

1st Primary School of Nea Ionia, Attica, Greece

Third Grade (8-9 years)

Number of students: 18

School Year: 2022-2023

Teacher: Vasiliki Strataki

SUBJECT: "Climate Change and Development Skills /Multi intelligence Cultivation with STEAM"

Participation in 2 mini-missions:

a) We construct sustainable buildings and

b) We create machines to clean the sea from garbage and liquid waste

a) We construct sustainable buildings

Implementation time: 6 hours

Description:

We participate in the 1st Mission of «Take Action Global» (Tag)

<https://www.takeactionglobal.org/>, which coordinates every year the Climate Action Project, in which we take part with great pleasure, collaborate and act for 6 weeks on the climate crisis, along with over 2,712,417 students and 21,048 teachers in 149 countries.

The new mission is about creating a sustainable building: " MINI MISSION: Background Buildings take up a lot of space on this awesome planet, but they aren't always (in fact, very rarely) as welcoming to nature as they could be. Most are heavy on the concrete, and light on the natural habitat. Your Mission Using any creative materials that you have, design a building that puts nature first – a building that welcomes plants, animals and other living things, but also brings benefits to the people living in the building. Think big, think small, think wild. Every idea is a good idea."

At first with an obsession, we tried to think about how a building becomes viable.

Some of the ideas we discussed were the following:

Green roofs, nearby parks, photovoltaic panels, greenhouses for vegetables and fruits all year round, recycling bins in the building, water collectors for watering (tanks), bicycle garages, electric car and other charging area, animal houses with feeders and drinkers outside each building, ramps for the movement of people with difficulty in movement, but also static exercise bikes that will produce electricity during their use.

So, after watching some videos about sustainable cities, the buildings of the future and the need to create sustainable cities, it's time to create our own sustainable buildings. We were divided into two groups, we spread out our materials (boxes and boxes of various sizes, egg

trays, protective cardboard of fragile electrical appliances, kitchen and toilet rolls, that is, everything we were able to find and collect for about two months.

You can read more on the page of our magazine "We Have a Goal!":

<https://schoolpress.sch.gr/1dimnioniaatt/?p=1860>

Photos:

a1_Sustainable buildings_Group1

a2_Sustainable buildings_Group1

b) We create machines/robots to clean the sea from garbage and liquid waste

"The Pirates of Garbage"

Implementation time: 8 hours

Description:

We participate in the 2nd Mission of Take Action Global (Tag)

The Mini Mission (2) aims to clean the seas.

" The ocean covers more than 70% of the Earth's surface and is home to 94% of all life on earth. Oceans are deep and wide and can make you feel small. Unfortunately, our oceans also contain a lot of waste. Your mission Using any creative materials that you have, design a solution which removes waste from the ocean or a solution which prevents waste from entering the ocean. Think big, think small, think wild. Every idea is a good idea!"

After discussing the immediate need to clean our seas of garbage, mainly single-use plastics, but also petroleum products, we invited the sixth grade children(11-12 years) to our class. We were divided into groups of two: a child of 3rd grade with a child sixth grade . Together we discussed the cleaning machines, the form, the types of waste they will collect or clean and how they will do it. Our thoughts were many, the new ideas filled the room and the pencils with the blueprints "caught fire".

After an hour, each team came up with a draft robot machine, which we undertook to build with whatever materials we could find, mainly from recycling.

In class we presented our ideas to the plenary session , impressing each other.

Then we watched some videos about the machines / robots that some scientists had already thought of and built. Many of our ideas have been realized and other ideas are waiting for us realization them in a few years...

Then a new world appeared in front of us, (or maybe not so new?) when we saw the box with the LEGO Spike Essential and a tablet.

With these, we initially played by making constructions / robots in which through the tablet we learned to give movement commands. Then we created our own fantastic ship that would plow the oceans to collect floating garbage and oil spills.

At the back of the boat there is a net that collects the garbage of the sea, and there is a scientist who records the garbage: the type, volume and area found. The dog next to him observes the sea area to alert in case people or large cetaceans are caught in the special networks. Two pipes as huge vacuum cleaners, to the left and right of the ship, suck the floating oil. Around the Lego construction there is a cardboard ship that reminds us of a pirate ship.

To this mission we gave the title: "The pirates of garbage"

So, the Pirates and Pirates of the Garbage are here! Ready today with their hands and tomorrow with their minds to contribute to the sustainability of the planet.

With creativity, imagination, interaction, new and old technologies/materials we envision a better world and act for it.

You can read more on the page of our magazine "We Have a Goal!":

Photos:

b1_Cleaning the Oceans

b2_Cleaning the Oceans