

TCE Communication and Expression Techniques

Level: 2nd Year (Licence)

Biological Sciences

Food Sciences

Agricultural Sciences

Ecology and Environmental Sciences

Topic 3. Pollution

Pollution is a major environmental problem that affects the quality of air, water, and soil all over the world. It happens when harmful materials or energy are introduced into nature, causing changes that negatively impact living organisms and ecosystems. The main sources of pollution are human activities, especially industrialization, urbanization, transportation, and intensive agriculture.

Air pollution is one of the most visible forms. It comes mainly from car exhausts, factories, and the burning of coal or oil. These activities release gases such as carbon dioxide (CO₂), sulfur dioxide (SO₂), and nitrogen oxides (NO_x) into the atmosphere. These pollutants contribute to global warming, acid rain, and respiratory diseases. Air pollution also damages the ozone layer, which protects the Earth from harmful ultraviolet rays.

Water pollution affects rivers, lakes, seas, and groundwater. It results from the discharge of chemicals, plastic waste, and untreated sewage. Pesticides and fertilizers used in agriculture often end up in water bodies, causing eutrophication a process that reduces oxygen levels and kills aquatic life. Polluted water is also dangerous for humans and animals, as it can carry toxic substances and pathogens.

Soil pollution is another serious issue caused by the accumulation of solid waste, industrial chemicals, and heavy metals. These substances degrade the soil's natural balance, reduce crop productivity, and contaminate food sources. In urban areas, improper waste disposal and uncontrolled landfills increase the risk of soil contamination.

The consequences of pollution are alarming. They include climate change, the loss of biodiversity, damage to ecosystems, and health risks for humans and animals. Pollution also affects the economy by reducing agricultural yields and increasing healthcare costs. To fight pollution, solutions must be applied at all levels. Governments should promote environmental education, enforce pollution control laws, and encourage green technologies. Industries must treat their waste before releasing it into the environment, while citizens can help by recycling, reducing plastic use, and supporting renewable energy.

Pollution is not just an environmental issue it's a shared responsibility. Protecting the planet starts with each of us. By making small, sustainable choices and respecting nature, we can help build a cleaner, healthier, and more hopeful future for all living beings.

Questions, critical analysis, and writing skills

1. What is pollution, and what are its main types?
2. What are the main causes of air, water, and soil pollution?
3. How does air pollution affect human health?
4. What are the effects of water pollution on aquatic life?
5. Why is soil pollution dangerous for agriculture?
6. Which type of pollution do you think is the most harmful, and why?
7. How is pollution connected to climate change?
8. What role does technology play in reducing pollution?
9. What are “pollutants”? Give two examples.
10. Identify two gases responsible for acid rain.
11. What is meant by “sustainable development”?
12. What are “heavy metals,” and why are they dangerous?
13. Give the definition of the terms below:

Pollutants, ecosystem, industrialization, urbanization, carbon dioxide CO₂, sulphur dioxide SO₂, nitrogen oxides NO_x, global warming, acid rain, respiratory diseases, pesticides, fertilizers, eutrophication, heavy metals, biodiversity, renewable energy, recycling, greenhouse gases, sustainable development.

14. Write a short paragraph describing one type of pollution in your city and propose a possible solution.

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