

Charts and Graphs

Charts and graphs are used to display and interpret data from a variety of different sources. It is important that we draw these accurately or they may cause students to interpret them incorrectly.

- Scatter Graphs

Scatter diagrams show the relationship between two variables. By looking at the diagram you can see whether there is a link between variables. If there is a link it is called correlation.

Video: <https://youtu.be/VUaOCgJTPjI> (Scatter Graphs)

- Line Graphs

A line graph shows trends or change over time. Line charts can be used to show relationships within a continuous data set and can be applied to a wide variety of categories. A line graph is often used to show a trend over several days or hours. It is plotted as a series of points, which are then joined with straight lines. The ends of the line graph do not have to join to the axes

Video: <https://youtu.be/E1fYceXHr4> (Line Graphs)

- Bar Charts

Bar charts are used to view in a bar chart, the height of the bar shows the frequency of the result.

As the height of bar represents frequency, the vertical axis would be labelled 'Frequency'. The labelling of the horizontal axis depends on what is being represented by the bar chart. Take care to ensure an appropriate scale, to number the axes uniformly, and give the appropriate label on the axes. Finally remember to give the graph a suitable title.

Video: <https://youtu.be/LEXbMW-Amao> (Bar Charts)

- Pie Charts

Pie charts use different-sized sectors of a circle to represent data.

In a pie chart it is important to understand that the angle of each sector represents the fraction, out of 360° , assigned to that data value. Pie charts should always be labelled, either directly on the pie chart or by means of a colour-coded key.

To construct a pie chart, you need to work out the fraction of the total that the sector represents. Then convert this to an angle and draw the sector on the chart. **We discourage the use of a “formula” to find the angle as this prevents students developing a conceptual understanding of what the data shows.**

Video: <https://youtu.be/omOjbDcEVhI> (Drawing Pie Charts)