



# Dyeing with red Cabbage, Soap & Vinegar

<b>EQUIPMENT</b>	<p>Half a red cabbage</p> <p>Knife</p> <p>Hot water – use a kettle or thermos flask.</p> <p>Large bowl or several small bowls</p> <p>Slotted spoon</p> <p>Dropper</p> <p>Scraps of white cotton material – old handkerchiefs or old cotton sheet</p> <p>Soap</p> <p>Vinegar, lemon juice</p> <p>Bread soda</p> <p>Kitchen paper</p> <p>Newspapers</p>
<b>PREPARATION</b>	<p>Make the bread soda into a solution - 1 teaspoon to a cup of water.</p> <p>Make the purple dye by adding hot water to red cabbage leaves.</p>
<b>BACKGROUND INFORMATION</b>	<p>Red cabbage is an indicator – i.e. it is one colour in an acid and another in an alkali. Acid means 'sour' in Latin. An alkali is the chemical opposite of an acid. Toothpaste is an alkali that neutralizes the acids which build up in our teeth. Indigestion tablets are alkalis that neutralize excess acid in the stomach.</p> <p>The purple colour of the dyed material turns pink when it meets an acid (vinegar) and turns blue or blue/green when it meets an alkali (bread soda and soap)</p>
<b>SKILLS</b>	<p>Investigating and experimenting</p>
<b>ACTIVITY</b>	<p>Soak the cotton material in the purple dye.</p> <p>Look at the red cabbage after the dye is made.</p> <p>Make coloured patterns on the material using lemon juice, vinegar (acids) and soap, bread soda (alkalis).</p>
<b>SAFETY</b>	<p><b>Care is needed with very hot water.</b></p> <p><b>Adult should cut up the cabbage.</b></p>
<b>FOLLOW-UP ACTIVITIES</b>	<p>Use left over cabbage water to test substances such as orange juice, Coca Cola, toothpaste. What does the colour change tell you about these things?</p>



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1. Cut up some red cabbage and put it in a bowl
2. Add some very hot water and stir for about five minutes
3. Remove the cabbage leaves from the bowl
4. Place the cotton material into the purple liquid and stir for about five minutes
5. Remove the material and dry between two pieces of kitchen paper
6. Place the materials on an old newspaper or kitchen paper
7. Use a dropper to make coloured patterns on the materials with vinegar or lemon juice, drops of bread soda solution or lines using a bar of soap.
8. Leave the material for a few minutes for the chemicals to react.
9. Rinse the material quickly in cold (preferably running) water.
10. Allow the material to dry.

