

ENVIRONMENTAL ENCOUNTERS

Lesson Plans for the Science of Water



Water and Our Ecosystem

Suggested grade level:

Eighth grade

Objective:

Students will be able to explain the connections between water quality and ecosystem health.

Curriculum ties:

- ✓ Eighth grade Science Integrated Science Standard 2 Objective 3 a-d
- ✓ Earth Science Standard 2 Objective 2 a-c, Standard 4 Objective 1 c, e
- ✓ Language Arts Standard 3 Objective 1 a-d, Objective 2 a-d, Objective 3 a-d

Time needed:

- ✓ Prep: 1 hour
- ✓ Pre trip: 2 hours
- ✓ Garden 1-2 hours
- ✓ Post trip: 4+ hours

Materials needed:

- ✓ A small board or cookie sheet
- ✓ Food coloring, colored gelatin, colored drink mix, and/or cooking oil
- ✓ Water
- ✓ Large plastic or glass container
- ✓ Elements of the Environment chart (attached)

Teacher notes:

In this activity students will learn about water and the ecosystem. Students should know that an ecosystem is all of the living and non-living elements of an environment including water, soil, plants, animals, climate, nutrients, energy, and people. They should also know that energy moves through the ecosystem from the sun to plants to animals and people. If part of the ecosystem is damaged it can affect all the other parts, especially if the damaged part is the water supply, since every living thing in the ecosystem depends on water.

Procedures:

Preparation

Call 801-565-4314 to schedule your visit to the Conservation Garden Park at Jordan Valley.

In the classroom

Students will learn about how water moves through the ecosystem, and where it can become contaminated, such as by excess fertilizer or pesticides, and oil leaks from cars. To demonstrate this, get a small board and sprinkle it with food coloring, colored drink mix, colored gelatin mix and/or cooking oil. Explain to the students that this represents the ground covered in pollution. Then pour water over the board so that the water and pollutants flow down into a container. Tell the students this represents what



happens to pollution. Some of it runs into the water, and the rest seeps into the ground. Have the students design research questions about how people affect water quality and how it can affect us.

Field trip

The Garden guide will tell students about water and the ecosystem at the “Rain Gardening” exhibit and the “Outsmarting Invaders” exhibit. Students will observe and record in their Elements of the Environment chart the factors in the ecosystem at the Garden and note which factors are influenced by people. They will then look for information relating to their research questions.

Follow up

Students will complete and present their report on their water quality question. They should include predictions about how people may continue to influence water quality and how that may affect the ecosystem in the future. This can also be done in small groups.

Assessment:

The students’ reports will indicate whether or not they understand the connection between water quality and ecosystem health.