Year 4 - States Of Matter (Chemistry)
Working Scientifically Focus: Observing and Measuring

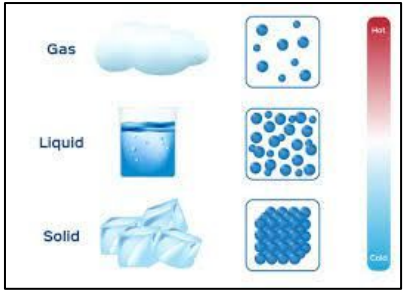
Prior learning:

Year 1

- Distinguish between an object and the material from which it is made.
- Identify and name a variety of everyday materials.
- Describe the simple physical properties of a variety of everyday materials.
- Compare and group together a variety of everyday materials on the basis of their simple properties.
- Identify and compare the suitability of a variety of everyday materials.

Year2

- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.



In this topic, we are learning to:

- 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 in degrees Celsius (°C).
- Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Key Vocabulary:

solid	A solid is a substance where all the particles are tightly packed together.
liquid	A liquid is a substance which can adapt to a container but particles are close but also have space between them.
gas	A gas is a substance that contains free particles.
freezing	Is when a liquid turns into a solid.
melting	Is when a solid turns into a liquid.
melting point	The temperature in which melting occurs.
boiling point	The temperature in which evaporation occurs.
evaporation	When a liquid turns into a gas.
condensation	When a gas turns into a liquid.

Questions you will know the answers to...

What can a solid do that a liquid or gas cannot?
What can a liquid do that a solid or gas cannot?
What happens when a liquid is cooled?
What happens when a solid is heated?

Working Scientifically Assessment Focus:

SETTING UP TESTS AND ENQUIRIES

- Set up simple practical enquiries, comparative and fair tests.
- The children select from a range of practical resources to gather evidence to answer questions generated by themselves or the teacher.
- They follow their plan to carry out: observations and tests to classify; comparative and simple fair tests; observations over time; and pattern seeking.

RECORDING DATA

- Gather, record, classify and present data in a variety of ways to help answer questions.
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.
- The children sometimes decide how to record and present evidence.
- Record observation e.g., using photographs, videos, pictures, labelled diagrams or writing.
- Record measurements e.g., using tables, tally charts and bar charts (given templates, if required, to which they can add headings).
- Record classifications e.g., using tables, Venn diagrams, Carroll diagrams.
- Children are supported to present the same data in different ways to help with answering the question.