Bring The Sea into our School

Title

Bring The Sea into our School

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Summary

We got very important results from this lesson. So the students made a model of the materials considered unnecessary for the school. As a teacher, my goal was to develop students' skills "we can think and prepare models and stands". We ended up making a mockup for our lesson that cost nothing but taught us a lot of skills.

Keywords

STEAM, Physics, Geography, Biology, Technology

Overview

Subject(s)	STEAM, Physics, Geography, Biology, Technology
Topic(s)	"Marine pollution and conservation measures"
Age of students	Students aged 14-18
Preparation time	2 days (4 hours with a break each day)

Teaching time	(4 hours with a break each day)
Online teaching material	Padlet, Kahoot, Graasp, Google Classroom
Offline teaching material	Computer, mobile phone, colored pencils, colored paints, pen, decorations, colored plasticine, scissors, glue, colored paper
Resources used	https://www.youtube.com/watch?v=1kUE0BZtTRc&t=10s https://www.youtube.com/watch?v=scPQLybX4Fg https://www.youtube.com/watch?v=7w6Qj0iDVHE

Aims

We have made this important process more clear based on the project-based learning learning model. The goal is not for students to learn and speak knowledge and facts as information, but to be able to use this knowledge at the right moment, to be able to conduct research within a certain time, to develop engineering and creative skills, to create interest in natural phenomena, to approach the application process correctly, and to create a broad worldview in them.Together with the students, we did engineering work by learning, thinking, and drawing models from materials considered unnecessary. Another important and positive point here is to teach students the habit of recycling waste, to promote the possibility of making useful things from materials considered unnecessary. As a STEM teacher in a teaching and learning center, I try to create a different learning environment and develop and bring out students' discovery and innovation skills.

Integration into the curriculum

Teacher-student

Objectives:

To familiarize teachers/students with the meaning of "real work".

What teachers/students need to achieve their goals with what they learn in school to help see the relationship between factors

Show that there are options

To motivate students to achieve success

To encourage the idea that it is possible to change lives

Assist in providing education and counseling to students

Research shows that the most effective lessons are taught in the environment and the real world

It's exciting lessons. Such classes attract students' interest in higher education and career

plays an effective role in doing

Methodology

Project-Based Learning: students get fact-based tasks, problems to solve and they work in groups. This kind of learning usually transcend…

Lifelong Learning: learning does not stop when leaving school.

STEM Learning: Increased focus on Science, Technology, Engineering, Mathematics subjects in the curriculum

Outdoor Education: learning outside of the school building in the “real” environment

Game Based Learning & Gamification: learning is mixed with games or with game mechanisms

Green Competences

Area 1: Embodying sustainability values	**Justification for the competence(s) chosen**
☐ Valuing sustainability ☐ Supporting fairness ☐ Promoting nature	
Area 2: Embracing complexity in sustainability	**Justification for the competence(s) chosen**
☐ Systems thinking ☐ Critical thinking ☐ Problem framing	

Area 3: Envisioning sustainable futures	Justification for the competence(s) chosen
☐ Futures literacy ☐ Adaptability ☐ Exploratory thinking	
Area 4: Acting for sustainability	**Justification for the competence(s) chosen**
☐ Political agency ☐ Collective action ☒ Individual initiative	We have implemented an interesting project for our "Marine pollution and conservation measures" lesson. First, we went to the seaside with the students, where we cleaned and collected a lot of seashells. Because we will use them in the project we will implement. On the other hand, we also collected algae. I would like to bring to your attention, Algea are organisms which use photosynthesis to produce energy. Algea are used for biodiesel production but they are also useful for nutrition for humans and animals. Frostdried algea contain lots of protein and acids. Algea powder is sold worldwide as a nutrition. Later, we made a lesson model from waste materials that includes a lighthouse, a wind turbine and the sea. We made fish in the sea with a 3D pen. We gave detailed information to the students about the topic "Plastic pollution: how to save our seas".

Sustainable Development Goals

1.Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
2.Ensure availability and sustainable management of water and sanitation for all
3.Ensure access to affordable, reliable, sustainable and modern energy for all
4.Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
5.Take urgent action to combat climate change and its impacts
6.Conserve and sustainably use the oceans, seas and marine resources for sustainable development
7.Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

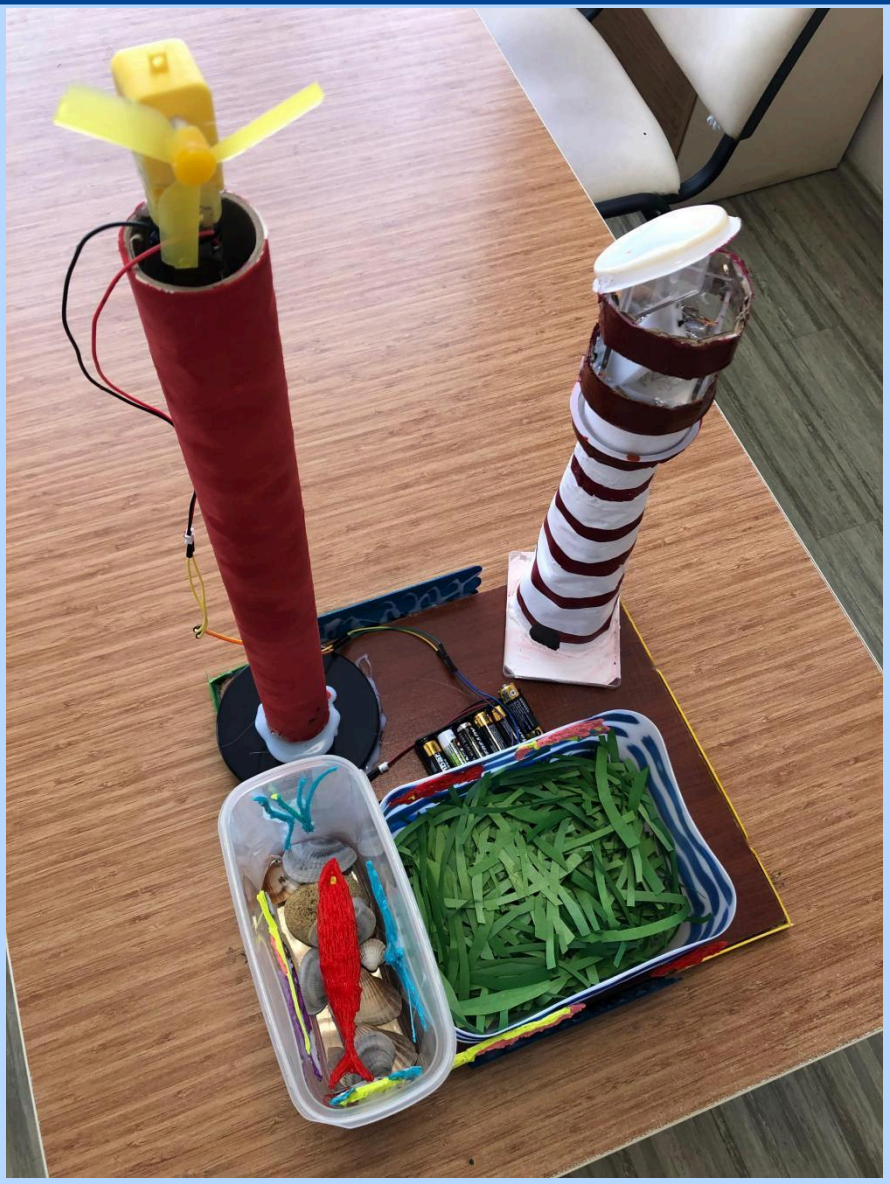
Activities

Name of activity	Procedure	Duration
Lesson 1	 https://drive.google.com/file/d/1R24xG87hb-qfB_LdPMx_DlKyJaEEHRJ3/view?usp=sharing **Lesson** https://drive.google.com/file/d/1CEOS5rwCbobwSZsi4K-laIefFdpYt3x5/view?usp=sharing	4 hours with a break each day

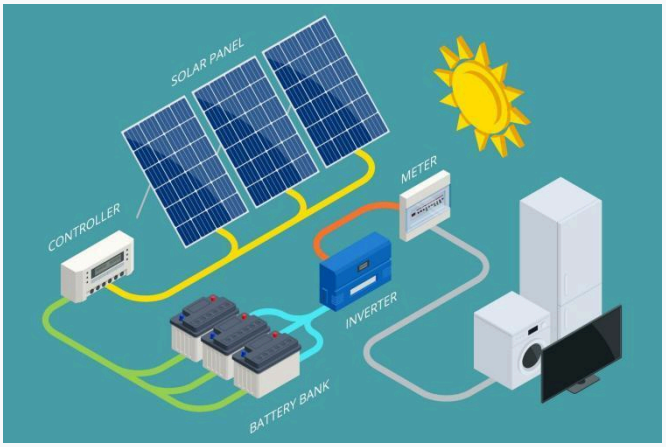
Name of activity	Procedure	Duration

Name of activity	Procedure	Duration

Name of activity	Procedure	Duration
Lesson 2	 **Lesson** https://drive.google.com/file/d/1rO9nBzMAxyHsQSuz4nqZBYnm6l_NSaDL/view?usp=sharing	4 hours with a break each day

Name of activity	Procedure	Duration
		

Name of activity	Procedure	Duration
Lesson 3	The third lesson was also very interesting for the students. In this lesson, I wanted to create hand-made mockups in games as well. However, in addition to this, we give the message "Let's protect nature and love it" in this lesson. The goal is to integrate scientific knowledge and research into Minecraft and provide students with useful skills. We can teach students important skills such as web engineering by making many lesson mockups at www.minecraft.net. Minecraft: In the "smart house" we created at www.minecraft.net, we have brought forward the feelings of care and love for nature, the ideas of protecting fauna and flora in the surrounding world. 1.Digital experiences - Game - Individual work - Scientific/technological inquiry Students will build a "smart home" in Minecraft: www.minecraft.net, demonstrating skills such as critical thinking, creative approach, technological literacy, productivity. Pedagogical requirements such as personality orientation, development orientation, creation of a supportive environment, inclusiveness were taken into account in this project. One of the main goals here is to increase the students' love for nature, to call for the protection of nature at all times. Just as nature is an integral part of every person's life, it is important in every way for the vital education of children. Students will perform the task given to them individually and within 25 minutes. 2.Discussion - Scientific demonstration After the allotted time, students begin to evaluate the differences between the picture and the "smart houses" they have created. They use their analytical skills to identify their mistakes. Effective error analysis plays an important role in problem solving and decision making is playing	4 hours with a break each day

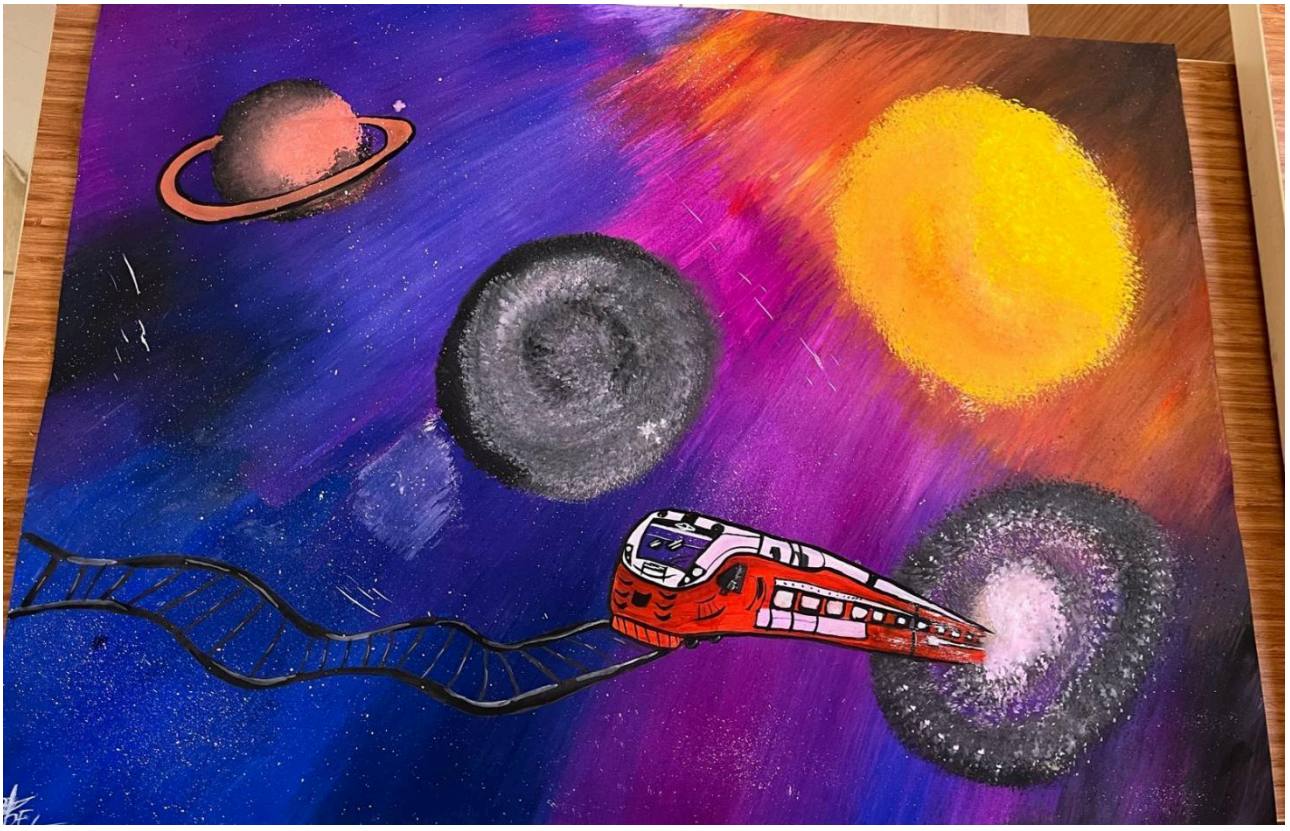
Name of activity	Procedure	Duration
	3.Individual work Students draw conclusions from the final assessments obtained. In an additional 20 minutes, the "smart home" is rebuilt. At the end, the teacher wishes each student to share the video or photos of the "smart house" they created on padlet.com and actively participate in discussions there. Work progress:  	

Name of activity	Procedure	Duration
	   Students' work: https://drive.google.com/file/d/14Eh4y_y83FDVOfVkQ4rcocn6o6CeUfYy/view?usp=sharing (link copy paste web browser) https://drive.google.com/file/d/1l3XdbYs56AiJ7GuMUJ1OrwLWohMaxt8e/view?usp=sharing (link copy paste web browser)	

Name of activity	Procedure	Duration

Annex(es)

:Padlet
Gunel Mustafayeva • 4 минуты
How are red and brown algae different from green algae?
Сделано с положительной энергией
Qonur və qırmızı yosunlar. Yosunların əhəmiyyəti haqqında danışın.
Черновик 1

Annex(es)

Let's protect not only our environment, but the whole planet