



Year 4 - Autumn 1st Half

Title of topic: Powerful Potions

Topic Focus: Science - Solids, Liquids and Gases.

This is the knowledge organiser for our topic. It includes all the learning outcomes, key facts and vocabulary. Please share this with your child to help them develop their knowledge and understanding of our topic.

Welcome to the amazing magical world of potions and their properties. Now scientists, beware! There are some powerful and deadly potions out there - dangerous, unpredictable or plain tragic.

What is a potion?

Potions are liquids that are said to have healing or magical properties. Before people knew about modern medicines, healing potions, often made from herbs, were thought to cure a range of health problems.

Key vocabulary:

Boil - When a liquid reaches the temperature at which it becomes a vapour.

Condense - When a gas cools to become a liquid.

Cooling - When a solid, liquid or gas is made colder.

Evaporation - When a liquid is heated, it turns into a gas and evaporates.

Freeze - When a liquid is cooled and becomes solid.

Gas - A non-rigid material that has no fixed shape or volume

Heating - When a solid, liquid or gas is made warmer.

Liquid - A non-rigid material that has no fixed shape but a fixed volume.

Matter - A physical substance that takes up space.

Melt - When a solid becomes a liquid by the process of heating.

Particles - A very small piece of matter.

Poison - Something which when ingested is harmful to a living thing.

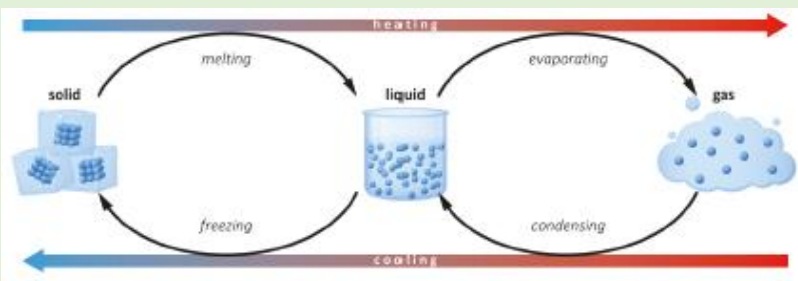
Solid - A rigid material that has a fixed shape and volume

Viscosity - A measure of how fast a liquid will flow.

Matter can exist as a solid, a liquid or a gas. These are called 'states'.

Particle arrangement	Properties	Examples
Solid 	Particles are tightly packed together, which means solids hold their shape and can't be squashed.	wood, brick, rock, sand, ice, butter
Liquid 	Particles are slightly further apart so liquids can flow from one container to another. Liquids cannot change their volume.	water, milk, oil, honey, lemonade, blood
Gas 	Particles are far apart so gases can spread out to fill all the space available. A gas can be squashed to change its volume.	air, oxygen, carbon dioxide, helium, nitrogen, water vapour

Matter can change between the states by being heated or cooled.



The temperature of a substance can have an effect on its state.

Temperature is measured in degrees centigrade. This can vary over time for materials, depending on the conditions in which they are kept.

