating Fractional Years Between Two Dates

In contrast to finding only full years, specific applications--particularly those involving financial calculations such as interest accrual or present value--demand the highest degree of accuracy, requiring the duration to be expressed as a **fractional number of years**. This method provides the total years, including the partial year remaining, facilitating precise proportionality in time-sensitive computations.

The great benefit of the YEARFRAC function is that it is inherently designed to deliver this fractional result. When used alone, it calculates the number of days between two dates and divides that count by the number of days in a year, based on a specified day count convention. By omitting the **INT** function, the decimal precision is preserved, offering a highly granular view of the duration.

This approach is significantly cleaner and more reliable than manually calculating the day difference and dividing by 365.25. The built-in **YEARFRAC** function handles complex factors like varying month lengths and the occurrence of leap years automatically, ensuring high integrity in the resulting time value, making it the preferred tool for actuarial science and financial modeling.

The calculation for fractional duration, which requires only the core function, is summarized in the following formula:

### Formula 2: Calculate Fractional Years Between Two Dates

**YEARFRAC(A2,B2)**

## Practical Example 1: Implementing Full Year Calculation

To illustrate the application of the full years formula, we utilize a dataset containing various start and end dates. The goal is to populate column C with the accurate number of full years elapsed for each corresponding row. This process involves typing the combined formula into the first cell (C2) and then applying it dynamically to the rest of the column.

The input data structure is visualized in the accompanying image, showing the layout of the start

dates (Column A) and end dates (Column B) that we will analyze. Remember that **A2** must contain the earlier date and **B2** the later date for the result to be positive and meaningful in the context of duration calculation.

This initial visual setup confirms that our start and end dates are correctly formatted for Google Sheets to process them as numeric date values:

	A	B	C	D
1	<b>Start Date</b>	<b>End Date</b>		
2	1/4/2005	2/10/2020		
3	3/15/2007	3/15/2022		
4	4/14/2008	4/18/2022		
5	4/19/2008	4/19/2022		
6	6/20/2013	5/20/2022		
7	7/10/2015	6/10/2022		
8	7/11/2016	6/15/2022		
9	8/14/2016	7/29/2022		
10	8/15/2017	10/30/2022		
11	9/12/2018	12/23/2022		
12				
13				
14				
15				

By entering the formula `=INT(YEARFRAC(A2,B2))` into cell **C2**, we instruct Google Sheets to calculate the fractional year and immediately round it down to the nearest whole number. This uses the INT function to ensure that any partial year is discarded, adhering strictly to the definition of a "full year."

We then apply standard spreadsheet practices by clicking and dragging the formula handle down from C2 through the remaining rows in column C. This action automatically adjusts the cell references (e.g., C3 calculates based on A3 and B3), yielding the precise count of full years for the entire dataset:

**=INT(YEARFRAC(A2,B2))**

We can then click and drag this formula down to each remaining cell in column C:

C2  $\nabla$  |  $\text{fx}$  =INT(YEARFRAC(A2,B2))

	A	B	C	D
1	<b>Start Date</b>	<b>End Date</b>	<b>Full Years Between Dates</b>	
2	1/4/2005	1/1/2022	16	
3	3/15/2007	3/15/2022	15	
4	4/14/2008	4/18/2022	14	
5	4/19/2008	4/19/2022	14	
6	6/20/2013	5/20/2022	8	
7	7/10/2015	6/10/2022	6	
8	7/11/2016	6/15/2022	5	
9	8/14/2016	7/29/2022	5	
10	8/15/2017	10/30/2022	5	
11	9/12/2018	12/23/2022	4	
12				
13				
14				
15				
16				
17				

Upon review of the results in Column C, we confirm that the formula successfully isolates the full year count. Notice that even if the end date is extremely close to the next anniversary (e.g., just a few days short), the result remains the prior whole number, showcasing the effectiveness of the **INT** truncation required for full-year tracking.

For example, consider these specific outputs from the table, demonstrating the counting of full elapsed periods:

There are **16** full years between 1/4/2005 and 1/1/2022. (The difference is 16 years, 11 months, and 28 days, which is correctly truncated to 16.)

There are **15** full years between 3/15/2007 and 3/15/2022. (This is exactly 15 years, resulting in a clean whole number.)

There are **14** full years between 4/14/2008 and 4/18/2022. (The fractional part of the 15th year is discarded.)

## Practical Example 2: Implementing Fractional Year Calculation

We will now use the same input data to demonstrate the fractional calculation. This time, our focus is on capturing the complete duration, including the decimal representing the percentage of the

current year that has elapsed since the last anniversary. This is achieved by relying solely on the power of the YEARFRAC function.

We input the simplified formula, `=YEARFRAC(A2,B2)`, into cell **C2**. Unlike the previous example, we are not nesting this inside the INT function, thereby retaining the full precision of the output. This result is essential for scenarios such as calculating interest due on a loan that matures mid-year, where a fraction of a year directly translates to a fractional interest payment.

Once entered, we again use the fill handle feature of Google Sheets to quickly calculate the fractional difference across all rows. Column C will now display values that reflect not only the whole years but also the remainder as a decimal fraction. This method ensures that the value represents the most accurate division of the total days elapsed by the annual duration basis.

We can then click and drag this formula down to each remaining cell in column C:

	A	B	C	D
1	<b>Start Date</b>	<b>End Date</b>	<b>Full Years Between Dates</b>	
2	1/4/2005	1/1/2022	16.991666667	
3	3/15/2007	3/15/2022	15	
4	4/14/2008	4/18/2022	14.011111111	
5	4/19/2008	4/19/2022	14	
6	6/20/2013	5/20/2022	8.916666667	
7	7/10/2015	6/10/2022	6.916666667	
8	7/11/2016	6/15/2022	5.927777778	
9	8/14/2016	7/29/2022	5.958333333	
10	8/15/2017	10/30/2022	5.208333333	
11	9/12/2018	12/23/2022	4.280555556	
12				
13				
14				
15				
16				

The results in Column C show highly precise numbers. For instance, a duration that is slightly less than 17 years shows up as 16.992, indicating that the end date falls very close to the 17-year mark. This precise decimal representation is crucial when conducting detailed financial modeling or statistical analysis where rounding could introduce material error.

To highlight the difference from Example 1, observe the outputs:

There are **16.992** years between 1/4/2005 and 1/1/2022. (This value, when truncated by the INT function in Example 1, resulted in 16.)

There are **15** years between 3/15/2007 and 3/15/2022. (Since this is an exact anniversary, the fractional part is zero, illustrating parity between the two methods in this specific case.)

There are **14.011** years between 4/14/2008 and 4/18/2022. (The fraction 0.011 represents the four days past the 14th anniversary, a highly accurate measure.)

## Understanding YEARFRAC Day Count Conventions

The accuracy of the YEARFRAC function is dependent on its optional third argument: the **Day Count Convention** (also known as the basis). This setting determines how the function calculates the number of days in the year, which is crucial for consistency in various financial markets and legal jurisdictions. While often omitted (defaulting to the US/NASD 30/360 basis, represented by a value of 0), it is vital to know the conventions available for precise date calculation.

If the basis argument is left out, Google Sheets uses a basis of 0. However, depending on your needs--especially in international finance, where conventions vary widely--you might need to specify a different basis. Understanding this argument is one of the most technical aspects of advanced **date calculation** using this function, as it directly impacts the denominator of the fractional result.

The available bases are as follows:

**0 (US/NASD 30/360):** Assumes 30 days per month and 360 days per year. This is the default and is commonly used for fixed-income securities in the US and simplifies calculations by standardizing month lengths.

**1 (Actual/Actual):** Calculates based on the actual number of days between dates and the actual number of days in the year (365 or 366). This is highly accurate for most general purposes, including age and general duration tracking, as it respects leap years.

**2 (Actual/360):** Uses the actual number of days between dates, but assumes a 360-day year. This convention is common in certain European markets for specific types of money market instruments.

**3 (Actual/365):** Uses the actual number of days between dates, but assumes a constant 365-day year, ignoring leap days.

**4 (European 30/360):** Similar to US 30/360, but handles month-end adjustments differently according to European regulatory standards.

For standard age calculations or general duration tracking, Basis 1 (Actual/Actual) often provides

the most intuitively accurate result, as it correctly accounts for leap years. If your calculation is purely general, simply leaving the basis argument blank is acceptable, but for financial applications, specifying the correct basis is non-negotiable for ensuring compliance and comparability.

## Conclusion and Best Practices

Accurate time measurement is essential for reliable data management across all sectors. Whether you need the absolute count of **full years** for HR records or the precise **fractional years** for financial analysis, Google Sheets provides the tools necessary through the versatile **YEARFRAC** function.

Remember the critical distinction in formula application: employ the INT function only when you need to truncate the result down to the last completed year (e.g., `=INT(YEARFRAC(A2, B2))`). If maximum precision is required for financial models, use **YEARFRAC** on its own (e.g., `=YEARFRAC(A2, B2)`). For maximum fidelity in advanced scenarios, always consider the day count convention argument to align your calculation with industry standards.

You can find the complete documentation for the **YEARFRAC** function in Google Sheets [here](#), which further details input arguments and potential use cases.