

How do I calculate the Exponential Moving Average in Google Sheets?

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The Exponential Moving Average (EMA) in Google Sheets is a mathematical calculation that helps to smooth out data and identify trends over a specified time period. It is commonly used in financial analysis to track the average price of a security over time. To calculate the EMA in Google Sheets, you will need to use the "EMA" function and specify the data range and time period. The resulting value will be the average of all previous data points, with more weight given to the most recent data. This allows for a more accurate representation of the current trend in the data. By following the proper steps and understanding how to use the EMA function, you can easily calculate the EMA and make informed decisions based on the trends in your data.

Exponential Moving Average in Google Sheets (Step-by-Step)

In time series analysis, a moving average is simply the average value of a certain number of previous periods.

An exponential moving average is a type of moving average that gives more weight to recent observations, which means it's able to capture recent trends more quickly.

The following step-by-step example shows how to calculate an exponential moving average in Google Sheets.

Step 1: Enter the Data

First, let's enter the following dataset that shows the total sales made by a company during 10 consecutive sales periods:

	A	B	C	D	E
1	sales				
2	25				
3	20				
4	14				
5	16				
6	27				
7	20				
8	12				
9	15				
10	14				
11	19				
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					

Step 2: Calculate the Exponential Moving Average

Next, we'll calculate the exponential moving average (EMA) using the following formula:

$$EMV = * (2/n+1) + \text{Previous EMA}$$

In the formula, n represents the number of periods to use to calculate the exponential moving average. This is the one number that you must specify.

For our example, we'll calculate a 3-day EMA. First, we'll enter the EMA value in cell B2 to be equal to the value

in cell A2:

	A	B	C	D	
1	sales	3-Day EMA			
2	25	25			
3	20				
4	14				
5	16				
6	27				
7	20				
8	12				
9	15				
10	14				
11	19				
12					
13					
14					
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16					
17					
18					
19					
20					
21					

Next, we'll use the following formula to calculate the first value for the 3-day EMA:

	A	B	C	D	
1	sales	3-Day EMA			
2	25	25			
3	20	$=(A3-B2)*(2/4)+B2$			
4	14				
5	16				
6	27				
7	20				
8	12				
9	15				
10	14				
11	19				
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Next, hover over the bottom right corner of cell B3 until a tiny "+" cross appears. Double click the cross to copy and paste the formula down to the remaining cells in the column:

	A	B	C	D
1	sales	3-Day EMA		
2	25	25		
3	20	22.5		
4	14	18.5		
5	16	17.7		
6	27	22.52		
7	20	20.812		
8	12	16.4872		
9	15	16.19232		
10	14	15.215392		
11	19	17.229235		
12				
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20				

That's it! Column A shows the sales and column B shows the 3-day exponential moving average of the sales.

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