



## NATURE-BASED SOLUTIONS LEARNING SCENARIO

### Title

The travelling Birdy bird (Birdy bird is travelling through Croatia and Serbia- project)

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### Abstract

Students are familiarised with the concept of social and environmental justice through the story, photos, and videos of Birdy bird Travel – a bird who likes travelling through Croatia and Serbia. Via web 2.0 apps (Linoit, WordArt) students analyse Birdy's "environmental" photos in order to build a socio-environmental fair neighbourhood (water/lake/sea) in which they would like to live using recycled materials. But before the building commences, they have to discuss and collaborate with their classmates in order to understand the principles and importance of nature-based solutions (NBS). Nature-based solutions must benefit biodiversity and support the delivery of a range of ecosystem services.

### Keywords

*NBS, collaboration, environment justice, neighbourhood, web 2.0 apps, PBL.*

### Introduction (leave this section as it is)

"Nature-based solutions (NBS) are solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions. Nature-based solutions must therefore benefit biodiversity and support the delivery of a range of ecosystem services."

Source: [https://research-and-innovation.ec.europa.eu/research-area/environment/nature-based-solutions\\_en](https://research-and-innovation.ec.europa.eu/research-area/environment/nature-based-solutions_en)



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To use this Learning Scenario more effectively, teachers are encouraged to:

- Check out the list of [recent EU publications on nature-based solutions](#).
- Explore the various [publications and outputs of the NBS EduWORLD project](#).
- Learn about the European Union's European Framework for Sustainability Competences [GreenComp](#) and how it could help students develop other skills (also available in [digital version](#)).
- Consider exploring the "[Sustainability Conversations: the GreenComp game](#)", a conversational game during which players discuss and assess their priorities to build a sustainable future.
- Watch the "[Turn your love for nature into a planet-saving career](#)" and the "[What is NBS education](#)" videos by [NBS EduWORLD](#), to explore more information about NBS and their connection to education.
- Search for inspiration in [the Learning Scenarios](#) developed during the Integrating Nature-Based Solutions in Education (funded by the EC and coordinated by PPMI, in collaboration with EUN) as well as those created as part of the [NBS EduWORLD project](#).
- Read about [Nature-based solutions: Transforming cities, enhancing well-being](#) (also available as a detailed PDF).
- Learn more about nature-based solutions by looking at NBS case studies in repositories, such as [NetworkNature](#), [Oppla](#) and [Urban Nature Atlas](#).
- Contact local NBS practitioners or scientists working in their area (they can be found through [Oppla](#)).
- Use the "[Ask Oppla](#)" and [NetworkNature Helpdesk](#) service to request help in case of any technical/scientific question on NBS.
- Read the European Union's [European Green Deal](#) to understand the current EU strategy on climate change and COVID recovery.
- Read the European Union's [Biodiversity Strategy 2030](#) to learn about the challenges Nature faces in Europe.

## Overview

### Summary

<i>Subject</i>	<i>Multiple subjects: language (Croatian, Serbian), Art, Math, Ecology, Sciences</i>
<i>Topic</i>	<p>Indicate below which of the <b>twelve NBS societal challenges</b> your learning scenario addresses:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Air quality</li> <li><input checked="" type="checkbox"/> Biodiversity enhancement</li> <li><input type="checkbox"/> Climate resilience</li> <li><input checked="" type="checkbox"/> Green space management</li> <li><input checked="" type="checkbox"/> Health and well-being</li> <li><input type="checkbox"/> Knowledge building for sustainable urban transformation</li> <li><input type="checkbox"/> Land regeneration</li> <li><input type="checkbox"/> Natural and climate hazards</li> <li><input type="checkbox"/> New economic opportunities and green jobs</li> <li><input type="checkbox"/> Participatory planning and governance</li> </ul>

Summary	
	<input checked="" type="checkbox"/> Social justice and social cohesion <input checked="" type="checkbox"/> Water management
GreenComp Competences	<p>Indicate below which of the 12 <b>GreenComp</b> competences your learning scenario addresses (for more information, refer to pages 12-15 <a href="#">here</a>):</p> <div> <div><b>Area: Embodying sustainability values</b></div> <div> <input type="checkbox"/> Valuing sustainability  <input type="checkbox"/> Supporting fairness  <input checked="" type="checkbox"/> Promoting nature           </div> </div> <div> <div><b>Area: Embracing complexity in sustainability</b></div> <div> <input type="checkbox"/> Systems thinking  <input type="checkbox"/> Critical thinking  <input checked="" type="checkbox"/> Problem framing           </div> </div> <div> <div><b>Area: Envisioning sustainable futures</b></div> <div> <input type="checkbox"/> Futures literacy  <input type="checkbox"/> Adaptability  <input checked="" type="checkbox"/> Exploratory thinking           </div> </div> <div> <div><b>Area: Envisioning sustainable futures</b></div> <div> <input type="checkbox"/> Political agency  <input checked="" type="checkbox"/> Collective agency  <input type="checkbox"/> Individual agency           </div> </div>
Age of students	9-10 years old
Preparation time	30 minutes
Teaching time	7 lessons
Online teaching material(s) used	<p>List here <b>all</b> links to online tools, applications and support documents that you will use during the lesson, such as Padlet, Kahoot, Canva, etc. Make sure the links work. Follow these examples below, showing how to list the online teaching materials:</p> <p>WordArt: <a href="https://wordart.com/">https://wordart.com/</a>          Linoit: <a href="http://en.linoit.com/">http://en.linoit.com/</a></p>
Offline teaching material(s) used	Recycled material
NBS resource(s) used	Urban Nature Atlas: <a href="https://naturvation.eu/atlas">https://naturvation.eu/atlas</a>

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### Integration into the curriculum

This learning scenario will fit perfectly in both national curriculum (Croatian and Serbian). This learning scenario is consistent with the fourth grade objectives, as students will learn to express themselves, describe and discuss the need to preserve nature.

### Aim of the lesson

One of the aims is that students will locate different places on map of Croatia and Serbia and use the vocabulary of spatial awareness. The students from both countries will get familiarised with the concept and the objectives of social justice, the importance of green infrastructure for the benefit of the society, as well as the significance of NBS.

### Outcome of the lesson

Students will use recycled materials to create a model of a socio-environmental fair neighbourhood (water/lake/sea).

### Trends

Project-based learning, collaborative learning, STEM learning, eco-system pedagogy, visual search and learning.

### 21<sup>st</sup> century skills

Innovation, collaborative learning, STEM learning, PBL

### STEM Strategy Criteria

*In this Learning Scenario, the following STEM elements and criteria are addressed (provide details for all that apply).*

Elements and criteria	How is this criterion addressed in the learning scenario
<b>Instruction</b>	
<i>Personalization of learning</i>	Students are involved.
<i>Problem and project-based learning (PBL)</i>	Students are investigating.
<i>Inquiry-Based Science Education (IBSE)</i>	There is science involved.
<b>Curriculum implementation</b>	
<i>Emphasis on STEM topics and competencies</i>	There is cross curriculum STEM topics and competencies involved.
<i>Interdisciplinary instruction</i>	A teacher is introducing interdisciplinary activities to students.

Elements and criteria	How is this criterion addressed in the learning scenario
<i>Contextualization of STEM teaching</i>	Students own knowledge and experiences
<b>Assessment</b>	
<i>Continuous assessment</i>	The evaluation of a pupil's progress is made through a lesson scenario
<i>Personalized assessment</i>	Each student is giving an idea
<b>Professionalization of staff</b>	
<i>Highly qualified professionals</i>	Students are performing tasks requiring advanced knowledge and skills
<i>Existence of supporting (pedagogical) staff</i>	Assistance is provided to both students and staff
<i>Professional development</i>	Gaining new skills through continuing education through this project
<b>School leadership and culture</b>	
<i>School leadership</i>	School leadership has the main role
<i>High level of cooperation among staff</i>	Staff (teachers) sre cooperating through the whole process.
<i>Inclusive culture</i>	Everibody has a commitment to workplace diversity
<b>Connections</b>	
<i>With industry</i>	Gueast speakers
<i>With parents/guardians</i>	Parents are active
<i>With other schools and/or educational platforms</i>	Videoconferences
<i>With universities and/or research centers</i>	Videoconferences
<i>With local communities</i>	Press articles
<b>School infrastructure</b>	
<i>Access to technology and equipment</i>	School is equipped
<i>High quality instruction classroom materials</i>	All is in the classroom

### Activities

Describe here in detail all activities during the lesson and the time they require. Remember that your learning scenario needs to relate to nature-based solutions. If you are using any external documents, please scroll to the end of the document and add them to the Annex. Add more rows to the table if needed.

Name of the activity	Procedure	Time
1st step: Clouds of words (WordArt)	Collaborative activity for both Croatian and Serbian 4th grade pupils. Pupils will get one cloud of words: <a href="https://wordart.com/create">https://wordart.com/create</a> Each pupil have to put one word on it: what do you think of when you hear a word pollution	15 min
2nd step: Birdy bird travelling through Croatia/Serbia	At the same time Birdy bird is travelling through Croatia and Serbia. She is seeing some strange and shocking photos of polluted water (Lake Perućac- Serbia, Adriatic sea- Croatia). Pupils are putting their first thoughts of that on common Linoit.	30 min
3rd step: finding solution	Activity for pupils: write as many solution for this problems on one Linoit canvas.	45 min
4th step: drawings	Pupils are drawing on a piece of paper. They draw the neighborhood- (lake, sea) they would like to live close by. Teachers from both countries are putting all the drawings on one Linoit canvas.	45 min
5th step: assessment activities	This is part of the assessment activity: using recycled materials, students will create socio-environmentally fair neighborhoods ( they can make healthy lake Perućac with all the living creatures and plants, trees around it; Adriatic sea – the bottom of the sea with all fishes and water plants in it). that will be beneficial for every member of the community, regardless of disability, age, poverty, or disadvantage.	45 min
6th step: videoconference	Teachers will arrange one videoconference meeting where pupils from both countries will prepare everything they did through the past activities. Pupils will present their final products.	45 min
7th step: Evaluation	Pupils from both countries are filling the evaluation form. Teachers are collaborating on this form and they both get answers. They will present pupils the results.	45 min
8th step; dissemination	Both countries will present their work on parents meeting, in their schools in front of other pupils and teachers.	45 min

### Assessment

The assessment of the students will be done based on the creation of the socio-environmental fair neighborhood.

### Student feedback

Evaluation form (Google forms), Linoit canvas.

**Teacher's remarks**

We did not have time to try this in our classrooms.

**About the NBS EduWORLD project**

The "Nature-Based Solutions Education Network" (NBS EduWORLD) is an EC-funded Horizon Europe project (Grant Agreement No. 101060525) that aims at nurturing an NBS literate society, supporting a just transition to a sustainable future. For this, NBS EduWORLD will create an NBS community that facilitates synergies between NBS professionals and education providers and ensures free and easy access to NBS knowledge and resources for all. The project's Consortium comprises 16 partners from 13 European countries, all of whom visionary organizations and leading NBS / education stakeholders across Europe, who will work together in the creation of an NBS EduWORLD, a community that makes a difference.

## **Annex**

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