

# Year 4 - States of matter

## Does water only exist as a liquid?

### Prior learning

In Year 2, you investigated how some solids can be squashed, bent or twisted.

### Future learning

In Year 5, you will investigate soluble and insoluble substances, separate materials and explain reversible and irreversible changes.

### In this unit you will:

- Compare and group materials together, according to whether they are solids, liquids or gases
- Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius ( $^{\circ}\text{C}$ )
- Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature

### Key Scientists: Daniel Fahrenheit and Anders Celcius




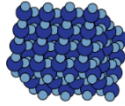

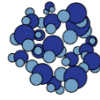

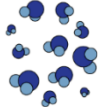
Daniel Fahrenheit and Anders Celcius were both famous for creating scales for the thermometer. We still use these scales today! The Celcius scale is smaller than the Fahrenheit scale.

### Science discipline: **Chemistry**

Chemistry is the study of the make-up of all things and how they behave. It's based on the study of matter, which is what makes up everything in the universe and on Earth.



### Scientific diagram

Solid	Liquid	Gas
  A <b>solid</b> can hold its shape.	  A <b>liquid</b> flows easily but it can't be stretched or squeezed.	  A <b>gas</b> can flow, expand and be squeezed; if it is in an unsealed container it escapes.

### Vocabulary:

- **State of matter:** Matter is anything that takes up space. The three most familiar forms, or states, of matter are solid, liquid, and gas.
- **Atoms:** The basic building block for all matter in the universe.
- **Melting:** The physical process that occurs when a solid changes into a liquid after heat is applied to it.
- **Freezing:** A change of state from liquid to solid. It occurs when the particles in a liquid lose energy, usually due to a drop in temperature.
- **Evaporation:** When a liquid changes into a gas.
- **Condensation:** The process by which water vapour (water in its gas form) turns into liquid.