

Science: States of Matter

Year 4 Spring 2

Key Vocabulary

Solid	One of the three states of matter on Earth. A solid can hold its shape.
liquid	One of the three states of matter on Earth. A liquid form, flows or runs but it can't be stretched or squeezed.
Gas	One of the three states of matter on Earth. A gas can flow, expand and be squeezed.
Freezing	The process of changing a liquid into a solid.
Melting	The process of changing a solid into a liquid.
Boiling	To turn a liquid to a gas, usually occurring when a liquid is heated to its boiling point.
Evaporation	The process by which a liquid, when heated, changes into a gas and rises into the air. Evaporation is part of the water cycle.
condensation	To turn a gas into a liquid. In the water cycle, the evaporated water in the air cools and turns back into a liquid.
Water cycle	The continuous journey water takes from the sea, to the sky, to the land and back to the sea.

FUNDAMENTAL STATES OF MATTER



Why don't you...

Create a poster of things that are a solid, liquid or a gas that you can find in your house?

Investigate the changing state of chocolate? Can it go back to a solid after it has melted?

Website Links

<https://www.bbc.com/bitesize/topics/zkgg87h>

<https://www.educationquizzes.com/ks2/science/solids-liquids-and-gases-01/>

Enquiry Questions

- How do you know is something is a liquid?
- Is shaving foam a liquid or solid?
- How does temperature affect the state of liquids?
- Can all liquids be turned into gases by heating or cooling?
- Does adding heat to water change the speed of evaporation?
- When it's cold outside and warm inside what happens to your windows?
- What would happen to earth if there was no water cycle?

Scientific Concepts

Comparison - To compare two or more things, including their similarities and differences.

Changes - The act of something becoming something different.

Scientific Knowledge

- 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.
- Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Scientific Skills

- Set up a simple fair test to make comparisons.
- Plan a fair test and isolate variables and explain why it was fair and explain which variables have been isolated.
- Suggest improvements and predictions.
- Use their findings to draw a simple conclusion.
- Obtain and present evidence.
- Make a prediction based on something they have found out.
- Record and present what they have found using scientific language, drawings, labelled diagrams, bar charts and tables.