



The EcoMystery Project:

Interactive Escape Rooms for Climate Crisis

Awareness and Civic Engagement in School Education

WP3 - 'Escape the Climate Crisis' Coursework

Module 4 - Sustainable Innovations

Project partners



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Module 4 – Sustainable Innovations

The EcoMystery Project: Interactive Escape Rooms for Climate Crisis Awareness and Civic Engagement in School Education

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Module 4 – Sustainable Innovations

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Module 4 - Sustainable Innovations

This module introduces students to the concept of sustainable innovation, exploring how new ideas, technologies, and behaviours can reduce environmental impact and contribute to a more sustainable future. Through a combination of theory, discussion, and interactive activities, students will understand how innovation can address climate challenges and how their own actions can make a difference.

Module 4 emphasizes creativity, critical thinking, and student agency, encouraging learners to view themselves as active contributors to environmental solutions. By engaging in collaborative tasks, role-playing, and imaginative design, students will connect global sustainability challenges with local actions and future possibilities.

Introduction

Environmental innovation refers to innovation focused on the systematic development of new products, services, processes, or business models that significantly reduce environmental harm while creating economic and social value. In other words, it refers to the development of ideas, practices, and technologies that meet human needs while minimizing environmental harm and preserving natural resources for future generations.

It encompasses both **improvements to existing systems and the creation of entirely new solutions** that address ecological challenges. Central to sustainable innovation is the recognition that environmental, social, and technological dimensions are connected. As global pressures such as climate change, pollution and biodiversity loss intensify, innovative approaches become essential for building resilient societies starting from schools!

Modern sustainable technologies demonstrate how scientific understanding and creative thinking can reduce environmental impact. Examples include renewable



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energy systems such as solar and wind power, energy-efficient building materials, water-saving techniques, biodegradable packaging, circular economy models, and digital tools that monitor or optimize resource use. These technologies illustrate **how innovation can directly mitigate climate-related effects while supporting more responsible patterns of consumption and production.**

Small behavioural changes coming from students, such as reducing waste, choosing low-carbon transportation, conserving energy, and reusing materials, also contribute significantly to environmental protection. When many pupils adopt such practices, the final impact can lead to measurable reductions in ecological footprint.

A key principle of sustainable innovation is that progress does not always require advanced or complex technology. Sustainable innovation also involves **imagining new possibilities or rethinking existing habits, redesigning everyday processes, or discovering creative approaches to familiar problems that could shape future environmental strategies.** Fictional innovations allow exploration beyond current technological limitations, encouraging thinking about alternative materials or ecological interventions. The use of imagination plays a key role in this learning process: when pupils create fictional innovations, they engage in creative thinking, a cognitive process that expands their ability to generate original ideas, make connections between concepts, and approach complex problems from multiple perspectives. Imagination strengthens creativity and learning ability, enhances engagement, and supports deeper understanding by allowing pupils to test ideas freely without the constraints of real-world feasibility. Through imaginative exploration, learners develop confidence in proposing bold solutions that reflect both scientific principles and creative insight.

Together, these elements, existing technologies, individual behavioural shifts, imaginative future concepts through creativity, form the theoretical foundation for exploring sustainability as a dynamic and evolving field. They highlight the importance



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of knowledge, creativity, and problem-solving in shaping a more environmentally responsible world. Our mission is to make students be inspired to view **themselves** as change agents/ ambassadors who can make small but **meaningful contributions**.

Learning objectives

Expected learning outcomes:

Students will:

- Define and understand what “sustainable innovation” means.
- Explain how specific sustainable innovations reduce environmental impact (resources, emissions, waste) and their role in environmental sustainability.
- Demonstrate personal and collective responsibility by proposing realistic behaviour change for school/home that reduces environmental footprint.
- Research and summarise a sustainable technology or method and present its purpose, benefits and key challenges in a short poster or pitch.
- Use basic digital tools (online research, slide/poster tools or simple calculators) to collect information and present findings.
- Work effectively in teams, distributing roles, collaborating on research/design and delivering a concise group presentation.
- Apply critical thinking and creativity to generate original or adapted solutions for local environmental problems.
- Give and receive constructive peer feedback using a structured protocol (e.g., Tell / Ask / Give).
- Communicate their ideas clearly to classmates and respond to questions.



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Regarding the 21st Century Skills, pupils will gain the followings:

- ❖ **Critical thinking** - Students analyse local environmental problems, compare alternative solutions and justify their choices with evidence.
- ❖ **Creativity** - Students generate original ideas and design prototypes or fictional innovations to address environmental challenges.
- ❖ **Communication** - Students create visual materials (posters/slides) and deliver concise oral pitches to present and explain their solutions.
- ❖ **Collaboration** - Students work in teams, share roles and co-produce research, prototypes and presentations.
- ❖ **Information literacy** - Students identify, evaluate and cite reliable sources during their research.
- ❖ **Leadership** - Students take lead roles within groups to coordinate tasks and ensure progress.
- ❖ **Productivity** - Students deliver posters, prototypes and action plans on time and to defined quality criteria.
- ❖ **Social and cross-cultural skills** - Students connect local solutions to global issues (SDGs) and consider cultural/local adaptations.

Time Required

Approximately 3 and a half teaching hours. In detail, teachers will need about 1 hour and 30 minutes for the theoretical knowledge and 2 hours for the practical part (explaining and analyzing and put into practice the 3 activities described).



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Unit 1 - What is a “Sustainable Innovation?”

Theoretical part

Begin the discussion by asking students:

- “Have you ever seen a product or idea that helps the environment?”
- “Can small actions really make a difference?”

Students should be encouraged to share their own examples, such as reusable bottles, recycling practices, or the use of solar panels. This initial discussion helps connect the topic to their everyday experiences.

The teacher can then introduce the core concept by explaining that a **sustainable innovation** is any idea, behaviour, or technology that solves a problem while reducing environmental harm and using fewer resources. To make this concept more concrete, simple and relatable examples can be provided, such as choosing reusable water bottles instead of single-use plastic, using solar energy instead of fossil fuels, or recycling and reusing materials to reduce waste.

Key Takeaways!

A sustainable innovation is any idea, behaviour, or technology that solves a problem while reducing environmental harm and using fewer resources.

To deepen understanding, students can be introduced to three main types of sustainable innovation.



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Types of Sustainable Innovation:

- A. **Technological**: Scientific or technical improvements that help reduce environmental impact.
Examples: solar panels, wind turbines, electric vehicles, smart energy meters, biodegradable materials.
- B. **Behavioral and Social**: These attitudes do not require technology, they rely on everyday behaviour changes.
Examples: switching off the lights when not needed, turning off the tap when not in use, recycling, using public transport.
- C. **Community Innovations**: These involve collaboration within local community or school.
Examples: school gardens, neighbourhood clean-up actions, zero-waste initiatives.

To conclude the unit, it is important to emphasise that even small actions can lead to meaningful change when adopted by many people. Students should understand that sustainability is not only about large-scale solutions, but also about everyday choices. The key message to highlight is that **small changes, when multiplied across many individuals, can create a significant positive impact.**

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Unit 2: Sustainable Technologies

The unit should begin with an introduction to the concept of sustainability in technology. A short discussion should be initiated, during which students are asked what they understand by the term *sustainable technology* and whether technology can help solve environmental problems. This initial exchange should be used to activate prior knowledge and engage students with the topic.

Pedagogical Note...

A clear definition should then be provided:

A sustainable innovation is any idea, behaviour, or technology that solves a problem while reducing environmental harm and using fewer resources.

These technologies aim to meet present needs without compromising the ability of future generations to meet their own needs. It should be emphasised that sustainable technologies play a key role in addressing climate change by reducing greenhouse gas emissions and promoting efficient resource use.

Students should then be guided through the core content, which focuses on three main areas.



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Renewable energy technologies

First, **renewable energy technologies** should be introduced. These include solar energy, wind energy, and hydropower. Renewable energy refers to energy derived from natural sources that are continuously replenished. Unlike fossil fuels, these energy sources produce little to no greenhouse gas emissions. Solar panels convert sunlight into electricity, wind turbines generate power from air movement, and hydropower systems use flowing water to produce energy. These technologies are essential in reducing dependence on non-renewable energy sources and lowering environmental impact.

Sustainable innovations

The second area should focus on broader **sustainable innovations**. It should be explained that sustainability in technology is not limited to energy production, but also includes how products and systems are **designed and used**. Sustainable innovation involves creating solutions that are efficient, environmentally friendly, and socially responsible. Examples include smart home systems that optimise energy use, electric vehicles that reduce emissions, and green buildings that are designed to minimise energy consumption and environmental impact.

The concept of the **circular economy** should then be introduced. The circular economy is a model that aims to reduce waste by keeping materials and resources in use for as long as possible. In this system, products are designed to be reused, repaired, or recycled, rather than discarded. Technologies that support the circular economy include recycling systems, waste-to-energy processes, and sustainable product design. These approaches help reduce the extraction of new resources and minimise environmental damage.

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1. RENEWABLE ENERGY TECHNOLOGIES

Renewable energy comes from natural sources that are continuously replenished. These sources produce little to no greenhouse gas emissions, making them essential for a cleaner future.



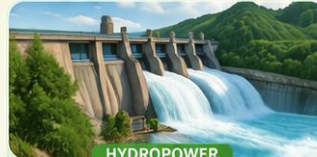
SOLAR ENERGY

Solar panels convert sunlight into electricity.



WIND ENERGY

Wind turbines generate electricity from moving air.



HYDROPOWER

Hydropower systems use flowing water to produce energy.



These technologies reduce dependence on fossil fuels and help lower emissions and environmental impact.

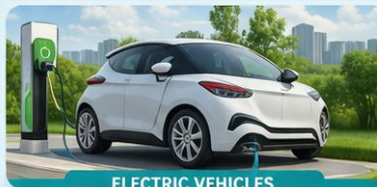
2. BROADER SUSTAINABLE INNOVATIONS

Sustainability in technology is not limited to energy production. It also involves designing and using products and systems that are efficient, environmentally friendly, and socially responsible.



SMART HOME SYSTEMS

Optimise energy use and reduce waste.



ELECTRIC VEHICLES

Reduce air pollution and emissions.



GREEN BUILDINGS

Designed to minimise energy use and environmental impact.

3. CIRCULAR ECONOMY

The circular economy aims to reduce waste by keeping materials and resources in use for as long as possible.



RECYCLING SYSTEMS

Materials are collected and reprocessed.



WASTE-TO-ENERGY

Non-recyclable waste is converted into energy.



SUSTAINABLE PRODUCT DESIGN

Products are designed to be reused, repaired, or recycled.

This approach reduces the need for new resources and minimises environmental damage.



TOGETHER, THESE INNOVATIONS BUILD A CLEANER, SMARTER, AND MORE SUSTAINABLE FUTURE. 🌱

It should also be highlighted that technology alone is not sufficient to achieve sustainability. The effective use of these technologies depends on human choices and behaviours. Students should understand that **sustainable technologies must be combined with responsible practices** in order to have a meaningful impact.

To reinforce learning, an interactive group activity should be implemented. Students should be organised into small groups and guided to identify an environmental issue,

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such as pollution, excessive energy use, or waste. Each group should then propose a technological solution, explain how it functions, and present their idea to the class.

This activity may be directly linked to the Activities described in the [Classroom activities](#), allowing students to apply their knowledge in a creative and practical way.





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Unit 3: Why Innovation Matters

Begin the discussion by asking students:

- *“What happens if we continue using resources the same way?”*
- *“Why do we need new ideas to solve environmental problems?”*

Encourage students to reflect and share their initial thoughts.

Discuss how small actions, when adopted collectively, can have a significant positive impact. Provide simple, relatable examples of sustainable actions:

- turning off lights when not in use
- reducing plastic consumption
- walking or cycling instead of using a car
- saving water

Highlight to students that they are not only learners but also **future innovators and change-makers** who can actively contribute to building a more sustainable world. Even small actions in everyday life can have a meaningful impact when practiced consistently and collectively. For example, turning off lights when they are not needed helps save energy, reducing plastic use limits waste and pollution, choosing to walk or cycle instead of using cars lowers carbon emissions, and saving water helps preserve essential natural resources. These simple habits demonstrate that sustainable innovation is not always about complex technology but also about responsible choices.

Furthermore, innovation should not be understood only as a scientific or technological process. Creativity and imagination are equally important. Students should be encouraged to imagine new solutions, rethink their everyday habits, and combine scientific knowledge with creative thinking. By doing so, they can explore new

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possibilities and develop original ideas that address environmental challenges in innovative ways.

Ultimately, the key message is that innovation is not only about technology; it is also about thinking differently and approaching problems with an open and creative mindset.

Key Takeaways!

Innovation is not only about technology - it is also about **thinking differently**.





Unit 4: Imagining the Future

This part of the lesson invites students to think about the future and **their role in shaping it**. The teacher may begin by encouraging students to reflect on questions such as what kind of world they would like to live in and what inventions could help protect the planet. These questions are designed to stimulate curiosity and help students connect their personal values with global environmental challenges.

It is important to explain that while many sustainable solutions already exist today, they are not sufficient on their own to address all environmental problems. Some challenges still require new ideas and innovations that have not yet been developed. For this reason, future-oriented thinking becomes essential.

Students should be introduced to the concept of **imagining solutions that go beyond current possibilities**. This involves combining scientific knowledge with creativity and exploring ideas that may not yet exist but could become realistic in the future. By thinking in this way, learners are encouraged to move beyond limitations and consider how innovation can evolve over time.

Through this process, students begin to understand that **imagination plays a crucial role in innovation**. The ideas they create today, even if they seem unrealistic, can inspire real solutions in the future. Ultimately, this unit aims to reinforce the idea that today's imagination can become tomorrow's innovation.

Classroom activities

Activity 1 - Innovation Gallery: Discovering methods that shape a Sustainable Future!	
Subject or subjects	All school subjects are relevant to this activity
Age/Level	Students aged from 13 to 16
Time required	40 minutes
Learning goals	- Find-select-describe sustainable methods and technologies (green transportation, renewable energy, water-waste reduction). - Understand and collaborate in climate problem-solving missions. - Explain the concept of sustainability and innovation and how the digital world contributes to sustainability. - Identify examples of sustainable technologies (renewable energy, green materials, waste reduction, green transport, sustainable agriculture) - Identify how sustainable innovations can reduce the effects of climate crisis and the environmental footprint through critical thinking and team work/collaboration. - Understand and collaborate in problem-solving missions.
Prior knowledge & skills	- Basic computer skills (for online research) - Basic environmental knowledge - Communication skills - Collaborative skills and understanding
Materials, resources & settings	- Classroom - Maybe internet connection for the presentation if needed - Hybrid activity (Internet connection but also paper material for paper presentation and notes/markers/highlighters)



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Community/Stakeholder Involvement (optional)	• Local businesses • Possible NGOs for real examples of sustainable practices. • Other school communities?
Activity description	
1. Innovation Gallery- In this activity students work in teams (consisting of 4-5 pupils) to research and present an innovative sustainable tech or method that mitigates an environmental threat or challenge. Meanwhile, each team is in charge of designing a feasible intervention, a small change that can be applied in their everyday lives or their school environment (depending on the sustainable innovation tech or method they chose) to reduce their ecological footprint. Possible examples: 1. Using reusable bags for their shopping 2. Making digital notes instead of using paper 3. Walking/ cycling/ public transportation instead of car rides 4. Glass or lunch containers instead of plastic ones. 5. Classroom compost bin 6. Starting a "Green"-challenge week! (energy and water saving week- winner will be the team that turned off devices and lights most of the times when not used) After that each team will calculate their impact e.g. the potential carbon footprint reduction by using their sustainable innovative methods over one school year. Thus, they will be able to thoroughly see in practice the positive impact of their behavioral change! In the end, all teams will gather and create a visual collage or poster illustrating their work to the rest of the students in their school.	
Accessibility & Inclusion	• Visual, vocal and written material • Participation by all members of the class • Organize and finalize the classroom activity when all students are present
References / Bibliography	• https://www.epa.gov/schools/creating-healthy-school-environment • https://zerowasteeurope.eu/#2 • https://en.wikipedia.org/wiki/Sustainable_innovation
Assessment	

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Formative Assessment	• Teamwork monitoring material (presentation, printed material, students online research) • Participation (exact percentage of students participation in the activity) • Checklists and polls to evaluate students gained knowledge and level of satisfaction through the process of completion of the activity • Collaboration, good communication and satisfaction among students • Students capacity and abilities on problem-solving missions
Summative Assessment (if applicable)	As soon as the activity is over, all student teams will present the outcomes of their respective group through a poster/collage (illustrating their sustainable innovation option and its measurable impact inside or outside their school environment- e.g. the reduction of CO2 footprint). 1. A classic rubric assessment in paper to be completed by the teacher or 2. A more interactive, guided oral discussion at the end of the activity in which students share what they discovered about sustainable innovations, reflect on how their daily habits can change, and exchange ideas with peers. The teacher facilitates the conversation using open-ended questions to evaluate: 1. understanding of sustainability principles, 2. ability to connect theory with daily life, 3. creativity and reasoning, 4. and openness to new perspectives. This form of oral reflective dialogue promotes peer learning, critical thinking, and the co-construction of knowledge among students.
Student Self-Assessment	• Which innovation inspired me the most and why? • What did I learn through this activity • What would I change if I had a second chance?

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Peer Feedback	<i>Tell - Say something you liked about a group idea</i> <i>Ask - Ask something you did not understand from another group activity</i> <i>Give - Suggest another way something could be done, another idea for the same activity or something that could be done differently in the future.</i>
Documentation, Evidence & Follow-Up	
Evidence to Collect	<i>Collage material , project materials, photographs of project prototypes</i>
Impact Tracking	<i>Before/ after questionnaires measuring attitude change related to innovation and sustainability</i>
Dissemination	• <i>Local newspaper</i> • <i>Social media pages of the project (eg Facebook, Instagram)</i> • <i>Presentation of the activity in the following multiplier events</i> • <i>School website</i> • <i>Radio/ local tv channels</i>
Next Steps	• <i>Collaboration with a local environmental oriented NGO if possible</i> • <i>Present their Poster/collage of the project in the school yard to disseminate its impact</i> • <i>Sharing their results via their school website (if any) EcoMystery website and social media pages to inspire and intensify its impact</i>
Teacher Reflection	
<i>Student feedback</i> • <i>What students enjoyed the most?</i> • <i>What impressed them?</i> • <i>What triggered conversations?</i>	



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Follow up of the activity: How can this activity be escalated and be maintained? Eg annual project, future school campaign

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Activity 2 - Interactive Workshops

Subject or subjects	All school subjects are relevant to this activity
Age/Level	Students aged from 13 to 16
Time required	40 minutes
Learning goals	- Students identify unsustainable daily habits and explain why they are harmful to the environment and the outcome of the behavioral change. - Students demonstrate how simple sustainable innovations can improve everyday routines at school/home. - Students develop awareness of their personal environmental impact. - Identify examples of sustainable technologies (renewable energy, green materials, waste reduction, green transport, sustainable agriculture) - Understand problem-solving missions and strengthen their creativity.
Prior knowledge & skills	- Basic environmental knowledge - Communication skills - Collaborative skills and understanding
Materials, resources & settings	- Classroom - Maybe internet connection for ideas searching if needed
Community/Stakeholder Involvement (optional)	Other school communities
Activity description	

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Interactive Workshops- In this activity students will understand how small, everyday actions, both at school and at home, can make their lives more environmentally friendly using sustainable innovations.

The goal is to empower children to recognize unsustainable **habits and transform them into positive, sustainable ones using simple innovations.** During the activity, each student takes on a short **theatrical role-play**, acting out a common daily scene twice: **first**, how they usually perform it, and **secondly** the “improved” version using a **sustainable innovation**. (For example, a student brings a sandwich in a plastic lunch box and a single use plastic water bottle, she/he eats and throws everything in the trash bin. Improved habit → The same student repeats the scene, but this time uses a **reusable smart lunchbox** made from biodegradable or recycled materials, with small compartments that reduce food waste and a **reusable water bottle** that tracks hydration through a small indicator strip (simple, low-tech innovation)

Accessibility & Inclusion

- Visual, vocal and written material
- Participation by all members of the class
- Organize and finalize the classroom activity when all students are present

Assessment

Formative Assessment

- Teamwork monitoring material (presentation, printed material, students online research)
- Participation (exact percentage of students participation in the activity)
- Checklists and polls to evaluate students Understanding
- Satisfaction among students
- Students capacity and abilities on problem-solving missions
- Students reflective thinking (the ability to compare the “before” and “after”

Summative Assessment (if applicable)

Assessment: A more interactive, **guided oral discussion** at the end of the activity in which students share what they discovered (what they changed and why) about how their daily habits have an impact and thus how everyday actions can shape a new sustainable kind of living and help the environment.

The teacher facilitates the conversation using open-ended questions to evaluate:

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	1. Identification of the problem and students role in it, 2. Understanding and explanation (why the chosen innovation can leave an environmental footprint), 3. Creativity (the student uses creativity when demonstrating the improved scenario), 4. Participation (active involvement in both performance and discussion). This form of oral reflective dialogue promotes peer learning, critical thinking, and the co-construction of knowledge among students.
Student Self-Assessment	• Which innovation inspired me the most and why? • What did I learn through this activity? • Which actions had I already used in my daily life? • How willing am I to put into practice the new sustainable habit I just learned?
Peer Feedback	Tell - Say something you liked about a classmate's idea Ask - Ask something you did not understand from another classmate Give - Suggest another way something could be done, another idea for the same activity or something that could be done differently in the future.
Documentation, Evidence & Follow-Up	
Evidence to Collect	Photos of the role playing or short videos (with permission)
Impact Tracking	Before/ after questionnaires measuring change in awareness, behavioral, knowledge gains and creativity.
Dissemination	• Local newspaper • Social media pages of the project (eg Facebook, Instagram)



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	• <i>Presentation of the activity in the following multiplier events</i> • <i>School website</i> • <i>Radio/ local tv channels</i>
Next Steps	• <i>Collaboration with a local environmental oriented NGO if possible.</i> • <i>Sharing their results via their school website (if any) EcoMystery website and social media pages to inspire and intensify its impact to other schools.</i>
Teacher Reflection	
<i>What worked well in helping students identify unsustainable daily habits and transform them into more sustainable alternatives through role-play?</i> <i>What would I change next time to make the “before and after” role-play scenarios clearer, more creative, or more connected to students’ real lives?</i> <i>What evidence showed that students understood the environmental impact of everyday habits and met the learning goals of the activity?</i>	



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Activity 3 - Sci-Fi Sustainable Innovations

Subject or subjects	<i>All school subjects are relevant to this activity</i>
Age/Level	<i>Students aged from 13 to 16</i>
Time required	<i>40 minutes</i>
Learning goals	<i>Students will:</i> <i>develop a Science fictional sustainable innovation that addresses real environmental problems.</i> <i>apply creativity and critical thinking to design an original idea</i> <i>collaborate effectively in small groups to brainstorm and evaluate their innovation concept</i> <i>justify why their innovation could be effective, showing understanding of environmental impact</i> <i>Understand the gaps that still exist in solution to environmental problems</i>
Prior knowledge & skills	<i>Basic computer skills (for online research)</i> <i>Basic environmental knowledge</i> <i>Communication skills</i> <i>Collaborative skills and understanding</i>
Materials, resources & settings	<i>Classroom</i> <i>Maybe internet connection online searching</i>
Community/Stakeholder Involvement (optional)	<i>Local businesses</i> <i>Possible NGOs for real examples of sustainable practices.</i> <i>Other school communities</i>

Activity description

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Sci-Fi sustainable innovations- In this activity, students become **inventors of the future**.

Instead of researching existing solutions or making small behavioural changes, they are invited to **imagine and design a completely new, original innovation** that does **not yet exist**, but could realistically (or theoretically) help solve a present or future environmental challenge. It does not have to be completely realistic - it can belong in the sci-fi area!

Working in groups of 3–4, students choose an environmental problem (e.g. microplastics, water scarcity, energy poverty, urban heat). Their invention concept must answer three guiding questions:

- **What environmental problem are we trying to solve?**
- **How does our innovation work?** (technological, biological, or social approach)
- **Why would it be effective?** (can be based on real technologies, science-fiction principles, AI, circular design, or smart materials)

Some example inventions:

- Self-biodegradable packaging that biodegrades itself within 24 hours
- Solar tiles for renewable energy on school rooftops
- Smart mist domes that cool urban spaces
- AI river-cleaning drones that collect microplastics

Each team produces:

- a **sketch/ draft** of their invention
- a **one-page concept note** describing the problem, proposed solution, materials needed, and potential environmental impact
- a short **2-minute oral presentation**

Possible Adaptations:

- Ages 13- 14: provide pre-printed “innovation cards” with categories (water, energy, plastics, nature) and will require just a simple sketch and basic explanation.
- Ages 15- 16: encourage a more detailed concept (maybe materials, cost, impact), and optionally a 3D paper/digital prototype or AI-generated mock-ups (if allowed).

Accessibility & Inclusion

- Visual, vocal and written material
- Participation by all members of the class
- Organize and finalize the classroom activity when all students are present



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References / Bibliography	• https://earthshiftglobal.com/blog/why-science-fictional-thinking-is-essential-to-our-sustainability-journey • https://news.yale.edu/2025/03/27/can-science-fiction-help-us-envision-better-future
Assessment	
Formative Assessment	• Teamwork monitoring process and material (printed material, students online research and presentation) • Participation (exact percentage of students participation in the activity) • Checklists and polls to evaluate students gained knowledge and level of satisfaction through the process of completion of the activity • Collaboration and good communication • Students creativity, imagination and ability on problem-solving missions
Summative Assessment (if applicable)	1. A classic rubric assessment in paper to be completed by the teacher or 2. A more interactive, guided oral discussion at the end of the activity in which students share what they discovered about sustainable innovations, reflect on how their daily habits can change, and exchange ideas with peers. The teacher facilitates the conversation using open-ended questions to evaluate: 1. Ideation and creativity on new sustainable innovations 2. ability to connect theory & technology with daily life 3. Originality of the concepts/ideas 4. Comprehensive presentation 5. Collaboration and team work



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	<i>This form of oral reflective dialogue promotes peer learning, critical thinking, and the co-construction of knowledge among students.</i>
Student Self-Assessment	• Which innovation inspired me the most and why? • What did I learn through this activity? • Which part of this activity did I enjoy the most? • If I could improve a part of our innovation, what would it be?
Peer Feedback	<i>Tell - Say something you liked about a group idea</i> <i>Ask - Ask something you did not understand from another group</i> <i>Give - Suggest another way something could be done, another idea for the same activity or something that could be done differently in the future.</i>
Documentation, Evidence & Follow-Up	
Evidence to Collect	<i>Collage material, project materials, photos and videos of the activity process (with permission), sketch/drafts of students' innovations, presentations made.</i>
Impact Tracking	<i>Before/ after questionnaires measuring attitude and knowledge gain, participation and collaboration, ability of sci-fi idea creation.</i>
Dissemination	• Local newspaper • Social media pages of the project (eg Facebook, Instagram) • School website
Next Steps	• Collaboration with other schools to collect even more sci-fi ideas • Creation of a "Future Innovations Wall" inside the school, to present their sci-fi ideas • Upload their ideas to their school website (if any) and the EcoMystery website and social media pages to inspire and intensify its impact.
Teacher Reflection	



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- *How well did students connect their sci-fi invention ideas to real environmental problems such as microplastics, water scarcity, energy poverty, or urban heat?*
- *Did the activity successfully encourage students to use imagination while still thinking critically about the possible environmental impact of their innovation?*
- *What evidence showed that students understood both the potential and the limitations of future sustainable technologies?*
- *How effectively did students collaborate in their groups when brainstorming, sketching, developing the concept note, and preparing the presentation?*
- *What would I change next time to help students better explain how their innovation works and why it could be effective?*



References & Bibliography

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