



Looking at states of matter

Prior knowledge



Year 2 and 3

- Comparison of a variety of everyday materials.

Knowledge and skills covered in this topic



- Children will compare and group materials together, according to whether they are solids, liquids or gases.
- Children will observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius ($^{\circ}\text{C}$).
- Children will identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Scientific skills developed in this topic



- Ask relevant questions and use different types of scientific enquiries to answer them.
- Set up simple practical enquiries, comparative and fair tests.
- Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.
- Gather, record, classify and present data in a variety of ways to help in answering questions.
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, tables.
- Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
- Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.
- Identify differences, similarities or changes related to simple scientific ideas and processes.
- Use straightforward scientific evidence to answer questions or to support findings.

Key words



Boiling: When a liquid reaches a temperature when it bubbles and turns into a gas rapidly.

Boiling point: The temperature at which a liquid boils and turns into a gas.

Condensing: The process when a gas turns into a liquid.

Evaporation: When a liquid turns into a gas, below its boiling point.

Freezing: When a liquid turns into a solid.

Freezing point: The same temperature as a material's melting point. This is the temperature at which a liquid turns into a solid.

Gas: A state of a material when it fills the entire space available.

Liquid: A state of a material when it can flow from one place to another, and can be poured. It takes the shape of its container.

Material: What an object is made of (not just fabric).

Matter: Another name for 'material'.

Melting: When a solid turns into a liquid.

Melting point: The temperature at which a solid melts.

Solid: A state of a material when it cannot change shape. It holds the shape of whatever container it was frozen in.

Temperature: A measurement of how hot or cold something is.

Thermometer: A device or instrument used to measure temperature.

Water cycle: How water moves around to create clouds, rain and the weather.

