

Science Knowledge Organiser

Year: 4

Term: Summer 2

Topic – Changing State - Chemistry

Key vocabulary

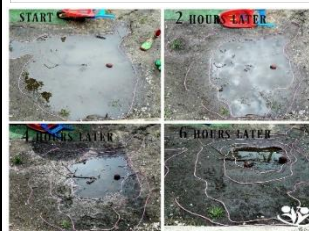
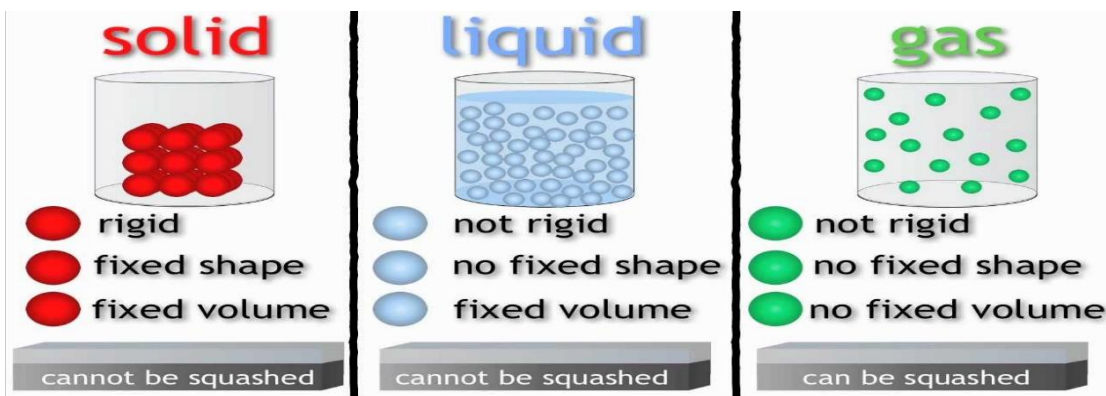
States of matter	There are three states of matter: solid, liquid and gas.
Change of state	Liquids can change from a liquid to a gas. This is a change of state.
Temperature	Temperature measures how hot or cold a material is.
°C (degrees Celsius)	The temperature of a material is measured in °C (degrees Celsius).
Boiling	Boiling is a change of state from liquid to gas which happens at a specific temperature. When a liquid is boiling, bubbles of the gas can be seen inside the liquid. Water boils when it is heated to 100°C.
Evaporation:	Evaporation is a change of state from liquid to gas which can happen at any temperature and only at the surface of the liquid.
Non- Newtonian fluid	This is a liquid that does not behave like a normal liquid e.g tomato ketchup
Irreversible/Permanent	Cannot be changed back
Reversible	Can be changed back
Solidify	Becomes hard or solid
Evaporation	Turn from liquid into vapour (gas)

When liquid water is heated it turns into a gas called **water vapour**. Water vapour is invisible, but it often **condenses** in the cool air above a kettle or cup of tea, forming tiny droplets of **steam**.

In **boiling water** you can see bubbles of water vapour forming in the liquid. Water boils at 100°C. Water cannot get hotter than 100°C no matter how fast you boil it.

Evaporation can happen **at any temperature**. Gas evaporates from the **surface of the liquid**.

Water evaporates from the surface of puddles after it has rained. Our washing dries when water evaporates from damp clothes.

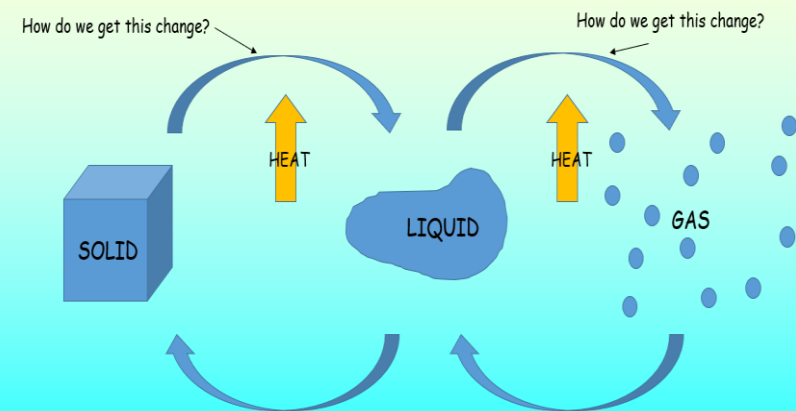


Water in puddles evaporating over time.

Coloured candle which has been dipped in hot wax and solidified.



Evaporation - a change of state



Learning Objectives

Lesson 1	I can compare and group materials together, according to whether they are solids, liquids or gases.
Lesson 2	I can observe that some materials change state when heated or cooled and I can record the temperature with a thermometer.
Lesson 3	I can associate the rate of evaporation with temperature.
Lesson 4	I can show what I have learnt.