

Enviroscape: Human Impact

Time Frame: 20-30 minutes

Age: 7 and up

Group Size: 5-25

Setting: Indoor, outdoors

Staff: 1

Use: Out-of-class

NYS Education Standards:

MST-Section 4: Living Environment

Students will: understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.

- *Key Idea 5:* Organisms maintain a dynamic equilibrium that sustains life.
- *Key Idea 6:* Plants and animals depend on each other and their physical environment.
- *Key Idea 7:* Human decisions and activities have had a profound impact on the physical and living environment.

Objectives:

- ✓ Students will be able to restate how humans impact the environment
- ✓ Students will be able to articulate how humans can become better stewards of the environment
- ✓ Students will be able to describe the effects of pollution on an environment

Motivation: Demonstration

Materials: Enviroscape or similar model (<http://www.envirosapes.com/>), small jug to hold water, hot cocoa mix, box of food dye, 1-3 spray guns

Pre-Lesson Procedures:

1. Set up Enviroscape/model.
2. Have pollutant supplies ready.

Lesson Procedures:

Introduction (2-4 minutes)

1. Introduce yourself and the I FISH NY program.
2. Introduce day's activities:
 - a. Discussion on pollution
 - b. Our impact on the environment

Pollution Discussion (5-12 minutes)

1. Ask students what pollution is?
2. Discuss how water moves:
 - a. Runoff
 - i. Can carry garbage and pollutants above ground
 - b. In the ground

- i. Can carry soil and pollutants in the soil
- c. Evaporation
 - i. Goes back into the atmosphere

Enviroscape (5-12 minutes)

1. Introduce the Enviroscape.
 - a. A representation of their local hometown or neighborhood.
2. Point out the areas on Enviroscape.
 - a. Neighborhood and construction site
 - b. Golf course
 - c. Sewage plant
 - d. Industrial plant and parking lot
 - e. Farm with well and plowed field
 - f. Roadway
 - g. Watershed; name of water body they are near
3. Discuss different pollutants in each area.
 - a. Have students sprinkle cocoa powder and food dye to represent toxic waste, oil, garbage, etc. in the different areas
 - b. Have students make it “rain” on the Enviroscape (not targeting one specific area)
 - i. Show the students the groundwater and water body with the pollutants inside of it
 - ii. Discuss local water source; in our case Long Island
Say: Does anyone know where Long Island gets its water from? What is an aquifer?

Closing (1-2 minutes)

1. Ask if there are any questions.
2. Re-cap lesson.
 - a. Say: Remember, even though we don't know we are doing something, our actions affect the environment.