

Eco-Tours Part One; Welcome to the Bog

Students observe the parts of a bog and compare that to parts of another ecosystem

What makes a cranberry bog an ecosystem?

Lesson Overview

The purpose of the lesson is to help students become familiar with cranberry bogs. Students begin by examining the cranberry bog as a whole. Students then identify and categorize the integral parts of the bog, as well as the surrounding environment.

The lesson begins as the student is presented with a set of images of cranberry bogs. Upland with vegetation is visible. In some of the images it is autumn and harvesting time is underway. The bogs are being harvested differently; one is being dry harvested while the other is being wet harvested. The set of images also includes; humans at work; machinery and tools in use; cranberries still attached - and separated from - the vines; animals, clues about the season; and buildings.

Background

Ecosystems vary in size. They can be as small as tiny vernal pool or as large as the Earth itself. Any group of living and nonliving things that interact with each other can be thought of as an ecosystem. There are many different types of ecosystems, including tropical rain forests, salt water marshes, deserts, coral reefs, and cranberry bogs. Each ecosystem is unique, but each also requires a delicate balance between the plant and animal species in order for the ecosystem to remain healthy.

The large cranberry system offers an ideal refuge for many plant and wildlife species. In Massachusetts, the cranberry bog and its surrounding uplands are home

to many plant and wildlife species, such as the red-bellied turtle, butterflies, great blue heron, wild turkey, deer, otter, wood duck, fox, lady slipper, water lily, spruce and pine trees.

There are two methods of harvesting cranberries. The "Welcome to the Bog" lesson provides a set of images which show both in action. Cranberries are harvested from mid-September through early November. There are two methods of harvesting cranberries. One method is the dry harvest. Until the 1940's, cranberries were harvested using hand-held scoops, but now machines comb the berries from the vines. You won't see rain in any of the images where dry harvesting is occurring. Cranberries must not be wet when dry harvested. After the dry cranberries pass a bounce test, they are packaged for sale as fresh cranberries.

Water harvesting is the second way cranberries are picked. This harvesting method involves flooding the bog. The bog is flooded, a machine called a water wheel harvester loosens the berries from the vine, and the berries float to the surface. The berries are then corralled and collected. In Massachusetts, more than 85% of the cranberry crop is wet harvested. These cranberries are used to make juices, sauce, jellies, and breads.

Materials

Question Wall

Exploring Cranberries Web Resources:

--Student Worksheet, Welcome to the Bog, printed; 1 per group

--Image set of the bog

Preparation

1. Set up the computer stations so that students can access the resources for this lesson.
Plan on students working in small groups (2-3 students)
2. If students will not be working at the computer, print out pictures and student worksheet.

3. Be sure to have the Cranberry Question Wall posted for students. (Even if you do not implement the activity, Making Sense of Cranberries, the Cranberry Question Wall is important to document student questions as they surface. You can introduce it as part of this lesson. See Making Sense of Cranberries for guidelines.)

Lesson

1. Discuss – What is an ecosystem? Tell students they will be “visiting” a cranberry bog today. Instruct them to be careful observers so that they can discuss what they see. Break them into their small groups. Distribute images or instruct students to navigate to the student resource, Image set.
2. Provide students approximately 5 minutes to informally observe and discuss the images in their small groups.
3. Tell students to select 3 or 4 images to focus on.
4. Direct students to respond to the questions on Student Worksheet, Welcome to the Bog. Allow approximately 20 minutes for this.

<p>Welcome to the Bog</p> <p>Describe What You See</p> <p><u>Looking at the Whole</u></p> <ol style="list-style-type: none">1. What do you see in the set of pictures that's living? List 5 living things. Try to list 5 more.2. Sort the living things into categories and give each category a name.3. What nonliving things do you see? List 5 non living things. Try to list 5 more.4. Sort the living things into categories and give each category a name. <p><u>Seasons</u></p> <ol style="list-style-type: none">5. What season do you think the picture represents?6. What clues in the pictures help you decide a season?7. What clues in the pictures help you decide what the weather is? <p><u>People in the Bog</u></p> <ol style="list-style-type: none">8. What do the people seem to be doing in the pictures? Make sure to discuss each person you see. <p><u>Sum it Up</u></p> <ol style="list-style-type: none">9. A caption is a very short description or explanation of a picture. It helps to tell the story of the picture. Create caption for these pictures.10. What question(s) do you want to add to the Question Wall?
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5. Ask groups of students to share their responses in a whole group discussion.
 - If groups generate differing responses, try to come to a classroom consensus. If not, consider creating a question about this point for the Cranberry Question Wall. (Of course, you may opt to answer the question, instead.)
 - Record student questions from Item 10 on the Student Worksheet on the Cranberry Question Wall.

6. Review the concept of an ecosystem with the students. Ask students to identify the features of the cranberry bog ecosystem and how each feature might contribute to the overall health of this ecosystem.

Close the lesson by asking students if any of questions previously posted on the Cranberry Question Wall might have been answered during this lesson.