

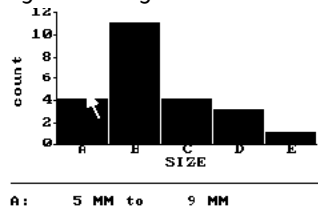
Graphs glossary

One of our roles as teachers is to encourage children to communicate effectively using graphs. Computers draw them with great ease - in fact, when you use databases and spreadsheets you can produce an astounding range of graphs to analyse your surveys.

Here then are some working descriptions of the most popular and useful kinds of graph you will meet on the computer.

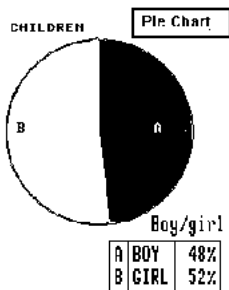
Histograms and count graphs

These give an idea of the spread of your results. For the chart here, the insect lengths were divided into five ranges and counted. The graph shows the number of insects which have similar lengths. Histograms, unlike bar charts, show which ranges are the most significant and whether the results are well spread. Some programs let you make pictograms - showing pictures instead of bars. These are essential.



Pie charts

One of the easiest charts for comparing parts with a total. For example, you can draw a pie chart to see what proportion of a class are girls. When you use a database a pie chart might show you, for example, the spread of the shoe sizes in the class. (For obscure reasons, the same pie chart in a spreadsheet may not).

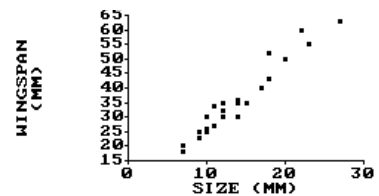


Bar or column chart

The bar chart is a generic title. There are stacked bar charts, histograms and more. On a computer, a bar chart shows the spread of the results. For example, a bar chart of children's heights shows each child with a bar representing their height. A histogram of the same data would divide the class into ranges and count the number falling in each range.

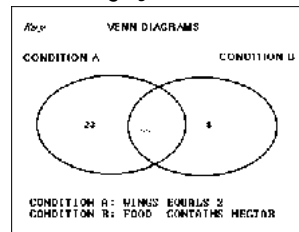
Scattergraphs or X-Y graphs

A useful graph for science, but hard to understand. They help to find a pattern between two sets of numbers or variables - for example, to find out if larger animals have larger wingspans. Usually (see below) you see a pattern of dots - rather than a line of best fit.



Venn diagrams

Useful for seeing if there is a connection between different features, for example, do minibeasts with two wings feed on nectar? The circles show how many creatures have each feature, while the overlap shows how many have both features.



Line graphs

Computers, like children, think that line graphs are just bar graphs drawn with a line instead of bars. For example, you can use a computer line graph to show how a plant grows over time. (However, you must make sure that your readings were taken at equal intervals - be that days or weeks). These line graphs have similar uses to bar graphs but they show gradual changes better. If, in fact, you really want a graph where one set of numbers is plotted against another, ask for a scattergraph instead.