

# Science Knowledge Organiser

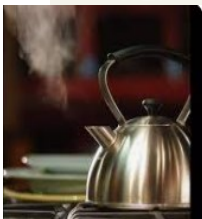
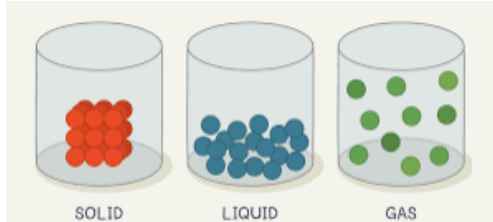
## States of Matter (Term 5)

## Year 4

### Our learning

In our science lessons this term, we will be learning about states of matter. This is part of the **chemistry** aspect of science. Through our learning we will be considering the **cause and effect** of simple scientific processes.

We will learn how materials can exist in different states of solid, liquid or gas. We will link this to the water cycle.



When a kettle boils, some of the water evaporates (changing in state from liquid to gas)



Condensation forms on a window when the temperature outside is much colder than the temperature inside.

### Information

A material can be a solid, a liquid or a gas.

Some materials change when they are heated and cooled. If water is heated it turns into a gas, if it is cooled it turns to ice (freezes).

A solid keeps its shape and its volume stays the same.

A liquid's volume also stays the same but changes in shape to fit the container it is in. A liquid can be poured and keeps a level horizontal surface.

A gas has no definite volume and fills all available space.

Water freezes at 0 degrees Celsius and boils at 100 degrees Celsius.

### As a scientist I will...

- Identify changes, patterns, similarities and differences in data to help form conclusions.
- Make systematic and careful observations.
- Take accurate measurements using standard units.

### Vocabulary

**Matter** - Anything that has weight and takes up space

**State** - All matter is either a solid, liquid or a gas (3 main states)

**Volume** - The space taken up by a solid, liquid or gas

**Evaporation** - When a liquid is heated and changes to a gas

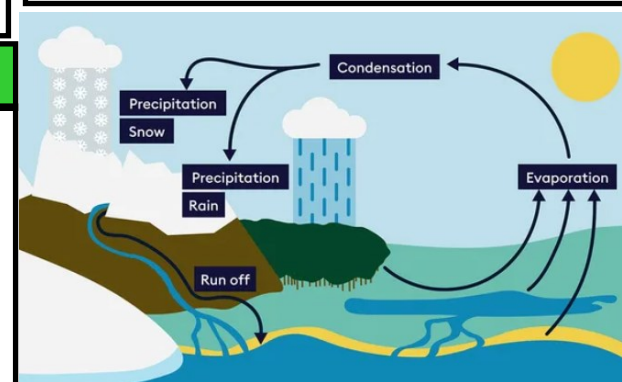
**Condensation** - When a gas cools and becomes a liquid (e.g. water vapour)

**Particle** - A tiny piece of matter

**Temperature** - A degree of hotness or coldness that can be measured using a thermometer

**Degrees Celsius** - A unit of measurement for temperature

**Freezing** - A change of state from liquid to solid.



The Water Cycle

