



| Subject: Science                                                                                                                                                                                                                                   | Year group: 4 Term: Spring 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Title: States of Matter                                                                                                                                                                                                                                                                                                                                                |
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| <p><b>What should I already know?</b></p> <ul style="list-style-type: none"> <li>• The physical properties of everyday materials.</li> <li>• That some solid shapes can be changed through squashing, bending, twisting and stretching.</li> </ul> | <p><b>Facts I will learn</b></p> <ul style="list-style-type: none"> <li>• A solid is hard to touch and its particles are tightly packed together; even though they vibrate slightly, they do not move out of position.</li> <li>• A liquid flows and its particles are close together, however they do not have a regular arrangement.</li> <li>• Gases move freely and their particles are well separated with no regular arrangement.</li> <li>• Water (liquid) freezes at 0 degrees Celsius and becomes ice (solid).</li> <li>• Water (liquid) boils at 100 degrees Celsius</li> <li>• When water gets warmer it begins to turn to water vapour</li> <li>• The water cycle:</li> </ul>  | <p><b>Key questions</b></p> <ul style="list-style-type: none"> <li>• What is a solid, liquid or gas?</li> <li>• How can I group materials into these three groups?</li> <li>• Can materials change state, or do they always remain the same?</li> <li>• At what temperature do materials change state? (focus on water)</li> <li>• What is the water cycle?</li> </ul> |

| <div>Key Skills</div> <ul style="list-style-type: none"><li>To ask relevant questions and using different scientific enquiries to answer them.</li><li>To set up simple practical enquiries, comparative and fair tests.</li><li>To make systematic and careful observations, including taking accurate measurements.</li><li>To gather, record and present data in a variety of ways.</li><li>To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.</li><li>To report on findings from enquiries, including presentations of results and conclusions.</li><li>To use results to draw simple conclusions, make predictions and suggest improvements,</li><li>To identify differences, similarities or changes related to simple scientific ideas and processes.</li><li>To use straightforward scientific evidence to answer questions or to support their findings.</li></ul> | <div>Experiences that school will provide</div> <ul style="list-style-type: none"><li>Experiments to show how materials can change state.</li></ul> <div><div><div>Solid</div></div><div><div>Liquid</div></div><div><div>Gas</div></div></div> | <table><tr><th>Key vocab</th><th>Definition</th></tr><tr><td>Solid</td><td>Firm and stable in shape</td></tr><tr><td>Liquid</td><td>A substance that flows freely.</td></tr><tr><td>Gas</td><td>A substance with no fixed shape or volume.</td></tr><tr><td>Temperature</td><td>The degree of heat in a substance or object.</td></tr><tr><td>Condense</td><td>Make something denser or more concentrated.</td></tr><tr><td>Evaporate</td><td>Turn from liquid into vapour.</td></tr><tr><td>Melt</td><td>Make or become liquid by heating.</td></tr><tr><td>Freeze</td><td>Turn into ice as a result of extreme cold.</td></tr></table> | Key vocab | Definition | Solid | Firm and stable in shape | Liquid | A substance that flows freely. | Gas | A substance with no fixed shape or volume. | Temperature | The degree of heat in a substance or object. | Condense | Make something denser or more concentrated. | Evaporate | Turn from liquid into vapour. | Melt | Make or become liquid by heating. | Freeze | Turn into ice as a result of extreme cold. |
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| Key vocab                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |            |       |                          |        |                                |     |                                            |             |                                              |          |                                             |           |                               |      |                                   |        |                                            |
| Solid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Firm and stable in shape                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |            |       |                          |        |                                |     |                                            |             |                                              |          |                                             |           |                               |      |                                   |        |                                            |
| Liquid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A substance that flows freely.                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |            |       |                          |        |                                |     |                                            |             |                                              |          |                                             |           |                               |      |                                   |        |                                            |
| Gas                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | A substance with no fixed shape or volume.                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |            |       |                          |        |                                |     |                                            |             |                                              |          |                                             |           |                               |      |                                   |        |                                            |
| Temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | The degree of heat in a substance or object.                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |            |       |                          |        |                                |     |                                            |             |                                              |          |                                             |           |                               |      |                                   |        |                                            |
| Condense                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Make something denser or more concentrated.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |            |       |                          |        |                                |     |                                            |             |                                              |          |                                             |           |                               |      |                                   |        |                                            |
| Evaporate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Turn from liquid into vapour.                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |            |       |                          |        |                                |     |                                            |             |                                              |          |                                             |           |                               |      |                                   |        |                                            |
| Melt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Make or become liquid by heating.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |            |       |                          |        |                                |     |                                            |             |                                              |          |                                             |           |                               |      |                                   |        |                                            |
| Freeze                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Turn into ice as a result of extreme cold.                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |            |       |                          |        |                                |     |                                            |             |                                              |          |                                             |           |                               |      |                                   |        |                                            |
| <div>Web links</div> <div><a href="https://www.abcya.com/games/states_of_matter">https://www.abcya.com/games/states_of_matter</a></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <div>Experiences that could be provided at home</div> <ul style="list-style-type: none"><li>Make ice lollies. Turning water into ice.</li><li>Bake. Watch how the different ingredients change state.</li></ul>                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |            |       |                          |        |                                |     |                                            |             |                                              |          |                                             |           |                               |      |                                   |        |                                            |