



The Berry Botanic Garden

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Final Report
6506.9307
903570

September 14, 1995

Ron Klein, Senior Regional Planner
Greenspaces Program
Metro
600 NE Grand Avenue
Portland, OR 97232

Dear Mr. Klein:

Enclosed are the Billing Forms for our Metro Greenspaces Grant #903570. We had recently asked for an extension of our schedule of completion to August 31, 1995, at which time it was nearly complete. It has taken us a few extra weeks to put together the final details.

The grant was for the production of a puppet show and associated curriculum materials, called "The Rotten Log," featuring nurselogs and forest regeneration. The program has been completed cooperatively with two other institutions, the Hoyt Arboretum and the Leach Botanical Garden.

We will premier the program on October 13-14, at the Oregon Science Teachers Association program in Wilsonville, Oregon, a program entitled "Science in the Real World." Also, we are taking photographs of the completed show, including the stage set and some of the materials. As soon as this process is complete, I will forward a curriculum and related materials for your files.

Thank you for the funding for this project. It has allowed us to learn a great deal about children's programming and to plan for the future directions of our educational program, for which we are now raising funds from other sources.

Yours sincerely,

Linda R. McMahan
Executive Director

The Rotten Log Suitcase Program: A curriculum for Grades K-4 on Food Chain Relationships and Forest Ecosystems.

Introduces the following concept:

1. Food Chains and Food Webs
2. Nurse Logs and Forest Regeneration
3. Forest Ecosystems and Biological Diversity

Contents:

1. The Rotten Log Puppet Show, including stage set, four puppets, audiotape, script, and words to the song ending the audiotape of the puppet show.
2. Four Discovery Bags containing cones, bark, nuts, feathers, or other items from a forest.
3. Curriculum Guide and Suggested Activities (pages 2-4, this document).
4. Materials to copying for your group or class.
 - a. Two crossword puzzles at two levels of difficulty.
 - b. Mazes based on the food web or food chain concepts.
 - c. A miniposter of a nurse log in a forest.
 - d. A book cover to color or not, fold, and use.
5. Associated Word List.
6. Game: Into the Forest: Nature's Food Chain Game, Ampersand Press (available locally at Audubon and other locations).
7. Audiotape: by the Banana Slug String Band Dirt Made My Lunch (One copy, produced by Music for Little People).
8. Book: Ancient Forests, in the Discovering Nature Series, Dog-Eared Publications.
9. 50 award pins (additional pins available by request).
10. Metro Greenspaces Guide - 50 copies (additional copies available by request).

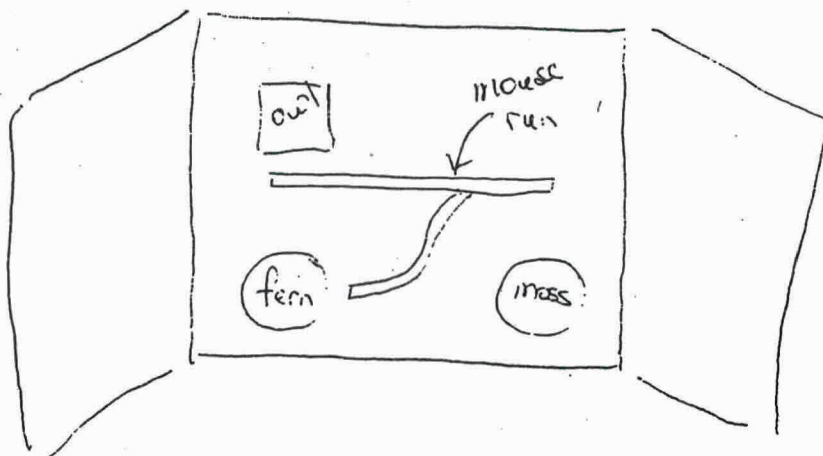
Curriculum Guide and Suggested Activities.

The Rotten Log Puppet Show and other activities make up a curriculum unit designed for grades K-4, with various levels and styles of materials to tailor to your individual use and preferences. The materials explore the ideas of food chains or food webs, and forest regeneration through fallen logs, called nurse logs. All of the materials are based on Pacific Northwest Forests, but most feature the conifer (cone-bearing) forests of the western Cascade Mountains. These forests, with overstories of Douglas Fir, Western Red Cedar, Pacific Yew, and other evergreens, are strongly associated with the Pacific Northwest and our economy through logging, tourism, and recreation. The forests are rich with their own diversity of life, including many plants, animals, insects, mushrooms, and microorganism.

The basis of the food chain, often called a food web because of its complexity and interrelationships, is sunlight. Green plants utilize sunlight in the process of photosynthesis. Photosynthesis is dependent on the green pigment, chlorophyll, for the energy conversion. The energy in sunlight is used to convert water and carbon dioxide gas to sugars. Plants are eaten by many creatures, herbivores, which eat plants, and omnivores, which eat both plants and animals. In turn, these animals are eaten by others called carnivores, until finally all die and are decomposed by microorganisms and fungi. Thus the forest ecosystem goes full-circle. The nutrients are utilized by many different plants and animals, and returned to the soil so they may be used again.

A decaying log, often called a nurse log, can be the hub of much of this activity. After a tree falls, it slowly decomposes. However in the process, it becomes home for many forest animals as well as a nursery for forest plants. As it slowly becomes part of the soil, it is a rich bed for new trees, which often grow in a straight line, following the original lay of the tree as it fell. The process can take many years, perhaps 50 or more, depending upon the moisture and temperature conditions in the forest.

1. The puppet show is designed as an independent unit, particularly suited for the younger students, but also adaptable for the older group. To use the show, set up the stage set and place the puppets in their holes as shown below:



The show can be used in several ways. First is to preview the script and enlist one or more volunteers so two adults can show the program as an introduction to the unit or after other ideas have been explored. Alternatively, and from our view preferably, have the students show it themselves. This may take some cuing on your part and will be bumpy the first time, but they will catch on quickly. At the end, the students can sing the song along with the characters to the tune of "In the Jungle, the Mighty Jungle."

The puppets are characteristic of PNW forests and are as follows (in order of appearance):

a. Mister Mouse. Mister Mouse, whose home is under the log, has just found a nut. He tries to figure out what to do with it, but is afraid that flying squirrel will come to find the nut and take it away from him. The solution to this and associated conversation between the forest creatures is the basis of the story.

b. Lady Fern. This creature thinks she is royal, hence the lady. Coincidentally, lady fern is the common name for a common PNW fern, which dies back each winter and lives in moist forest soils. Lady Fern in our show is afraid of being eaten by deer, and during the show, is disabused of the notion that she can live on air alone.

c. Spotty Owl. Spotty Owl lives at the top of this small forest food chain. She could, of course, eat Mister Mouse, as she reminds him several times, but prefers to wait for her favorite prey, flying squirrel, who does not show up during the program. Spotty is particularly hungry during the show and is hoping to catch flying squirrel for her baby owls in the nest.

d. Shaggy Moss. Moss is the wise old man of the forest, and in his deep voice is able to teach the other creatures more about themselves. His calmness and quiet explanations help sooth the other creatures and provide some good learning for those who listen to him.

2. After viewing the taped show, or in place of it, use the puppets or puppets the students make to make up a show about forest ecosystems or the food chain. The students can even design their own stage set out of cardboard, markers, and paint. Puppets can be constructed of paper, paper bags, or felt, depending on your preference.

3. Arrange to visit a natural area or park near the school, or even do a biological visit to the playground or playing field. If you can find an area with a downed log, use it, otherwise search for living creatures like insects in the grass or under trees. Try to

figure out what they eat and what, in turn, eats them. Look for evidence of decay and recycling of living materials, such as dead insects, dry leaves, rotting wood, or yellow/brown grass.

4. Create a class mural on forest ecosystem or food chain concept. Include animals and plants, mushrooms, and other creatures that live in the forest. Don't forget the sunlight and rain, which makes it all possible.
5. Use the Into the Forest game to further explore food web concepts. This game is particularly useful for students who are already readers. Information from food relationships, including the concepts of death, decay, and recycling, are useful in many of the other activities.
6. As part of a music segment, listen to all or portions of Dirt Made My Lunch. One or more songs from the tape can be learned in music, and perhaps performed for another class or in a school program. Alternatively or in addition, students can make up their own songs.
7. Use the word lists to supplement spelling lessons. Have students make up poems or stories using these words.
8. The book, Ancient Forests, has been included because it explains some concepts in more detail and suggests many additional activities for students to learn food web and forest ecosystem concepts.

Credits: This program was produced by The Berry Botanic Garden, 11505 SW Summerville Avenue, Portland, Oregon 97219, in cooperation with the Hoyt Arboretum and the Leach Botanical Garden, both part of the City of Portland Department of Parks and Recreation. Additional assistance was provided by Mt. Pisgah Arboretum in Eugene, Oregon.

Many volunteer hours went into the production of the program, including the taping, previews, and hand stamping the buttons.

To arrange to borrow this program at no cost, contact The Berry Botanic Garden in Portland at 636-4112. Because of the size of the puppet show stage set, the show will be available only in the Portland metropolitan area at this time.

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