

Year 4 Progression map – States of matter		
National curriculum objectives	Scope:	Coherence:
<ul style="list-style-type: none"> 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 <p>Misconceptions:</p> <ul style="list-style-type: none"> water melts ice freezes metals are only in the solid state things can only evaporate when they have been boiled steam and water vapour are the same condensation is when air turns to water water that evaporates has disappeared into the air 	<p>HEP science lesson titles:</p> <ol style="list-style-type: none"> 1. What are the states of matter? 2. Can we turn a solid into a liquid? 3. What is the opposite of melting? 4. Why do puddles disappear? 5. Can we make rain? 6. Do we drink the same water dinosaurs did? <p>Working scientifically skills used:</p> <ul style="list-style-type: none"> • Classify solids, liquids and gases and their properties • Observe solids, liquids and gases in action • Research melting points • Writing a method making ice cream • Observe over time, Alka seltzer, condensation, melting, evaporation, freezing investigations • Comparative testing, predictions, conclusions and evaluations melting, evaporation, condensation • Modelling condensation and the water cycle • Secondary data <p>Key scientists and inventors:</p> <ul style="list-style-type: none"> • Thomas Edison, William Coolidge – Incandescent lightbulb, tungsten filament • Anders Celsius – Celsius measurement of temperature 	<p>Literacy: Frayer model, writing a scientific report, writing frames, sentence starters, summaries</p> <p>Key vocabulary: solid, liquid, gas, melting, freezing, evaporation, water vapour, cloud, condensation, fog, precipitation.</p> <p>Maths: subtraction, averages, ranking, measuring, sequencing</p> <p>Geography: KS2 - Water cycle</p> <p>DT food: Making ice cream</p> <p>Art: Model making and crafts</p>

Builds on:	Future learning:	Further reading:
<p>Year 2:</p> <ul style="list-style-type: none"> identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching <p>Year 3:</p> <ul style="list-style-type: none"> How rocks can be changed over time 	<p>Year 4:</p> <ul style="list-style-type: none"> The speed of sound through different materials Lack of matter in space (vacuum) <p>Year 5:</p> <ul style="list-style-type: none"> Changes and Properties and changes of materials - use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating demonstrate that dissolving, mixing and changes of state are reversible changes 	<p>Change it, solids, liquids and gases and you – Adrian Mason</p> <p>States of matter - science in a flash – Georgia Amson-Bradshaw</p>