



GREEN-EDU Learning Activity

Title: Fun DNA extraction

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Summary

<i>Lesson plan summary</i>	
Subject	Green Biotechnology
Topic	DNA
Age of students	8-11 years
Preparation time	60'
Teaching time	60'
Online teaching material (links for online material)	
Offline teaching material	Water Banana Denatured alcohol Paperclip Tube microscope

Aim of the lesson

This simple DNA extraction lesson plan lets students try a fun DNA activity while they learn more about this important biology topic.

By the end of this lesson students will:

1) Students will try extracting DNA from a banana by following the simple instructions and can take the activity further with the use of a microscope.

Trends

STE(A)M Learning
Collaborative Learning



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	Found in the shape of a double helix, DNA or deoxyribonucleic acid as it is otherwise known, provides the blueprint for various forms of life. This includes humans, monkeys and even things like bananas. Let's try a fun activity that involves extracting DNA from a banana.	5min
Activities	Blend one banana together with 1 cup of water until smooth.	Xmin
	Fill tubes with around 15mls of the smooth banana and water solution, making one for each student in your class.	X min
	Add around 10 drops of detergent to the banana mixture in the tubes.	Xmin
	Put a lid on the tubes and gently shake them (this will break open the cells and release the DNA). Carefully pour around 20 to 30mls of methylated spirits (also known as denatured alcohol) into the the banana mixture.	Xmin
	Use a straightened paperclip or similar object to fish out the gooey strands of banana DNA. Tell the students to collect them in a small tube.	Xmin

Assessment

Use a straightened paperclip or similar object to fish out the gooey strands of banana DNA. Tell the students to collect them in a small tube.