



# Sustainability in the Virtual World

STEM4inclusive schools  
WP2 – Toolbox



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# Structure of the activity

## **A** Introduction

### **about the topic**

What is „Sustainability” and why is it important?  
What are some examples of sustainable practices?  
How does sustainability affect our everyday lives?

## **B** Training phase

### **about the training**

Identify eco-friendly initiatives and show them to the rest!

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# A: About the topic

What is „Sustainability” and why is it important?  
What are some examples of sustainable practices?  
How does sustainability affect our everyday lives?

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## What is „Sustainability”?

In 1987, the United Nations Brundtland Commission defined sustainability as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.”

Sustainability is about actions that:

**Protect the environment** (e.g., saving water, recycling).

**Support people** (e.g., equal access to education, health).

**Boost the economy responsibly** (e.g., using renewable energy sources).





## Why sustainability is important?

- **For the environment:** The Earth's resources are limited, so we must protect them.
- **For people:** A healthy environment means a healthy life.
- **For future generations:** What we do today impacts tomorrow.





## What are some examples of sustainable practices?

- **Waste segregation:** Recycling to reduce landfill waste.
- **Energy efficiency:** Switching to LED lights.
- **Green spaces:** Creating parks and gardens in urban areas.
- **Eco-friendly transport:** Using bikes or public transportation instead of cars.
- **Supporting local products:** Reducing carbon emissions by buying locally.





## How does sustainability affect our everyday lives?

- **Healthy environment:** Cleaner air, water, and soil by reducing pollution.
- **Resource savings:** Using renewable energy and recycling decreases resource consumption.
- **Improved quality of life:** Investing in green spaces promotes mental and physical health.
- **Securing the future for generations:** Protecting natural resources for our children and grandchildren.
- **Informed choices:** Buying local products, saving energy, and reducing waste positively impact our surroundings.



*Small actions can make  
a big difference  
for the future.*

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## The Three Pillars of Sustainable Development

- 1. Environment** – Protecting ecosystems and reducing pollution to ensure a healthy planet.
- 2. Society** – Promoting equity, access to education, healthcare, and human rights.
- 3. Economy** – Developing solutions that balance progress with environmental stewardship.



# More about the sustainability

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Let's have a look at this  
YouTube video!



<https://www.youtube.com/watch?v=zx04Kl8y4dE>



## Environmental Issues:

- Pollution of air, water, and soil leads to health problems and habitat destruction.
- Overexploitation of resources, such as deforestation and overfishing, depletes nature's wealth.
- Increased greenhouse gas emissions contribute to global warming.

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**Every year, millions of hectares of forests are lost, impacting both people and wildlife.**



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## Climate Change. What is it?

- Climate change refers to long-term changes in temperature, precipitation, and weather patterns, largely driven by human activities.
- Rising global temperatures affect ecosystems and agriculture.
- Melting glaciers contribute to rising sea levels.
- Droughts and floods are becoming more frequent and severe.

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Let's have a look at this  
YouTube video!

# Causes and Effects of Climate Change



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[https://www.youtube.com/watch?v=G4H1N\\_yXBIA](https://www.youtube.com/watch?v=G4H1N_yXBIA)



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## Causes of Climate Change

- Burning fossil fuels such as coal, oil, and natural gas for energy.
- Deforestation reduces the planet's ability to absorb CO<sub>2</sub>.
- Industrial production generates significant greenhouse gas emissions.
- Intensive farming practices release methane and nitrous oxide.

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## Consequences of Climate Change

- Coastal regions face threats from rising sea levels, displacing millions of people.
- Wildlife habitats are shrinking, leading to the extinction of species.
- Natural disasters like hurricanes, heatwaves, and wildfires are increasing.
- Access to clean water becomes more challenging as supplies dwindle.

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## What is a Carbon Footprint?

A carbon footprint measures the total greenhouse gases generated by our actions, expressed as CO<sub>2</sub> equivalent.

### How can we reduce it?

- Use public transport, bike, or walk instead of driving.
- Save energy by turning off lights and unplugging devices.
- Choose local and seasonal food to minimize transportation emissions.



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## Biodiversity. Why is it important?

- Each species plays a unique role in maintaining ecosystem balance.
- Loss of biodiversity affects food security, medicine, and natural resilience.
- Preserving it ensures a healthier environment for all.





## How to Protect Nature

- Plant trees to combat deforestation and create habitats for wildlife.
- Properly dispose of waste to prevent pollution in natural areas.
- Support the protection of endangered species by avoiding products made from them.
- Volunteer or donate to conservation efforts.



## Renewable Energy. What is it?

It comes from sources that naturally replenish themselves, such as:

- Solar power from sunlight.
- Wind power harnessed from the air.
- Hydropower generated from water flow.

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## Advantages of Renewable Energy

- Produces no direct greenhouse gas emissions, helping combat climate change.
- Uses resources that are abundant and sustainable.
- Encourages technological innovation and job creation.
- Reduces dependence on finite fossil fuels.

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## How to Save Energy

- Turn off lights and appliances when not in use.
- Use energy-efficient LED bulbs instead of incandescent ones.
- Seal windows and doors to prevent heat loss during winter.
- Choose appliances with high energy efficiency ratings.





## Water – A Precious Resource

### Why is water important?

- It is essential for all forms of life.
- Only 1% of Earth's water is fresh and accessible for human use.
- Water scarcity affects over a billion people worldwide.



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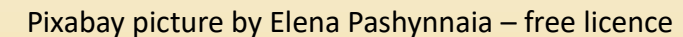
## How to Save Water

- Turn off the tap while brushing your teeth.
- Fix leaky faucets to avoid wasting water.
- Collect rainwater for watering plants.
- Run washing machines and dishwashers with full loads.



## What happens to waste?

- Much of it ends up in landfills or is incinerated, polluting the environment.
- Recycling helps transform waste into new products, saving resources.
- Reducing waste minimizes environmental impact and conserves energy.

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## How to Recycle Effectively

- Sort plastic, paper, glass, and metals into appropriate recycling bins.
- Compost organic waste to create natural fertilizer.
- Avoid contaminating recyclables with food residues.
- Follow local recycling guidelines to maximize efficiency.

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## Responsible Shopping

- Look for eco-friendly labels and certifications.
- Buy only what you need to reduce waste.
- Avoid single-use plastics and opt for reusable alternatives.
- Support local businesses to reduce the carbon footprint of products.



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## Transportation

- Walking and cycling are the most eco-friendly ways to travel short distances.
- Use public transport instead of private cars.
- Share rides with friends or use carpooling services.
- Consider switching to electric or hybrid vehicles.



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## Environmental Education

- Learn about local ecosystems and their challenges.
- Teach others about the importance of sustainable living.
- Participate in community cleanup events.
- Organize workshops and discussions on environmental issues, and...

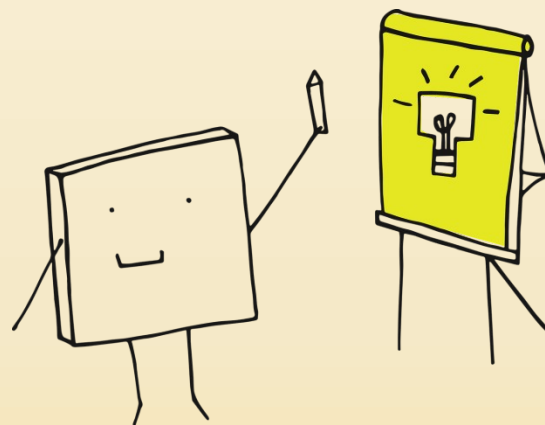
**...take part in this training!**



# B: Digital scavenger hunt



## Training phase



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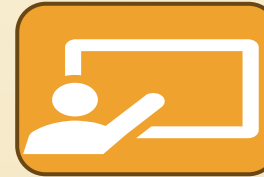


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# Your task:

- Discuss and identify eco-friendly initiatives!
- You have 6 days.
- Work in groups and show the results to the others.



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## DAY 1

Discuss in your group what initiatives, activities, or things you consider sustainable. Write your ideas in Table 1 on the following pages of your worksheet. There should be at least 5 of these ideas, but the more the better.

## DAY 2-3

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Take photos or record short videos of the initiatives, activities, or things you have identified.



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## DAY 4-5

Prepare a digital presentation or infographic showing the initiatives, activities, or things you have identified. Remember to provide a specific impact for each point, such as why you consider them sustainable in the first place.

## DAY 6

Present your findings!

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# H5P- Tasks:

I had a problem with preparing H5P... Could you please help me? I prepared the content...



## Drag the Words – Three Pillars of Sustainable Development

1. The first pillar is focused on protecting the **(environment)** by reducing pollution and preserving nature.
2. The second pillar ensures equal rights and opportunities for **(society)**.
3. The third pillar supports an economy that thrives without harming the **(planet)**.

## Memory Game – Renewable Energy Sources

### Cards:

1. Solar Energy – Picture of solar panels.
2. Wind Energy – Picture of wind turbines.
3. Hydropower – Picture of a dam or water flow.
4. Geothermal Energy – Description: "Heat from beneath the Earth's surface."
5. Biomass – Description: "Energy from organic materials like wood and agricultural waste."





# Congratulation!

## You mastered the activity on Sustainability in the Virtual World!

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