

Year 4 Science Knowledge Organiser - States of Matter.

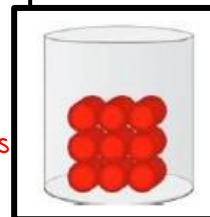
Word	Definition
Condensation	The process of turning from vapour (a gas) into liquid.
Cooling	Lowering the temperature of something.
Evaporation	The process of turning from a liquid into vapour (a gas)
Freezing	Turning into ice or another solid as a result of cooling.
Freezing Point	The temperature at which a liquid turns into a solid when cooled.
Gas	A substance with no fixed shaped that will expand to fill the whole of a container - Particles far apart and moving around.
Heating	Raising the temperature of things.
Irreversible Change	A change that cannot be changed back again.
Liquid	A substance that flows easily but has constant volume - with particles close but moving around.
Melting	Turning into a liquid as a result of heating.
Melting Point	The temperature at which a solid will melt.
Particles	A tiny bits of matter that make everything in the universe.
Precipitation	Rain, snow, sleet, dew etc, formed by condensation of water vapour in the atmosphere.
Reversible Change	A change that can be changed back again. Melting and heating are examples of reversible changes.
Solid	Firm or stable in shape - with particles very close together.
Temperature	A measure of how hot or cold something is.
Water Cycle	The process by which water on earth evaporates, then condenses in the atmosphere, and then returns to Earth in

Sticky knowledge is in red!

Solids Liquids and Gases

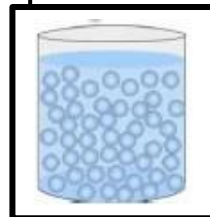
Solid:

When a materials hold their shape. Their particles are closely packed and form a regular pattern. Their shape is fixed and they will always take up the same amount of space.



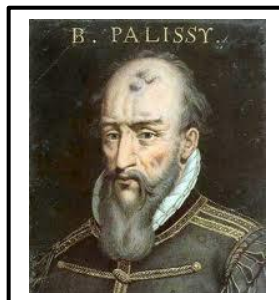
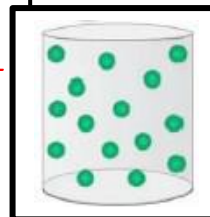
Liquids:

When materials hold the shape of the containers they are in and so can change shape. Their particles are close together but can move over each other. Liquids can be poured.



Gas:

Gases can escape from open containers. They often cannot be seen. They have particles which can spread it and move in all directions.



A significant Scientist linked to States of Matter:

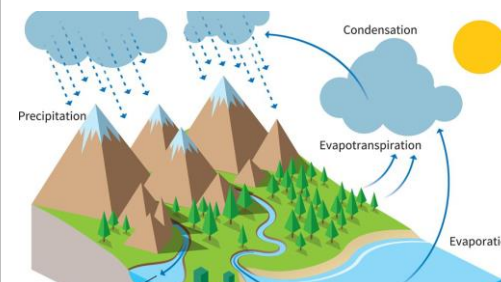
Bernard Palissy (1510-1590):

Bernard Palissy was a French potter and Scientist. He is often credited as the man who 'discovered' the modern theory of the water cycle. He asserted that rainfall alone was sufficient for the maintenance of rivers.

The Water Cycle:

Water continually moves around the Earth in the water cycle. The Sun evaporates water into water vapour.

When the water vapour cools down it turns into liquid water and it rains. In very cold places the water freezes into snow or ice.



Changes of state (heating and cooling):

Warming solid ice makes it melt into liquid water. Adding more heat makes it evaporate, at 100°C, into steam (a gas). When it is called it condenses back into liquid water. If it is cooled to 0°C it freezes and forms.

