

Science

How would we survive without water?

What I should already know: I can distinguish between an object and the material from which it is made. I know how to compare and group different materials on the basis of their properties. I know some ways that solid objects can be changed (e.g. by squashing, twisting and stretching). I understand, and can explain, the stages and processes involved in the water cycle.

Enquiry Questions

- What are the three states of matter and can we work out which state common objects are in?
- How do the particles behave in solids, liquids and gases?
- Do all solids have the same melting point?
- Do all liquids have the same freezing and boiling points?
- What causes and affects evaporation and condensation?

Key Vocabulary

Absorb – Take in
Boiling – The process of a liquid changing state to a gas
Boiling point – The temperature at which a particular liquid boils
Bond – A connection between particles
Condensation – When a gas changes state to a liquid
Deposition – The process of a gas changing state straight to a solid
Evaporation – When a liquid changes state to a gas
Freezing – The process of a liquid changing state to a solid
Freezing point – The temperature at which a particular liquid freezes
Gas – State of matter which flows, can spread out and be squashed.
Liquid – State of matter which flows and forms a pool
Mass – Size or bulk
Matter – Anything which takes up space and has a mass.
Melting – The process of a solid changing state to a liquid
Melting point – The temperature at which a particular solid melts
Particle – A tiny amount or small piece
Reverse – The opposite
Solid – State of matter which holds its form and shape
State change – The process of one state of matter (solid, liquid or gas) changing to another
Sublimation – The process of a solid changing state straight to a gas.
Temperature – How hot or cold something is
Thermometer – A device used to measure temperature
Volume – The amount of space something takes up
Water cycle – The movement of water around the Earth in a continuous cycle
Water vapour – Water in the form of a gas

Scientific Skills

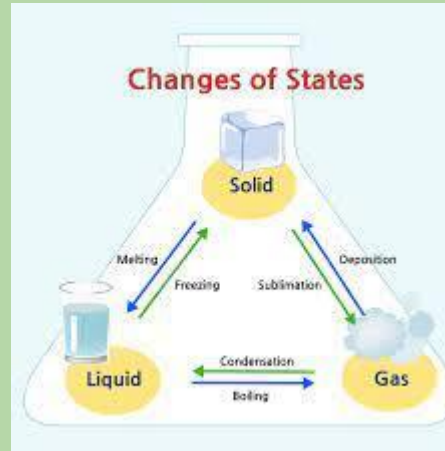
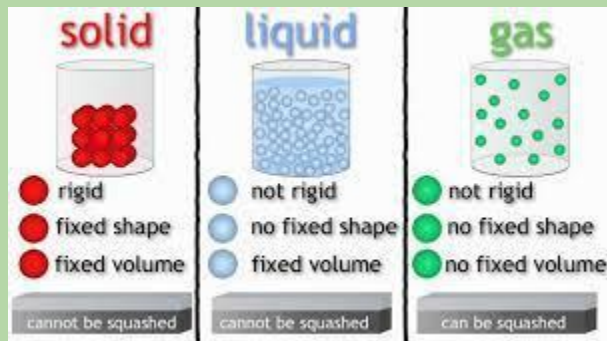
Pupils will:

- Compare and group materials together, according to whether they are solids, liquids or gases.
- Observe how some materials change state when they are heated and cooled, and measure or research the temperature at which this happens – degrees celsius.
- Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Working Scientifically (Blue = Y5)

- Ask relevant questions and use different types of scientific enquiries to answer them. / Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
- Use straightforward scientific evidence to answer questions or to support them. / Identify scientific evidence that has been used to support or refute ideas or arguments.
- Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment. / Take measurements using a range of scientific equipment with increasing accuracy and precision, taking repeat readings where necessary.
- Identify differences, similarities or changes related to simple scientific ideas and processes.

- Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. / Use test results to make predictions to set up further comparative and fair tests.
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.
- Gather, record, classify and present data in a variety of ways to help answer questions.
- Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. / Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.



Links to other curriculum areas: Geography – The water cycle