Course document

Inquiry Scenario

Plan Design form

for the promotion of Sustainability Citizenship

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SYNAPSES

School Details	
School Name	North Dublin Muslim National School
City name (Rural/ small town/ middle town/ big city)	Dublin
Number of pupils and teachers	420 students. 35 teachers.
How many students and teachers will be involved in the Plan?	220 students, 12 teachers.

Sustainable Contact Details:	
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Contents

Title:

Sustainability Citizenship: The Role in which students play and how to care for their local natural environment, using STEAM.

Short Description (Max 500 words):

The 'Sustainability Citizenship: The Role in which students play and how to care for their local natural environment, using STEAM' program is an educational initiative designed to integrate science, technology, engineering, arts, and mathematics (STEAM) with sustainability principles. Student understanding of their role in caring for the environment is a key part in this. The program aims to foster critical thinking, creativity, and environmental stewardship among students by engaging them in hands-on, inquiry-based projects that connect classroom learning with real-world applications.

The program is structured around three core components:

1. **Sustainability:** Students will explore sustainability, their understanding of what it means to be sustainable, their role and responsibilities in caring for the environment. Students will explore through problem-solving, hands-on active learning and creativity through art.
2. **Ecological Systems:** Utilising the school's location in the community and outdoor spaces that the school has (gardens, nature trails) and nearby community parks, students will complete ecological observations. Students will locate, identify and analyse habitats in the locality.
3. **Sources of Energy:** Students will learn about energy and renewable vs nonrenewable energy. Students will explore how nonrenewable sources of energy impact habitats and pollute these ecosystems. They will engage in projects that promote conservation, renewable energy, and sustainable agriculture, fostering a sense of responsibility and community involvement.

Keywords (Up to 5):

Sustainability, citizenship, environment, conservation, ecological systems.

Information about the Implementation

Language of the students: English and Irish (Gaelic)

Age of the students:

☒9-12 ☐ 12-15 ☐ 15-18 ☐ 18+

Number of Lessons – Duration (per lesson):

Number of Lessons: 4 Duration per Lesson: 45 minutes / 1 hour

Is this activity a STEM Activity?

For which subject(s) the activity is usable, is it an interdisciplinary activity?

Science ☒

Physics ☐ Chemistry ☐ Biology☒ Geosciences☒ Environmental☒ Other☐

Technology ☒

Engineering ☐

Arts ☒

Mathematics ☐

Information about the Scenario

Curriculum and country:

Link of the current activity to the curriculum:

Country:	Ireland	Class:	6th	Grade:	6th

Topic:	Sustainability Citizenship: The Role in which students play and how to care for their local natural environment, using STEAM.

Objectives (Max 100 words):

Description of the learning objectives

- Enhance environmental awareness and responsibility in our local community.
- Develop critical thinking and problem-solving skills.
- Promote sustainability and the role of individuals in being sustainable.
- Cultivate sustainability citizenship and community engagement.
- Design renewable sources of energy.
- Explore the impact of non renewable sources of energy on ecosystems.

Materials (Max 100 words):

Which resources and materials (software, hardware) are needed?

School Infrastructure	School Materials
• Classrooms. • Outdoor Spaces - school gardens, play areas, nature trails, open areas/space. • Community Facilities - Local parks, community centres. • School hall.	• Hardware: Laptops, tablets, robotics kits, Beebots, gardening tools, art supplies. • Software: design software (e.g., Canva) and data analysis tools (e.g. Excel, Google Sheets) • Other Materials: art supplies, pictures, images, gardening gloves.

Use of School Infrastructure

How are school facilities and equipment used in your educational scenario?

School Infrastructure	School Materials

• Classrooms: For initial instruction, group discussions, and project planning. • Outdoor Spaces: school gardens, play areas, nature trails, open areas/spaces - observing ecosystems. • Community Facilities: Local parks for field studies, community centres for workshops and presentations. • School hall: For hosting discussions with invited members of the community, local politicians, parents, non profit organisations and local neighbours.	• Hardware: Laptops, tablets, robotics kits, Beebots, gardening tools, art supplies. • Software: design software (e.g., Canva) and data analysis tools (e.g. Excel, Google Sheets) • Other Materials: art supplies, pictures, images, gardening gloves.

Green competences:

Which green competences are covered by the activity?

Embodying Sustainable Values	Valuing Sustainability	☒	Supporting Fairness	☒	Promoting Nature	☒
Embracing Complexity in Sustainability	Systems Thinking	☒	Critical Thinking	☒	Problem Framing	☒
Envisioning Sustainable Futures	Futures Literacy	☒	Adaptability	☒	Exploratory Thinking	☒
Acting for Sustainability	Political Agency	☒	Collective Action	☒	Individual Initiative	☒

The definition of the following terms can be found in GreenComp that is translated in all European Union languages.

Working with the community

Which external actors will be involved within the framework of the training scenario?

Organisation Type	Organisation Name
NGOs (Non-Governmental Organisations)	Local environmental organisations / charities.
PTA (Parent-Teacher Association)	Parents, teachers, community leaders, parents' association, board of management.
Local business	Local businesses (for project sponsorship and resources).

Other (please explain)	Universities (for expert lectures and resources), Government agencies (for sustainability initiatives and support).

How will the above-selected institutions help in the educational scenario?

Internal Stakeholders: Teachers will facilitate lessons and projects; students will actively participate and collaborate; the school administration will support logistics and resource allocation.

External Stakeholders: Local environmental organisations, universities, and businesses will provide expertise, resources, and mentorship. Parents and community members will participate in events and projects. Local government/politicians will support students through legislative change for sustainability.

Detailed activity description

Fill in the table below according to the hours of the training activity and its content (fill in the table with the subjects contained in your training scenario).

The educational scenario should follow the 5E didactic model of inquiry-based learning.

Number and name of courses	Course content	Teaching hours
Lesson 1: Introduction to Sustainability	Content: Introduction to Sustainability. • What is sustainability? (existing knowledge) • Share objectives. • Our role as sustainably conscious citizens. • Activities for inquiry based learning. • Assessment by teacher for further lessons. Activities: KWL chart, true/false games, presentations, group discussions, initial brainstorming, watching videos, looking at images.	1
Lesson 2: Environmental Science in the Outdoors	Content: Biodiversity, living creatures and caring for their habitats • Recap over what we discussed in the previous lesson. • Discuss and list the different ecosystems that are around us. • Student shared ideas on their understanding of biodiversity and how it relates to their lives • Highlight and share two ways they can help conserve two ecosystems of their choice • Create a goal they have that would help conserve these ecosystems that are in their communities. • Go outside to locate and observe ecosystems / habitats.	2

	Activities: Field trips, group discussions, ecosystem exemplars, images, ecological surveys, data collection, and analysis. Assessment: questioning, matching games, observation, teacher designed tasks/activities.	
Lesson 3: Energy Sources and the impact of nonrenewable energy on ecosystems.	**Content:** • What kinds of energy exist? • Renewable energy vs non renewable energy. • Sustainable engineering solutions. **Activities:** Building wind turbines, water filtration systems, debate. Assessment: questioning, creative tasks, projects.	1
Lesson 4: Design and Make	**Content:** Use art or technology to create a solution that will help to conserve a habitat of their choice. **Activities:** • Plan, create and design a machine/solution that could be used in a key habitat/ecosystem to help with filtering the pollution from the habitat of their choice. • Present this to their peers and members of their community at an Information Day.	3

Evaluation (if any):

Please write how students are going to be evaluated

• Formative Assessment: Ongoing feedback through observations, quizzes, discussions and teacher designed tasks and activities.

• Summative Assessment: Final project presentations (art or technology creation), written reports on ecosystems.

• Reflective Journals: Students maintain journals to reflect on their learning experiences and growth.

• Community Feedback: Input from external stakeholders on student projects and presentations.

References (if any)

- Dewey, J. (1938). Experience and Education.
- Louv, R. (2008). Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder.
- Bequette, J. W., & Bequette, M. B. (2012). A place for art and design education in the STEM conversation.
- Sobel, D. (2004). Place-Based Education: Connecting Classrooms & Communities.

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Annex

Feel free to add any more information and material you have, indicatively photos from the activity, constructions needed or any handbook that may be available online.