

*Creating an ECO online Natural Fit Virtual Programs to Prepare Students for
boosting 21st century Skills 4 the Future (UNITY)*

2021-1-SE01-KA220-SCH-000032448

*STE(A)M-focused PBL for transferring 2021st skills for fighting against
climate change*

LESSON PLAN 8:

“Let’s *Scratch* the Global Goals”

Presented by IC Toniolo, ITALY

Date:	__/__/____
Teaching staff:	Mr/Mss/Ms
Term:	2022-2023
Week:	1
Year Level:	8 th grade
Time/length	6 hours
Key Learning Area:	Use of soft skills for climate change and blending interdisciplinary subjects, including science, math, art and social studies
Topic/focus:	Use of the app “Scratch” to program about the Global Goals 12,13 and 15.
Lesson Name: Let’s <i>Scratch</i> the Global Goals	
Foreseen Outcomes:	
At the end of this lesson, students will be able to:	
<ul style="list-style-type: none"> ✓ understand the importance of the Goals 12,13, and 15 in particularly; ✓ use their creativity to program and create the scenarios relevant to the issues; ✓ improve their technological skills using coding; ✓ improve their social skills, including group communication, interaction and discussion; ✓ become more responsible citizens; 	
Lesson Description:	
<p>This lesson focuses on three Global Goals in particularly which relate to the climate change and its effects.</p> <p>Pre-requisites to this lesson plan: to be able to use “Scratch” code programming.</p>	

Length (Lesson procedure):

This lesson will take about 6 hours.

Step 1. Lead in:

The teacher introduces the 17 Global Goals using the web site of the EU focusing in particular on the Global Goals 12 “Responsible Consumption and Production”, Global Goal 13 “Climate Action, Global 15 “Life on Land “. Then, students will be grouped to focus on the 3 Global Goals and tackle the “study case” in accordance with the students’ learning intelligence and or learning style. Here, teacher group students as:

- ✓ Group A: 2-3 students, having science learning interest/intelligence/capability/style
- ✓ Group B: 2-3 students, having technology learning interest/intelligence/capability/style.
- ✓ Group C: 2-3 students, having engineering (creativity) learning interest/intelligence/capability/style.
- ✓ Group D: 2-3 students, having art learning interest/intelligence/capability/style.
- ✓ Group E: 2-3 students, having math learning interest/intelligence/capability/style.

Note: As grouping the students, the number of students can change according to the class-size.

Lesson standard:

The lesson is standardized around STEAM-focused PBL for transferring 2021st skills for fighting against climate change. Here, we **focus on the 3 Global Goals** to create creative scenarios using “Scratch”. The students’ awareness about this topic will increase and they will become more responsible future citizens.

Common Core State Standards:

In the Italian National Curriculum we have 33 hours allocated for “Citizenship”, so this lesson can be easily integrated in the curriculum.

Enduring Understandings:

The students will understand the core ideas and philosophy behind recycling. The learning outcomes of the lesson shall be used by the students in their future lives. Besides, the lesson is connected with following areas:

- ✓ soft skills development,
- ✓ interdisciplinary learning,
- ✓ blended/hybrid learning,

The lesson will also answer the following questions:

- ✓ Is the lesson transferable for skills development?
- ✓ Can it be teachable over and over again?
- ✓ Does it connect to real-life issues?

Essential Questions:

- ✓ What are the connections of recycling with STEAM skills?
- ✓ What are the connections of recycling with PBL?
- ✓ How can recycling transfer soft skills?

Before the lesson implementation, the teaching staff shall brainstorm the above questions with the colloquies at the same school.

Case section:

The teacher shall follow the following steps:

Step 1. Creation of the case:

Starting from the web site of EU (<https://www.globalgoals.org/goals/>) about the Global Goals, students are invited to think of how these Goals could be advertised or spread using cartoons or storytelling using “Scratch”. To stimulate the students to think creatively the teacher will ask these questions and invite students to find solutions:

- ✓ Do you always eat all what your parents buy?
- ✓ Do you recycle clothes?
- ✓ Do you usually buy more clothes or food than you need?
- ✓ How much water do you use a week? (how many showers/baths)
- ✓ How many species of animals are losing their habitat?
- ✓ Do you use recycled paper at school or for your homework?
- ✓ Do you check the labels on the products you buy?
- ✓ Have you ever cleaned a local park?

Students are grouped from A to E .

Questions for group A (Science-minded students):

- ✓ What can be recycled?
- ✓ Do you check the labels on the products you buy?
- ✓ What is it important to check on the labels before buying food?
- ✓ How would you recommend people to become responsible consumer?

Questions for group B (Technology-minded students):

- ✓ How can we reduce the waste? Think about the “circular economy”...
- ✓ What would you do if something it’s broken? Would you throw it away immediately or would you try to fix it?
- ✓ What means of transport would you use in sustainable city?

Questions for group C (Engineering-minded students):

- ✓ If you were an engineer what plan would you implement to respect the biodiversity?
- ✓ How would you build a sustainable city?

Questions for group D (Art-minded students):

- ✓ What signs would you use in a sustainable city?
- ✓ How paper, glass or plastic could be recycled and turned into a work of art or something useful for the citizens?

Questions for group E (Math-minded students):

- ✓ How many species of animals are going to be extinct?
- ✓ How much food is wasted all over the world in a year?
- ✓ How much water?

Each group does some research on the internet using a device to find possible answers to the questions. They are discussed and shared in the class. After that, each group is invited to think of a story/cartoon made with Scratch to sensitize people on these topics. Students work freely and creatively. The teacher supports them during their work and help them if they have problems.

Skill focus:

During the lesson, Cognitive Skills, such as decision making, problem solving, creative thinking and interpersonal skills will be the focus.

Content:

Building knowledge on recycling through STEAM-focused PBL approach.

Assessments:

The teacher will use summative assessments employed in this lesson to gauge students' learning and will evaluate the final products as well. (cartoon and storytelling stories made with Scratch)

Evidence of Students' Learning:

Students' learning evidence will be the final products:
-cartoons;
-storytelling

Texts/Resources:

<https://www.globalgoals.org/goals/>

Learning Activities:

A series of tasks based on collaborative learning will engage students in the lesson:

- searching answers to the questions defined under “Case section”;
- sharing their answers with the class and discussing them;
- planning a cartoon or a story to sensitize people on a topic related to what discussed;
- creating the cartoon or a story using “Scratch”;
- sharing their outputs with the class and the community.

Suggested Extensions:

- ✓ To create other stories/cartoons using “Scratch” or other coding programs to analyse and study different Global Goals. What if to assign a Global Goal to turn into a storytelling to each class of a school? Which one will it be more engaging?