



'How To' Guide – Bar Charts



A bar chart – also called *bar graph*, *column graph* or *block graph*.

When numerical data is collected, it is usually organised into a tally chart.

A bar chart is a way of representing this data pictorially.

A bar chart uses bars to represent the data. Each bar represents the frequency of a different category or class.

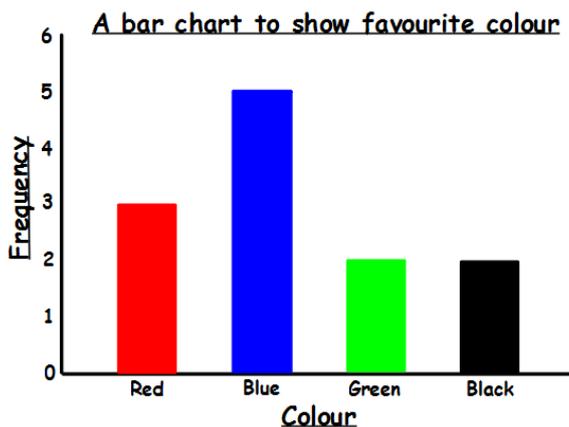
Example

The following table shows pupils' favourite colours in a class of 12 pupils.

Put the information into a bar chart.

Colour	Frequency
Red	3
Blue	5
Green	2
Black	2

Answer



Note

- The bar chart has a title.
- The frequency numbers are equally spaced apart.
- The bars are all of equal width.
- There is an equal gap between each bar because the data is discrete.
- The axes are labelled.

How we teach it

- Make sure a pencil and ruler are used.
- Draw the axes first.
Look at the data and identify the lowest and highest number in the frequencies. This will give you an idea of how long your frequency axis needs to be.
- Make sure the gap between each number is equal.
- If your numbers are very large, you may decide for your scale to go up in 2s, 5s, 10s or anything else that is appropriate so that it fits on your page.
- Label your axes. For the categories, these may be words or numbers depending on the context of your data.
- Give the bar chart a title.
- Ensure that all bars are drawn the same width with the same size gap in between.
- Each bar should be drawn up to the height of the frequency for its category.

Additional info

- It is not always appropriate to start the scale at 0, for example, when your lowest value is a high number. If this is the case, we use a 'broken scale' (see reverse for an example).
- The data you use can be one of three types, which affects how the bar chart needs to look:
 - Categorical (words or single numbers)** – The bar labels go in the middle of the bars. Bars have equal gaps between (example on the left).
 - Continuous data (measurements)** – The bar labels begin and end with the bars. Bars have no gaps (example on the back).
 - Discrete (all other number) in groups** – The bar labels go in the middle of the bars. Bars have no gaps (example on the back).

Common mistakes

- Gaps between written numbers are not equal.
- Scaling of numbers not equal (start of going up in 2s, then in 1s etc).
- Not putting gaps between bars for discrete data.
- Not labelling axes or giving the bar chart a title. This is important to let the reader understand what is being shown.
- Not having bars with the same width.

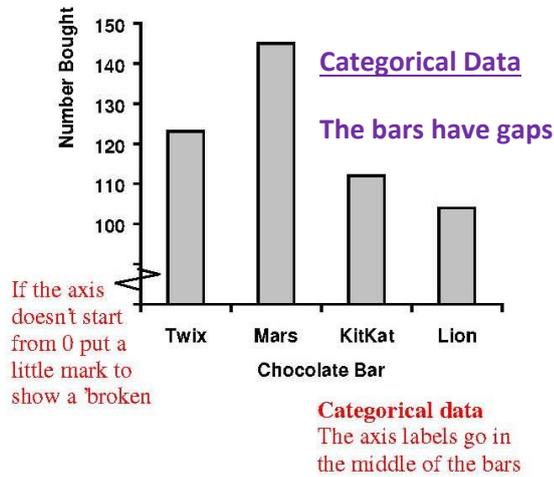


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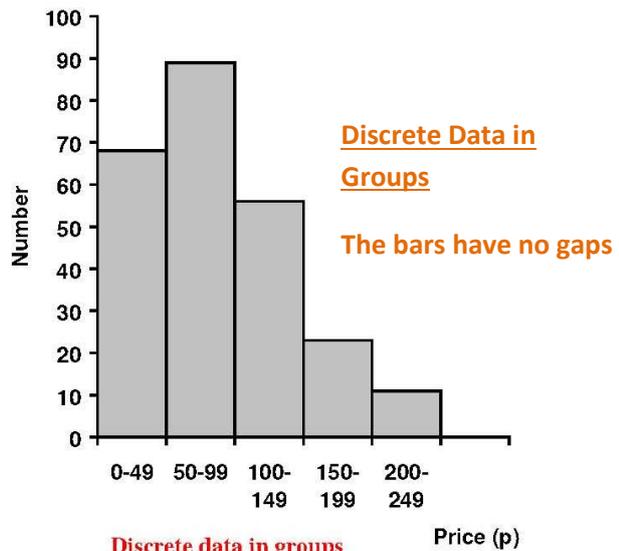


The following are examples of the different types of bar chart you can have depending on the type of data you are using.

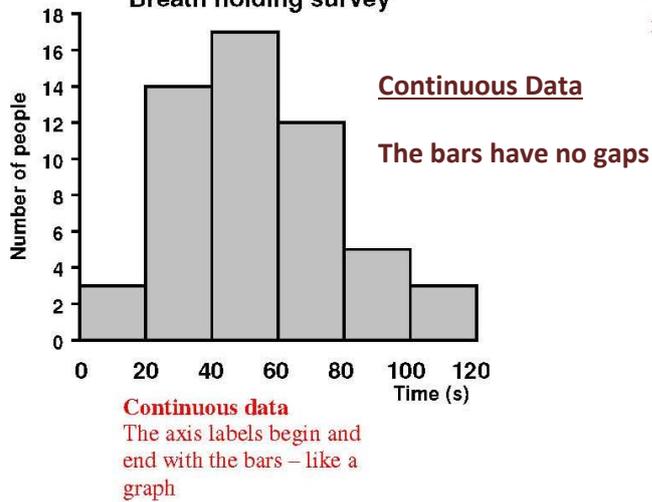
Favourite Chocolate Bar



Price of Ice Creams



Breath holding survey



All charts must have:

- A title
- Labels on both of the axes