



Merry Lea

*Environmental Learning Center
of Goshen College*

Water Quality

6th - 8th

Program Description

What, if anything, is wrong with our water? How did it get that way? What can be done about it now? Students address these questions using modern equipment and techniques to conduct water sampling experiments. Explore a lake ecosystem in canoes and waders to assess biological indicators, pollution, siltation and human impacts on water quality.

Program Objectives

Students will:

- Explore a lake ecosystem using canoes and waders
- Conduct sample field tests used by professionals for a variety of water quality parameters
- Sample for aquatic macroinvertebrates, learn to identify them and utilize this data as an indicator of water quality

Program Outline

Students rotate in groups through four different activity stations:

1. **Wetland Dipping:** Students use waders and nets to dip for aquatic macroinvertebrates in a lake ecosystem.
2. **Wetland Lab:** Students use microscopes and field guides to identify aquatic macroinvertebrates. Then students explore how this data can be used to determine the water quality of the lake at the time of the program.
3. **Canoeing:** Students partner up and use canoes and scavenger hunts to do a physical assessment of the lake's health.
4. **Water Quality Testing:** Students practice using field tests for water quality parameters like dissolved oxygen, pH and nitrogen.

Vocabulary

- Water quality
- Macroinvertebrate
- Dissolved oxygen
- Turbidity
- Pollution Tolerance Index

Quick Facts



Season	Fall: September - November Spring: April - May Summer: June
Grades	6th - 8th
Program Length	4 hours
Maximum # of Students	35 Students

Standards Correlation

LS2.B: Cycles of Matter and Energy Transfer in Ecosystems: Food webs are models that demonstrate how matter and energy is transferred between producers, consumers, and decomposers as the three groups interact within an ecosystem. Transfers of matter into and out of the physical environment occur at every level. Decomposers recycle nutrients from dead plant or animal matter back to the soil in terrestrial environments or to the water in aquatic environments. The atoms that make up the organisms in an ecosystem are cycled repeatedly between the living and nonliving parts of the ecosystem. (MS-LS2-3)

LS2.C: Ecosystem Dynamics, Functioning, and Resilience: Biodiversity describes the variety of species found in Earth's terrestrial and oceanic ecosystems. The completeness or integrity of an ecosystem's biodiversity is often used as a measure of its health. (MS-LS2-5)

LS2.D: Social Interactions and Group Behavior: Changes in biodiversity can influence humans' resources, such as food, energy, and medicines, as well as ecosystem services that humans rely on—for example, water purification and recycling. (secondary to MS-LS2-5)

