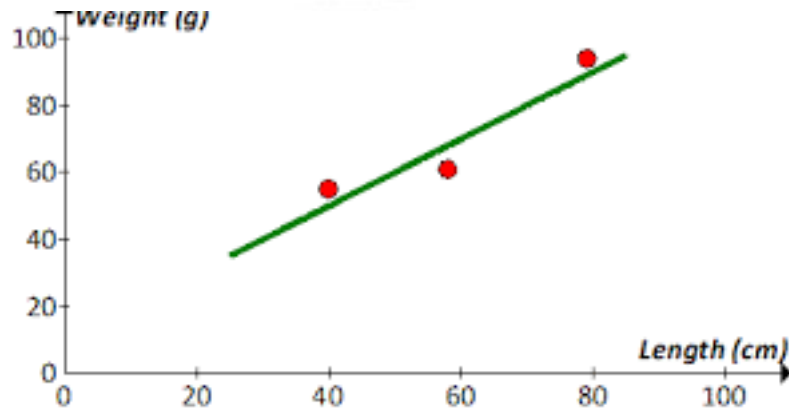| Control variable	Independent variable	Dependent variable
The variable that you keep the same each time you repeat an experiment.	The variable that you change within an experiment.	The variable that you measure within an experiment.

How to plot a results table......

Independent variable (unit)	Dependant variable (unit)			Mean average (unit)
	Repeat readings 1	Repeat readings 2	Repeat readings 3	

Ensure all measurements taken are to the same number of significant figures & decimal planes.
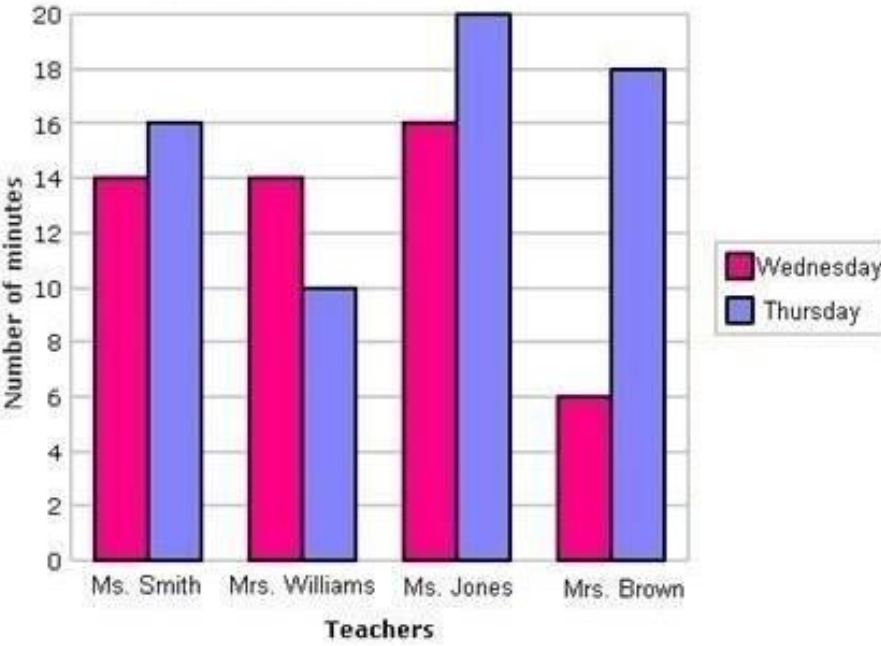
Components of a good graph in Science

Bar graph – *Plot when data is categoric. E.g. Gender, Blood group, Colour*	Line graph – *Plot when data is continuous E.g. Can be an infinite value.*
Labelled X & Y Axis	
Appropriate scale (numbers)	
Points plotted accurately.	
Title	
	Line or curve of best fit

Measurement	SI Unit
Mass	Kg
Volume	cm
Weight	N
Force	N
Distance	m
Extension	mm
Speed	m/s

Year 8 Introduction to Science

An anomaly is a number significantly higher or lower than the mean value.
Look at the data below. The anomalies have been circled.
They should now either have that test repeated or be excluded from the mean average.

Height the ball is dropped from (cm)	Height the ball bounced (cm)			Mean average height the ball bounced (cm)
	1	2	3	
30	25	23	22	23
60	41	40	42	41
90	67	(76)	63	65

Mean	Median
7, 3, 4, 1, 7, 6 Add all the numbers together then divide the total by how many numbers there are. Mean = (7+3+4+1+7+6)/6 = 4.66	7, 3, 4, 1, 7, 6 Arrange the numbers in order and pick the middle value 1, 3, 4, 6, 7, 7 Median = (4+6)/2 = 5
Mode	Mean
7, 3, 4, 1, 7, 6 Most common number (7), 3, 4, 1, (7), 6	7, 3, 4, 1, 7, 6 Different between the highest and lowest number. Range = 7-1=6

Volume is the amount of space a 3D shape takes up.

A cubic cm block takes up 1 cubic cm. This is written as 1 cm³.

You can work out the volume of a **cuboid** by multiplying **height × width × depth.**
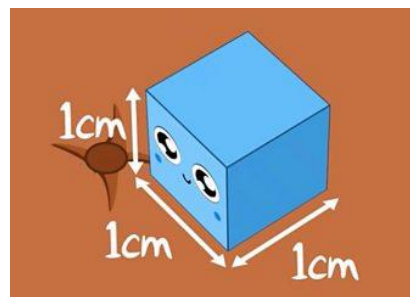
Irregular objects we use a eureka can. We measure the volume been identifying how much water the object displaces.

Year 8 Introduction to Science

Calculating percentage increase or decrease.

$$\text{Percent Increase} = \frac{\text{Final Value - Initial Value}}{\text{Initial Value}} * 100\%$$

$$\frac{(100°c - 50°c)}{50°c} = 100\%$$