

BLOOM Stories

Title of your Story

Sustainable Development

Name of the author

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Category

Please indicate with an "X" which prize category you wish to enter. Note that each category is judged according to specific criteria (to be found on the competition page and in Terms and Conditions). Only one category should be selected.

1. Teaching with bioeconomy in primary schools (individual work)	X
2. Teaching with bioeconomy in secondary schools' STEM classes (individual work)	
3. Integrated STEM teaching with bioeconomy – collaborative teaching (teams of two STEM teachers of different subjects)	
4. Integrated STEAM teaching with bioeconomy – collaborative teaching (teams of up to three teachers of different subjects, including at least one STEM teacher and at least one non-STEM teacher)	

The BLOOM resource used

Please indicate with an "X" which BLOOM School Box resource you implemented in your class.

Bloom your school with your biofuel and soap lab	
Examining the thermal properties of bio-based building materials	
Building a new environmental Future	
Growing plastic and new life for plastic	
How poop will change the world	X
Don't waste your waste! - Raising Bioeconomy awareness	



Please indicate with an "X" which BLOOM School Box resource you implemented in your class.	X
Yeast, biofuels and novel biotechnology techniques'	
Let's talk about bioenergy and our lives!	
The benefits of composting – How we can produce organic fertilizer in our school garden	
Biofuel production from fruit waste	
Back to the Future	

Abstract

Please briefly summarise your implementation (maximum 200 words). Note that this summary will be used to disseminate your work, so it should be concise and appropriately reflecting the content. Make sure to add up to 5 keywords that you think best describe your implementation.

While teaching “Sustainable development” as an interdisciplinary topic, I decided to use BLOOM School Box resource “How poop will change the world”. It was appropriate since we need to distinguish fossil fuels from renewable energy sources and learn about bioeconomy. I introduced the topic using the presentation included in the resource. Then, students explored three topics: renewable energy, biomass, and fossil fuels using the internet and prepared materials. Each group made a mind map on one topic and represented it to class. In the end, students showed their knowledge about these topics by taking a quiz.

Keywords: sustainable development, renewable energy sources, fossil fuels, bioeconomy, mind map

The implementation context

Please briefly describe the context of your implementation, specifying: what subject(s) you chose to implement the resource in, what are the students’ ages, the size of the group, previous familiarity with bioeconomy activities, etc. (maximum 200 words).

Please note that the competition looks to collect stories of classroom implementation, so the context must appropriately reflect this.

This activity was implemented with 13 students from the eighth class of primary school (age 14). Everything was implemented in two sessions of 45 minutes each. At first, I did the introduction to the topic and students did mind maps. At second, they represented their work, took a quiz and then we created our ABC spontaneously - we did it all together, by brainstorming on each letter. It took a while to finish it, since some of Croatian letters are tricky.

I chose the resource “How poop will change the world” to teach my students about renewable energy sources, biomass, and bioeconomy combined with the mandatory inter-subject sustainable development topic. My students already had some previous knowledge since they learned about renewable energy and Sustainable Development Goals last year while participating in a worldwide project called Innovate your dreams.

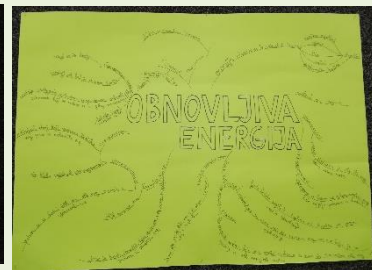
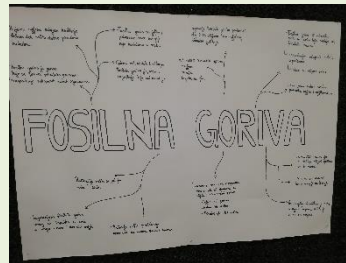
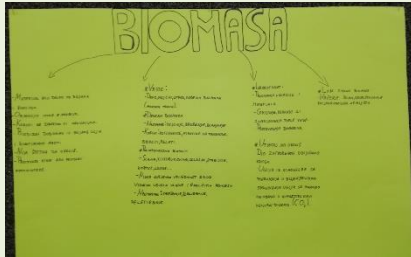
Your story

What did you do? Please describe how you used the BLOOM School Box in your teaching. For example, what was the structure of the session(s); did you make any adaptations to the resource?

If you are entering the competition in categories 3 or 4 (collaborative teaching), describe how you worked together with your colleagues to carry out the lesson. (maximum 400 words).

First, I introduced the topic using the presentation included in BLOOM School Box resource "How poop will change the world".

Second, students formed three groups to explore the topics: Renewable energy, Biomass, and Fossil fuels. Instead of a brochure, each group created a mind map on their topic. Then, every group presented their findings to other students using the map they just made. See in the pictures



Third, we also discussed some examples of bioeconomy – we have a farm nearby that uses animal poop as an energy resource. Then students took a quiz to show what they have learned. See Quizz in Croatian [here](#). Quiz translated to English [here](#).

Fourth, as an additional activity, we created an **Ecological ABC** with some pointers for everyday life to keep our environment clean – there is an instruction with each letter of the Croatian alphabet. Please see [Annex 1](#) for the Ecological ABC.

Learning outcomes

What did you achieve? Please describe the main learning outcomes you achieved with the implementation of the selected School Box resource. Tell us about anything that supports your case for achieving these learning outcomes. For example, student comments, or any other evidence that illustrates the benefits and impact of your use of the School Box resource.

Note that you MUST have permission to include any photographs, especially parental permission in the case of young people. Any pictures you include should be added directly to the entry form.

My students were unpleasantly surprised by the topic but fascinated with possibilities that come from human and animal waste. They learned about bioeconomy, biomass, fossil fuels, and renewable energy sources. It is highly relevant since they should be the holders and the ones carrying out sustainable development as they grow up.

For assessment of achieved learning outcomes, my students took a quiz. The results (in Croatian) for each question are in the picture in the [Annex 2](#).

Teaching outcomes

What did you, as a teacher (or a group of teachers) get out of teaching with the BLOOM School Box? What would you say to other people thinking about using bioeconomy in their teaching?















If you are entering the competition in categories 3 or 4 (collaborative teaching), please also describe your experience in collaborating with teachers of other subjects in your classroom. What is different from traditional teaching? (maximum 200 words).

BLOOM School Box resources are very interesting and innovative. They provide many materials teachers can use while teaching bioeconomy and sustainable development.

About the BLOOM project

BLOOM is an EU Coordination and Support Action implemented from 2017 to 2020. The project aims at bringing together partners from across Europe to debate, communicate, and engage the public in the potential of bioeconomy. An economy based on biomass promises to foster a circular economy and to enhance climate change mitigation while reducing dependence on fossil fuels. Bioeconomy covers a broad range of sectors, from agriculture and the agrifood industry, to fisheries, forestry, biorefineries, chemistry and (bio) energy – but despite its many applications, it has yet to enter into the public consciousness as an exciting solution to societal challenges.

Annex 1

A ktiviraj se 	B rini o okolišu. 	C vijeće sadi 	Č uvaj vodu i zrak 	Suši odjeću na zraku Ć u na 	D oniraj odjeću, igračke, knjige... 
Papirić u DŽ ep, a ne na pod 	Ne zagađuj Đ uj 	E kološki uzgajaj 	Čuvaj F loru i faunu 	G radi bolji svijet 	H odaj, vozi bicikl ili role. 
I zrađuj prirodnu kozmetiku 	J edi lokalnu hranu 	K ompostiraj 	Djeluj L okalno 	Educiraj druge Lj ude 	M isli o budućnosti 
N auči o održivom razvoju 	Nj eguj okoliš 	O dzovi se ekološkim akcijama 	P onovo upotrijebi! 	R ecikliraj 	S pasimo pčele 
Š tedi energiju 	Ne zagađuj T lo 	U živaj u prirodi 	V olontiraj 	Z asadi drvo 	Ž ivi zdravo 

(Images used to create the ABC are free and from: [Sockio](#) and [Pixabay](#))

Annex 2

	Question	Avg. score
1	Razvrstaj izvore energije:	83%
2	Što se od navedenog odnosi na obnovljive izvore energije:	50%
3	Povuci riječi na odgovarajuće mjesto.	91%
4	Što se od navedenog odnosi na fosilna goriva.	50%
5	Povuci riječi na odgovarajuće mjesto.	98%
6	Povuci riječ na odgovarajuće mjesto.	95%
7	Označi sve što se koristi kao biomasa.	83%
8	Označi što je točno u vezi biomase, a što netočno.	83%
9	Ekonomija koja se temelji na proizvodnji energije i proizvoda od obnovljivih izvora energije (biomaterijala) naziva se ...	83%
10	Koja elektrana nije bazirana na obnovljivoj energiji?	75%