

Year 4 Knowledge Organiser - States of Matter



Gases

- Gases are **often invisible**.
- Gases do not keep their shape or always take up the same amount of space. They **spread out** and change their shape and volume to fill up whatever container they are in.
- Gases can be **squashed**.



Liquids

- Liquids can flow or be **poured** easily. They are not easy to hold.
- Liquids **change their shape** depending on the container they are in.
- Even when liquids change their shape, they always take up the **same amount of space**. Their volume stays the same.



Key vocabulary

solid – a state of matter with a fixed shape and a fixed volume

liquid – a state of matter with no fixed shape but a fixed volume

gas – a state of matter with no fixed shape and no fixed volume

volume – the amount of space a solid, liquid or a gas takes up

states of matter – the different forms that materials can take

freezing – the change of state from a liquid to a solid

melting – the change of state from a solid to a liquid

boiling – the change of state from a liquid to a gas, which happens quickly when heated and creates bubbles of the gas

condensation – the change of state from a gas to a liquid

evaporation – the change of state from a liquid to a solid, which happens slowly from the surface of the liquid

temperature – the measure of how hot or cold something is

thermometer – equipment that measures temperature

the water cycle – the processes which recycle and move water around Earth

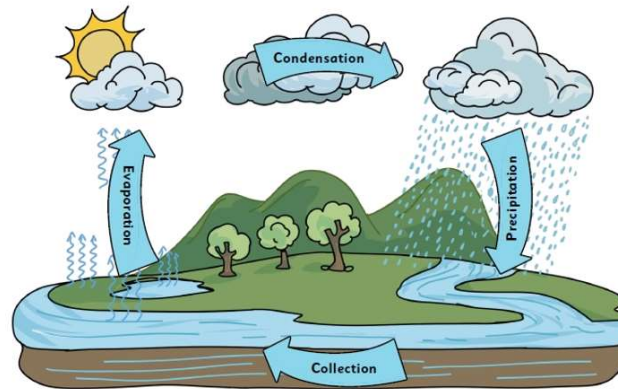
precipitation – solid or liquid water that falls from the atmosphere, in the form of rain, hail, sleet or snow

Solids

- Solids stay in one place and you can hold them in your hand.
- Solids **keep their shape**. They **do not flow** like liquids.
- Solids always take up the **same amount of space**. They **do not spread** out like gases.
- Solids can be **cut** or **shaped**.



The Water Cycle



Materials can **change** from one state of matter to another when **heated** or **cooled**.

