

Science Focus: States of Matter	Year Group: 4	Spring Term
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Key Knowledge:

Materials (solids, liquids and gases).

● **Solids** – These materials keep their shape unless a force is applied to them. They can be hard, soft or squashy.

● **Liquids** – **Liquids** take the shape of their contained. They can change shapes and can flow or be poured.

● **Gases** – **Gases** can be spread out to completely fill the contained or room they are in. They do not have any fixed shape.

Changes in materials.

- Water when is **frozen** it will turn from a **liquid** to a **solid**.
- When water is heated it will turn from a **liquid** into a **gas**.
- **Gas** when **condensed** will turn into a **liquid**.
- **Solids** when **melted** will turn into a **liquid**. This can be reversed by **freezing** the **liquid** back into a **solid**.

Water cycle (see Diagrams and Symbols)

1. Water from lakes, puddles, rivers and seas are **evaporated** by the sun's heat, turning it into **water vapour**.
2. This **water vapour** rises, then cools down to form water droplets in clouds (**Condensation**).
3. When the droplets get too heavy, they fall back to Earth as rain, sleet, hail or snow (**Precipitation**).



Key Vocabulary:

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.

Solids – These are materials that keep their shape unless a force is applied to them. They can be hard, soft or squashy.

Liquids – Liquids take the shape of their contained. They can change shapes and can flow or be poured.

Gases – Gases can be spread out to completely fill the contained or room they are in. They do not have any fixed shape.

Water Vapour – Water that takes the form of a gas. When water is boiled, it evaporates into a water vapour.

Melt – This is when a solid changes to a liquid.

Freeze – Liquid turns to a solid during the freezing process.

Evaporate – Turn a liquid into a gas.

Condense – Turn a gas into a liquid.

Condensation – Water which collects as droplets on a cold surface when hot air is in contact with it.

Precipitation – Rain, snow, sleet or hail that falls to the ground.

Possible Experiments:

To group various materials into three categories: solids, liquids or gases. Use the rules about whether they hold their shape, can be poured or can move around freely.

To change materials from one state to another.

Diagrams and Symbols:

Water Cycle

