

# FPS SCIENCE: Unit

## States of matter

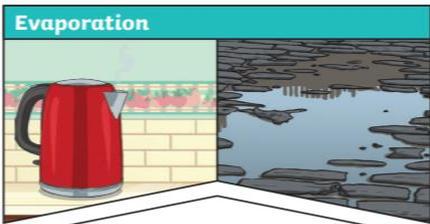
KNOWLEDGE ORGANISER

### Year 3/4 Solids, liquids and gases

Super Scientist Investigates:  
Where does water go when it disappears?

**Key Question:** What is evaporation and condensation? How does temperature affect the rate of evaporation?

**Key Learning:**



**Evaporation** occurs when water turns into **water vapour**. This happens very quickly when the water is hot, like in a kettle, but it can also happen slowly, like a puddle **evaporating** in the warm air.



**Condensation** is when **water vapour** is cooled down and turns into water. You can see this when droplets of water form on a window. The **water vapour** in the air cools when it touches the cold surface.

**Key Question:** Can solids be mixed and returned to their original state? Can liquids and solids be separated once they've been mixed?

**Key Question:** What are solids, liquids and gases?

**Key Learning:**

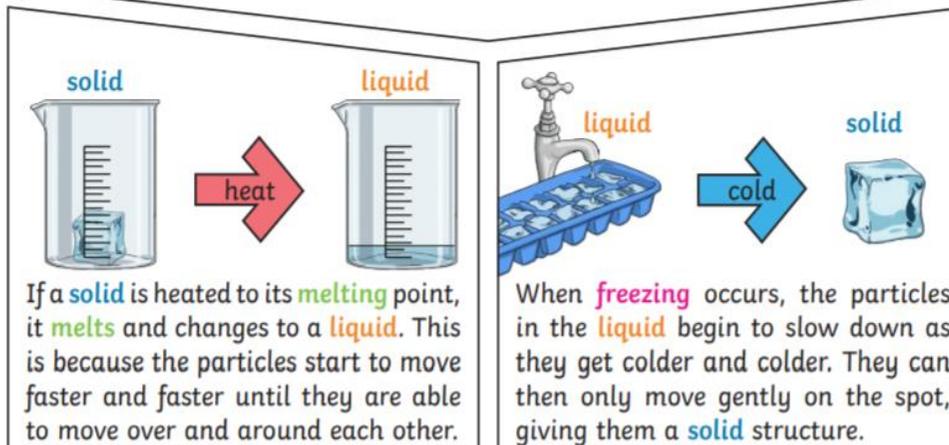
There are three states of matter.

Solid	Liquid	Gas
Particles in a <b>solid</b> are close together and cannot move. They can only vibrate.	Particles in a <b>liquid</b> are close together but can move around each other easily.	Particles in a <b>gas</b> are spread out and can move around very quickly in all directions.

**Key Question:** What happens when solids are heated and cooled? Do different solids have the same melting and freezing point? Is the melting and freezing point of various materials different?

**Key Learning:**

When water and other **liquids** reach a certain temperature, they change state into a **solid** or a **gas**. The temperatures that these changes happen at are called the boiling, **melting** or **freezing** point.



### Key Vocabulary Set 1

Key Vocabulary	
<b>states of matter</b>	Materials can be one of three states: <b>solids</b> , <b>liquids</b> or <b>gases</b> . Some materials can change from one state to another and back again.
<b>solids</b>	These are materials that keep their shape unless a force is applied to them. They can be hard, soft or even squashy. <b>Solids</b> take up the same amount of space no matter what has happened to them.
<b>liquids</b>	<b>Liquids</b> take the shape of their container. They can change shape but do not change the amount of space they take up. They can flow or be poured.
<b>gases</b>	<b>Gases</b> can spread out to completely fill the container or room they are in. They do not have any fixed shape but they do have a mass.
<b>water vapour</b>	This is water that takes the form of a <b>gas</b> . When water is boiled, it <b>evaporates</b> into a <b>water vapour</b> .

### Set 2

<b>melt</b>	This is when a <b>solid</b> changes to a <b>liquid</b> .
<b>freeze</b>	<b>Liquid</b> turns to a <b>solid</b> during the <b>freezing</b> process.
<b>evaporate</b>	Turn a <b>liquid</b> into a <b>gas</b> .
<b>condense</b>	Turn a <b>gas</b> into a <b>liquid</b> .
<b>precipitation</b>	<b>Liquid</b> or <b>solid</b> particles that fall from a cloud as rain, sleet, hail or snow.

