



## Science Department - Chemistry Curriculum and Assessment Map

	Half Term 1	Half-Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Year 7	<b>The Particle Model</b>		<b>Atoms, Elements &amp; Compounds</b>		<b>Mixtures and Separation Techniques</b>	
Fundamental Knowledge	<ol style="list-style-type: none"> <li>1. Name the three states of matter and give examples of each state.</li> <li>2. Use diagrams to represent the arrangement of particles in the three states of matter.</li> <li>3. Describe the arrangement of particles in each state of matter.</li> <li>4. Describe the properties of the three states of matter.</li> <li>5. Use the particle theory to explain the properties of solids, liquids and gases.</li> <li>6. Explain why materials expand and contract when the temperature changes.</li> <li>7. State what is meant by density and recall its units.</li> <li>8. Key Practical Skill: Describe how to measure density of regular and irregular objects.</li> <li>9. Recall and use the formula relating mass, volume and density.</li> <li>10. Name the changes of state and describe what happens to particles during changes of state.</li> <li>11. Recall that a substances does not change temperature while it is changing state.</li> <li>12. Interpret graphs that show how the temperature of a pure substances changes as it is heated to identify state at each stage and when the changes of state take place.</li> <li>13. Maths Skill: convert between nanometres and metres.</li> <li>14. State what is meant by diffusion.</li> <li>15. Use the particle theory to explain diffusion in liquids and gases.</li> </ol>		<ol style="list-style-type: none"> <li>1. State what an atom is and describe the difference between an atom and a molecule.</li> <li>2. Give definitions for elements, compounds and mixtures.</li> <li>3. Draw and interpret particle diagrams to represent elements, compounds and mixtures.</li> <li>4. Write and identify the chemical symbols for common elements.</li> <li>5. Use the periodic table to look up symbols for elements.</li> <li>6. Identify where metals and non-metals are found in the periodic table.</li> <li>7. Describe the properties of metal and non-metal elements.</li> <li>8. Relate the uses of different elements to their properties.</li> <li>9. Name simple compounds formed between two elements.</li> <li>10. Describe how compounds are formed.</li> <li>11. Describe the observations that indicate a chemical reaction is taking place.</li> <li>12. Describe what a thermal decomposition reaction is.</li> <li>13. Identify the products and reactants in a chemical reaction using a word equation.</li> <li>14. Write word equations for chemical reactions.</li> </ol>		<ol style="list-style-type: none"> <li>1. Define the terms: mixture, soluble, insoluble, solution, solute and solvent.</li> <li>2. Describe what suspensions and colloids are.</li> <li>3. Classify mixtures as suspensions, colloids or solutions.</li> <li>4. Key Practical Skill: Identify the apparatus needed to separate an insoluble solid from a liquid and describe the method you would use.</li> <li>5. Draw diagrams to show the apparatus used to separate mixtures.</li> <li>6. Define the terms 'saturation' and 'solubility' and investigate the effect of temperature on solubility.</li> <li>7. Key Practical Skill Identify the apparatus needed to separate a soluble solid from a liquid and describe the method you would use.</li> <li>8. Identify hazards and risks associated with experiments and describe how to minimise the risk.</li> <li>9. Describe what happens in evaporation and boiling and describe the differences between the two processes.</li> <li>10. Use the process of paper chromatography to separate inks in a sample pen.</li> <li>11. Describe how chromatography is used to separate inks and interpret a chromatogram.</li> <li>12. Explain how distillation can be used to separate a solvent from a solution and give examples of where distillation is used.</li> </ol>	

	<p>16. Key Practical Skill: Write and test a hypothesis.</p> <p>17. State what is meant by gas pressure.</p> <p>18. Describe the cause of gas pressure using the particle theory.</p> <p>19. Explain some of the effects of air pressure and the ways in which gas pressure can be increased.</p>		
<b>Learning Checkpoint Tasks</b>	<p>LC1 – Introduction to science</p> <p>LC2 – Solids, Liquids and Gases</p> <p>Extended response – State changes</p>	<p>LC1 – Element, Mixtures and compounds</p> <p>LC2 – Chemical reactions and word equations</p>	<p>LC1 - Solutions</p> <p>LC2 – Separations Techniques</p>
<b>Common Assessment Task</b>	<p>KS3 YEAR 7 TRUST ASSESSMENT TERM 1 – The Particle model</p>	<p>KS3 YEAR 7 TRUST ASSESSMENT TERM 2 – The Particle model and Atoms Elements and compounds</p>	<p>KS3 YEAR 8 TRUST ASSESSMENT TERM 2 – Acids and Alkalis &amp; Separation Techniques</p>
<b>Interleaved Knowledge</b>	<p>Links to KS2 Year 4 States of matter &amp; Water Cycle - 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).</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>Interleaving the particle model and changes of state.</p> <p>Links to KS2 Year 4 States of matter &amp; Water Cycle - 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).</p>	<p>Links to KS2 Year 4 States of matter &amp; Water Cycle - 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).</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>