

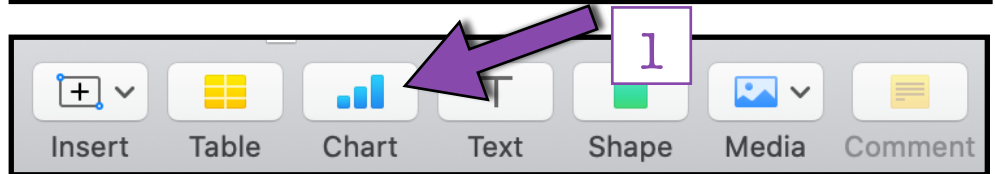
How To Create a Bar Graph in Numbers

Let's imagine we're still working at a car dealership. After we created an Absolute Frequency Table of the number of Volkswagen models our dealership has sold, our boss asked us to create a Bar Graph to visually represent those frequencies.

To create a Bar Graph, we begin by selecting the data in our "Absolute Frequency" column. These data are outlined by a blue box in the figure to the right. And we want to be sure to select only the data, not the Column Heading.

	A	B	C	D	E
1	Volkswagen Model		Categories	Absolute Frequency	Frequency
2	EOS		EOS	3	0.273
3	Golf Mk6		Golf Mk6	3	0.273
4	Passat B6		Jetta	1	0.091
5	Golf Mk6		Passat B6	4	0.364
6	EOS		Passat B7	0	0.000
7	EOS				
8	Jetta		Total	11	
9	Golf Mk6				
10	Passat B6				
11	Passat B6				
12	Passat B6				

First click "Chart" in the ribbon at the top center of the Apple Numbers window.



Second, from the Chart drop down menu click "2D."

Third, select the first chart icon.

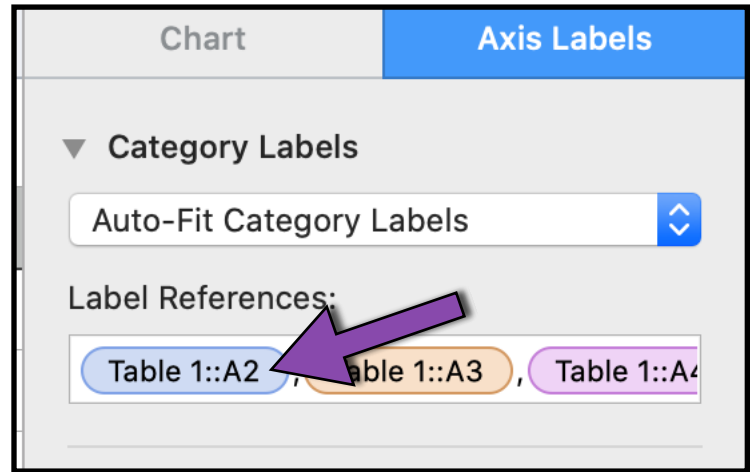
Clicking on that option will cause a Bar Graph to appear!

However, the Bar Graph that appears does not have the correct Graph Units on its x-axis (the units of information presented on the x-axis). We want our x-axis Graph Units to be the categories of our Absolute Frequency Table. In this example, our categories are the five Volkswagen Models sold at the dealership.

To tell Numbers what we want our x-axis Graph Units to be, first, we double click on the x-axis Graph Units.

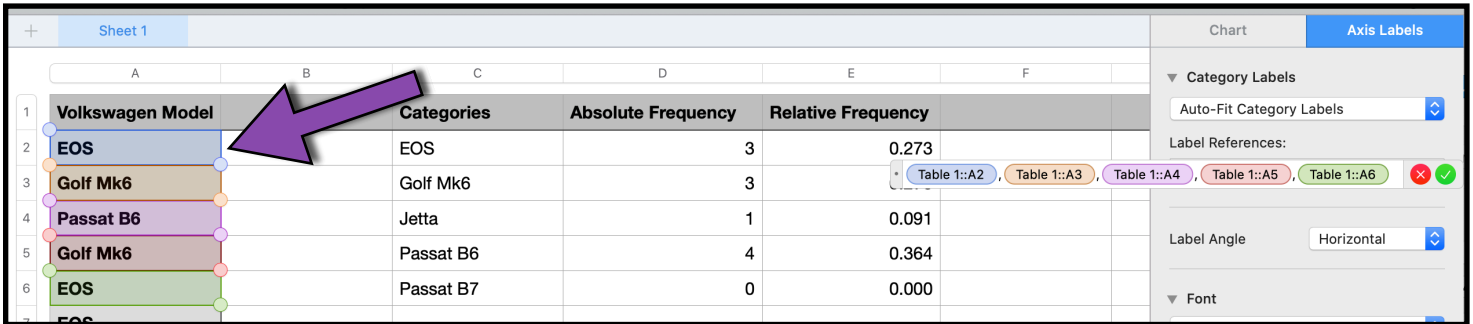


Double clicking will open the “Axis Labels” toolbar on the right side of the screen.



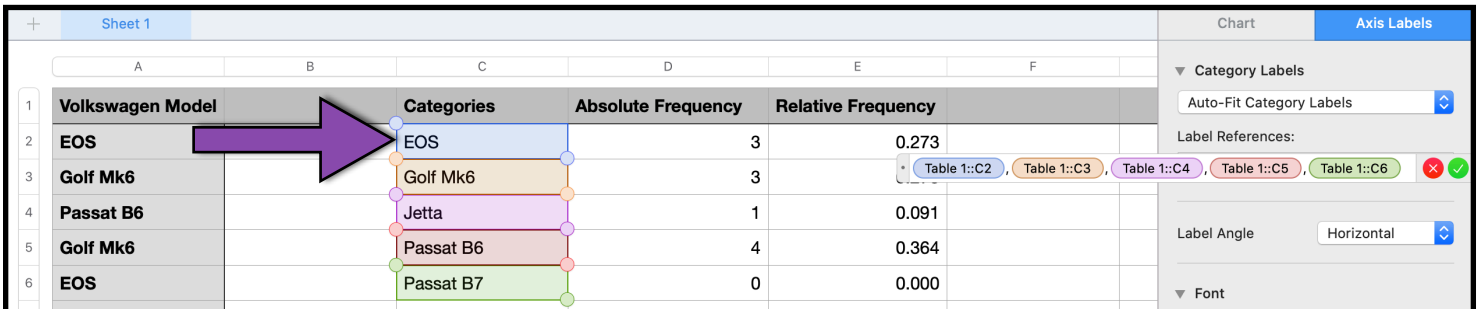
Next, we must click on the data shown under “Label References.”

As shown in the Figure below, Numbers thinks we want our x-axis labels to be from Column A, under the Column Header “Volkswagen Model.”



However, we want Numbers to look under the Column Header “Categories” for our x-axis Graph Units.

To tell Numbers to look under the Column Header “Categories,” we simply click on each colored box individually and while holding down our cursor, drag them straight across the row they appear in until they are under the “Categories” Column Header.



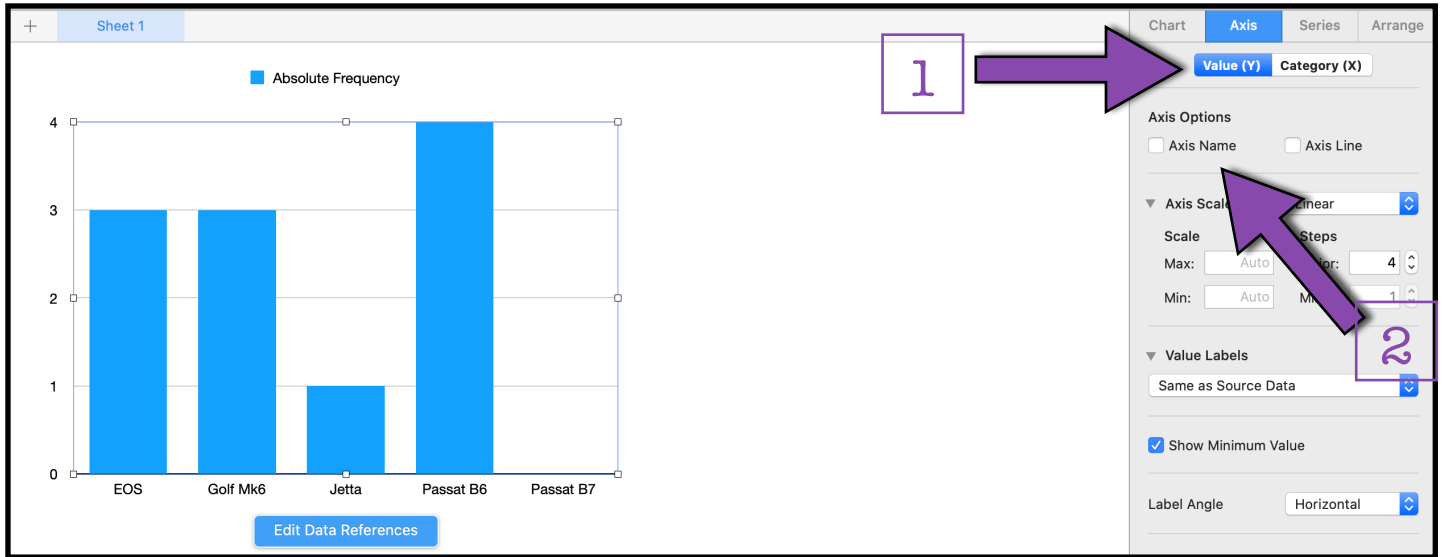
Now that our x-axis Graph Units are correct, we need to check to see if our Bar Graph contains all of the major components of a graph.

This Bar Graph is missing some major components. Therefore, we need to add a few more things to our Bar Graph before it is complete.

One of the missing components in this graph is its Axis Labels.

To add Axis Labels, we select our graph by clicking anywhere on the graph. From the right side Format toolbar we first select “Axis”, then second “Value (Y).”

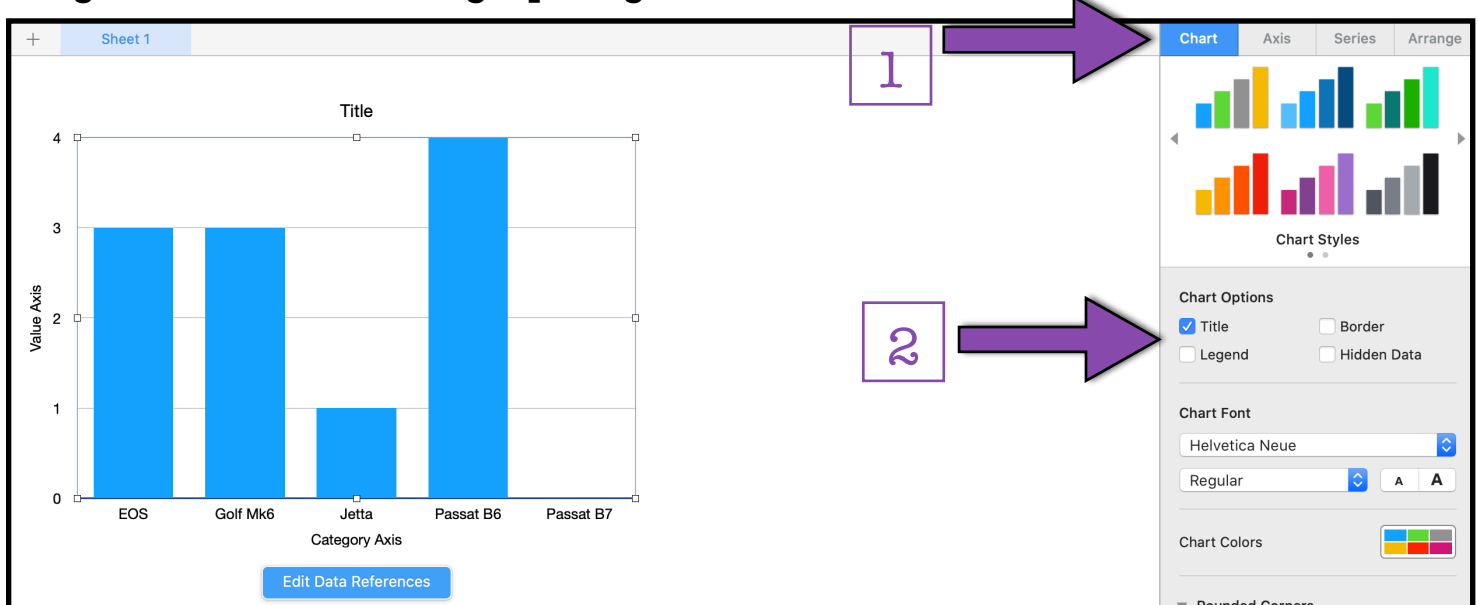
From the Value (Y) menu we check the box next to “Axis Name,” which will add a placeholder vertical axis (y-axis) label to our Bar Graph. In Numbers, this placeholder axis label is called “Value Axis.”



After adding the placeholder for our vertical axis label, we need to select “Category (X),” to add a placeholder for our horizontal axis (x-axis). Under Category (X) we check the box next to “Axis Name” to add our placeholder horizontal axis (x-axis) label.

Our Bar Graph is also missing a Graph Title. To add a placeholder graph title, select the graph by clicking anywhere in the graph. The Format toolbar will appear on the right side of the screen. From there, first select “Chart.” Second, under “Chart Options,” check the box next to “Title.”

Since our graph includes only one type of data, we will also uncheck the box “Legend” to remove the graph legend.



Now we need to make our placeholder axis labels and graph title more informative. “Value Axis,” “Category Axis,” and “Title” don’t give us enough information!

To change the text of our Graph Title and our Axis Labels, we can simply double-click on the text of the label, highlight the existing text, and replace the existing text with our new label.

Once we’ve added our informative Graph Title and Axis Labels, we need to look at the Graph Units (the units of information presented on our axes).

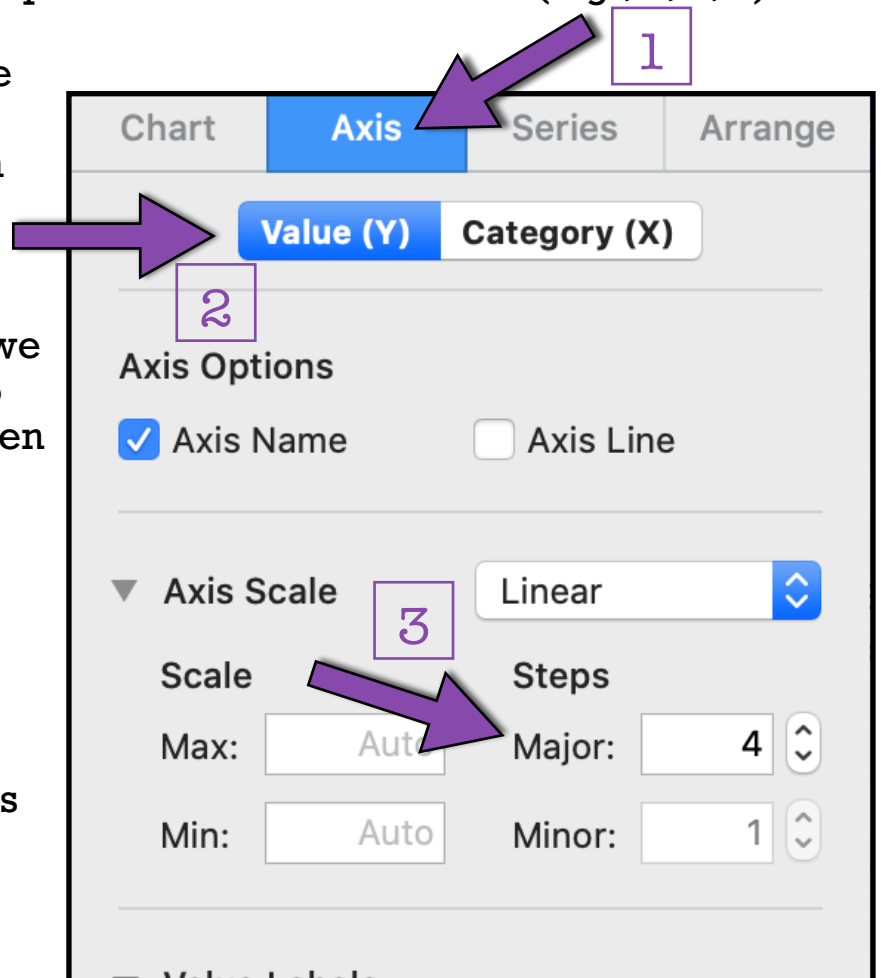
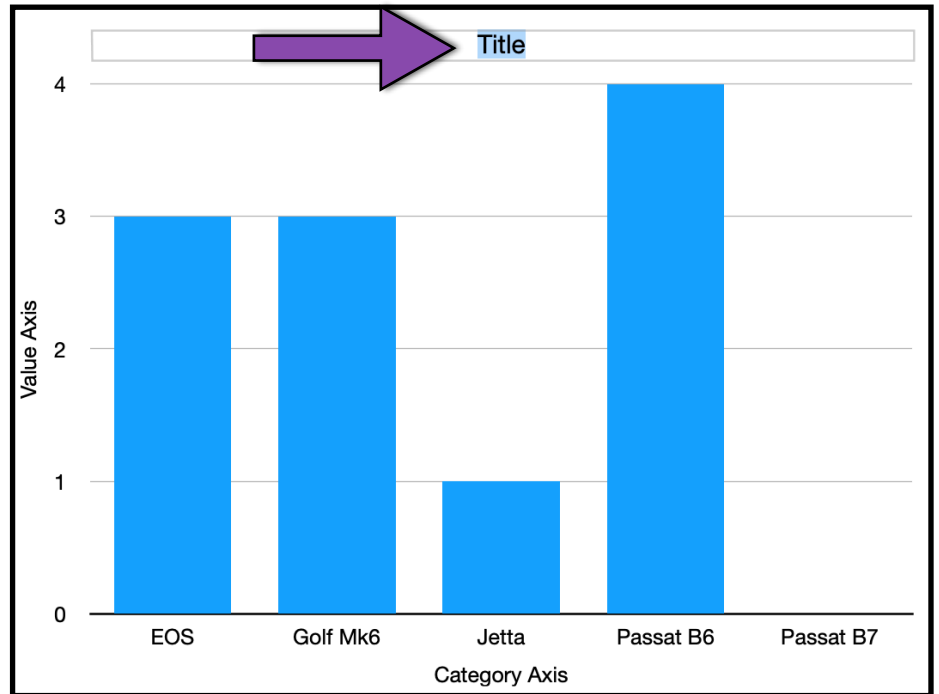
For our Volkswagen model data, Numbers has automatically created our y-axis Graph Units in increments of 1 (e.g., 1, 2, 3).

Because we measured our Absolute Frequency in whole numbers, increments of 1 are ok. However, in other instances, we may want to change our y-axis Graph Units.

To change the y-axis Graph Units, we first click anywhere on the graph to select it. A “Format” toolbar will open on the right side of the screen.

From the Format tool bar, we first select “Axis,” and second select “Value (Y).”

Here, under the “Axis Scale” menu we could change the the increments for the y-axis by increasing or decreasing the Major “Steps.”



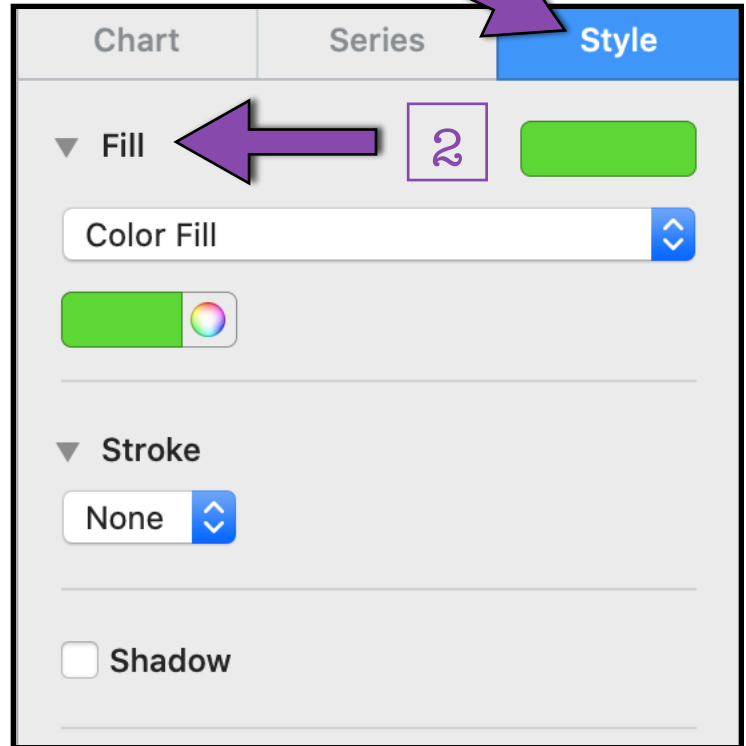
Finally, we may want to adjust the color or pattern of the data bars in our Bar Graph.

To change the color or pattern of our data bars, we first select the data bars by clicking once on any of the bars.

A new Format toolbar will open on the right side of the screen. From the Format toolbar, first we select the “Style” menu.

Second, under the “Fill” dropdown menu, we can select the color or pattern we would like to use to fill our bars.

There are endless options for customizing the color and pattern of our bars! However, we must be sure to keep the principles of designing good graphs in mind when choosing our color or pattern.



We've now created a Bar Graph using Apple Numbers!