

Making Histograms with Excel

Enter all the data in a column and label it, including units.

Decide on a number of intervals and the size of the intervals that will best group the data for a histogram. For example, say that the data is 1, 4, 2, 6, 3, 6, 3, 5, 8, 7 and that the data should be grouped into four intervals. The intervals might be 1-2, 3-4, 5-6, and 7-8 giving four intervals which are each two numbers wide. In the Excel worksheet have a separate column to specify the intervals for the histogram. This column, called the “bin” column, will have the highest number from each interval. For the previous example, the “bin” column would have the numbers 2, 4, 6, and 8. This means that the first bin of the histogram should have all numbers less than or equal to 2, that the second interval should have all numbers less than or equal to 4 but greater than 2, that the third interval should have all numbers less than or equal to 6 but greater than 4, and that the fourth interval should have all numbers less than or equal to 8 but greater than 6.

Data	Bin
1	2
4	4
2	6
6	8
3	
6	
3	
5	
8	
7	

Figure 1: Setting up the data column and the bin column.

It does not matter whether the bin or data columns are sorted in ascending order or not, i.e. — the bin column could have been in the order 4, 6, 2, 8. Excel will sort these columns on its own when it creates the histogram.

Now to create the histogram!

Go to the top menu bar, click on **Tools**, and select **Data Analysis** from the menu that appears. In the window that pops up, select **Histogram**. In the **Histogram** window which pops up, specify the inputs and bins for the histogram. The **Input Range** should be the cells in the data column, and the **Bin Range** should be the cells in the “bin” column. From the previous example, the **Input range** is the column with 1, 4, 2, 6, 3, 6, 3, 5, 8, and 7, while the **Bin range** is the column with 2, 4, 6, and 8.

With these two ranges, Excel can count how frequently the data falls into each interval. To have Excel also create a chart of the histogram check the **Chart Output** box in the bottom left of the **Histogram** window. The following is Excel’s results for the example.

The “More” interval is what Excel uses for any data that does not fall into any of the specified intervals.

Figure 2: The histogram results and the chart.

Bin	Frequency
2	2
4	3
6	3
8	2
More	0

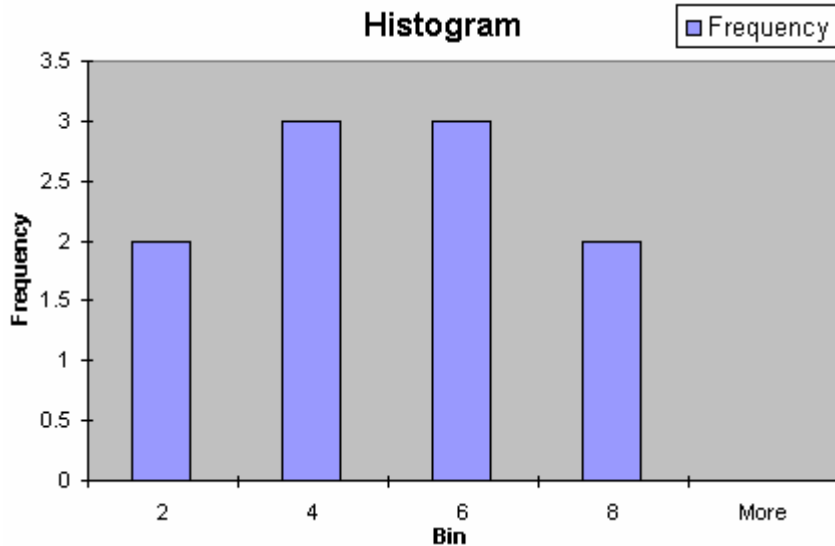


Figure 3: The histogram chart.