CHOOSING THE RIGHT CHART · PART 6 OF 8 · AGES 11–16

Chart Key Terms

The words you need to draw, read and describe charts, each with a one-line meaning.

Parts of a chart

Axis	One of the two reference lines of a graph. The x-axis runs across and the y-axis runs up. Each needs a title and a unit.
Scale	The numbers marked along an axis at equal steps, such as 0, 5, 10, 15. Equal distances must stand for equal amounts.
Key (legend)	Explains what each colour, line style, symbol or icon stands for. In a pictogram it states what one icon is worth.
False origin	An axis that starts above zero, often marked with a zigzag. Acceptable on many line and scatter graphs; misleading on bar charts.

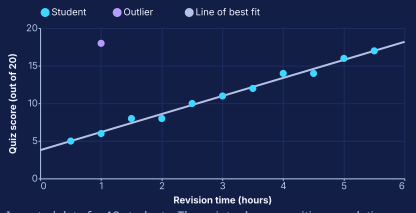
Types of data

Categorical data	Data in words or labels, such as eye colour or favourite sport. Shown with bar charts, pie charts and pictograms.
Discrete data	Numbers that can only take certain values, usually counts, such as siblings or goals. You cannot have 2.5 siblings.
Continuous data	Measurements that can take any value in a range, such as time, height or mass. Grouped into classes for a histogram.
Frequency	How many times a value or category occurs. A frequency table lists each value or class beside its count.
Class interval	A group that continuous data is sorted into, such as $10 \le t < 15$ minutes. Classes must not overlap.

Patterns in data

Distribution	How the values in a data set are spread out: where most of them bunch, how wide the spread is and whether it is lopsided.
Trend	The general direction of data over time, such as rising, falling or level, ignoring small ups and downs.
Correlation	A relationship between two variables. Positive: both rise together. Negative: one rises as the other falls. None: no pattern.
Outlier	A value well away from the rest, or one that breaks the pattern. Check it: it may be a mistake or a real, unusual result.
Line of best fit	A straight line through the middle of the points on a scatter graph, showing the trend. Use it to estimate values.

Example: revision time and quiz score



Invented data for 12 students. The points show a positive correlation. The student with 1 hour and 18 marks is an outlier and was left out when drawing the line of best fit.

Counted or measured?

Counted data, such as people or goals, is discrete. Measured data, such as time, length or mass, is continuous. Shoe sizes are discrete even though they include halves.

NEXT IN THE SERIES
7. Charts in Everyday Life

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