


















## Separating Materials Year 5

<p><b>Science Concepts</b></p>	<p><b>Nature</b> Knowing about the natural world</p>  <p>Nature</p>	<p><b>Phenomenon</b> Observing facts and events</p>  <p>Phenomenon</p>	<p><b>The Real World</b> Knowing about scientists and science in our everyday lives</p>  <p>The Real World</p>
<p><b>National Curriculum</b></p>	<ul style="list-style-type: none"> <li>• Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</li> <li>• Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</li> </ul>		<p>Reporting, presenting and communicating data and findings</p>
<p><b>Common Misconceptions</b></p>	<ul style="list-style-type: none"> <li>• Particles in liquids are further apart than in a solid</li> <li>• Dissolving is the same as disappearing</li> <li>• When salt dissolves in water it no longer exists</li> <li>• When an object burns, parts of it disappear and no longer exist</li> <li>• Candel wax does not burn, it just melts. (Some of the wax around the wick does melt and run down the side of the candle. The rest of the wax burns as fuel.)</li> <li>• When a solid is heated, its particles melt</li> <li>• Liquids that evaporate or boil disappear forever</li> </ul>		
<p><b>Safety</b></p>	<ul style="list-style-type: none"> <li>• Be mindful of any allergies when children do the formulation investigation (tasting fruit squash)</li> </ul>		

Lesson	Learning Intention	Concept
<b>1. What makes something pure? (NOA)</b>	<ul style="list-style-type: none"> <li>Define a pure substance</li> <li>Give examples of pure substances</li> <li>Explain how we can tell if something is pure or not</li> </ul>	 The Real World
<b>2. What makes something a mixture? (NOA)</b>	<ul style="list-style-type: none"> <li>Know what a mixture is</li> <li>Give examples of mixtures of substances from the same state of matter</li> <li>Give examples of mixtures of substances from different states of matter</li> </ul>	  The Real World Phenomenon
<b>3. What is a formulation? (NOA)</b>	<ul style="list-style-type: none"> <li>Describe what a formulation is and give examples</li> <li>Explain why formulations are useful</li> </ul>	 The Real World
<b>4. How can we separate mixtures into pure substances? (NOA)</b>	<ul style="list-style-type: none"> <li>Describe how to remove large solids from a mixture</li> <li>Describe how to remove insoluble substances from a mixture</li> <li>Describe how to remove soluble substances from a mixture</li> </ul>	 The Real World
<b>5. How can you separate a mixture of sand, salt and water? (NOA)</b>	<ul style="list-style-type: none"> <li>Define 'solution', 'solvent', 'soluble' and 'insoluble'</li> <li>Describe how to use filtration to separate some mixtures</li> <li>Describe how you could use evaporation to separate some mixtures</li> </ul>	 The Real World
<b>6. How can we separate river water into separate substances? (NOA)</b>	<ul style="list-style-type: none"> <li>Separate substances in river water</li> <li>Evaluate the method for separating substances in river water</li> <li>Suggest how an environmental scientist could check the water quality in a river</li> </ul>	  The Real World Nature
<b>7. How can we separate river water into separate substances?</b>	<ul style="list-style-type: none"> <li>Separate substances in river water</li> <li>Evaluate the method for separating substances in river water</li> </ul>	  The Real World Nature

<b>8. Who was Rachel Carson?</b>	<ul style="list-style-type: none"> <li>• Know about the work of an environmental scientist</li> </ul>	 The Real Worl...  Nature
<b>9. Who was Rachel Carson?</b>	<ul style="list-style-type: none"> <li>• Know about the work of an environmental scientist</li> </ul>	 The Real Wor  Nature
<b>10. Review</b>	<ul style="list-style-type: none"> <li>• Complete end of unit quiz.</li> <li>• Return to cover page and identify any misconceptions they may have had at the beginning of the unit, or add anything further to the question.</li> </ul>	