

# Scatter graphs

## Facts

A **scatter graph** is used to show **bivariate data** (the relationship between two variables).

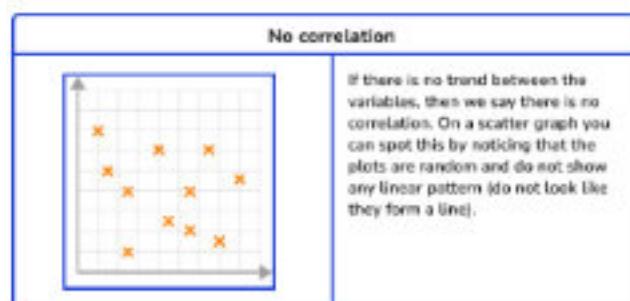
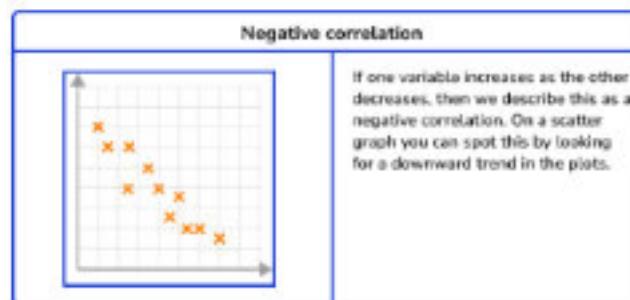
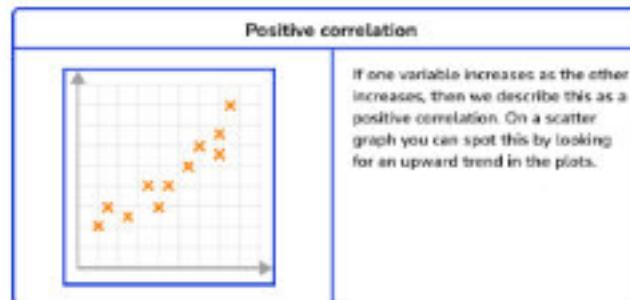
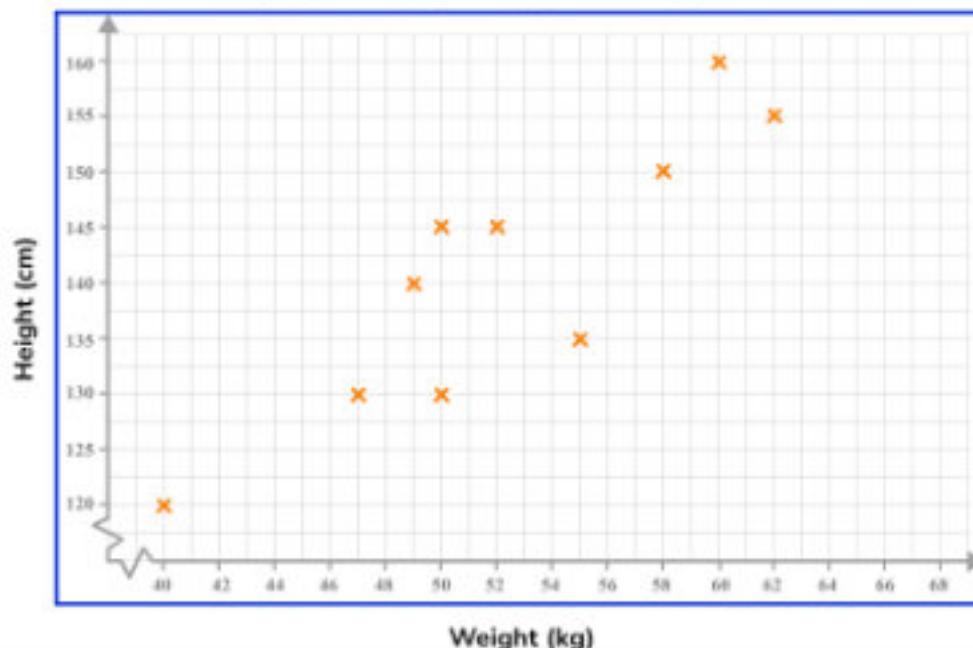
They can be used to find whether there is **correlation** (a relationship) between two variables.

You can predict data from a scatter graph by drawing a straight **line of best fit** (in science this can be a curve of best fit)

An **outlier** is a piece of data which does not fit with the rest of the data set.

Student	A	B	C	D	E	F	G	H	I	J
Height (cm)	120	145	130	155	160	135	150	145	130	140
Weight (kg)	40	50	47	62	60	55	58	52	50	49

A scatter graph showing the height and weight of ten students



### The line of best fit

A **line of best fit** is a straight line drawn through a scatter graph which shows correlation. It is referred to as an **estimated** line of best fit because it is drawn by hand following some guidelines. There is a small range of acceptable answers.

The aim is to draw a straight line in the direction of the correlation shown, with points distributed either side of the line as equally as possible along its length. Your line may also pass directly through a number of points.

A line of best fit can also be referred to as a trend line.

