

# ACTIVITY TITLE: Greenspectors: A School Sustainability Mission

Activity code: ncCTA01



 DURATION	120 minutes
 AGE RANGE	11-12
 TOPICS	SUSTAINABILITY CREATIVITY DESIGNING



## Description of the project

In this hands-on, inquiry-based activity, students will become *Greenspectors*—youth environmental investigators—tasked with analyzing their own school through the lens of sustainability. Working in collaborative teams, they will perform a real-world “EcoAudit” to identify concrete environmental challenges in energy usage, waste management, water conservation, and material overuse.

But the mission doesn’t stop at diagnosis. Based on their findings, students will transform their observations into compelling visual messages through the creation of posters, infographics... These artistic products will combine data analysis with creative communication to raise awareness and propose tangible solutions for a more eco-conscious school.

This project blends science, mathematics, technology, and art into one meaningful experience, while reinforcing empathy, critical thinking, and teamwork. Students will also integrate gender-inclusive elements by researching and featuring women or gender-diverse environmental leaders within their designs.

By the end of the mission, students will have produced a creative, data-informed artifact with the power to educate their peers and advocate for positive change in their school and community. This is not just an activity, it’s a launchpad for environmental leadership and student-driven innovation.



## Objectives: What will I learn?

- **Identify and assess sustainability indicators** (such as energy use, waste generation, and water habits) through real-world observation and school-based audits, in order to understand the impact of everyday behaviors and recognize opportunities for environmental improvement.

- **Translate environmental data into visual formats** by using tally sheets, graphs, or pictograms, so students can develop basic data literacy and learn how to support arguments with evidence.
- **Create awareness materials through visual storytelling** by designing posters or infographics that combine scientific content, artistic elements, and clear messaging, to communicate environmental challenges and encourage sustainable behaviors within their school community.
- **Incorporate inclusive perspectives and role models** by researching and representing the work of women and gender-diverse leaders in environmental fields, in order to foster diversity, equity, and representation in STEAM education.
- **Collaborate in structured teams with shared responsibilities** by assigning rotating roles (e.g., observer, designer, presenter), so students can develop cooperation, leadership, and accountability during the activity.
- **Present findings and proposed solutions to an audience** through a class exhibition or digital gallery, enabling students to strengthen their public speaking skills and advocate for real-world sustainability actions in their immediate environment.



## Materials: What do I need?

### 1. Provided by the teacher/institution:

- Projector or digital screen to display examples, reference visuals, and role model biographies.
- Printed EcoAudit Checklist for data collection during the observation phase.
- Optional access to school tablets or computers for digital creation tools (e.g., Canva, Google Drawings).
- Printed reference sheets with female and gender-diverse environmental leaders to support inclusive content creation.

### 2. Provided by students:

- Notebook or sketchpad for note-taking, drafts, and peer feedback.
- Drawing and design tools: markers, colored pencils, rulers, scissors, glue.
- Recycled materials for collage work: magazines, cardboard, bottle caps, scrap paper.
- Internet-connected device (optional, for research or digital design tools).

### 3. Downloadable resources

- [EcoAudit Checklist](#)
- [Role Model Gallery Sheet](#)
- [Reflection form](#)



## Previous preparation

### Print and organize materials:

- EcoAudit Checklists (one per team, printed or downloaded)

- Role Model Gallery Sheets featuring diverse environmental leaders
- Any sample posters or visual references to inspire students

**Prepare digital tools (optional use):**

- Ensure access to school tablets or computers if using Canva or Google Drawings.
- Test internet connection and logins if devices are shared.
- Set up projector or screen to display example visuals and instructions.

**Organize student teams:**

- Form mixed-ability groups of 3–4 students.
- Assign or encourage rotating roles within teams (e.g., EcoObserver, Designer, Presenter, Coordinator) to promote equal participation and accountability.

**Review prior knowledge and introduce context:**

- Brief students on the concept of sustainability in schools (energy, waste, water, etc.).
- Share example awareness posters or infographics (real or teacher-made).
- Introduce one or two environmental role models from the gallery sheet to encourage inclusive storytelling.

**Set up the workspace:**

- Arrange tables or stations with access to drawing materials and recycled supplies.
- Clearly label or sort recycled materials to encourage creativity (e.g., "textures," "shapes," "letters").



## RESEARCH



### Have a look at these resources

Why is it important to investigate how sustainable our school is?

Schools are places where we learn—but they also use energy, generate waste, consume water, and depend on many daily resources. How we use those resources can have a direct impact on the environment, and our choices as students matter.

By becoming *Greenspectors*, students take on the role of sustainability investigators, learning to observe, record, and reflect on what happens around them every day. This helps them develop scientific thinking, data analysis, and critical awareness—while also using creativity to communicate solutions.

Understanding how sustainable (or not) our own school is allows us to take action. From reducing electricity waste to rethinking lunch habits, students learn that small changes can lead to big impacts—especially when those ideas are shared with others through art, design, and storytelling.

**Real-world examples**

- In Spain, a group of 11-year-olds launched a Zero-Waste Lunch Challenge, reducing plastic use by 70% in one semester.

- In Kenya, students at a rural school helped install solar panels, powering classroom lights and charging stations.
- In Belgium, primary students designed a visual signage system to help their school separate waste more effectively—and reduced contamination in recycling bins by 60%.

These examples show that young people, just like you, are already making a difference when it comes to sustainability.

### Key Questions to Discuss

- What environmental problems can you find in your school today?
- Who is affected when we waste energy, water, or materials?
- How could your team's ideas inspire other students to change their habits?
- What makes a poster or message powerful enough to make someone reflect?
- What small action could every student take tomorrow to make the school more eco-friendly?



## CREATE



### Some things you need before beginning

- **What is sustainability?** Sustainability means meeting our needs without harming the ability of future generations to meet theirs. It's about protecting natural resources like water, energy, and clean air—and using only what we truly need.
- **Why does it matter in schools?** Schools use electricity, water, paper, plastic, and food every day. If we use these resources carelessly, we create pollution and waste. But if we think critically and act together, we can make small changes that help protect the environment.
- **What are sustainability indicators?** These are signs or clues that show whether something is helping or harming the environment. For example: lights left on in empty rooms, plastic wrappers in bins, or dripping taps are indicators that sustainability can be improved.
- **Why do young people matter?** Around the world, students like you are creating eco-projects, raising awareness, and even influencing laws. Your ideas, your voices, and your choices have the power to lead change—starting right where you are.
- **How does creativity help?** Sharing a message with just words is powerful—but adding color, images, symbols, and layout can make it unforgettable. That's why design and art are part of this mission: you'll turn your data into a message that sparks action.



### Now, follow these steps

#### Step 1. Become a Greenspector!

- Begin with a class discussion on sustainability in schools: “Do you think our school/space is sustainable? ¿Why? ¿Why not?”
- Form diverse teams of 3–4 members (assign rotating roles).
- Introduce the EcoAudit checklist. Explain that each group will investigate five key school-based sustainability indicators:
  - **Energy habits** (lights/devices left on unnecessarily)
  - **Waste habits** (littering, bin labeling, single-use plastics)
  - **Water use** (dripping taps, unused fountains)
  - **Reusability** (lunchboxes, school supplies)
  - **Material use** (excessive paper, plastic, supplies)
- To document their findings, teams use a printed *EcoAudit Checklist* for structured observation and data collection. They should observe (at the same time they should gather real-world, observable data to understand their school’s sustainability strengths and gaps):
  - Count wrappers in common areas
  - Light and tap use
  - Estimate use of reusable vs. disposable items

## Step 2. Analyze the data and cultural exchange

- Teams will review and reflect on the findings of their EcoAudit. Based on the indicators they observed (energy use, waste, water, reusability, materials), each group will identify one main environmental issue in their school. Then, they will:
  - Research sustainability practices or eco-innovations from another culture or region of the world that relates to their selected issue.  
For example:
    - Japan’s advanced waste-sorting systems
    - Kenya’s upcycled art from plastic waste
    - Nordic countries’ biking infrastructure
    - Indigenous knowledge of water conservation in arid climates
- Discuss and analyze:  
How does this global example address the same issue we observed? What ideas can we adapt or be inspired by?
- Document their inspiration; teams will include a short-written reflection in worksheet:  
*‘We were inspired by [country/practice] because they... This helps us think differently about how to solve [our issue].’*

This cultural connection will be visually and conceptually included in their final design. They may use a symbol, color, pattern, or element from the example to express the global learning in their artwork.

### Step 3. Turn Your Data into a Message

- Each team selects one key issue from their EcoAudit results.
- They should:
- Translate their data (tally counts, bar charts, pictograms) into part of their visual design.
- Create a draft layout or sketch on paper, recycled material, or digitally (Canva or Google Slides).
- Craft a clear message or call to action using words, symbols, and possibly a slogan, rhyme, or poem.
- Design an artistic composition using collage, drawing, or digital visuals.
- Include a sustainability role model: students select a woman or gender-diverse leader (e.g., Isatou Ceesay, Leah Thomas) and include their image or quote in the design.
- Each team should reflect on the following question: What sustainable habits do your parents or grandparents follow at home? (e.g., using cloth bags, collecting rainwater, reusing food jars). Choose one and integrate it into your message or artwork to show how everyday knowledge also protects the planet.
- Apart from the above mentioned, in the final design, include one color, shape, or decorative element inspired by the research sustainability practice or eco-innovation related to the culture or community chosen. Add a short caption describing the source of your inspiration and its meaning.”
- The goal is to build a data-informed, creative artifact that combines evidence and emotion.



## COMMUNICATE

Once teams complete their sustainability posters or infographics, they will prepare to present their work in a shared learning space. A Gallery Walk or Classroom Exhibition is held where each team displays their work physically (on walls, boards, tables) or digitally (using slides, tablets, or projection). This phase emphasizes communication, public speaking, peer feedback, and meaningful reflection. They should include:

- A clear problem identified during their EcoAudit.
- A proposed solution or action supported by their observations.
- The sustainability practice or eco-innovation from another culture or region of the world selected.
- Sustainable habits your parents or grandparents follow at home
- A sustainability leader (woman or gender-diverse changemaker) featured as inspiration.

Therefore, each team should answer to:

- What problem did you investigate?
- What solution or action do you propose?

- What sustainable practice or eco-innovation from another culture or region have you selected?
- At home, what sustainable habits do your parents or grandparents follow at home?
- Why did you choose this environmental role model?

Once presentations are made peers will have to give their feedback. Students will use the “Two Stars and a Wish” strategy:

- ★ One compliment on something that worked well
- ★ A second compliment for creativity or insight
- 💡 One wish: a suggestion or thoughtful question to improve or expand the idea

Finally, each group will reflect on their project using sentence starters like:

- “We learned that...”
- “We were surprised by...”
- “One change we can make is...”



It is time to share!

Share your amazing work and inspire others!

#GreenspectorsSTEAMbrace

- LinkedIn: <https://www.linkedin.com/company/steambrace-project/posts/?feedView=all>
- Instagram: [https://www.instagram.com/steambrace\\_eu/](https://www.instagram.com/steambrace_eu/)
- X: [https://www.instagram.com/steambrace\\_eu/](https://www.instagram.com/steambrace_eu/)



## KEEP ON LEARNING



How can I make a similar project by myself?

**What if you became a Greenspector at home or in your community?**

Could you do a mini EcoAudit of your house, your neighborhood, or another school space? What would you look for—energy use, waste habits, water use, or something else?

**What tools or materials would you need to do it yourself?**

Could you recreate your checklist? Could you take pictures, draw a map, or make a tally chart to show your findings? What digital tools could help (e.g., Canva, Google Docs, a photo collage)?

**How would you share your message with others?**

Could you make a new poster, infographic, short video, or social media post to raise awareness? Who would you show it to—your class, your family, your principal, or your community?

**Who else could join you?**

Could you invite a friend, a sibling, or a classmate to help investigate and propose change? Would you want to form a sustainability team or present your ideas to your school council?

**What would you do differently if you started again?**

Now that you've done the project once, what ideas would you try next time? Would you explore a different topic? Use a different art technique? Interview someone in your school?



**Which are other connected projects?**

 **Launch a “Zero Waste Day” Challenge**

Students plan and promote a day where the class or school aims to produce as little waste as possible. They document the results through photos, graphs, and interviews, and compare the outcomes with regular school days.

 **Design a Green Classroom Makeover**

Using engineering and visual design, students reimagine their classroom or school space to be more sustainable (e.g., energy-saving lighting, natural ventilation, reuse stations). They present their vision as blueprints, dioramas, or 3D digital models.

 **Create a Sustainability Awareness Campaign**

Students turn their poster into a larger campaign with digital media (videos, animations, social media content) and track its reach. They can also write short articles for the school website or local community bulletin.

 **Start a “Sustainability Data Journal”**

Students continue weekly data tracking on things like waste, electricity, or paper usage in their classroom. They display progress through graphs and propose monthly goals.

 **Build a Mini School Garden or Compost Station**

Students research composting or urban gardening and start a class project using recycled containers. They document the growth cycle and connect it to science, math (measuring, charting), and art (garden labels, plant illustrations).



## LINKS FOR FURTHER INFORMATION

**Kids Against Plastic.** <https://www.kidsagainstplastic.co.uk>

Created by two school-aged sisters in the UK. Provides toolkits, challenges, and videos about reducing plastic in schools and communities.

**National Geographic Kids – Protect the Planet.** <https://kids.nationalgeographic.com/nature/save-the-earth>

Games, quizzes, and articles about environmental issues written in an engaging, accessible style.

**Cool Australia – School Sustainability Curriculum Units.** <https://www.coolaustralia.org/>

Lessons, videos, and hands-on ideas for school waste, recycling, and ecological impact (great for teacher guidance too).

## Disclaimer

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