STEAM EmbRaCe

A STEAM project for Empathy, Resilience and Creativity

CITIZEN SCIENCE

Author(s)

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Summary

This course focuses on the basics of the Citizen Science (CS) concept and its relations with data collection and data analysis. It includes the relation of Citizen Science with Sustainable Development Goals, Artificial Intelligence and Big Data, as well as the implementation of CS around the world and more specifically in Europe. Students will familiarize themselves with the basic principles of CS and they will have the chance to take part in real CS projects online. This seminar is suitable for all students with social conscience and interest in various technological projects.

Key elements

Key elements	*Science / Science Community / Data Collection / Data Analysis / Big Data / Artificial Intelligence / SDGs*
Subject	*Citizen Science*
Topic	*Citizen Science*
Age of students	12-17
Preparation time	4-5 hours
Teaching time	1-2 hours
Online teaching material	
Offline teaching material	
Resources used	

Licenses

Ai

Trends

SDGs Tier 3 Indicators / Big Data Analysis / Artificial Intelligence Development / Urban life development / Tracking inaccessible areas

21st century skills

Critical thinking, collaboration, social consciousness, research ability

Lesson Plan

Name of activity	Procedure	Time
Introduction	Demonstrating the .pptx presentation to explain to the students	1 hour

to Citizen Science theory, its principles and its applications	the theory of Citizen Science and its importance to the science community. 1. Clarify the categories of Citizen Science, emphasizing on the difference between Data Collection and Data Analysis. 2. Describe the principles of Citizen Science and highlight the reliability of the projects due to their supervision by experts. 3. Explain the importance of CS projects for the achievement of Sustainable Development Goals and for the increase of human development index, while presenting relevant global and European maps. 4. Emphasize the contribution of CS theory to Artificial Intelligence development and to Big Data Collection and Analysis.	
Confirmation of Consolidation	Make sure that the students have understood correctly and in depth the concept and the importance of Citizen Science through an evaluation project. (e.g Included crossword by Puzzlemaker - free and online)	15 min
Taking part in an CS online project	Give the students the opportunity to take part in a real CS project by analysing online real data collected under the auspices of verified organizations. Indicatively you can use a project by the following platforms (free and online): https://eu-citizen.science/ https://www.zooniverse.org/projects https://scistarter.org/ https://science.nasa.gov/citizenscience	15 min

Assessment

Here we include as an example the image of a rubric teachers can use to assess their students:

Students' and teachers' feedback after the implementation of the Learning Scenario during the Pilot phase of the project

Student feedback

Teacher's remarks

About STEAM EmbRaCe project

This Learning Scenario has been created in the framework of the STEAM EmbRaCe project.

Annex 1

Annex 2