Pond Dipping

Teacher's Guide

SASKATOON ZOO SOCIETY

saskatoonzoosociety.ca

POND DIPPING PROGRAM

SUBJECT:
Science

GRADES:
1-4

CURRICULUM CONNECTIONS:

Grade 1:
Needs and Characteristics of Living Things

Grade 2:
Animal Growth and Changes

Grade 3:
Plant Growth and Changes

Structures and Materials

Grade 4:
Habitats and Communities

OVERVIEW:
The Pond Dipping program looks at the variety of invertebrates that call Saskatchewan home and their different characteristics. We explore the importance of ponds and what other animals may depend on these sites for food, water, shelter and nesting sites. Students will be dipping off the pond dock during this program.

OBJECTIVES:
1. Students will be introduced that a pond is a small, shallow body of water with relatively uniform temperature throughout.
2. Students will be able to explain the difference between an invertebrate and a vertebrate animal.
3. Students will be able to tell at least one reason why ponds/wetlands are important.
4. Through observation and teachings, students will learn that invertebrate animals may be herbivores or carnivores.
5. Students will learn that many animals rely on ponds/wetlands for their survival.

KEY VOCABULARY:
Invertebrate: an animal lacking a backbone
Carnivore: an animal that eats primarily meat
Herbivore: an animal that eats primarily plants
Larva: immature stage of an invertebrate's life
Habitat: Where a living organism naturally lives including all the living and non-living interactions
Amphibian: a vertebrate animal characterized by having smooth, moist skin and having an aquatic, gill-breathing larval stage that is followed (usually) by a terrestrial lung-breathing adult stage
Pollution: the presence of a substance in the environment that has harmful effects
Metamorphosis: the transformation of an immature stage to an adult form in two or more stages (insects and amphibians)
Bird sanctuary: an area in which birds are protected and encouraged to breed

BACKGROUND INFORMATION
This program will focus on invertebrates. Students will be dipping off the North Pond (also known as the Prairie Marsh). This pond is a man-made pond and has been around for approximately 50 years. It is part of the Sutherland Migratory Bird Sanctuary that was established back in 1925 to protect migratory birds and encourage breeding.

PRE-VISIT ACTIVITIES

Activity One

What is a habitat? Introduce the idea of habitat and community by having students draw pictures of where they live. The pictures should include things such as where they get their food, where they sleep, where they eat, etc. Then, using a big pond picture (with separate organisms that can be stuck on-or do on a SMART board), brainstorm what organisms they think would live in a pond. Where do they sleep, eat, get their food, etc?

Activity Two

Sensory Awareness Brainstorm: Provide the students with a paper that has two columns on it, or use one of their notebooks (or computer program if using). On one side, have the students list what they think they will see, smell, hear and feel at the pond. Guiding questions such as - what kind of animals live in a pond? What animals might live around the pond? Leave the other side for your return from the program (see post-visit activity 1)

Activity Three

The beaver is one of the animals in the Seven Sacred Teachings. The beaver symbolizes wisdom. The beaver uses its wisdom to use it's gifts it was given wisely. What gifts do you think the beaver has? Builds dams to ensure water is deep enough to build a lodge. They build a lodge to provide habitat and protection for themselves and their young. They constantly chew on trees and other plants to keep their teeth the correct length as they continuously grow. What else can they learn about the beaver and its special adaptations? Have the students do a mini report on the beaver and how it can create its own pond! Why is it so special to Indigenous people?

POST-VISIT ACTIVITIES

Activity One

Now that the students have been at the program, have them fill in the other side of their Sensory Awareness Brainstorming activity. What all did they see, feel, hear and smell at the pond? Was there anything that was surprising to them? Can they write about what they learned at the pond?

Activity Two

Have the students make up a story about a pond character. Maybe Darla the Dragonfly or Larry the Leech. Do they remember any special adaptations that the invertebrate animal had that they can incorporate into their story (more appropriate for the older grades). What sort of things could affect the animal in the pond (drought, pollution, predators, etc) that they could incorporate into their story.

Activity Three

In the program, students looked at the North pond at the Zoo. Are there any other areas nearby that you could pond dip safely with the students and compare with what you found at the Zoo pond? If not, compare the lifecycles of different insect invertebrates and some of the amphibians. Can they match the larval stage with the correct adult stages after your discussion?