

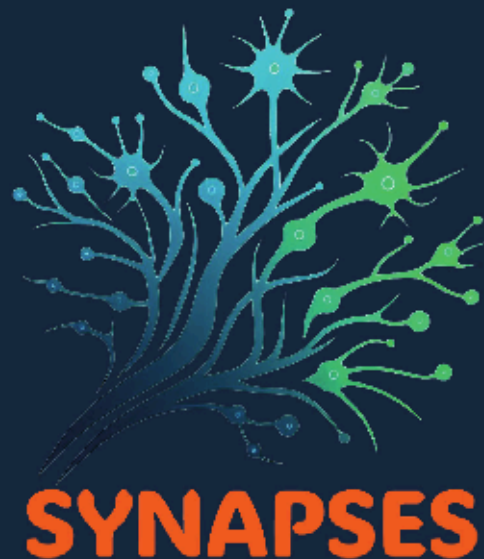
Course document

# Inquiry Scenario Plan Design form for the promotion of Sustainability Citizenship



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<b>School Details</b>	
School Name	James Joyce State High School
City name (Rural/ small town/ middle town/ big city)	Ariccia/Roma/Italy
Number of pupils and teachers	1300 pupils and 106 teachers
How many students and teachers will be involved in the Plan?	7-12 classes

Sustainable Contact Details:	
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## Title

SUSTAINABLE BOX GARDEN PROJECT

## Short Description (Max 500 words):

Sustainability involves fulfilling the present generation's resource requirements without reducing future generations' ability to have the same access to the benefits of these resources. While the environment reclaims all nutrients and returns them to the ecosystem, humans have an unusual skill: they modify their environment to suit themselves. We cut down forests and plant crops and we build houses.

We have to remember that the soil is an essential, limited, and non-renewable resource. About 95% of food production depends on it and consequently, both human life and all living biosphere components are interconnected and depend on each other. Intensive farming, hydrological instability, erosion, the increasing population, and desertification all threaten this unique, indispensable resource.

Our project includes the 2030 AGENDA goals, 11 (sustainable city and communities), 12 (responsible consumption and production), 13 (climate action), and 15 (life on the land ) as a challenge for students to discover the importance and the richness of our land. In our huge school garden, there are several species of plants. The students learn to know and to classify them, and work to realize a green/botanical garden and a mini wooden-box vegetable garden. Through different activities, such as sowing, cultivation, and composting, they learn the importance of the ecosystem, and the different cycles of Nature, and to respect and protect it.

## Keywords (Up to 5)

sustainability, soil, garden, Nature, 2030 Agenda

# Information about the Implementation

**Language of the students: Italian**

**Age of the students:**

9-12  12-15  15-18  18+

**Number of Lessons – Duration (per lesson):**

Number of Lessons: 14                      Duration per Lesson: 1 or 2 hours

**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:  Class:  Grade:  school

Topic:

**Sustainability: Goal Agenda 2030 n.11, 12, 13, 15**

## Objectives (Max 100 words):

Description of the learning objectives

Read environmental economic and social phenomena in a global, interdisciplinary and intercultural perspective.  
Observe, describe and analyze phenomena belonging to natural and artificial reality.  
Acquire an autonomous and flexible study style, based on research.  
Make choices regarding participation in public life and active citizenship consistently with sustainability objectives.  
Communicate effectively, know how to express autonomous and well-founded assessments regarding the topics discussed.

## Materials (Max 100 words):

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

School Infrastructure	School Materials
Science Laboratory	Laptop
computer laboratory	Digital board
school classroom	Google classroom
school garden	Canvas
Auditorium Marie "Paule Starquit"	Mentimeter
	Youtube
	Google moduli
	Kahoot
	laboratory glassware

## Use of School Infrastructure

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

School Infrastructure	School Materials
<p>research laboratories (individual and/or collective work);</p> <p>digital processing and presentation of data and documents</p> <p>frontal lessons, also co-taught, and flipped</p> <p>open air workshops in the school garden</p> <p>meetings and conferences with foundations and non-profit organisations</p>	<p>A fruit and vegetable box.</p> <p>A containment sheet.</p> <p>A shovel or spoon.</p> <p>Plastic bottles</p> <p>Paper</p> <p>Wet organic waste</p> <p>Topsoil, leaves</p> <p>Seeds, seedlings, bulbs or other plant parts suitable for multiplication.</p> <p>A container to give water, from the bottle to the watering can</p>

## Green competences:

Which green competences are covered by the activity?

Embodying Sustainable Values	Valuing Sustainability <input checked="" type="checkbox"/>	Supporting Fairness <input type="checkbox"/>	Promoting Nature <input checked="" type="checkbox"/>
Embracing Complexity in Sustainability	Systems Thinking <input type="checkbox"/>	Critical Thinking <input checked="" type="checkbox"/>	Problem Framing <input checked="" type="checkbox"/>
Envisioning Sustainable Futures	Futures Literacy <input checked="" type="checkbox"/>	Adaptability <input checked="" type="checkbox"/>	Exploratory Thinking <input type="checkbox"/>
Acting for Sustainability	Political Agency <input type="checkbox"/>	Collective Action <input checked="" type="checkbox"/>	Individual Initiative <input checked="" type="checkbox"/>

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)	GIALUMA ONLUS <a href="https://www.gialuma.it/">https://www.gialuma.it/</a>
PTA (Parent-Teacher Association)	<a href="https://www.facebook.com/groups/amicidelliceojoyce/">https://www.facebook.com/groups/amicidelliceojoyce/</a>
Local business	Ente Parco Castelli Romani <a href="https://www.parcocastellirromani.it/s/content/92003020580/1592213415.4254">https://www.parcocastellirromani.it/s/content/92003020580/1592213415.4254</a> G.A.S., <b>Italian</b> for ethical <b>purchasing groups</b>
Local administration	<a href="http://www.comune.ariccia.rm.it/">http://www.comune.ariccia.rm.it/</a>

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

awareness campaigns, seminars, and excursions in the area

## 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: Engage	Introduce the concept of Sustainability starting from the definition and connecting it to the objectives of the 2030 Agenda. The engage question posed to the students: The human population is increasing exponentially, the demand for food has increased. Can we, with our daily actions, obtain further fertile ground?	1
Lesson 2: Explore	Group work, the research is guided by the teacher who provides them with a reasoned sitography together with a series of already selected materials. The students acquire information on what soil is, what produces the soil, if there are organisms that do they contribute, how much soil is consumed in a year and the industrial transformation of organic waste (biodigester).	2
Lesson 3: Explain and Elaborate	The challenge is the production of compost in a natural and homemade way using recyclable waste materials produced at home.	4

	<p>Each group is involved in presenting their digital product and discussing its strengths and weaknesses. The whole class together with the teacher is asked to ask questions and evaluate both the product and the creation process.</p> <p>The best project is chosen with the class and the students proceed with carrying out the experiment.</p> <p>The next phase is the use of compost to create mini gardens in wooden boxes.</p> <p>Then we move on to the analysis of the plant associations and the botanical knowledge of the chosen species following sowing.</p> <p>The process continues with the observation of plant growth and the yield of the product harvest, to evaluate the effectiveness of the process.</p>	
Lesson 4: Evaluate	At the end of the activity, we evaluate how the students worked in groups and with what role, what they learned and what skills they developed.	2
Lesson 5: Reflection lesson	We evaluate the critical issues that emerged during the activity with an online survey.	1

### Evaluation (if any):

Please write how students are going to be evaluated

Multiple choice questionnaire.
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### References (if any)

<p><a href="https://oneplanetschool.wwf.it/sites/default/files/file_lezioni/Il%20giro%20del%20mondo%20in%208%20orti%2C%20ACRA.pdf">https://oneplanetschool.wwf.it/sites/default/files/file_lezioni/Il%20giro%20del%20mondo%20in%208%20orti%2C%20ACRA.pdf</a></p> <p><a href="https://www.creda.it/wp-content/uploads/2020/07/Urban-Science_unit%C3%A0_di_apprendimento_completo.pdf">https://www.creda.it/wp-content/uploads/2020/07/Urban-Science_unit%C3%A0_di_apprendimento_completo.pdf</a></p> <p><a href="https://www.inorto.org/coltivare/tecniche-di-coltivazione/consociazione-tra-ortaggi-tabella-accostamenti/">https://www.inorto.org/coltivare/tecniche-di-coltivazione/consociazione-tra-ortaggi-tabella-accostamenti/</a></p> <p><a href="https://erbeufficiali.org/">https://erbeufficiali.org/</a></p> <p><a href="https://unric.org/it/agenda-2030/">https://unric.org/it/agenda-2030/</a></p> <p><a href="https://www.liceojoyce.edu.it/scheda-progetto/progetto-erasmus-save-the-nature-saveyour-life/">https://www.liceojoyce.edu.it/scheda-progetto/progetto-erasmus-save-the-nature-saveyour-life/</a></p>
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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.

[Take care earth](#)