Technology
Engineering
Science
Arts
Mathematics

Eco-Visions: Art for a Sustainable Future
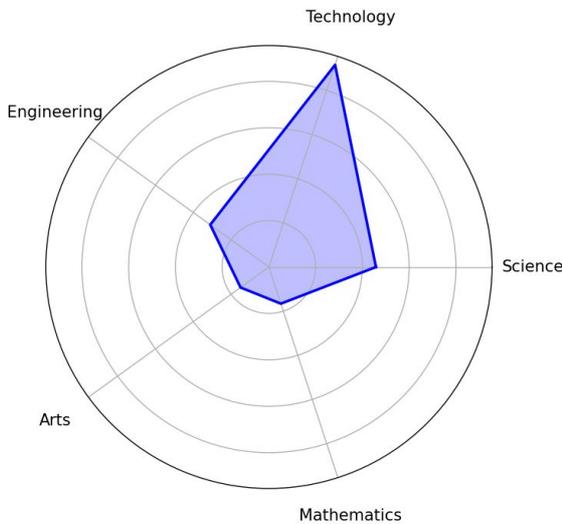
Duration	Age	Difficulty
2–3 sessions of 60 minutes	13-14	Medium
#SUSTAINABILITY #SCIENCE		

DESCRIPTION

In this activity, students act as junior sustainability auditors, using simple technology tools to measure, visualize, and improve the ecological performance of their school or home. Through collaborative data collection, graphing, and digital presentation, students learn to apply technology to real-world sustainability challenges. They also explore and represent the contributions of women and gender-diverse innovators in sustainability tech.

KEY COMPETENCES (EU)

- Digital competence
- Mathematical competence and basic science skills
- Citizenship
- Cultural awareness and expression
- Learning to learn

ACTIVITY OBJECTIVES

•Identify and interpret key sustainability indicators (e.g., waste, energy, water usage).

•Use digital tools to enter, analyze, and visualize real-world data.

•Design a tech-enhanced solution (poster, dashboard, or prototype mockup) to improve sustainability.

•Promote inclusive and gender-equitable perspectives in STEAM fields.

•Present findings using accessible, creative communication strategies.

- 🟠 Provided by students
- 🔴 Provided by the teacher/institution
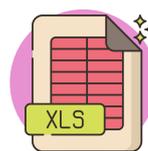- 🟢 Downloadable Elements

MATERIALS

Computer   Notebook   Headphones   Projector   Spreadsheets   Audit forms

PREVIOUS PREPARATION

•Set up group accounts or shared folders
•Divide students into teams of 3−4 with mixed skills
•Provide teacher mini-guide on facilitating inclusive group roles
•Prepare visual examples of sustainability dashboards

CONTEXTUALIZATION AND   ADAPTATION

How sustainable is your everyday space? Your school, your home, even your desk? In this activity, students become junior sustainability auditors, using simple tech tools to measure and improve their environment. By tracking data on things like energy use, water waste, or plastic consumption, students connect sustainability to their own daily routines.

To spark curiosity, students watch a short video on how real companies use dashboards to measure impact, then compare big global goals, like the UN Sustainable Development Goals, with what they observe locally. This creates a clear bridge between abstract global issues and their tangible surroundings.

Alongside data collection and analysis, students will explore innovative sustainability solutions—including those developed by women and gender-diverse role models. By the end, they'll design and present their own tech-enhanced ideas to make their school or home more eco-friendly.

This activity shows students that sustainability isn't just about theory, it's something they can see, measure, and improve, starting right where they are.

- **Show students the Sustainable Development Goals**

- **Compare what they learn to those goals**
- **Make them consider other aspects of their everyday life**
- **Ask them to reflect on differences with the past, and how they think sustainability will evolve**

https://www.un.org/en/exhibits/page/sdgs-17-goals-transform-world

Classroom activity 💡
Make a list of questions to ask parents and elders, to see if they know about how sustainable their things are..

Note for the teacher 📝

You can put together a document with all the measurements of sustainability

ACTIVITY

As a previous step, you will take time to prepare your working groups. The full activity will last over 2 to 3 sessions, and effective collaboration is essential.

Form Groups:
- Your teacher will divide the class into diverse teams of 3 to 4 students.
- Ensure each team reflects a balance of skills, learning styles, and perspectives.

Assign and Rotate Roles:
Each group will assign rotating roles to promote equal participation and inclusive leadership:
- Data Manager – organizes collected data
- Graph Designer – creates visuals and charts
- Solution Developer – leads idea generation and prototyping
- Presenter – prepares and delivers team presentation

These roles will rotate between sessions, so every student will get a chance to lead, speak, and contribute in different ways.

Set Group Agreements:
As a team, discuss how to ensure respectful, inclusive, and productive collaboration. Write a short agreement describing how you will:
- Listen to all voices
- Make decisions fairly
- Share responsibilities
- Value different experiences

Reflect on Context and Equity (Optional but recommended):
Briefly discuss this question as a group:
"How might our backgrounds (home life, culture, access to technology, gender, etc.) affect the way we use resources and think about sustainability?"

Write 1–2 notes about how your perspectives may differ—and how this might influence your audit and solution design.

ACTIVITY

1. Audit Your Space:

Record simple data (e.g., number of light switches left on, minutes water tap is open, number of plastic wrappers in bins).

Use printed or digital "Audit Forms."

2. Enter Data:

Organize into Google Sheets or similar.

Use bar graphs, pie charts, or line graphs to visualize trends.

3. Analyze:

What's the biggest sustainability issue?

How can behavior or system changes help?

4. Research Solutions:

Explore real examples: solar lockers, energy timers, reuse stations.

Study at least one solution by a woman or gender-diverse innovator (provided in role model cards)

5. Design a Solution:

Create a poster, infographic, or digital wireframe to propose an improvement.

Include data, proposal, and visual communication. Use your imagination and create a visual metaphor that reflects your solution.

6. Peer review:

Ask other colleagues to check your solution and give some feedback on how could it be improved.

🔁 **Creative Extension! (Optional, but Recommended for Final Session)**

Give your design more **impact and inclusivity**, by completing one or more of the following challenges:

Art & Symbolism: Add at least one **visual metaphor** to your infographic or prototype. For example, a water droplet might represent precious resources. Explain your symbol in a caption.

Student Voice: Record a short **video pitch (1 minute max)** presenting your solution and **why it matters to you**. Share it with your peers or community blog.

Inclusive Media: Create a version of your final output that is **accessible** to peers with different needs: audio description, large font, translated version, or tactile model.

Cultural Knowledge: Research or interview a family member or elder about **how sustainability was practiced in the past**. Include a short note comparing traditional and modern approaches.

Design for Equity: Add a constraint: How would your idea work if your school had **no budget**, or **limited internet or electricity**? Adjust your design accordingly.
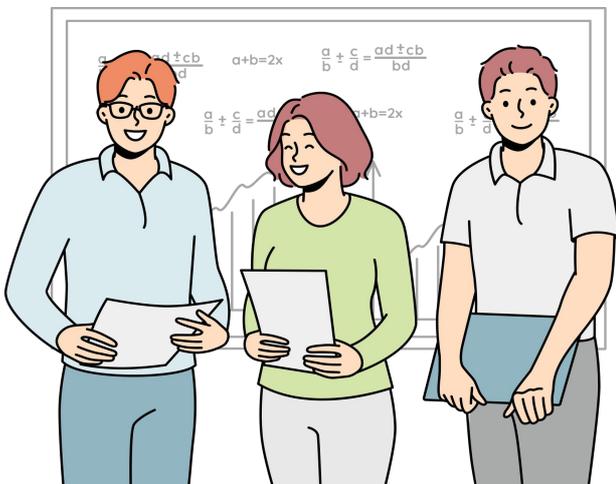
7. Present and Share:

Share with class and upload to school blog or gallery.

Include caption crediting a woman/gender-diverse STEAM figure that inspired them.

Optional: present to school sustainability committee.

CONCLUSION AND SHARING

Finish the activity answering questions from students.

You can also encourage them to apply a more sustainability-forward mindset on other aspects of their life, provide free digital resources, and even create a repository with the aggregated data from the whole classroom, to see if the numbers change over several years.

Don't forget to take a photo of your experience and share it with us!

LinkedIn   Instagram   X

BIBLIOGRAPHY AND REFERENCES

https://www.un.org/en/exhibits/page/sdgs-17-goals-transform-world