

Year 4 Science Knowledge Organiser

States of Matter



Key Knowledge

There are three states of matter: **solid**, **liquid** and **gas**.

Everything around us is made of matter. Everything is made up of tiny **particles** called **atoms**. These atoms are arranged differently depending on whether the object is a solid, liquid or gas.

You can change a state of matter by **heating** or **cooling** it. This affects the way the particles inside it are arranged.

We measure temperature in **degrees Celsius** using a thermometer. Different materials will change state at different temperatures.

The **water cycle** is a crucial system for our planet. It shows how water changes state between the land, sea and air. Water **evaporates** into the air, **condenses** into clouds, falls as **precipitation** and then returns to the sea to begin the cycle again.

There is only a finite amount of water on Earth. The water cycle reuses water over and over. The water you drink now is the same water dinosaurs had too!

Evaporation and **condensation** are natural processes that change the state of matter of water. They are vital to the water cycle.

Key Vocabulary

Solid	Something that can be held and keep its shape. The particles in a solid are held together tightly.
Liquid	Something that can be poured or flows. They are not easily held and may form a pool when poured. The particles have more space between them in a liquid.
Gas	Something that has no fixed shape and will change shape to fill the space it is in. They are often invisible. The particles have lots of space between them.
Water cycle	How water moves around our planet.
Water vapour	A gaseous form of water that rises into the air.
Condensation	When water vapour cools down, it turns back into a liquid.
Precipitation	When liquid water in clouds gets bigger and heavier then falls to Earth as rain, snow or hail.
Evaporation	When water heats up and turns into water vapour.

