

How to Check if a Date Falls Between Two Dates

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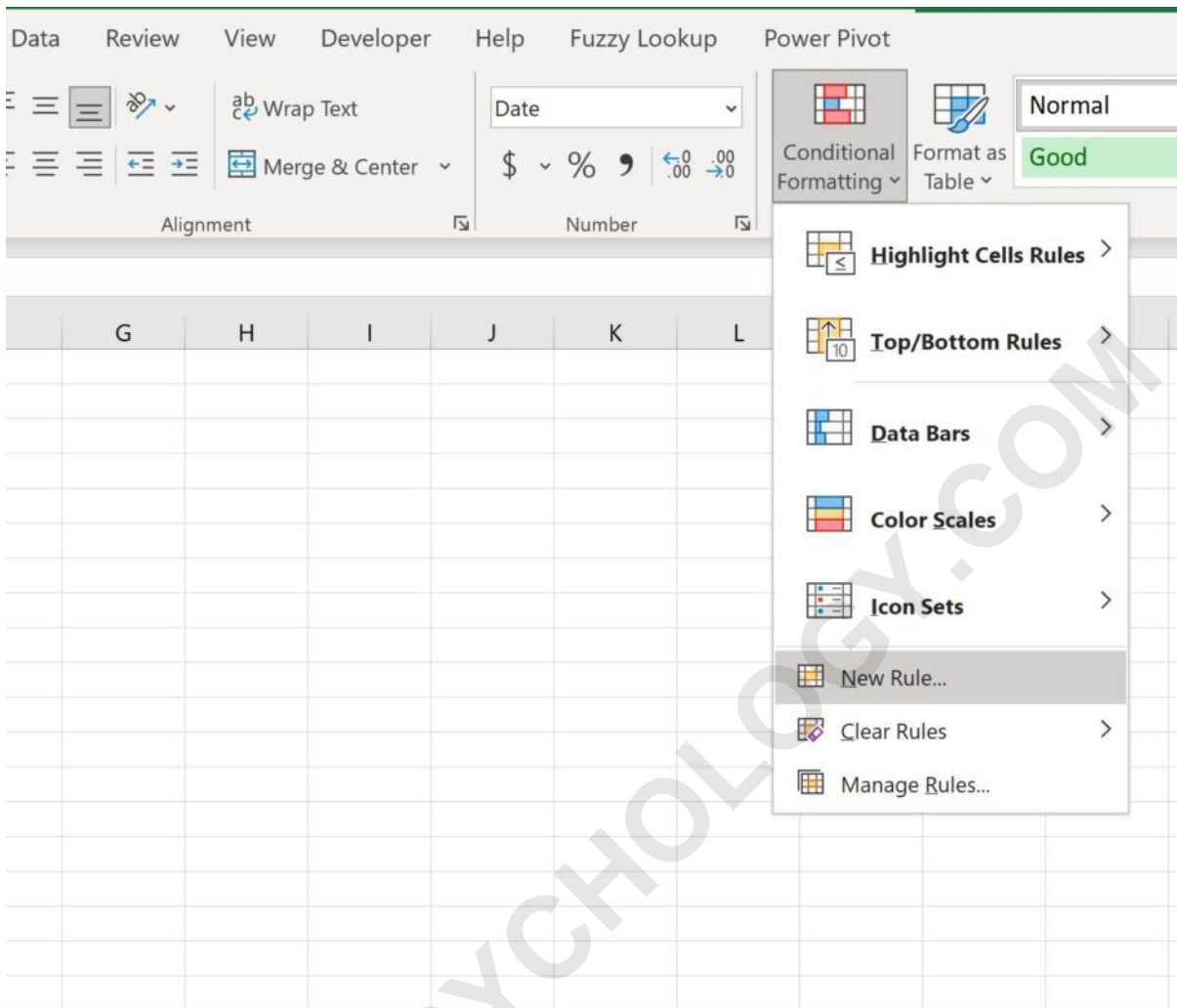
The ability to analyze data based on specific time boundaries is fundamental in business intelligence and data management. Determining if a specific date falls within a predefined date range is a common requirement when trying to filter, prioritize, or visually distinguish information. When a cell contains a date that lies between two specified boundary dates, it confirms that the data point is relevant to the time window being analyzed. This powerful filtering capability allows users of Excel to quickly isolate critical data sets, ensuring that reporting and analysis are focused only on a designated timeframe, such as a fiscal quarter or a promotional period.

While basic sorting and filtering can handle simple date constraints, the use of automated visual feedback--specifically Conditional Formatting--provides immediate clarity. By leveraging logical formulas within the conditional formatting rules, we can ensure that any data entries falling within the desired date range are automatically highlighted, simplifying the process of data auditing and visualization. This guide focuses on the precise steps required to implement this dynamic rule effectively in your spreadsheets.

Introducing Conditional Formatting for Date Constraints

To apply sophisticated Conditional Formatting to cells whose dates are strictly between two user-defined dates in Excel, we must move beyond the preset options and utilize the **New Rule** functionality. This option is easily accessible via the **Conditional Formatting** dropdown menu, located conveniently within the **Home** tab of the Excel ribbon. Using a formula-based rule is essential because it allows us to check multiple conditions simultaneously--namely, whether the date is greater than or equal to the start date, AND less than or equal to the end date.

When initiating this process, the first step involves selecting the range of cells where the formatting should be applied. Once the data range is active, navigating to the **New Rule** wizard provides the necessary environment to input the complex logical structure required for accurate date checking. This method ensures maximum flexibility and precision, as the formatting is entirely driven by a custom formula tailored to the specific date boundaries established by the user.



The subsequent sections will walk through a practical illustration, demonstrating how to construct the dataset, define the boundary cells, and input the precise logical formula that governs the conditional highlighting. This practical approach solidifies the understanding of how to implement powerful date-based conditional rules in real-world scenarios.

Step-by-Step Example: Highlighting Sales Data

To properly illustrate the application of this technique, let us consider a typical business scenario involving sales data. Suppose we manage a dataset in Excel that tracks daily sales figures, recorded across various dates. Our goal is to quickly visualize which specific sales occurred within a defined promotional window.

The initial dataset might look like this, comprising a column for the Date and a corresponding column for the Number of Sales:

	A	B	C	D	E	F
1	Date	Sales				
2	1/1/2023	10				
3	1/4/2023	14				
4	1/15/2023	13				
5	1/16/2023	13				
6	2/4/2023	18				
7	2/15/2023	29				
8	2/17/2023	38				
9	3/9/2023	22				
10	3/10/2023	12				
11	3/14/2023	11				
12						
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For this specific demonstration, imagine we need to apply Conditional Formatting to highlight every row in the dataset where the transaction date falls within the date range starting on 1/15/2023 and ending on 2/15/2023. This requires a dynamic solution that automatically updates if the boundary dates change.

Defining the Start and End Date Boundaries

Before applying the rule, it is highly recommended to define the start and end dates in separate, easily referenced cells outside of the main data table. This practice allows the rule to be dynamic; if the analysis period changes, you only need to update these two cells rather than editing the conditional formatting rule itself. This significantly improves spreadsheet maintainability.

For our example, we will set up the boundaries as follows:

Define the Start Date (1/15/2023) in cell **E1**.

Define the End Date (2/15/2023) in cell **E2**.

By referencing these absolute cell locations (E1 and E2) in our formula, we create a robust, external control mechanism for our date criteria. The structure of the worksheet, now incorporating these control cells, appears as shown below:

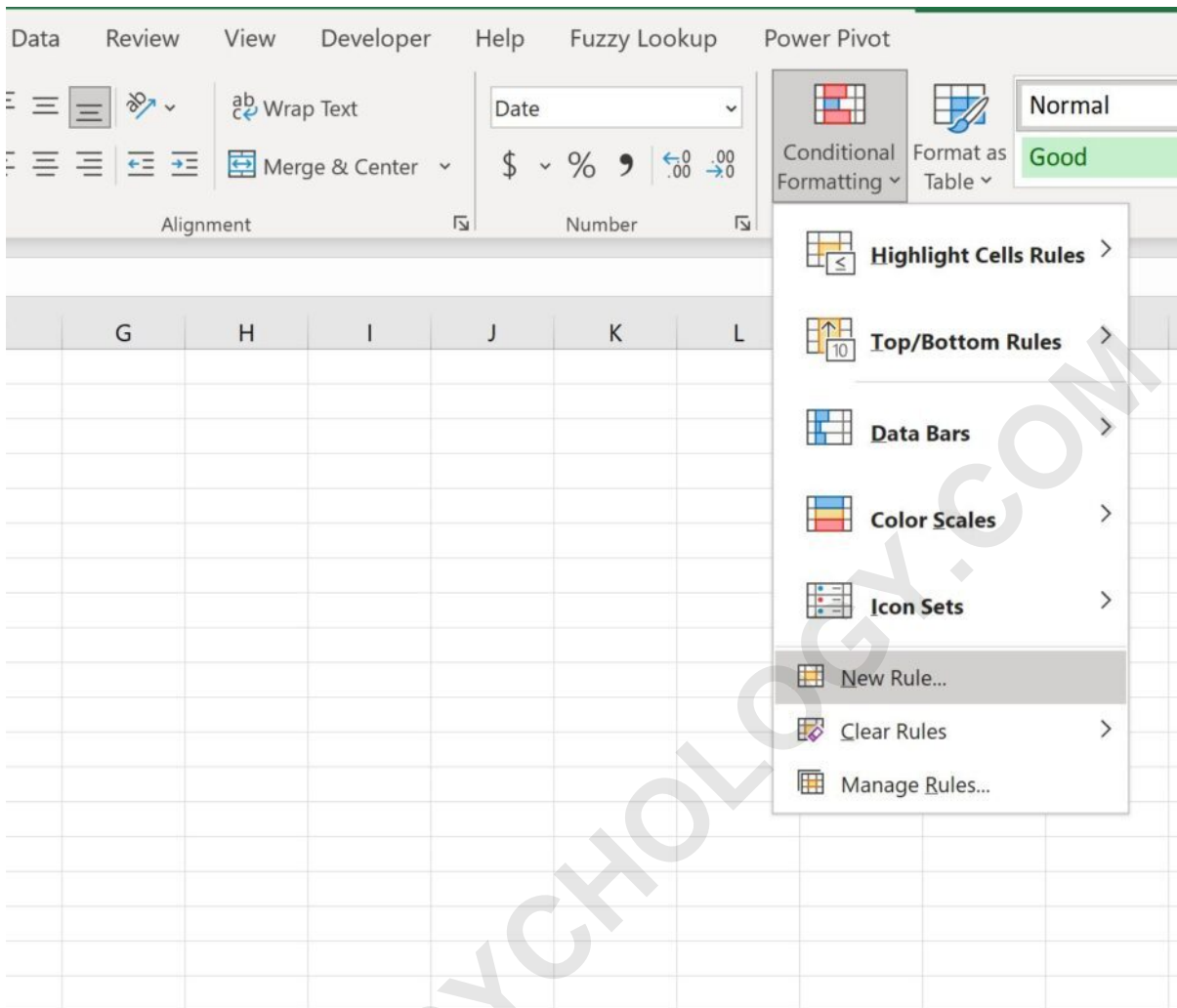
	A	B	C	D	E	F
1	Date	Sales		Start Date	1/15/2023	
2	1/1/2023	10		End Date	2/15/2023	
3	1/4/2023	14				
4	1/15/2023	13				
5	1/16/2023	13				
6	2/4/2023	18				
7	2/15/2023	29				
8	2/17/2023	38				
9	3/9/2023	22				
10	3/10/2023	12				
11	3/14/2023	11				
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Initiating the New Conditional Formatting Rule

With the dataset and boundary dates established, the next critical step is to apply the conditional rule across the relevant data range. It is essential to highlight the entire range where the formatting should occur. In this case, since we want to highlight the entire row if the date criterion is met, we must select the range spanning both the date and sales columns, which is **A2:B11**.

After selecting the range **A2:B11**, navigate to the ribbon and perform the following sequence: click the **Conditional Formatting** dropdown menu found on the **Home** tab, and then select **New Rule**. This action opens the New Formatting Rule dialog box, which presents various options for defining how the rules are applied.

Within this dialog box, we must choose the rule type that allows for complex logical comparisons. Specifically, select the option labeled **Use a formula to determine which cells to format**. This option unlocks the full potential of conditional logic, allowing us to implement the necessary check using the powerful combination of comparison operators and the AND function.



Constructing the Logical AND Formula

The core of this solution lies in using the logical AND function. For a date to be considered "between" two boundary dates (inclusive), two distinct conditions must simultaneously be true: the date must be greater than or equal to the start date, AND the date must be less than or equal to the end date.

When writing the formula for Conditional Formatting, we must pay close attention to absolute and relative referencing. Since we are applying the rule across multiple rows (A2:B11), the column containing the date (Column A) must remain fixed, but the row reference must be allowed to change (A2, A3, A4, etc.). However, the boundary cells (E1 and E2) must be fixed absolutely so that every row checks against the exact same start and end dates.

The resulting formula, which is entered into the formula box, is:

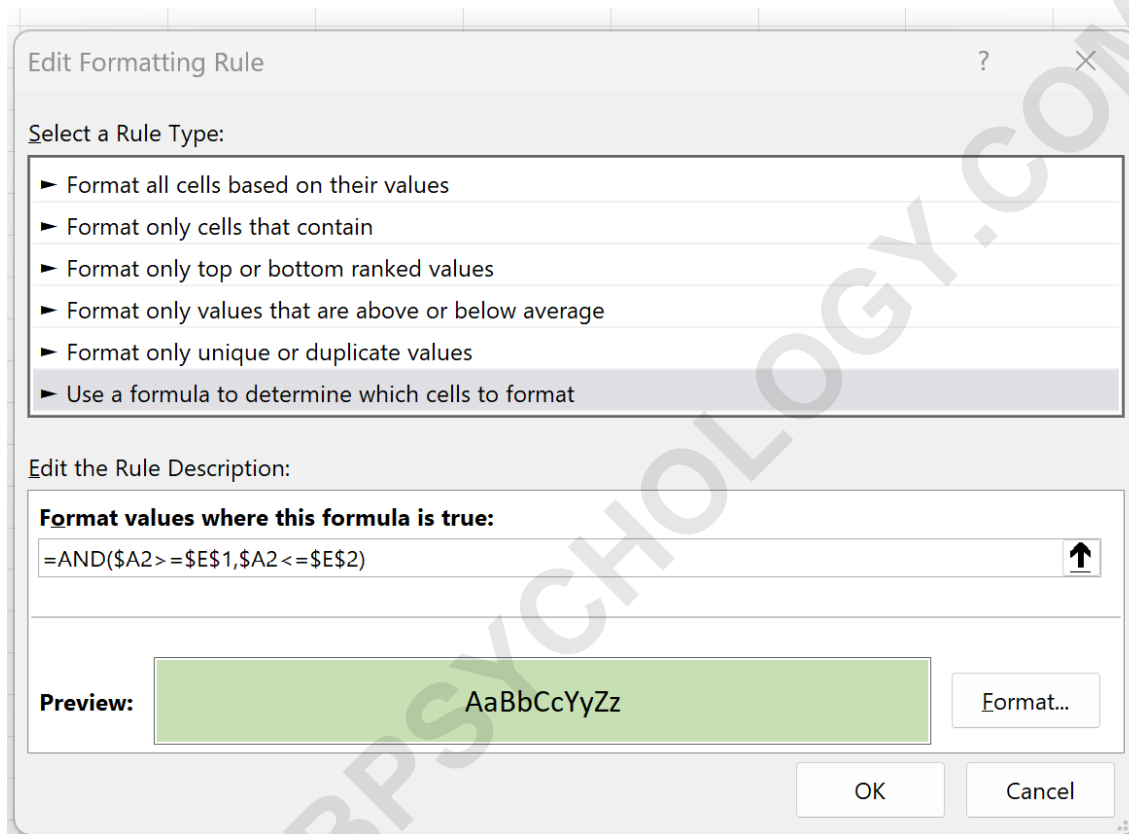
```
=AND($A2>=$E$1,$A2<=$E$2)
```

Here is a breakdown of the formula components:

\$A2: The dollar sign locks the column (A) but allows the row (2) to float. Since we highlighted the range starting at A2, Excel uses A2 as the starting point for evaluation, and automatically adjusts to A3, A4, and so on for subsequent rows.

\$E\$1: Absolute reference for the Start Date.

\$E\$2: Absolute reference for the End Date.



Applying and Visualizing the Formatting

Once the formula is correctly entered, the final step within the New Formatting Rule dialog box is to define the visual formatting applied when the condition is met. Click the **Format** button and choose a distinct format, such as a contrasting fill color, font style, or border. Choosing a light fill color is usually recommended for large datasets to maintain readability.

After selecting the desired format and clicking **OK** to close the Format Cells dialog, and then clicking **OK** again to finalize the New Formatting Rule, the highlighting is immediately applied. All rows within the original dataset that contain a date falling between 1/15/2023 and 2/15/2023 will now be visually differentiated, providing instant insight into the sales performance during that specific window.

The resulting visualization clearly identifies the data points matching our criteria:

	A	B	C	D	E	F
1	Date	Sales		Start Date	1/15/2023	
2	1/1/2023	10		End Date	2/15/2023	
3	1/4/2023	14				
4	1/15/2023	13				
5	1/16/2023	13				
6	2/4/2023	18				
7	2/15/2023	29				
8	2/17/2023	38				
9	3/9/2023	22				
10	3/10/2023	12				
11	3/14/2023	11				
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For demonstration purposes, we opted for a light green fill color. Users are encouraged to select any color or style that best suits their spreadsheet aesthetic and reporting needs, ensuring that the visual contrast is effective without being distracting.

Testing the Rule: Demonstrating Dynamic Updates

A major advantage of using external cell references (E1 and E2) is the inherent dynamism of the rule. If the business requirement changes and we need to analyze a different period, the Conditional Formatting rule will automatically recalculate and adjust the highlighting without any need to modify the underlying formula.

For instance, suppose management expands the promotional period, changing the end date from 2/15/2023 to 3/15/2023. We simply update cell **E2** to **3/15/2023**.

The worksheet immediately reflects this change, encompassing additional sales dates that now fall within the newly defined date range:

	A	B	C	D	E	F
1	Date	Sales		Start Date	1/15/2023	
2	1/1/2023	10		End Date	3/15/2023	
3	1/4/2023	14				
4	1/15/2023	13				
5	1/16/2023	13				
6	2/4/2023	18				
7	2/15/2023	29				
8	2/17/2023	38				
9	3/9/2023	22				
10	3/10/2023	12				
11	3/14/2023	11				
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As visible in the updated sheet, rows containing dates between the 1/15/2023 start date and the new 3/15/2023 end date are now highlighted, confirming the robust and dynamic nature of the formula-based conditional rule in Excel. This level of automation is crucial for dashboards and reports that frequently change their parameters.

Summary of Best Practices

Implementing date range filtering using Conditional Formatting relies heavily on adherence to best practices regarding formula construction and referencing. Always ensure that the boundary dates are fixed using absolute references (e.g., \$E\$1), while the reference to the cell being checked is mixed (e.g., \$A2), fixing the column but allowing the row to iterate. This ensures the integrity of the rule as it is applied across the entire selection.

Furthermore, when dealing with dates in Excel, remember that dates are stored as serial numbers. The comparison operators (greater than, less than) work seamlessly because they are comparing numerical values. The effectiveness of the AND function is paramount here, as it enforces the simultaneous meeting of both the lower and upper bounds of the specified range.

Excel: Apply Conditional Formatting if Cell Contains Text