



GREEN-EDU Learning Activity

Title: MAKE YOUR OWN BIOPLASTIC

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Summary

<i>Lesson plan summary</i>	
Subject	Green Biotechnology
Topic	<i>Biotechnology</i>
Age of students	8-11
Preparation time	30Minutes
Teaching time	60Minutes
Online teaching material (links for online material)	
Offline teaching material	<ul style="list-style-type: none"> ● Corn flour ● Water ● Cooking oil ● A measuring spoon ● A microwave ● A microwavable container ● An adult (if required - to help with the microwaving!)

Aim of the lesson

By the end of this lesson students will:



- be able to make own biodegradable plastic or “bioplastic” made from natural materials, using a few simple ingredients




Trends

STE(A)M Learning / Collaborative Learning etc



Activities

Describe here in detail all the activities during the lesson and the time they require. Remember, that your lesson plan needs to revolve around the topic of bioeconomy.

Name of activity	Procedure	Time
Introduction	New plastics are being created that use natural materials like corn or chicken feathers, which will break down much more quickly in the environment. Many of them are experimental at the moment and there's still a long way to go. For example, many dissolve in water, so they're not great for holding liquids! But in the future, making plastic that breaks down naturally in the environment should be possible	5 min
Instructions	You can make as much as you like, but the proportions of ingredients to use are 1 tablespoon of cornflour to 1.5 tablespoons of water to 4 drops of cooking oil. 	Xmin
	Mix the ingredients well in your microwaveable container until you have a milky liquid.	X min
	Put the mixture in the microwave and give it about 30 seconds on high. It should start to bubble and become slightly transparent. If you have made a larger amount of mixture, you may have to heat it for longer to get it to bubble. Keep watching and don't let the mixture start to burn!	Xmin
	Knead the plastic until it feels like play dough. You can now cut or mould it into the shape you want	Xmin
	Leave it to cure for 24 - 48 hours. It should then be solid and maintain its shape. If you'd like to make coloured bioplastic, try adding food colouring to your mixture before microwaving.  	Xmin



Assessment

Describe here the assessment method of the lesson, if any. For example, if you plan on assessing your students with a quiz, include here questions and answer options with color-coding the correct answers.