



# Pond Explorations

Grades: 3-5

## **Standards**

Michigan K-12 Standards in Science

Next Generation Science Standards

## **STEM Connection**

Pond exploration lets students “get their feet wet” in all sorts of STEM focused activities; from species identification to habitat health the pond is “filled to the gills” with STEM systems.

## **Urban Futures Connection**

Aquatic habitats can be found in both urban and rural areas alike. We will focus on how these habitats interact with the larger ecosystem and why they are an important aspect in our Urban Future.

## **Take Home**

Activity worksheets are available via email upon request.

## **Overview**

Pond programs will be held at the historical Rose Garden Pond that was formerly part of the grounds of the Henry Ford Estate. This shallow, easily accessible pond is perfect for discovering local aquatic life.

## **Details**

- This program lasts 2 hours and can be adapted to suit your needs
- Offered from mid-April to early November.
- Appropriate for Grade Levels preK-12th.

## **The Experience**

In this program students will be engaged in a multifaceted program experience with activities that may include:

- Using dip nets to capture and examine various pond creatures
- Discussing science terms and concepts such as adaptation, life cycles, food web, ecological community, metamorphosis, carnivore, herbivore, and omnivore in relation to pond creatures captured and observed.
- Using aquatic life identification keys to identify creatures they may find.

## **Helpful Hints**

This program will be held in the great outdoors, rain or shine. Please make sure students are dressed for the weather. While we practice pond safety please pay close attention while using dip nets.

## Standards

### **3rd Grade**

3-LS3-2

Use evidence to support the explanation that traits can be influenced by the environment.

- Students will discuss how adaptations of creatures captured in the pond lend to their ability to survive in an aquatic environment. .

3-LS1-1

Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.

- Students will discuss various life cycles within the pond including both complete and incomplete metamorphosis.

### **4th Grade**

4-LS1-1

Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

- Students will examine different structures and consider how they are useful and unique to those aquatic species.

4-ESS3-2

Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans. \*

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- Students will discuss ways they can protect water habitats in their own communities.

### **5th Grade**

5-LS2-1

Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

- Students will observe examples of and discuss the cycling of organic material among organisms.

5-PS3-1

Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

- Students will be able to relate the cycling of energy comes from photosynthesis and climbs up the food chain. Various ecological interactions such as predator/prey will be discussed.