States of matter

Draw the particle arrangement in each state of matter

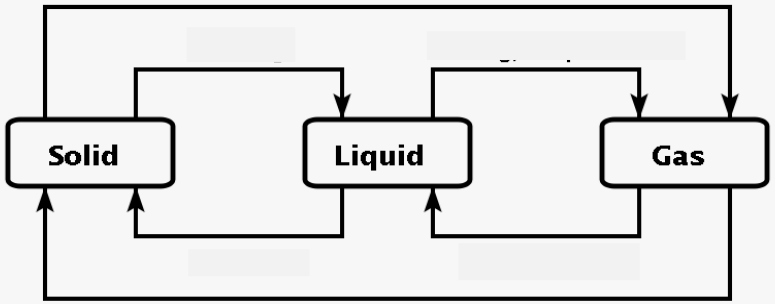
Solid	Liquid	Gas

1. Solid, liquid or gas?

- I can be compressed _____
- I can hold my shape _____
- I have a fixed volume (size) _____ and _____
- I can expand to fill a container _____
- My particles can only vibrate _____

2. On this diagram below, name the 6 **changes in state** by writing the words above the correct arrows.

Using a red and a blue pencil, go over the arrows. Use red for when the temperature is going up and blue for when the temperature is going down



Acids and Alkalis

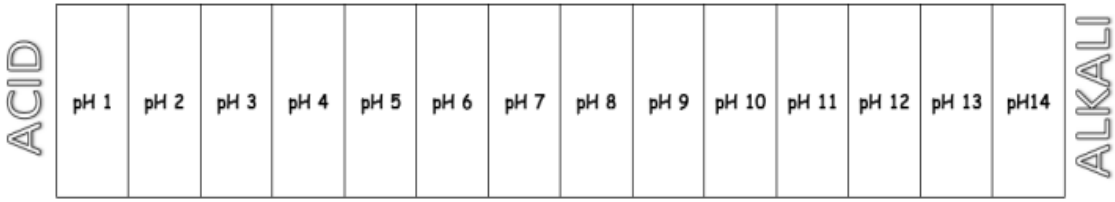
3. Concentrated or dilute?

Copy the sentences below choosing the correct bold words:

1.Acids taste **sour/feel soapy**

2.Some acidic and alkaline solutions are **corrosive/correlated**

3. A concentrated solution of an acid is **more/less** corrosive than a dilute solution



4. The pH scale

1. Colour in the pH scale for a strong acid, weak acid, neutral, weak alkali and a strong alkali

2. Give an example of a strong acid –

3. Give an example of a strong alkali -

5. Complete the chemical equations:

hydrochloric acid + sodium hydroxide -> _____ chloride + w_____

hydrochloric acid + calcium carbonate -> _____ chloride + w_____ + c_____ d____

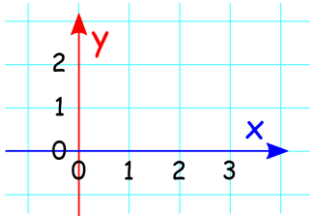
1. Match up the Hazard symbol

Health hazard	Irritant/ harmful	Corrosive	Damages the environment	Toxic

6. Which axis?

Independent variable on ____ axis.

Dependent variable on ___ axis



Science Skills and Safety

2. What is an **independent** variable?

Where should this variable go on a table of results?

3. What is a **dependent** variable?

Where should this variable go on a table of results?

4.What are **control** variables?

Why is it important to only change one thing?

5.How can you check if something is **reliable**?

6. Examples of a **continuous** variable are:

1)

2)

3)

Which type of graph would you plot if **both variables are continuous**?

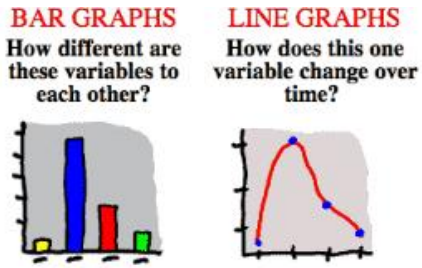
7. Examples of a **discontinuous** variable are.

1)

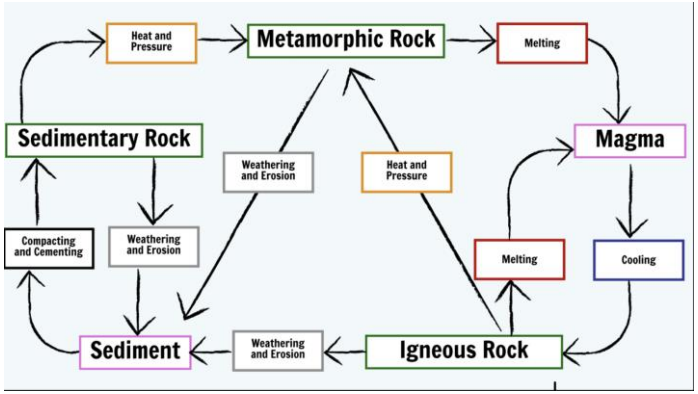
3)

3)

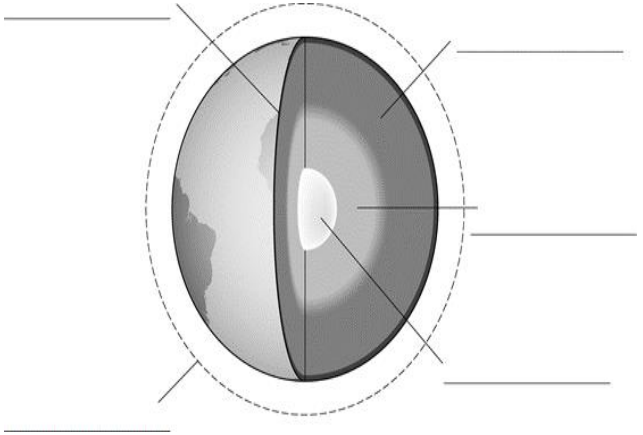
Which type of graph would you plot if **one variable is discontinuous?**



The Rock Cycle



Layers of the Earth



Earth's crust is broken into t_____ p_____ that float on the m_____ and move due to c_____ currents.

Millions of years ago these plates formed a super continent called P_____.

Igneous Rock

Formed when molten rock (l_____ /m_____ cools so that it becomes s_____.

Igneous rocks contain lots of c_____.

Extrusive igneous rock is formed when ……

……..

Intrusive igneous rock is formed when ……

……..

Describe how **Metamorphic Rocks** are formed

Formation of Rocks

Sedimentary Rocks

T_____

Bits of s_____ are carried away by w_____ or w_____.

Sedimentation

Eroded s_____ end up in the water and begin to settle.

C_____

Layers build up and press down upon the lower ones.

Cementation

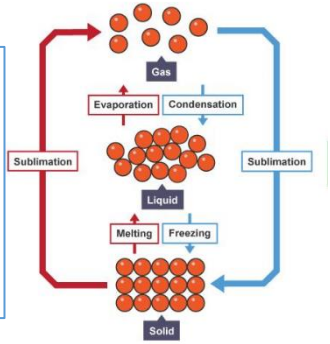
S____ crystals g____ the layers together. S_____ R_____ is formed

Examples of sedimentary rocks are:-

1)

2)

3)

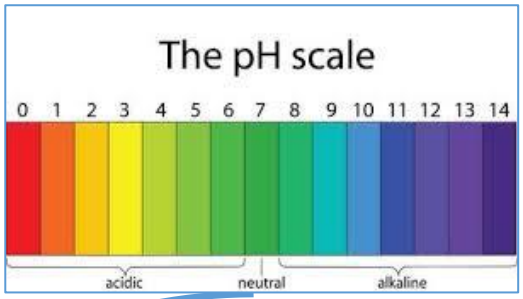


What I know from primary science:

Particle patterns in solids liquids and gases plus changes of state in the water cycle

How to identify variables to change, measure and control in an investigation

How to measure temperature in degrees



General laboratory safety

Recognise hazard warning symbols and carry out basic risk assessments

Know the properties of the different states of matter in terms of the particle model.

Describe changes of state in terms of the particle model.

Apply scientific terminology to investigations; correctly select either a bar chart or line graph to represent findings.

Define acids, alkali and neutralisation.

Use indicators to distinguish between an acid and an alkali.

Use the pH scale to measure acidity/alkalinity.

Know the composition and structure of the Earth.

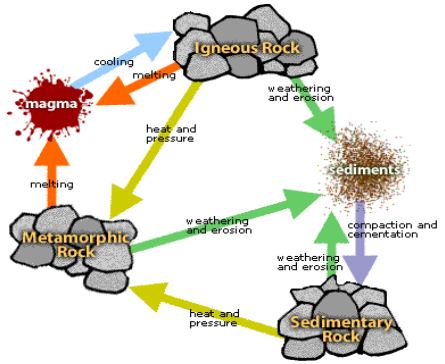
Use the Rock Cycle to explain the formation of igneous, sedimentary and metamorphic rocks

Future learning

Concentration

Reaction of acids and bases with neutralisers

Extraction of metals from ores



Vocabulary: corrosive, indicator, neutral, pH scale, crust, mantle, core, tectonic plate, magma, lava, sediment, erosion, compaction, cementation, extrusive, intrusive, igneous, sedimentary, metamorphic, independent, dependent, control, reliable, continuous, discontinuous