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
Water Pollution Webquest

**Directions:** Using the following two links, complete the water pollution questions below. Please answer the questions in your own words.

1. What is water pollution?

2. List & briefly describe the different categories of water pollution.

3. Describe the effects of water pollution on:
   
   A. Humans
   
   B. The environment
4. Describe how you can have an impact in reducing water pollution.
Assessment

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

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