

# How do I create a semi-log graph in Excel?

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## RECOMMENDED CITATION

stats writer (2024). *How do I create a semi-log graph in Excel?*. PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=140728>

Creating a semi-log graph in Excel is a simple process that involves adjusting the axis scale to display data in a logarithmic format. This can be done by selecting the data points and choosing the appropriate chart type, then modifying the axis scale to display the logarithmic scale. With this type of graph, one axis will have a linear scale while the other will have a logarithmic scale, allowing for a clear representation of data that has a wide range of values. Overall, creating a semi-log graph in Excel is an effective way to visually analyze and present data that follows an exponential trend.

## **Create a Semi-Log Graph in Excel**

**A semi-log graph is a type of graph that uses a logarithmic scale on the y-axis and a linear scale on the x-axis.**

**This type of graph is often used when the values for the y variable have much greater variability compared to the values for the x variable.**

**This occurs often in datasets in finance, economics, biology, and astronomy among other fields.**

**The following step-by-step example shows how to create a semi-log graph in Excel for a given dataset.**

**Step 1: Enter the Data**

**First, let's enter the values for a fake dataset:**

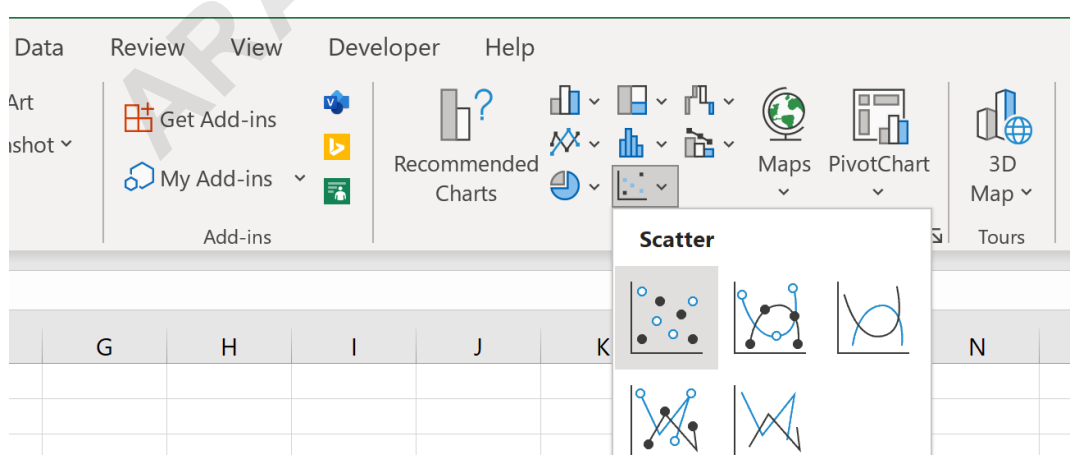
	A	B	C	D	E	F	G
1	<b>x</b>	<b>y</b>					
2	1	14					
3	2	80					
4	4	190					
5	5	650					
6	7	2000					
7	8	5400					
8	10	12000					
9	11	34000					
10	12	52000					
11	13	83000					
12	14	105000					
13	16	170000					
14	19	290000					
15	22	440000					
16	24	612000					
17							
18							
19							
20							
21							
22							
23							
24							
25							

## Step 2: Create a Scatterplot

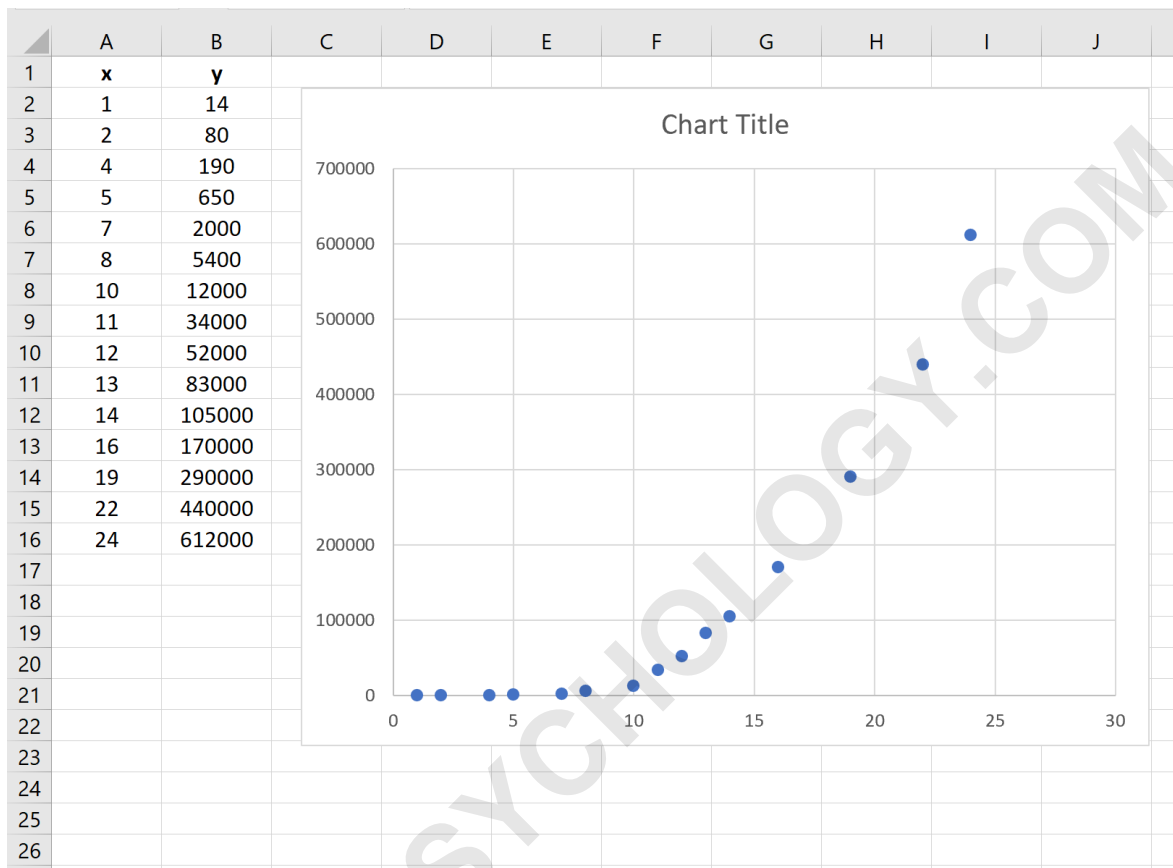
Next, highlight the data values:

	A	B	C	D	E	F	G
1	<b>x</b>	<b>y</b>					
2	1	14					
3	2	80					
4	4	190					
5	5	650					
6	7	2000					
7	8	5400					
8	10	12000					
9	11	34000					
10	12	52000					
11	13	83000					
12	14	105000					
13	16	170000					
14	19	290000					
15	22	440000					
16	24	612000					
17							
18							
19							
20							
21							
22							
23							
24							
25							

**Along the top ribbon, click Insert. Then click the first option under the Scatter graph option:**



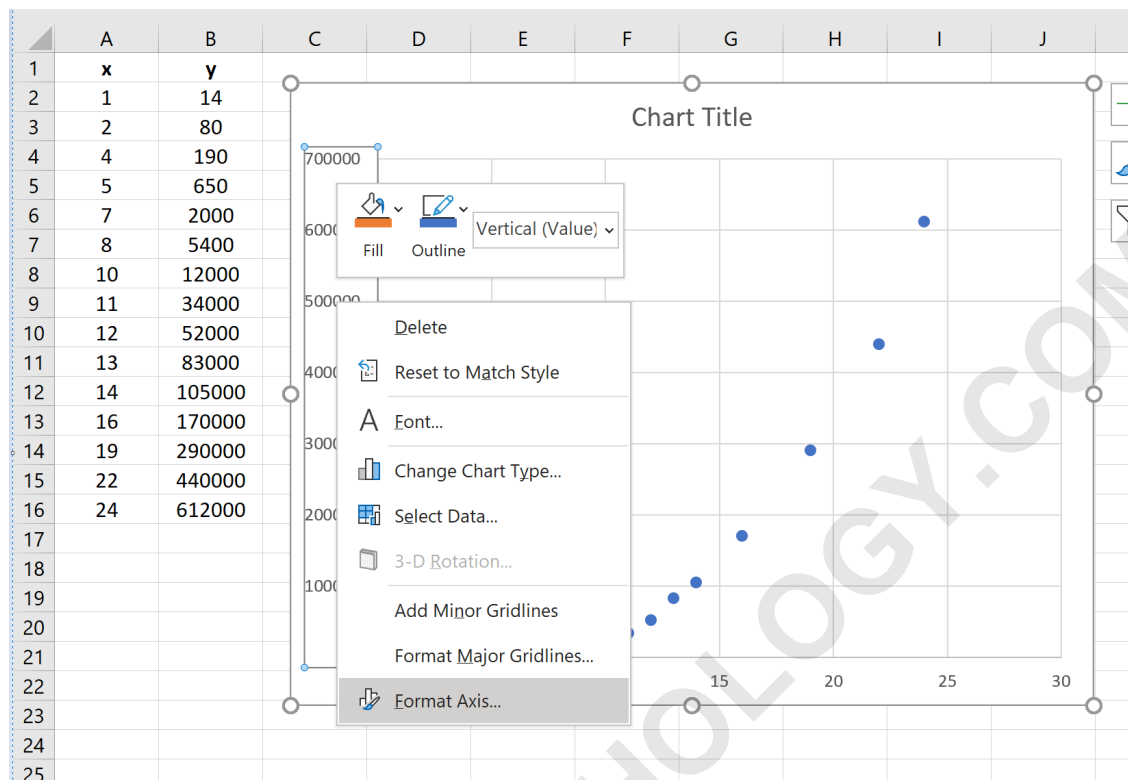
The following scatterplot will automatically be displayed:



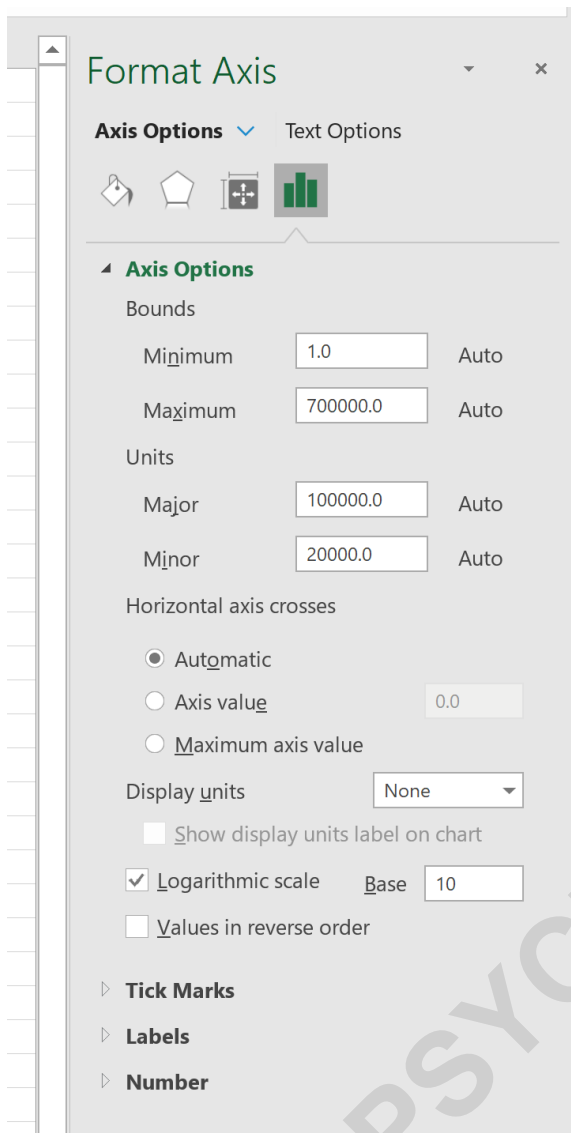
From the plot we can see that the values for the y variable have much higher variability than the values for the x variable.

This means it's a good idea to convert the y-axis into a logarithmic scale to visualize the y-values more effectively.

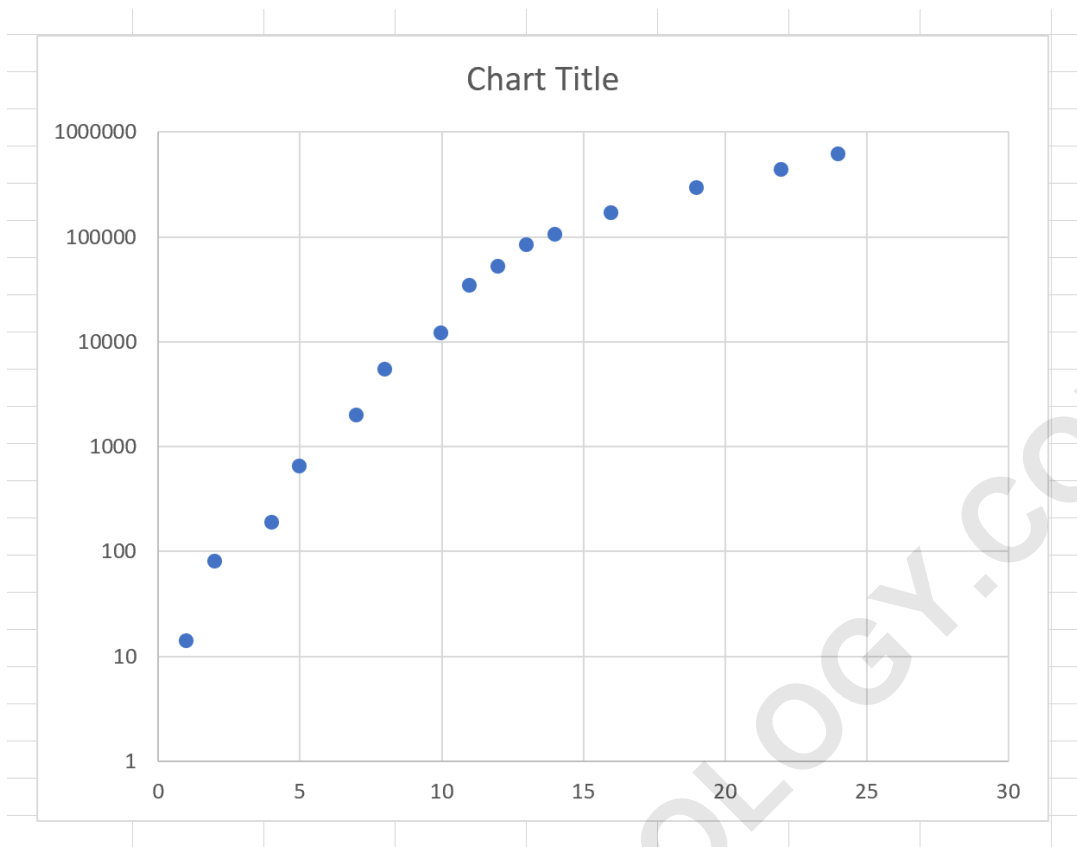
### Step 3: Modify the Y-Axis Scale



In the window that appears on the right side of the screen, check the box next to Logarithmic scale:



**The y-axis will automatically be converted to a logarithmic scale:**



**The x-axis remains on a linear scale, but the y-axis has been converted into a logarithmic scale.**

**Notice how much easier it is to interpret the y values in this graph compared to the previous graph.**