

Learn How to Calculate Average with Conditions in Excel: Averaging Values Between Two Numbers

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October 31, 2025

RECOMMENDED CITATION

Mohammed looti (2025). *Learn How to Calculate Average with Conditions in Excel: Averaging Values Between Two Numbers*. PSYCHOLOGICAL STATISTICS. Retrieved from <https://statistics.arabpsychology.com/?p=7178>

When conducting thorough [data analysis](#) in [Microsoft Excel](#), analysts frequently encounter the need to calculate statistical measures based on highly specific criteria. This process, known as conditional aggregation, is vital for filtering out noise and focusing on relevant data subsets. A particularly common and essential requirement is determining the average of values that fall strictly within a defined numerical window--for instance, calculating the mean sales figures between \$500 and \$1,000, or academic scores ranging from 80 to 89. Achieving this precise level of filtering requires a function more robust than the simple AVERAGE or AVERAGEIF tools.

Fortunately, [Excel](#) offers a highly versatile solution designed specifically for multi-criteria calculations: the [AVERAGEIFS function](#). Unlike its singular counterpart, AVERAGEIFS allows users to impose multiple conditions simultaneously on the data set. This capability is paramount when defining a numerical range, as averaging "between two values" inherently requires two separate criteria: one defining the lower bound (e.g., greater than X) and one defining the upper bound (e.g., less than Y). Mastering this function unlocks powerful capabilities for segmented reporting and targeted metric calculation.

This comprehensive guide is engineered to walk you through the precise mechanisms of utilizing the [AVERAGEIFS function](#) to accurately compute the arithmetic mean of numbers situated between any two specified limits within your datasets. We will meticulously detail the function's syntax, provide step-by-step practical examples demonstrating both single-column and multi-column scenarios, and offer professional tips to ensure accuracy and efficiency in your spreadsheet operations. By the conclusion of this tutorial, you will possess the expertise to confidently apply conditional averaging to complex data sets.

Deconstructing the AVERAGEIFS Function Syntax

The [AVERAGEIFS function](#) is a cornerstone of advanced data aggregation in Excel, designed to calculate the average of cells only when all specified conditions are met. To calculate an average "between" two numbers, the function structure must accommodate two separate, yet interconnected, criteria. The successful implementation relies on understanding the order and purpose of the four core arguments required for this specific task, followed by any subsequent optional criteria pairs.

The fundamental structure of the function, tailored for finding an average between a lower limit (90) and an upper limit (95) within column B, is demonstrated below. Note the critical repetition of the column range, as each condition must reference the data it is evaluating:

=AVERAGEIFS(B:B,B:B,">=90",B:B,"<=95")

Dissecting this formula reveals how the arguments work in tandem to define the desired range.

The syntax mandates the following sequence of inputs:

Average_Range (B:B): This is the initial and crucial argument, specifying the actual range of cells that contains the values to be averaged. In scenarios where the criteria are applied to the same column being averaged, this range will often match the criteria ranges.

Criteria_Range1 (B:B): This range indicates where the first condition will be checked. For a "between" calculation on a single column, this is the column containing both the values and the criteria.

Criteria1 (">=90"): This is the first essential condition, which establishes the lower boundary. It instructs Excel to only consider values that are greater than or equal to 90. It is vital that the [logical operator](#) and the numerical value are correctly combined and enclosed in double quotation marks to be interpreted as text criteria.

Criteria_Range2 (B:B): This range specifies where the second condition is evaluated, mirroring the first criteria range in this single-column example.

Criteria2 ("<=95"): This second condition defines the upper boundary, ensuring that only values less than or equal to 95 are included in the calculation. By combining Criteria1 and Criteria2, we successfully isolate the specific numerical segment we wish to analyze, demonstrating the power of multi-criteria filtering inherent in the AVERAGEIFS structure.

Practical Application 1: Calculating Averages Within a Single Column

Let us delve into a practical demonstration involving student performance data, a common use case for conditional averaging. Suppose we are tasked with evaluating the effectiveness of a specific teaching module, and our focus is restricted solely to the performance of students who scored highly, specifically those achieving a grade between 90 and 95, inclusive. By isolating this cohort, we gain a clear, unfiltered view of their average achievement, allowing for targeted pedagogical insights.

Consider the following dataset, where all exam scores are listed in Column A:

	A	B	C	D	E	F	
1	Score						
2	74						
3	78						
4	81						
5	84						
6	88						
7	90						
8	92						
9	92						
10	93						
11	95						
12	97						
13	98						
14	98						
15	99						
16	99						
17							
18							
19							
20							

To pinpoint the average score for this particular bracket, we will construct an [AVERAGEIFS function](#) where the average range and the criteria ranges are identical (Column A). This ensures that we are averaging the very same values that we are conditionally testing. The dual criteria will simultaneously enforce the lower limit (≥ 90) and the upper limit (≤ 95), thereby creating the necessary boundary for the calculation. This method is the most straightforward application of the function for range-based calculations.

=AVERAGEIFS(A:A,A:A,">=90",A:A,"<=95")

This formulation instructs [Excel](#) to iterate through the entirety of Column A. For every cell, it checks if the value satisfies both the condition of being 90 or higher AND the condition of being 95 or lower. Only those values that meet this strict conjunction of criteria are included in the final summation and division, yielding the precise average for the targeted performance group. The visual below demonstrates the correct placement of this formula and the immediate result within an [Excel](#) environment.

C2 =AVERAGEIFS(A:A,A:A,">=90",A:A,"<=95")					
	A	B	C	D	E
1	Score		Average Score for 90-95 Students		
2	74		92.4		
3	78				
4	81				
5	84				
6	88				
7	90				
8	92				
9	92				
10	93				
11	95				
12	97				
13	98				
14	98				
15	99				
16	99				
17					
18					
19					

Executing the formula results in an average score of **92.4**. This figure is highly specific, representing only the average of the five scores (90, 92, 92, 93, and 95) that successfully passed both conditional tests. To confirm the integrity of this result, a manual verification confirms the calculation: $(90 + 92 + 92 + 93 + 95) = 462$. Dividing this sum by the count of qualifying scores (5) confirms the accuracy: $462 / 5 = 92.4$. This example underscores the reliability of the [AVERAGEIFS function](#) when applied to a single column range.

Practical Application 2: Conditional Averaging Across Multiple Data Ranges

One of the most powerful features of the [AVERAGEIFS function](#) is its ability to average values in one column based on criteria applied to one or more entirely different columns. This multi-criteria, multi-range capability is indispensable for complex business intelligence and statistical modeling where the metric being measured (e.g., points scored) is dependent on a filtered characteristic (e.g., player height). For this demonstration, we will analyze basketball player data, aiming to find the average points scored, but only for players whose height falls within a specific range of 70 to 75 inches.

The dataset below illustrates this separation of data fields, with Height contained in Column A and

Points Scored in Column B:

	A	B	C	D	E	F
1	Height	Points				
2	68	12				
3	68	15				
4	70	14				
5	71	14				
6	73	16				
7	73	19				
8	74	20				
9	75	24				
10	77	23				
11	77	19				
12	77	16				
13	78	22				
14	79	26				
15	80	28				
16	81	24				
17						
18						
19						
20						

To accurately calculate the desired average, our formula must correctly distinguish between the column that holds the values to be averaged (Points, Column B) and the column that contains the criteria values (Height, Column A). Crucially, the average range (B:B) is listed first, followed by the criteria ranges and their associated bounds. The conditions specifying the range (≥ 70 and ≤ 75) must both reference Column A, as this is the data field being filtered, even though the final output will be an average of Column B.

=AVERAGEIFS(B:B,A:A,">=70",A:A,"<=75")

In this construction, B:B serves as the **average_range**, representing the points we wish to average. Both criteria, ">=70" and "<=75", are applied to A:A, the height column. The logic dictates that [Excel](#) will first traverse Column A, identifying all rows where the height meets the 70 to 75-inch requirement. Once those rows are isolated, the function proceeds to collect the corresponding values from Column B (Points Scored) and calculates their mean. This methodology is fundamental to deriving targeted metrics from heterogeneous data structures.

The subsequent screenshot visually confirms the execution of this complex formula within an [Excel](#) environment. It clearly illustrates the input required and the resulting calculated value,

showcasing how the function seamlessly correlates data across different columns based on the specified dimensional filters.

D2				<code>=AVERAGEIFS(B:B,A:A,">=70",A:A,"<=75")</code>	
	A	B	C	D	E
1	Height	Points		Average Points for 70-75 Height	
2	68	12		17.833	
3	68	15			
4	70	14			
5	71	14			
6	73	16			
7	73	19			
8	74	20			
9	75	24			
10	77	23			
11	77	19			
12	77	16			
13	78	22			
14	79	26			
15	80	28			
16	81	24			
17					
18					

The computation yields an average points scored of approximately **17.833** for the identified subset of players. This result provides invaluable insight, confirming the scoring performance specific to the mid-height bracket (70 to 75 inches). For rigorous verification, we can manually sum the points of the six players whose heights fall within the range (70, 70, 72, 73, 74, 75 inches): $(14 + 14 + 16 + 19 + 20 + 24) = 107$. Dividing this total by the count of 6 confirms the formula's accuracy: $107 / 6 \approx 17.833$. This robust manual check validates the successful application of the multi-range AVERAGEIFS criteria.

Essential Tips for Mastering AVERAGEIFS

While the AVERAGEIFS function is exceptionally powerful, its successful implementation relies on strict adherence to specific syntax rules and a clear understanding of how it handles different data types. Recognizing and adhering to these crucial considerations will prevent common errors and ensure the integrity of your conditional averages.

Maintaining Range Consistency: A non-negotiable requirement for the AVERAGEIFS function is that all range arguments--the `average_range` and every subsequent `criteria_range`--must

possess identical dimensions (i.e., the same number of rows and columns). Failure to match these ranges precisely, such as attempting to average a range of 10 rows based on criteria from a range of 12 rows, will inevitably result in [Excel](#) returning the #VALUE! error. Always verify that your column references (e.g., A:A, B:B) span the same number of cells or rows.

Strict Criteria Syntax Rules: When incorporating logical operators (such as ">", "<", "=", ">=", "<=") or working with text criteria, the entire criterion string must be enclosed within double quotation marks. For instance, ">=90" is correct, while >=90 is incorrect. If you need to reference a cell containing the boundary value (e.g., cell C1 holds the value 90), you must concatenate the operator and the cell reference using the ampersand (&), formatted as ">="&C1.

Handling Non-Numeric Values: The AVERAGEIFS function strictly operates on numerical data within the average_range. It will completely ignore cells containing text, empty strings, and logical values (TRUE or FALSE). However, it is important to remember that cells containing the numerical value zero (0) are correctly included in the average calculation, which will inherently decrease the resulting mean. Understanding this distinction is critical for accurate interpretation of the results, particularly in datasets with missing or zero-reported values.

Distinction Between AVERAGEIF and AVERAGEIFS: The choice between the [AVERAGEIF function](#) and AVERAGEIFS is determined by the number of conditions required. If your analysis involves only a single criterion (e.g., average all scores greater than 90), AVERAGEIF is the simpler tool. However, defining a range--an operation requiring both a lower bound (Criteria1) and an upper bound (Criteria2)--necessitates the use of [AVERAGEIFS](#). While AVERAGEIFS can technically handle a single criterion, using AVERAGEIF for such cases improves readability and efficiency.

For the most comprehensive and authoritative reference, always consult [Microsoft's official documentation](#). It provides exhaustive details on function behavior, error handling, and advanced criteria types.

Expanding Your Data Analysis Toolkit in Excel

Mastering the calculation of averages within specific bounds using AVERAGEIFS is a significant step toward achieving advanced proficiency in data manipulation within [Excel](#). The principles of conditional aggregation--applying multiple criteria to isolate specific data points--extend across many other powerful functions, forming the foundation of complex reporting and modeling. By expanding your expertise beyond averages, you can dramatically increase your efficiency in handling large and complex datasets.

To further solidify your data processing capabilities and efficiency within [Excel](#), consider exploring tutorials and resources focused on related conditional functions and data visualization techniques:

[How to Sum If Between Two Values in Excel](#): Learn how to use SUMIFS to total values based on

similar range criteria.

[How to Count If Between Two Values in Excel](#): Utilize COUNTIFS to determine the number of records that fall within a precise range, providing volume metrics.

[Applying Conditional Formatting for Data Visualization](#): Enhance the presentation of your filtered data by dynamically highlighting cells that meet specific conditions.

[Understanding Pivot Tables for Data Summarization](#): Leverage Pivot Tables to quickly summarize, reorganize, and analyze large volumes of data, often relying on aggregated metrics like averages.

These skills, combined with a mastery of conditional functions, will equip you to tackle virtually any data analysis challenge, transforming raw data into actionable insights with speed and accuracy.