

*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 10:

Use of composting for climate change and pollution reduction

Presented by Fthia in Action team

Lesson procedure:

Date:	__/__/__
Teaching staff:	Mr/Mss/Ms
Term:	2022-2023
Week:	1
Year Level:	Primary/low secondary (6-15 years old)
Time/length	1 hour.
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 composting for climate purposes practically and SMARTLY.
Lesson Name: Learn about composting and its benefits for our planet through STEAM skills	
Foreseen Outcomes:	
At the end of this lesson, students will be able to:	
<ul style="list-style-type: none"> ✓ understand the roles and importance of composting for climate change, ✓ communicate with public authorities, persuading them to obtain more composting bins and procedures, ✓ run small-scale campaigns, relevant to renewable energy, specifically solar energy, ✓ design posters and brochures, relevant to environment issues, ✓ improve their social skills, including group communication, interaction and discussion, 	
Lesson Description:	
This lesson shall demonstrate what composting is, how it works, where to use it, how to use it, what requirements are needed, what to do to compost our food waste, what skills are required solidly and the most simple reasons to start composting.	
Pre-requisites to this lesson plan (not applicable):	

Length (Lesson procedure):

This lesson will take 1-hour, which also includes interdisciplinary learning.

Depending on how to implement the planned lesson, the teaching shall need some materials, including videos, comics, papers and compost bins. The teaching staff shall follow the following steps to implement the lesson successfully:

Step 1. Lead in:

Teacher greets the students, and asks what they know about composting. After collecting the feedback from the students, the teacher asks for grouping 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 role of recycling and especially composting organic waste. Through creating and performing, the students will understand how composting works and the benefits it provides in our environment. Regarding this, it can be expected that understanding the role of composting for climate change and the future of energy saving is proceeded.

Common Core State Standards:

The teacher shall connect and correlate the lesson with the national syllabus and or program, which shall incorporate the lesson with the national program.

Enduring Understandings:

The students will understand the core ideas and philosophy behind composting. 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 composting with STEAM skills?
- ✓ What are the connections of composting with PBL?
- ✓ How can composting lead to transferring 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:

Landfills seriously affect our planet's air and water. As a demonstration lesson the teacher shall use visuals, posters, videos, etc. Then, the teacher asks the following questions to the students who are grouped in "Step 1. Lead in". Each question is asked to the students who are grouped from A to E.

Questions for group A (Science-minded students):

- ✓ If you compost organic waste how would it be?
- ✓ Where would you use the compost bins?
- ✓ What will be produced by the compost bin?

Questions for group B (Technology-minded students):

- ✓ How would you add technology in composting procedures?
- ✓ What aspects of technology would you use and or benefit in creating a compost bin?
- ✓ What type of waste goes inside the compost bin?

Questions for group C (Engineering-minded students):

- ✓ What items can we put in the compost bin?
- ✓ What tools would you use to compost?
- ✓ With whom would you work with during or after composting?

Questions for group D (Art-minded students):

- ✓ Can you design a poster for composting to be known?
- ✓ Can you compose a song for sharing it?
- ✓ What campaign would you run for increasing composting in your local community?

Questions for group E (Math-minded students):

- ✓ Where would you locate a compost bin?
- ✓ How much organic waste fits inside a compost bin?
- ✓ How do you calculate its cost?

The teacher first elicits the answers and then leads to the students taking actions and making a poster with all the things that are considered organic waste and can be placed in a compost bin.

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 composting through STEAM-focused PBL approach.

Assessments:

The teacher will use summative assessments employed in this lesson to gauge student learning.

Evidence of Student Learning:

Students' learning evidence will be the quotes, graphics, pictures, prototype, song, posters etc. that they improved during the lesson.

Texts/Resources:

Teacher uses the needy sources for the implementation of this lesson: The resources/texts are to be created by the teacher (Please see the annex 1 attached under the lesson plan, which are to be used for this lesson).

Learning Activities:

A series of tasks the student will engage in over the lesson. The activities are based on what students need to understand and be able to do for the performance and are aligned to the defined standards 'Use of composting for climate change and pollution reduction' and the essential questions defined under "Case section"

Practice:

Teacher will deeply explain the negative effects of climate change and the role of composting in energy saving and skills transfer. Here, the teacher shall elaborate or describe the lesson using these prompts provided).

The teachers shall create a flexible learning environment for the students. Here, the teacher uses:

Warm-up: ask about the questions and make the students ready for learning for the topic-specific subject.

Practice: The teacher sets-up demonstration/modeling (I do-we do-you do)
Studio/Rehearsal/Workshop (students engage in creating/planning/refining).

Clean-up: During the procedure, the teacher walks around the class and observes the students on what they need and control. If the students have questions, the teacher answers them.

Suggested Extensions:

- ✓ The teacher may obtain a compost bin in order to be used by the students, after which they can have a garden where the product of composting can be placed.
- ✓ The teacher can help the students make a DIY compost bin.