Key Vocabulary:

Solid – is one of the three states of matter on Earth. A solid can hold its shape

Liquid – is one of the three states of matter on Earth. A liquid forms a pool, flows or runs but it can't be stretched or squeezed

Gas – is one of the three states of matter on Earth. A gas can flow, expand and be squeezed

Change state– Materials can be changed from one state to another e.g. from liquid to a solid by heating or cooling

Heated – To make warm or hot

Cooled – Left to cool down or loose heat

Temperature – How hot or cold something is. Measured in Celsius

Celsius – The measurement used to measure temperature

Condensation – When water vapour (gas) is changed into liquid water

Evaporation – The process of a liquid changing into a gas

Water Cycle – The continuous cycle that water takes from the sea, to the sky and back again

Materials – What something is made from

Precipitation – (In Chemistry) the creation of a solid from a solution

Holy Family Halewood

Year 3 & 4 Science

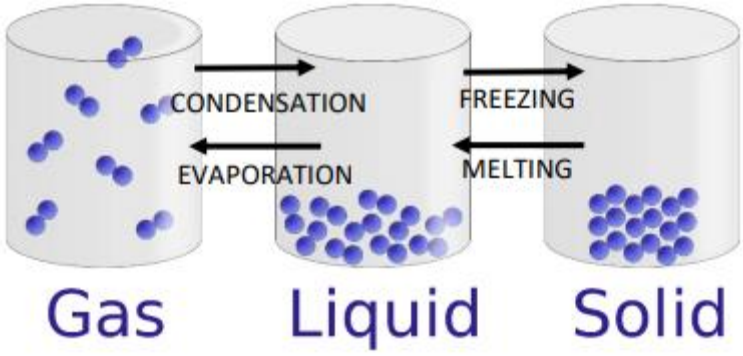
States of Matter

Learning Objectives:

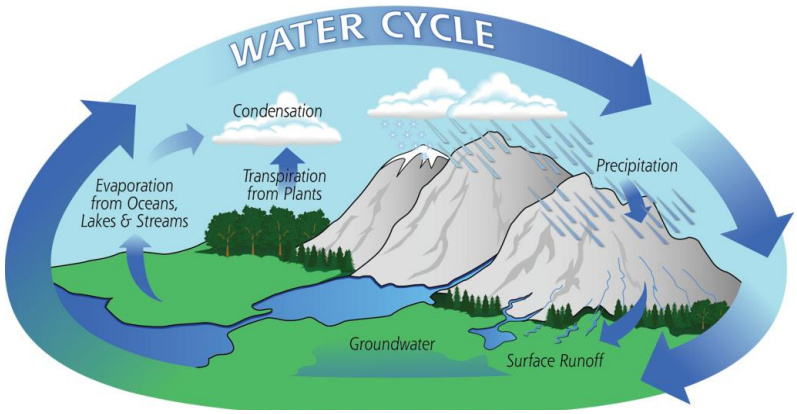
- To identify and explore the properties of solids, liquids and gases
- To observe that materials change state when they are heated or cooled
- To research the temperature in degrees Celsius (°C) at which materials change state
- To understand the process of evaporation and condensation
- To identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature

Three States of Matter:

GAS: particles far apart and randomly arranged / move around
LIQUID: particles close but randomly arranged / move around
SOLID: particles very close together / vibrate around a fixed position



The Water Cycle:



Changing State: (Materials can be changed from one state to another by heating or cooling.)

Heating

If ice (solid) is heated, it changes to water (liquid). This change is called **melting**.
Water (liquid) can change to water vapour (gas). This is called **evaporation**.
If water (liquid) is heated until it **boils**, it changes to water vapour (gas) very quickly. Water boils at 100°C.

Cooling

If water vapour (gas) is cooled, it changes to water (liquid). This change is called **condensing**.
If water (liquid) is cooled, it changes to ice (solid). This change is called **freezing**. Water freezes at 0°C.