

States of Matter

Links: In Reception we explored what happens to ice and snow when heat is applied to it. We experimented by putting it in different places to see how the temperatures affected how slowly/ quickly it melted. In Year 2, we explored melting again.

Key knowledge

states of matter - Materials can be one of three states: solids, liquids or gases. Some materials can change from one state to another and back again

solid - keep their shape, they can be hard, soft or even squashy. Solids take up the same amount of space no matter what has happened to them

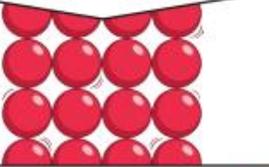
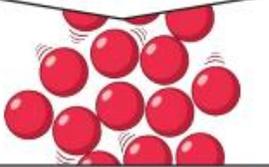
liquid - take the shape of their container. They can change shape but do not change the amount of space they take up. They can flow or be poured

gas - 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.

evaporation - when water turns to water vapour, this happens when water is hot like in a puddle.

condensation - this happens when water vapour is cooled and turns to water, like on a window.

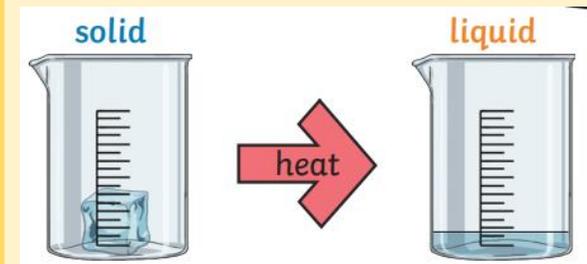
Key knowledge

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

Key knowledge:

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**.

If a **solid** is heated to its **melting point**, it melts and changes to a **liquid**. This is because the **particles** start to move faster and faster until they are able to move over and around each other.



When **freezing** occurs, the **particles** in the **liquid** begin to slow down as they get colder and colder. They can then only move gently on the spot, giving them a solid structure

