

Shadow Lake Bog Improves Water Quality

Shadow Lake Bog is a special type of wetland (*Palustrine*), characterized by highly acidic, water-logged (*hydric*) soils nearly devoid of oxygen (*anaerobic*), and dominated by spongy mosses (*Sphagnum moss*).

Bogs are typically found in formerly glaciated areas and are estimated to be over 10,000 years old, It is impossible to recreate this vital and dynamic ecosystem.

-Wetland Functions and Values-

- * **Education & Research**
- * **Recreation, Tourism & Cultural Value**
- * **Fish & Wildlife Support (Reservoirs of Biodiversity)**
- * **Climate Change Mitigation**
- * **Water Quality Improvement:**
 - o **Wetlands/ Bogs are natural sponges**
 - o **Wetlands filter substantial amounts of contaminants**
 - o **Drastically reduce flood damage**
 - o **Recharge aquifers**
 - o **Storm/ Erosion control**
 - o **Water supply**

Shadow Lake Bog, Renton, Washington
Bog Formation and Function

Learning Objectives: Students will gain a basic understanding of how a bog is formed. Students will also gain an understanding of how a bog functions within an ecosystem.

Essential Learning Outcomes:

Communication: 1.1.1, 1.1.2, 1.2.1, 2.1.1

See each station for appropriate State outcomes

Environmental Education Guidelines for Washington State: Please see the full appendix at the end of the field trip packet.

Materials:

Clipboard

Pencil

Butcher paper

Giant Sponge Data Sheet

Log Recyclers worksheet

Scavenger Hunt checklist

Markers

Lesson:

Welcome to Shadow Lake Bog! Today you will be learning what a bog is and how it works. We will be working in small groups so that everyone will get a chance to do everything! (*refer to poster schedule chart*) As you can see, each group will be doing different things at different times. Each of you will learn how logs are recycled and play a fun game. You'll also get to do a cool experiment with water on how a bog works and you'll go on a bog scavenger hunt! Everyone will also make a part of a mural that we will display at the end of our time together. Here we go!

Students will rotate in their groups determined by the schedule posted. Each group will have an adult volunteer to monitor student behavior. All personnel will meet back at the interpretive center driveway for the formation of the mural and presentations.

Each group will now get a chance to present their portion of the mural. Will the group who made stage 1 come forward and tell us 3 things in your mural. Great, how about stage 2? Nice job! Stage 3 please. Nice! Stage 4. Well done! Finally, let's have stage 5. Terrific job by everybody! You can see when we post them on the wall that the formation of a bog takes a lot of time. The bog you have experienced today is approximately 10,000 years old!

Thank you so much for coming today! Make sure to check our website at www.shadowhabitat.org to see what's new at the bog and look for information about your visit. You may even see your own name! Please

make sure to check for any garbage in your area, and now you need to listen to your teacher for instructions.

Assessment:

Giant Sponge Data Sheet, Log Recyclers worksheet and Scavenger Hunt checklists. The completed mural can be taken back to class to be discussed at length.

See "Post-Trip Activities" in the complete field trip packet

Nature and Function of the Bog Station Schedule

Station	Scavenger Hunt	Hydropoly	The Giant Sponge	Log Recyclers	Mural
Group A					
Group B					
Group C					
Group D					
Group E					

Students can be assigned groups at school before coming to the bog. This will save time and allow for nametags or badges for group identification. Shadow Lake Bog personnel can individualize the schedule board with group or individual names if given the information in advance.

This schedule is an example of a group of 30 students split into 5 groups of 6 students. Any accompanying adults can be distributed equally among the groups. At 20 minutes, a whistle will sound and everyone will rotate to the next station. A sample field trip would proceed as follows:

10:00am-10:15	Welcome, review schedule chart, break into groups.
10:20-10:40	Station 1
10:45-11:05	Station 2
11:10-11:30	Station 3
11:35-11:55	Station 4
12:00-12:20	Station 5
12:25-12:40	break/snack
12:45-1:00	Mural presentations, departure