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CLIMATE CHANGE CHALLENGES

SUSTAINABLE SOLUTIONS

2023-1-LV01-KA220-SCH-0001246777

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<table>
<tr><td>Title</td><td>Formation of composite materials</td></tr>
<tr><td>Objectives</td><td>● To reduce the amount of coton in the making of fabric products.
● To reuse old materials in order to make new composite materials.</td></tr>
<tr><td>Necessary resources</td><td>Cotton cloth (rags, curtains, used clothing, etc.), sodium silicate solution (silicate glue), porcelain bowl, 25 ml measuring cylinder, glass rod, filter paper, baking paper, scissors, iron, ironing board, crucible tongs, alcohol lamp, matches, beaker with water.</td></tr>
<tr><td>Time</td><td>60 minutes</td></tr>
<tr><td>Step by step instructions</td><td>Composite material production
1. Measure 8 ml of sodium silicate solution with a measuring cylinder and pour it into a porcelain bowl!
2. Cut a piece of cotton fabric 5 × 5 cm and completely immerse it in the sodium silicate
solution with the help of a glass rod!
3. After about 5 minutes, remove the fabric from the sodium silicate solution, place it between two sheets of filter paper and
dry it!
4. Cover the fabric with a piece of baking paper so that it is completely covered!
5. Place the dried fabric on a base for ironing! Dry it while ironing!
6. Allow the fabric to cool and remove the baking paper! Turn over the furred edges of the fabric!
Studying and comparing the properties of materials
1. Watch the teacher's demonstration! Record observations in the data recording table!
2. Light the alcohol lamp and place a beaker of water next to it (for fire safety)!
3. Hold the piece of cotton cloth soaked in sodium silicate close to the flame of the alcohol lamp, holding it in crucible tongs! Record your observations in a data recording table!
<table>
<tr><td>Property</td><td>Cotton</td><td>Composite material (cotton impregnated with sodium silicate)</td></tr>
<tr><td>Combustibility</td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>Reflection</td><td>Draw a conclusion about whether the assumption is confirmed by evaluating the properties of the new material (flammability) compared to the properties of the original material (flammability)!
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</table>

	…….. …….. …….. …….. How could the experiment be improved if it were done again? …….. …….. …….. ……..