



Making a Cleaner World: What's My Impact?

Do you know what your daily impact on the environment is? Is it generally positive, or is there room for improvement?

In this discussion, you and your learners will explore common daily activities that have positive or negative effects on the environment. Dive in to learn some new ways to prevent pollution and make a cleaner world!



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HANDS-ON STEM EDUCATION

For over 30 years, PCS Edventures has inspired students to develop a passion for Science, Technology, Engineering and Mathematics (STEM), focusing our efforts on making learning and discovery a fun and interactive process for grades K-12.

- Classroom
- After-School
- Home Learning

STEAM Connections

Science: Earth, Physical & Life; Technology: Communication & Collaboration

Overview

Discuss how being mindful about our daily activities can help the environment by reducing pollution and waste.

Key Terms

Pollution: the introduction of something that has a harmful or poisonous effect on the environment.

Background Information

Cleaning up our environment is a global effort. From corporations and governments to community movements and individuals, everyone has a part to play in reducing pollution and preserving ecosystems for future generations. Even students can engineer solutions to common problems and make a positive impact. Here is one example, where [Idaho teens designed recycle bins for city parks](#).



There are many different ways we can adjust our daily activities and contribute to a cleaner world. In the following activity, learners will identify positive and negative impacts on the environment and discuss potential solutions to common problems. Consider using this discussion to:

- Quickly increase your learners' awareness of their impact on the environment.
- Kick off a larger lesson about a sustainability topic.
- Research individuals currently working on solutions.
- Identify a problem in your community and pose an engineering design challenge to solve it.

Whole Group Discussion

Model a responsive classroom by starting your morning meeting, discussion time or special lesson with this activity:

Did you know that even the little things we do every day can impact our communities and local environment? I'm going to share a list with you, and one by one, I want us to vote on if it's something that has a positive or negative impact on the environment.

As you read each statement, encourage learners to make their case about why something may or may not pollute the environment.

What's our impact?

- 1 **Using aerosol sprays, deodorants or cleaners?** (Aerosol cans release compressed gasses like nitrous oxide and hydrocarbons, two global warming contributors. What are some alternatives to common aerosol products?)
- 2 **Recycling plastic shopping bags, or using reusable bags instead?** (Plastic bags commonly become litter and end up in water sources. Recycling them properly allows them to be turned into new products. Plastic reusable bags offset their environmental impact after about 11 uses.)
- 3 **Throwing chewing gum on the ground?** (Chewing gum is the world's 2nd most common form of litter. Conventional gum is made of synthetic plastic, which doesn't biodegrade. It can take hundreds of years for a single piece of gum to decompose.)
- 4 **Re-planting vegetables from the store?** (Did you know that you can reduce food waste by re-planting veggie scraps, such as carrot tops or green onion roots? Plus, growing plants helps filter air pollutants. Learn how to start your own kitchen scrap garden at: <https://build.edventures.com/gardens/>)



- 5 **Washing or brushing with the water running?** (Scientists estimate you would save over 6 gallons of water per person per day if you turned the water off while you washed your hands and brushed your teeth.)
- 6 **Donating, trading-in, or recycling your old cell phone?** (If a device still works, let someone make use of it! Even broken or obsolete devices are a treasure trove of precious metals and other materials that can be recycled into new products.)
- 7 **Having helium balloons at your birthday party?** (While helium is a finite resource, it does not harm the environment when released into the atmosphere. However, run-away balloons can float to the most remote places in the world, littering, harming animals and even causing power outages.)
- 8 **Boiling a pot of water for your cup of tea?** (When boiling water on the stove, much of the heat is lost into the air, wasting energy. Electric kettles are about twice as energy-efficient. Alternatively, even your microwave takes the lead over the stovetop. Remember to use a microwave-safe mug!)
- 9 **Spilling soap in your driveway?** (Scientists have shown that most soaps break down before they enter the main water systems, meaning soap does not have a negative impact. Remember to look for eco-friendly soaps that come in recyclable containers.)
- 10 **Using pesticides to keep bugs out of your home?** (Chemical pest prevention can leak into the soil, water and air, and it may hurt pollinators or other animals. What are some ways you can eliminate harmful pests without harming the surrounding ecosystem?)

- 11 Charging your phone overnight?** (Over-charging or letting a phone run dead can put strain on the battery. Keeping a lithium-ion battery at 30%-80% charge reduces this strain and can lengthen the device's lifespan.)
- 12 Throwing a banana peel into the trash can?** (Banana peels, apple cores, leaves and all sorts of organic material can be composted instead of sent to landfills. Compost reduces greenhouse gas emissions, helps nourish plants, improves soil health and can eliminate the need for artificial fertilizers.)
- 13 Keeping outside lights on all night?** (Outdoor lights contribute to light pollution. Too much light when the sun goes down disrupts ecosystems and confuses nocturnal animals. What are some ways we could reduce light pollution without compromising people's safety?)
- 14 Change the thermostat when no one is home?** (Reducing the heat or AC when no one is home saves energy and lowers your family's power bill. Can you think of more ways to keep the heat or AC from leaking out of your home?)



Check for Understanding

- How can you reduce daily pollution?
- How can you have a positive impact on the environment?

Extensions:

Challenge learners to build a plan to help reduce their carbon footprint. Riding bikes, turning off lights, planting a garden, unplugging the TV, washing with cold water — what steps will they take to make a positive environmental impact?

Want to learn more? Have students calculate their carbon footprint with this EPA tool: <https://www3.epa.gov/carbon-footprint-calculator/>

For more hands-on, eco-friendly activities, check out: <https://build.edventures.com/gardens/>

This Discussion Script is modeled from PCS Edventures' turn-key STEAM Programs, housing everything you need to hop right into a lesson. Looking for more environmental engagement? Check out:



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