

Didactic Scenario

1. Title

Carbon footprint awareness

2. Keywords

carbon, weight, climate, ecosystem, matter cycle

3. Basic Information

STEAM Subject: Science, Maths, Engineering

Typical interaction time with the instructional scenario in teaching hours for in-school work:
Science (30 min), Mathematics (30 min) ,Engineering Science (20 min)

General description of the scenario:

<u>Phases</u>	<u>Stage</u>	<u>Time</u>
Warm-up activity, introduction to the topic	preparation stage	10'
Explanation of work ahead and what is expected of them	preparation stage	20'
Presentation of teaching- training content	implementation stage	30'
Evaluation	conclusion-evaluation stage	20'

Age group: 12-13 years

Estimated difficulty level:

Very Easy	Easy	Moderate	Challenging	Very Challenging
		X		

Teaching resources

Material: N/A

School infrastructure: science lab, Internet access, video projector or projection screen, tablets or smartphones

Additional material from external sources/online tools:

<https://www.youtube.com/watch?v=a9yO-K8mwL0>

<https://www.scientix.eu>

<https://oppla.eu>

Differentiated Instruction for students of differing abilities and learning styles in the same class: N/A

Developed by: İsa Bora Sariaçali

4. Educational Problem

Students are expected to have knowledge about carbon emissions and with this activity teacher wants to raise awareness on this issue. Students should relate carbon emissions to the current problems the world is experiencing.

5. Learning Objective (-s)

1. Students activate their knowledge about the carbon cycle.
2. Students get awareness of their carbon footprint
3. Students will develop their math and engineering skills. Build your own structures by manipulating objects and creating motions using technological tools when necessary.

6. Phases of the Scenario

Phase 1

Title: Warm-up activity, introduction to the topic

Indoor	Outdoor	Mixed
X		
Phase duration in minutes: 20'		
Detailed description of the scenario phase: To students; The teacher explains the damages caused by humans to the environment, arouses interest in carbon footprint and introduces the subject.		
Activity sheets: N/A		
Phase 2		
Title: Explanation of work ahead and what is expected from them		
Indoor	Outdoor	Mixed
X		
Phase duration in minutes: 40'		
Detailed description of the scenario phase: The students will learn how to calculate the amount of CO2 a man in their daily activities using Maths.		
Activity sheets: N/A		
Phase 3		
Title: Presentation of teaching-training content		
Indoor	Outdoor	Mixed
X		
Phase duration in minutes: 40'		
Detailed description of the scenario phase: Renewable energy source modelling will be done. Environmental awareness will be increased with planting tress.		
Activity sheets: https://www.worldwildlife.org/species/polar-bear https://www.youtube.com/watch?v=Zwe-ayR498o		

7. Evaluation Methodology

They will answer the following question using Arloopa :
What can be done to raise awareness about carbon footprint?

Student Feedback

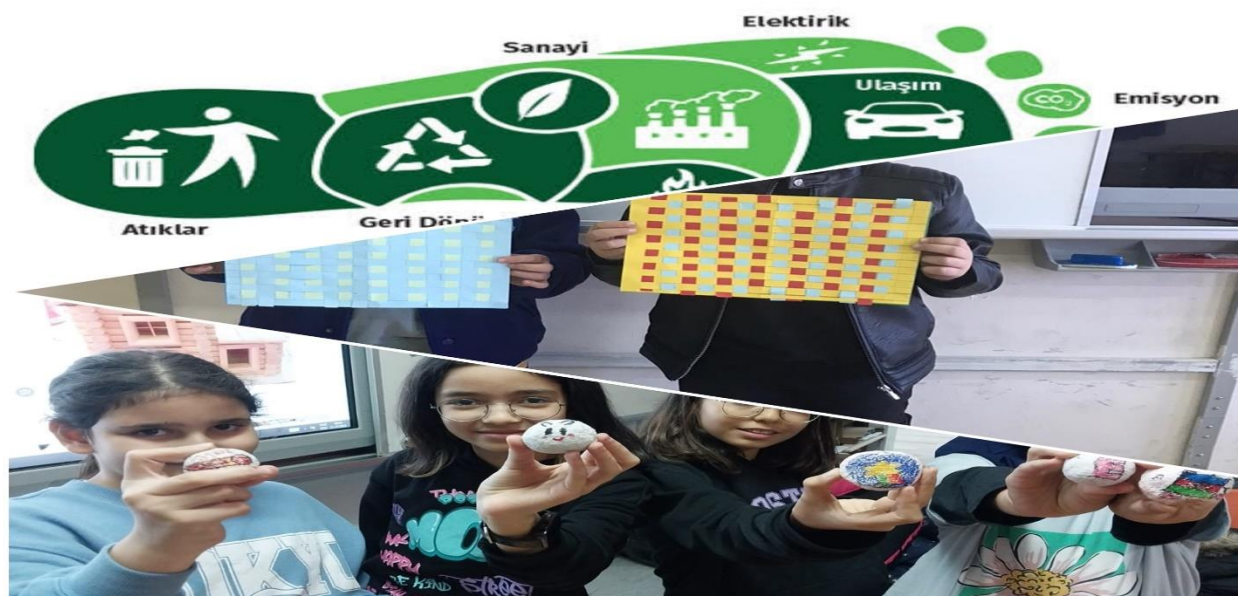
Thanks to this course, students will learn science concepts such as carbon and environment through an interdisciplinary activity where they will be introduced to tessellations and Carbon Footprint studies, and they will learn the size of their own carbon footprint.

Teacher Feedback

	% final sign	10	8	5	3
Science teacher Observation	40%	whole group there are members worked actively and I helped each one other	Almost all groups there are members worked actively and I helped each one other	half group there are members worked actively and I helped each one other	There's something clear lack partnership among the group members
Math teacher Observation	20%	whole group there are members worked actively and I helped each one other	Almost all groups there are members worked actively and I helped each one other	half group there are members worked actively and I helped each one other	There's something clear lack partnership among the group members
engineering	20%	All tessellation posters (one each) group member) happened delivered. Optional: there is a group they created a part virtual exhibition	more than half tessellation there are posters was delivered. Optional: there is a group they created a part exhibition	less than half tessellation there are posters was delivered.	no poster was delivered

Technology Design	20%	All tessellation posters (one each) group member) happened delivered. Optional: there is a group they created a part virtual exhibition	more than half tessellation there are posters was delivered. Optional: there is a group they created a part exhibition	less than half tessellation there are posters was delivered.	no poster was delivered
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8. Additional Resources for the teacher



<https://docs.google.com/presentation/d/1dP6aJOJmCZSJlW0mVhAgrOk0AraNXUKz/edit#slide=id.p1>