

Environmental Stewardship

Lesson 6: Human contributions to water pollution

Grade Level: 9-12

Time Required: ~50 minutes

Summary/Objective

The purpose of this lesson is for students to determine our impact on water quality. Throughout this activity, students will discover how water is polluted, different types of water pollution, effects that pollution has on humans and the environment, and strategies to mitigate pollution.

Engineering Connections: Environmental Engineering

Water is one of our most valuable resources. Due to daily activities, environmental engineers need to determine ways to effectively mitigate pollution of our natural bodies of water, ground water, & aquifers.

Standards

HS-LS2-7 Ecosystems: Interactions, Energy, and Dynamics

Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.*

HS-ESS3-4 Earth and Human Activity

Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.*

HS-ETS1-1 Engineering Design

Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.

HS-ETS1-3 Engineering Design

Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.

I can:

- Describe types of water pollution
- Determine what underlying causes contribute to the reduced water quality.
- Indicate the implications of reduced water quality.

Lesson Materials:

- [Video Link](#)
- [Fact Sheet](#)

Associated Activities

- [Water Pollution Webquest](#)

4. Describe how you can have an impact in reducing water pollution.

Assessment

- Analysis of different water samples
- Discussion of findings during activity

Contributors

Kim McVicar - West Fargo Sheyenne High School

Mike Dobberstein - Fargo North High School

Acknowledgements

This curriculum was developed under National Science Foundation RET grant # 1953102. However, these contents do not necessarily represent the policies of the National Science Foundation, and you should not assume endorsement by the federal government.