



(1) Equipment (2) Key terms (3) Maths in Science


Thermometer
Place thermometer in the liquid (hold the thermometer if in a small beaker or it will fall). Wait until the line stops moving and take a reading.



Boiling Tube
Slightly larger than a test tube. Use to carry out small reactions or to heat small amounts of powder or liquid. Place in a test tube rack when not in use.



Measuring cylinder
Read the volume of liquid from the bottom of the curve (meniscus), come in different sizes for different volumes of liquid.



Accurate	The result is close to the expected value
Precise	All of the results are close together
Repeatable	The same results can be achieved when the experiment is repeated
Method	A clear and concise set of instructions to carry out an investigation
Hazard	Something that could happen to cause harm
Risk	How likely the hazard is to happen
Hypothesis	A prediction made about the results of an investigation. Based on how we think the independent variable will affect the dependent variable.
Independent Variable	The factor that is changed in the investigation. Found in the first column of a table, and the x axis of a graph.
Dependent Variable	The factor that is measured in the investigation. Found in the y axis of a graph.
Control Variable	Factors in the investigation that must be kept the same for each repeat.

Rearranging equations

Equation **Example**
Speed (m/s) = Distance (m) ÷ time(s)

Convert 2km → 2000m

Substitute Speed (m/s) = 2000m ÷ 120s

Solve Speed = 16.67

Units = 6.67m/s

Converting units

Mass:

Length:


Time:

(4) Equipment

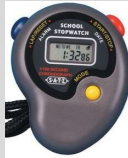
(4) Processing Data

(6) Presenting Data

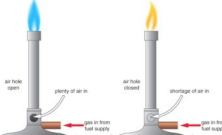
Mass Balance
Calibrate by selecting the tare button, read the mass in grams from the digital screen at the front of the balance.



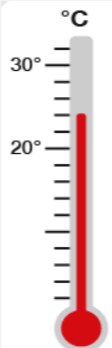
Stop Watch
Gives time in minutes and seconds. Use the red button to start and stop the stop watch and the blue button to reset the timer to 00:00 when stopped.



Bunsen burner
Used to heat substances. Orange safety flame when air hole closed. Blue roaring flame when air hole open.



Reading Scales

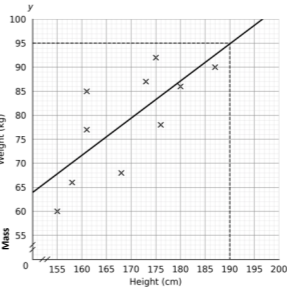


Method:

1. What is the value between? $20^{\circ}\text{C} - 30^{\circ}\text{C}$ (difference is 10°C)
2. How many lines between the two points? **5**
3. What is each line equal to? $10^{\circ}\text{C} \div 5 = 2^{\circ}\text{C}$
4. What is the reading? 24°C

Mean	An average used in science. Find the sum of all of the numbers, and divide by the number of data points.
Anomaly	A result that doesn't fit the same pattern as the other data collected.
Percentage change	$\text{Percentage Change} = \frac{\text{difference}}{\text{original}} \times 100$
Range	The difference between all of the values. Subtract the smallest value from the largest value.

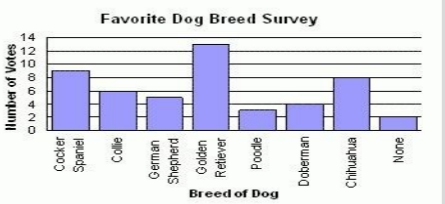
Presenting data— line graph



- ✓ Independent variable on the x axis
- ✓ Dependent variable on the y axis
- ✓ Both axis labelled with units
- ✓ Line of best fit plotted

Describing data from a graph.
"As the (x axis value) increases the (y axis value)"

Presenting data— line graph



- ✓ Independent variable on the x axis
- ✓ Dependent variable on the y axis
- ✓ Bars the same width
- ✓ Bars not touching

Presenting data— results table

Chocolate Bar	Energy (kJoules)
Mars Bar	550
Galaxy	325
Flyte	150
Wispa	200

- ✓ Independent variable in first column
- ✓ Dependent variable in second column
- ✓ All numbers to the same number of decimal places
- ✓ Headings with the correct units.

Trinity TV
For more help, visit Trinity TV and watch the following videos:
Trinity TV > Year 8 > Science .>Term 6

