Eagle Bluff Environmental Learning Center

Pond Life

Class Summary

Quick Facts

Outside: 1 hours 30 minutes
Grade: 4-8th
Offered: April though October
Physical Activity: 1/4 mile walk including a steep hill
Other: No special skills required

Concepts

- Form and Function
- Identification
- Diversity
- Human Impact

Minnesota Academic Standards >

- Science
- Math
- Language Arts

Classroom Activities >

- Pre-Activity: *What's Your Function?*
- Post-Activity: *Portable Pond*

STEM Components

- Identify / Classify
- Illustrate
- Observe / Study / Examine
- Describe
- Explain

IB Profiles

[X] Inquirers	[ ] Open-minded
[X] Knowledgeable	[X] Caring
[X] Thinkers	[ ] Risk-takers
[X] Communicators	[ ] Balanced
[X] Principled	[X] Reflective

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Outcomes, students will:

1. Observe and study how physical adaptations are beneficial to aquatic invertebrates.
2. Understand how a diversity of organisms promotes a healthy ecosystem.
3. Illustrate how macroinvertebrates can be used to study the affects of human actions on aquatic ecosystems.

Brief Synopsis:

Participants will catch and identify examples of a variety of aquatic organisms, learn how their adaptations allow for survival in an aquatic habitat, and explore how bio-indicators (organisms sensitive to environmental changes) help humans understand how our actions can impact aquatic ecosystems.

Outline:

Creature Feature (10 minutes)

A set of cards illustrating the unique features of some local aquatic creatures will be used by the class to match up what the features look like with how the features help each creature survive better in the water. Understanding how form and function fit together will help each student better identify the creatures they will find while exploring the pond.

Exploring the Pond (1 hour)

Using various nets, hand lenses, ID keys and pictures, students will capture and identify aquatic invertebrates found in Eagle Bluff's pond. The edges of the pond are muddy and students may get mud on their shoes, or choose to barrow a pair of rubber boots. Creatures will be studied and returned to the pond unharmed in order to illustrate respect for these small creatures.

Invertebrate Observations (45 minutes)

Each pair of students will select one captured creature to bring back to the classroom laboratory. Once inside, the creatures will be examined and observed to find out how the creatures use their features for survival. After careful observation, each duo will create and share a short presentation to describe the discoveries of their creature to the rest of the class.

Macroinvertebrate Mayhem (30 minutes)

Aquatic species are often sensitive to changes in their habitats, making them bioindicators for the health of that habitat. A tag-style game will be played in which each student becomes a different species of macroinvertebrate trying to survive alterations to their habitat due to human activities. Specialized movements that correspond with adaptations of each creature slow down the more sensitive species, making them better targets for pollutants to effect.