

<p><b>Topic:</b> Properties and changing materials</p>	<p><b>Year 5</b> Age 9-10</p>	<p><b>Title:</b> Dissolving</p>
<p><b>Working Scientifically</b> <b>Plan:</b> Plan a scientific enquiry to answer a question recognising &amp; controlling variables</p>		<p><b>Concept Context</b> Know that some materials will dissolve in a liquid to form a solution.</p>
<p><b>Assessment Focus</b></p> <ul style="list-style-type: none"> <li>Can children plan a fair test to investigate factors affecting the speed at which solids dissolve in water?</li> </ul>		
<p><b>Activity</b> <i>Today we are going to be chemists.</i> Ask children to think of everyday example of dissolving solids in water (e.g. sugar in tea, salt in cooking water). Ask them to suggest ways of making the sugar dissolve faster (e.g. stirring, temperature of the water, size of sugar grains, volume of water). Ask them to choose a factor to investigate and to plan a fair test. Post it planners or planning boards could be used to focus on types of variable. Carry out tests and discuss outcomes.</p> <p style="text-align: right;"></p> <p><b>Adapting the activity</b> <b>Support:</b> Within a scaffold/teacher support, make some suggestions about what could be kept the same/measured. Children explain how the planned test has been made fair. <b>Extension:</b> Plan a fair test independently, identifying and controlling relevant variables. Compare and improve plans with an emphasis on how taking an average of repeated readings makes the results more reliable. <b>Other ideas:</b> Consider how to test continuous variables e.g. temperature.</p> <p><b>Questions to support discussion</b></p> <ul style="list-style-type: none"> <li>What is your question?</li> <li>How will you investigate this?</li> <li>How will you keep your test fair?</li> <li>What will you change?</li> <li>What will you measure?</li> <li>What will you keep the same?</li> <li>Can you explain why you have made these decisions?</li> </ul> <div style="text-align: right;"> </div>		
<p><b>Assessment Indicators</b> <b>Not yet met:</b> Unclear about change or control variables, when planning or during the testing. <b>Meeting:</b> Can plan a fair test identifying one thing to change, one thing to measure/observe and important factors to keep the same. E.g. <i>We will change the type of liquid and measure the amount of time taken for the sugar to dissolve. We will keep the amount of liquid and the temperature of the liquid the same.</i> <b>Possible ways of going further:</b> Identifies a range of factors to keep the same. Plans an appropriate range of intervals for chosen variable, e.g. 50 ml, 100 ml, 150 ml. E.g. <i>We will increase the amount of water by 50ml each time. To make sure that our test is fair, we will keep the following the same: Amount of stirring, temperature of the water, size of sugar grains etc. We will take three sets of readings for each volume of water and take an average reading to increase the reliability of our results.</i></p>		



Teacher box 4 - gather evidence in a range of ways. See TAPS pyramid for more eggs