

Core Knowledge—Solids, Liquids and Gases

A solid keeps its shape and has a fixed volume.

A liquid has a fixed volume but changes in shape to fit the container. A liquid can be poured and keeps a level, horizontal surface.

A gas fills all available space; it has no fixed shape or volume.

Granular and powdery solids like sand can be poured, but they form a heap. Each individual grain demonstrates the properties of a solid.

Core Knowledge—Change of State

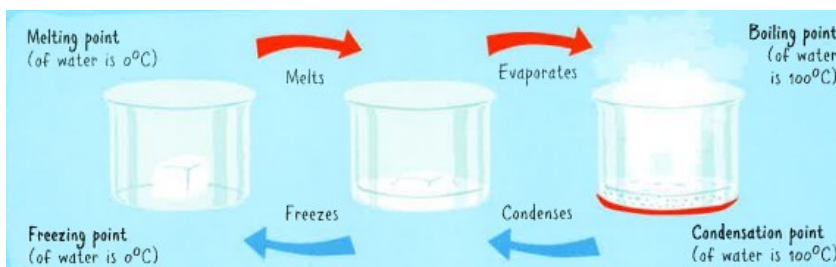
Melting is a state change from solid to liquid.

Freezing is a state change from liquid to solid. The freezing point of water is 0°C.

Boiling is a state change from liquid to gas that happens when a liquid is heated to a specific temperature and bubbles of the gas can be seen in the liquid. The boiling water of to 100°C.

Evaporation is the same state change as boiling (liquid to gas), but it happens slowly at lower temperatures and only at the surface of the liquid. Evaporation happens more quickly if the temperature is higher, the liquid is spread out or it is windy.

Condensation is the change back from a gas to a liquid caused by cooling.



Key Vocabulary

Vocabulary	Definition
Boiling point	The temperature at which a material boils.
Melting point	The temperature at which a material melts.
Evaporation	A liquid changing into a gas.
Condensation	A gas changing into a liquid.
State change	When a material changes from the state it is in (liquid, solid or gas) to a different one.

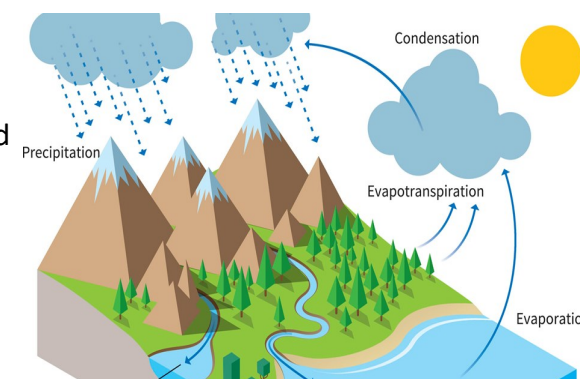
Core Knowledge—The Water Cycle

Water evaporates into water vapour (a gas) from the surface of seas and rivers.

This water vapour rises, cools and condenses back into a liquid

forming clouds.

When too much water has condensed, the water droplets in the cloud get too heavy and fall back down as rain, snow, hail etc. (precipitation) and drains back into rivers and the sea .



Scientific Enquiry

Making observations and taking measurements.

Recording and presenting evidence.

Game

[Year 4 States of Matter - Key Knowledge](#)
[Water Cycle Diagram - Teaching resource](#)