



Unit Planner Year: 4 Title: Changes of State

Unit Overview	Children know that materials can be grouped according to the state of matter they are in and that materials can exist in different states depending on the different forces that is placed upon them.	
Prior Learning/ Links	EY – that things are made of different materials and these can be affected by different forces (e.g. squeezing) KS1 – identifying different types of materials and their properties and being able to group them. Children learn about man – made and natural materials. They look at how materials can be made to change shape. KS2 – Children look at materials that are magnetic.	
Unit Title: Living things and their habitats	Substantive Knowledge	Disciplinary Knowledge
Key Questions: What is a solid, liquid or a gas and can you sort materials into these groups? Can only liquids be poured? How does temperature effect water? Why do the gritters go on the roads in winter?	<ul style="list-style-type: none"> • Children can group materials into solid, liquid or gas. • Children know how the particles in solids, liquids and gases are different. • Children know that a liquid fills a space. Some solids can be poured but there will still be very tiny spaces. • To know that materials change when they are heated or cooled. Children can give examples of this: water turning to steam, water freezing to form ice, chocolate or butter melting. • Children are able to describe changes as a scientific process. • Children can describe how to observe what happens to materials (ice/water/water vapour) when they are heated or cooled, and measure or research the temperature at which this happens in degree Celsius. • Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. 	Questioning and Planning Present information using correct scientific language and terminology. Observation and Measurement To use thermometers to measure and record temperature Understand how to set up a fair test, using variables. Recording and Presenting Use charts and diagrams to present the water cycle. Use written explanations to present findings and conclusions. Analysing and Evaluating Use the results to draw conclusions and evaluate how useful the enquiry/investigation was.
Vocabulary	Trips/ Visits/Useful Websites/ Resources	Key Misconceptions:
Substantive: Precipitation Infiltration Transpiration Evaporation Condensation	Changes of state - BBC Bitesize Year 4: States of Matter STEM	That if something can be poured, it is a liquid. That if flour/ sugar is poured that there are no gaps as they cannot be physically seen. Ice/water changes state immediately at 0C



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<p>Particle vapour solids gases liquids Disciplinary:</p> <p>Group Sort Observe Explain Measure fair test variables constant</p>	<p>States of matter - Year 3-4 / P4-5 Science Collection - Home Learning with BBC Bitesize - BBC Bitesize</p>	
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