Introduction to sustainability and climate change

ECO QUEST
NARRATIVE VIDEO GAME ON CLIMATE CHANGE

Topics:

- Basic terminology: sustainability, climate change, global warming, carbon footprint
- Risks and stakes: impact on ecosystems, biodiversity, and human societies
- The role of human activity in climate change
- Simple actions for sustainable living

Age: 13+

Max. 25 participants

85 minutes

Pedagogical objectives

- Introduce fundamental concepts and terminology related to sustainability and climate change.
- Increase awareness of the environmental crisis using data and real-world examples.
- Encourage youth to adopt environmentally friendly habits in their daily lives.
- Empower them to share knowledge with peers and family.

Necessary materials

- Illustrated charts or infographics about climate change facts and numbers
- Videos or animations explaining sustainability
- Items for simple experiments (e.g., ice cubes, water, and food colouring to demonstrate melting ice caps)

Educational methods

- Storytelling and visual presentations
- Interactive games and quizzes
- Hands-on experiments and creative activities
- Group discussions to encourage participation

Activity description

1 Warm-Up (10 minutes)

- Use a word map to help students brainstorm and connect related words or ideas around a central theme, encouraging creative thinking and expanding vocabulary.
- It's a great way to visually organise ideas, start discussions, and see how concepts relate to one another.

Tip: Start with an easy, familiar word, and let participants share freely - there are no wrong answers!

2 Building knowledge (20 minutes)

- Present key facts and terms with colourful charts or infographics: define terms like climate change, global warming, and carbon footprint. You can use the video "**Environmental Sustainability Animation ft. Earth!**" by Official NYPTV
- Discuss examples of environmental impacts: endangered species, deforestation, and melting ice caps.
- Provide official data sources you can find on **Earthdata** and ask each participant to find and share the one that surprises them the most.

Tip: Use a video that simulates the rise of the sea level ("**Sea Level Rise Simulation - Europe**" by GPSCycling) to show in class - from there, you can start the discussion.

3 Hands-On Experiment (45 minutes)

- Conduct a mini-experiment:
  - Show the effect of melting ice caps by placing ice cubes in a bowl of water and observing the level change.
  - Use food colouring in water to show how pollution spreads.
- Discuss what the experiments reveal about the risks of climate change.

Tip: Use storytelling to make abstract concepts relatable. For example, narrate a story about a polar bear whose habitat is melting, making the impact of climate change more tangible.
Use this link for experiments: "**STEM: Earth & Space Sciences – Polar Ice Caps**" by NJIT

4 Conclusion to the activity (10 minutes)

- Recap the main surprising facts shared by students.
- Highlight common themes (e.g., impact on ecosystems, human activity's role, or rising sea levels).
- Encourage students to share personal takeaways and suggest small actions they can take (e.g., reducing waste, saving energy).

Tip: Ask open-ended questions like, "What did you find most surprising or concerning?" or "How do these facts connect to our daily lives?"

Tip: Inspire them by emphasising that "Awareness is the first step toward positive change."

To go further

- Explore your sustainability level! Curious about how sustainable your lifestyle practices are? Check this link: **Calculate your level of sustainability**. How it works:
  - Answer a series of questions about your habits, resource usage, and practices.
  - Submit your responses to receive your personalised sustainability insights.
  - Use the results to identify areas where you can improve and make a greater.

- If you're interested in diving deeper into sustainability and discovering practical ways to combat waste in consumption, Read this guide: "**Guide on Sustainability and How to Fight Waste in Consumption"** (Save & Game). What you'll find inside:
  - Effective strategies for reducing waste in everyday consumption.
  - Tips for adopting more sustainable habits in your personal and professional life.
  - Practical examples and tools to make a positive environmental impact.

- Play the game "**Solve the mystery of what happened to Planet Earth**" (Save & Game): The year is 2100. You are a group of intergalactic explorers tasked with gathering crucial data about planet Earth. Use your rover to uncover insights before it stops functioning and compile your report on the state of the planet.

Sources and additional resources

- Exploratorium. (n.d.). **Swelling Seas**.
- National Geographic. (2015). **Climate Change 101 with Bill Nye**. (YouTube)
- Smile and Learn - English. (2023). **Climate Action ❋ SDG 13 🌡 Sustainable Development Goals for Kids.** (YouTube)

Co-funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

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Project code: 2023-3-SK02-KA210-YOU-000183253