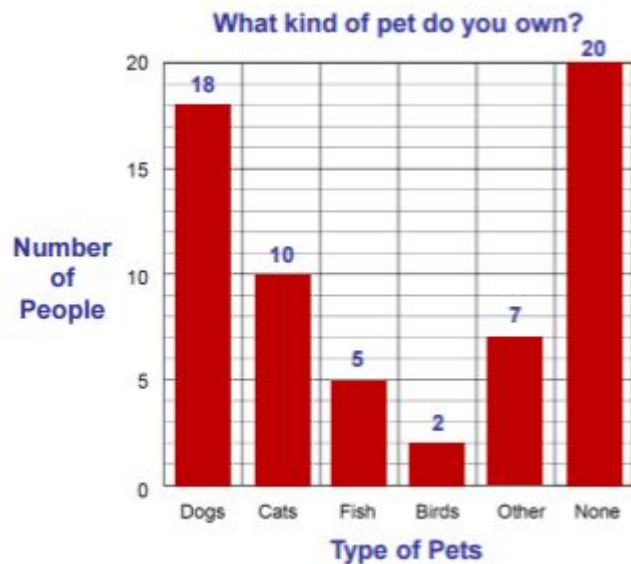


The Bar Graph





A bar graph is used to compare things.

Information is gathered and organized in a table and then a bar graph is created to show these different amounts. The heights of the bars make it easier to **visually compare** the different items.

Example 1: Drawing a Bar Graph

A survey asked participants to choose their favourite pizza topping from a list of choices.

The results were placed in a table.

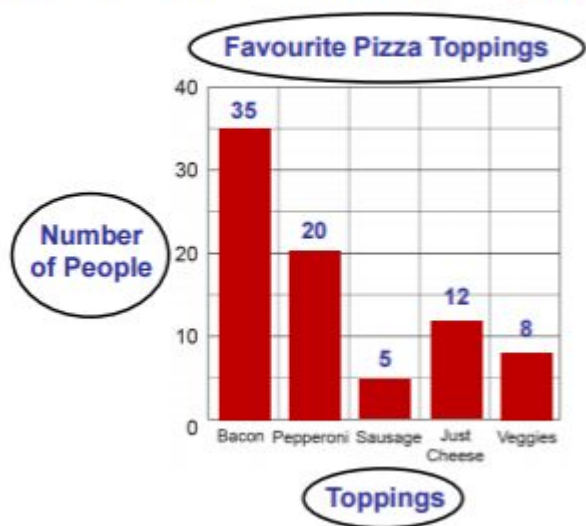
| Toppings | Number of Votes |
|-------------|-----------------|
| Bacon | 35 |
| Pepperoni | 20 |
| Sausage | 5 |
| Just Cheese | 12 |
| Veggies | 8 |
| Total | 80 |

Let's create a bar graph to represent this data. The categories are written across the x-axis (horizontal) and the numbers of votes (people) go up the y-axis (vertical).

Example 1 (Continued)

Note that our graph has a title.

We also have labels on the **x-axis** and **y-axis**.



This is a vertical bar graph because the bars are vertical.

You will also notice that the numbers on the y-axis increase by 10 each time. Also, the numbers go slightly higher than what is needed so that we use the graph paper wisely and all of our data fits. If your maximum y-value is too big, the bars will be too small. However, if your maximum y-value is too small, all the data won't fit on the graph.

Bar Graph: Details



There are some other details you will notice about a bar graph.

- The bars are all the same width.
- There is an equal sized space between each bar.

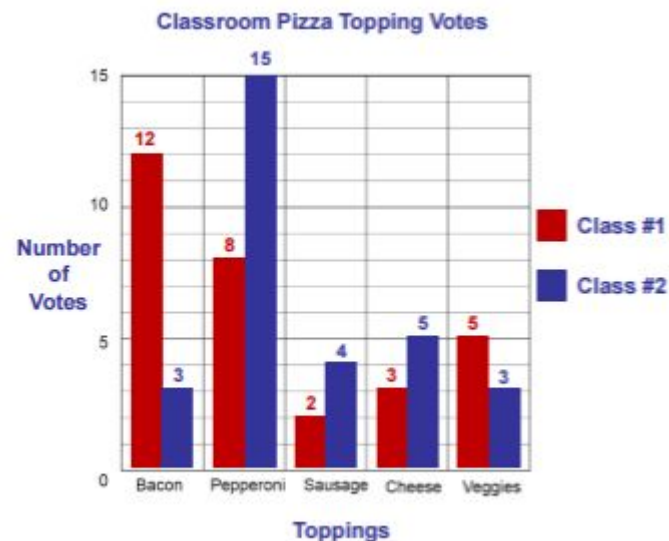
Sometimes bar graphs are made horizontally. In this case, the categories would be on the vertical axis and the frequency would be shown across the x-axis.

Now, imagine that we ask two different classrooms what their favourite pizza toppings are and we want to compare them side by side.

For data like this, we will create a **double bar graph**.

Example 2: Double Bar Graph

| Toppings | Classroom #1 | Classroom #2 |
|-------------|--------------|--------------|
| Bacon | 12 | 3 |
| Pepperoni | 8 | 15 |
| Sausage | 2 | 4 |
| Just Cheese | 3 | 5 |
| Veggies | 5 | 3 |
| Total | 30 | 30 |



Example 2: Continued

From the **double bar graph** it is visually very easy to compare the votes made by each class.

Some of the observations we will make include:

- **Bacon** was the most popular topping in **Classroom #1**.
- **Pepperoni** was the most popular topping in **Classroom #2**.
- **Sausage** had the lowest number of votes in **Classroom #1** and **bacon** and **veggies** were the lowest in **Classroom #2**.