



Quarrybrook

EXPERIENTIAL EDUCATION CENTER

Program Title: **Wild Wetlands**

Theme: Wetlands are varying habitats, which provide unique homes and resources to a large number of plant and animal species.

Audience: 2nd grade students

Next Generation Standards:

2-LS2-1 Plan and conduct an investigation to determine if plants need sunlight and water to grow.

2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats.

2-ESS2-2 Develop a model to represent the shapes and kinds of land and bodies of water in an area.

Goals: This field class is best suited for the spring season. Students will closely investigate one of Quarrybrook's wetland habitats, either a vernal pool, flowing stream, or beaver pond. Students will use field equipment to collect invertebrate samples, identify species with field guides, and record information and draw scientific illustrations on their take-home datasheet.

Objectives:

- **What are the objectives?** Students will learn how to safely and carefully collect live invertebrate specimens for observational study. Students will experience field collection methods. Students will be able to identify aquatic species. Students will become familiar with recording field data and drawing scientific illustrations.
- **How will they be measured?** Students will use field equipment to collect water and mud samples for observation under magnifying lenses. Students will use field guides to identify aquatic species. Students will record information about the species they find and draw detailed illustrations, on their take-home datasheet.

Program Outline:

Activity 1: WHO IS SWIMMING IN THIS POOL? (90 min.) – Students will be led to one of Quarrybrook's wetland habitats, either a vernal pool, flowing stream, or beaver pond. They will learn that these are very sensitive areas and important nurseries for many different animal species, including invertebrates and amphibians. We will talk about the need to move and work carefully in this delicate habitat, to make sure we do not damage the wetland with our activity. After an introduction of the ecology of the area, students will be led through a demonstration of how to properly use the collecting tools. Equipment will include small aquarium nets, scoopers, collection vials, and observation trays. Students will be given their datasheet and an explanation of the information they will be asked to record. We will then divide the students into small research sub-teams and set them up at designated stations. Student teams will have time to explore freely and collect small invertebrates before we gather back together as a group and discuss observations and experiences.



Each student research sub-team will need the supervision and guidance of an adult throughout the exploration and collection period. Quarrybrook staff will explain and demonstrate all field methods to the entire group. Teachers and chaperones will be helpful in keeping their sub-teams focused and in guiding them in careful collection practices.

Activity 2: DATA RECORDING AND ILLUSTRATING (30 min.) – Once the exploration and collection period is complete, students will sit with their sub-teams and use their magnifying lenses and observation trays to take a closer look at the specimens they have found. Sub-teams will use field guides to identify their aquatic species. Each student will record species information on their datasheet, then choose at least two different invertebrates to illustrate. Following this observation and illustration period, Quarrybrook staff will explain to the group how to carefully release their live specimens back into the habitat.



Teachers and chaperones will continue to assist their sub-teams by guiding them in their observations and identifications, and encouraging them to complete their data recording and illustrations in detail.

Conclusion/Wrap-up: Sub-teams will have the opportunity to share with the entire group which species of aquatic life they have observed and identified.