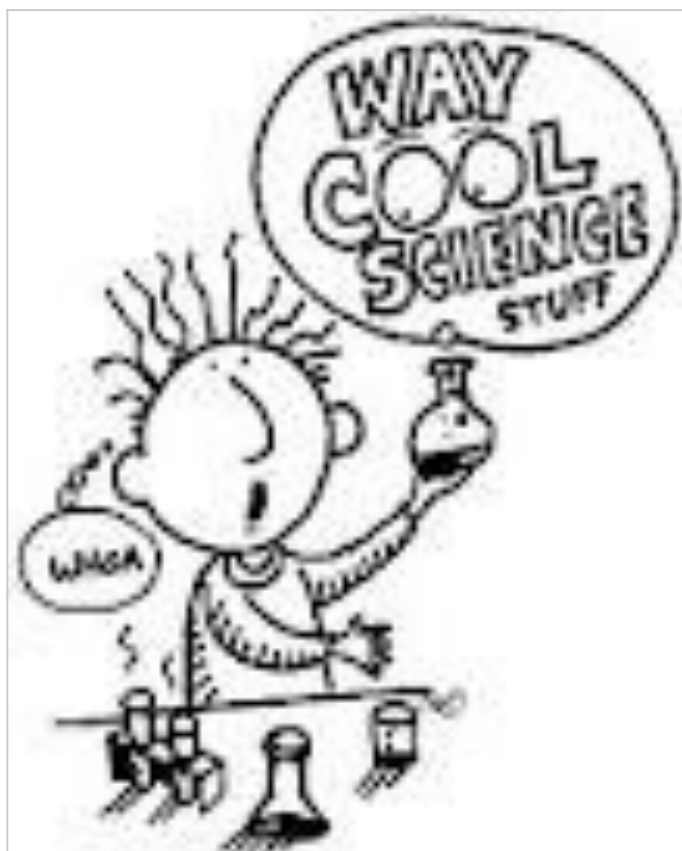




BGE Summary Notes

Skills



Lab Safety Rules

A science laboratory is different from other classrooms. There are a number of hazards and it is important to keep yourself and others safe.

1. Wait outside until a teacher tells you to enter.
2. Remove your jacket and make sure you have your jotter, pencil and other equipment ready.
3. Put your bag under the desk where it will not cause a tripping hazard.
4. LISTEN carefully to your teacher's instructions.
5. DO NOT EAT!!!!!!
6. When carrying out practical work, do not run and wear safety glasses when instructed.
7. Report any accidents and breakages to your teacher.
8. CLEAR AWAY when you have finished.

Apparatus

The equipment used in a science lab is called APPARATUS. It is important to be able to recognise common pieces of lab apparatus.



spatula



filter funnel



conical flask



dropper

beaker



Bunsen burner



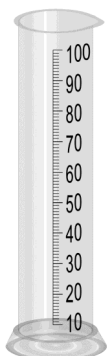
test tube



test tube rack



measuring cylinder



tripod



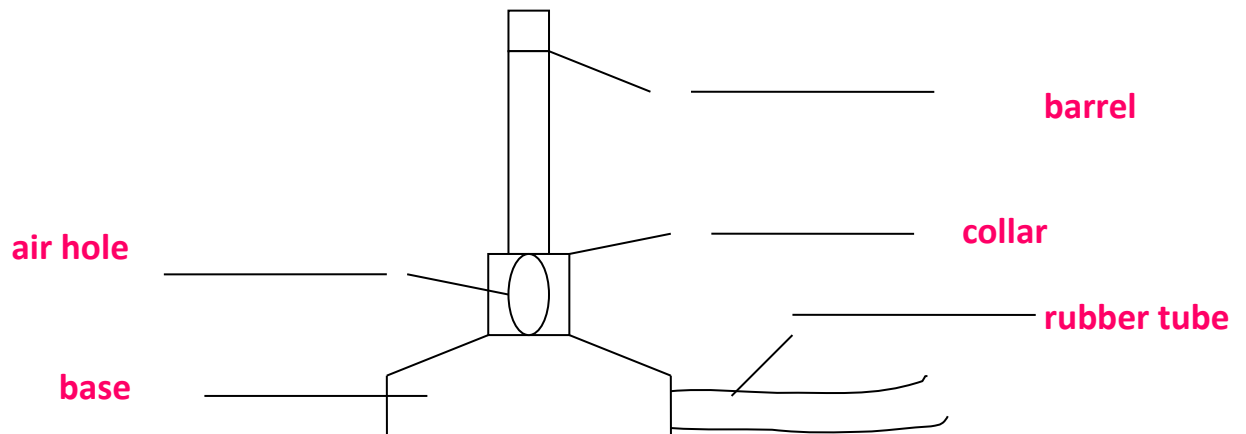
Hazard Symbols

Many chemicals which are used in a science lab will be dangerous. The container of each chemical will be marked with a hazard symbol and it is important that we know the meanings of these symbols.

Hazard Symbol	Meaning
	Flammable
	Health Hazard
	Harmful to Environment
	Oxidising
	Explosive
	Irritant/Harmful
	Toxic
	Corrosive
	Compressed Gas

The Bunsen Burner

A Bunsen burner is used in the science lab to heat things.

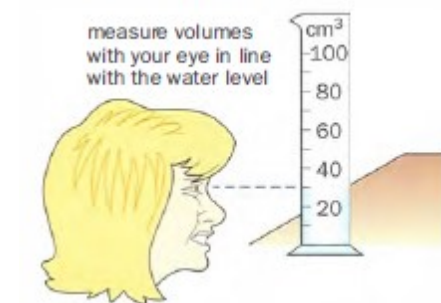


To light the Bunsen burner safely, the air hole must be closed.

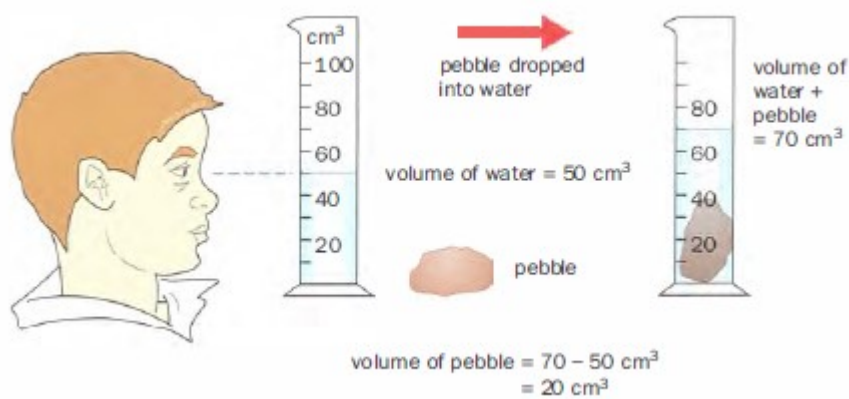
Colour of Flame	Air hole position	Sound of flame
yellow	closed	quiet
blue	open	noisy
blue	half and half	quiet

Volume

The volume is the amount of space which something takes up. We measure volume in litres (l) or millilitres (ml). Volume is measured using a measuring cylinder. To read the volume accurately we must make sure our eye is level with the liquid and we must read from the bottom of the meniscus.



We can measure the volume of an oddly shaped object using a measuring cylinder as shown in the diagram.



To convert ml to l we need to **divide by 1000** eg a volume of **250 ml** is **0.25 l**.

Mass

To measure the mass of a substance we use an electronic balance. Mass is measured in kilograms (kg) or grams (g).

To convert g to kg we need to **divide by 1000** eg a mass of **250 g** is **0.25 kg**.

Temperature and Time

Temperature is measured in degrees Celsius (⁰C) using a thermometer.



Time is measured in seconds (s) using a digital timer.



Length

Length is measured using a ruler or a metre stick. We measure length in centimetres (cm) or metres (m).

To convert cm to m we need to **divide by 100** eg a length of **30 cm** is **0.3 m**.

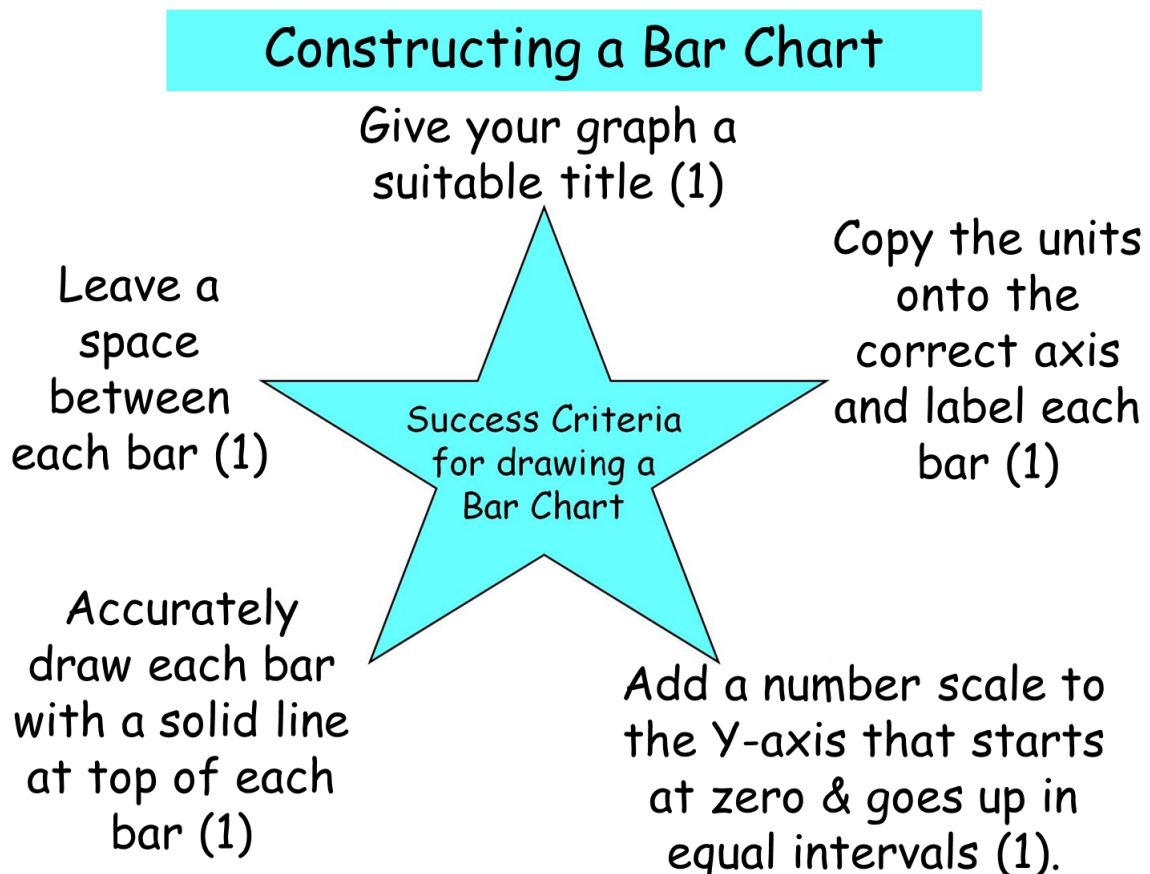
Averages

To calculate an average or mean value, we must add all the values together and then divide by the number of values.

eg the average of 3, 7, 4, 8 and 6 will be $3 + 7 + 4 + 8 + 6 = 28/5 = 5.6$

Bar Graphs

There are 5 things which you need to remember when drawing a bar graph.



Line Graphs

There are 4 things which you need to remember when drawing a line graph.

Constructing a Line Graph

