

Habitats: Using Venn Diagrams to Compare Two Ecosystems

(http://www.ccege.org/resources/learning_centre/classroom_activities/habitat_venn.asp)

Connections to the curriculum:

Geography, science, language arts

Connections to the Canadian National Standards for Geography:

Environment and Society

Time:

Two to three hours

Materials:

- Computer with Internet access
- Two types of small candies to give to each student
- Blank outline map of the world
- Large sheets of paper
- Writing and drawing materials

Suggested Grade Level: 6 - 9

Overview

Many students believe that the Earth's only rain forests are found in the tropics. On the contrary, temperate rain forests can be found along the coast of North America's Pacific Northwest. The Pacific Northwest rain forests are as endangered as their tropical cousins and they are smaller than the tropical rain forests.

The following lesson helps students identify and describe differences between two related ecosystems. By acquiring geographic information from a number of sources, and by using that information to complete a Venn diagram—two overlapping ovals in which one can chart the exclusive and shared characteristics of two ecosystems—students will understand the distribution of temperate and tropical rain forests and the unique characteristics of both.

Objectives

Students will:

- understand the distribution of two ecosystems on a global scale;
- map the distribution of tropical and temperate rain forests throughout the world; and
- use a Venn diagram to describe these ecosystems and the differences between them.

Geographic Skills

- Acquiring Geographic Information
- Organizing Geographic Information
- Answering Geographic Questions
- Analyzing Geographic Information

Suggested Procedure

Opening:

From an early age, many students recognize that an ecosystem is a community of

interdependent plants and animals interacting with the atmosphere, hydrosphere, and lithosphere. They know that habitats provide homes for all the Earth's flora and fauna, including humans. Many students struggle, however, identifying and differentiating ecosystems, because ecosystems range in size from a clump of grasses to a steppe in northern Asia and can be nested within each other in complex relationships.

Draw a large Venn diagram on the board or overhead. (A Venn diagram is a set of two overlapping ovals.) Tell students that you will use it to record similarities and differences between two common items, writing the common characteristics in the area where the ovals overlap, and the characteristics specific to only one of the two in the circle outside the overlapping area.

Distribute two different kinds of candy to each student. Label each large circle with one candy name. Ask students to quietly observe their candies and to think of similarities and differences between them. After a minute or two, ask for students' ideas, and record them on a chalkboard.

When all ideas have been expressed, enjoy the candy!

Development:

Divide students into pairs or small groups, and give each group a large sheet of paper and a blank outline map of the world.

Explain to students that they will create a Venn diagram on the large sheet of paper and use it to compare two ecosystems, tropical and temperate rain forests. They will gather the information during Internet research in their small groups. [Note: If you do not have enough computers with Internet access to accommodate the class, they may do individual research at home or in the library, or look through magazines and books for the information.]

Ask students to draw large Venn diagrams on their papers, and label one circle "Tropical Rain Forests" and the other "Temperate Rain Forests."

When students are ready, have them go to the following web sites to learn more about temperate and tropical rain forests throughout the world:

[Ecotrust—Inforain: About Temperate Coastal Rain Forests](#)

[Earthlink—Rain Forests](#)

[Canadian Geographic For Kids—CG Kids!](#)

[National Geographic: GeoAction!—Habitats](#)

First, students should mark the distribution of the world's temperate and tropical rain forests on their blank outline maps, using two colors to differentiate the two. Then, ask them to record in the appropriate sections of their diagrams their group's ideas about the similarities and differences in the locations of the two types of rain forests.

Instruct groups to discuss what they find and make observations about similarities and differences in terms of climate, native flora and fauna, economy, population, and threats. They should record their ideas after they have discussed them as a group.

Closing:

Conduct a large group discussion of the students' Venn diagrams. Draw a large diagram on the board, asking each group to contribute one or two of their most interesting or creative ideas.

Ask students to name the most important differences between the tropical and temperate rain forest ecosystems, based on their observations. Also, ask them to name the most striking similarities. Why are these similarities or differences the most important? What effects do they have on the ecosystems?

Ask students what they learned about the impact of humans on these two ecosystems. Why are humans present in these environments? How are humans affecting Earth's rain forests? Are the effects different in different regions?

Suggested Student Assessment

Give each student a pair of pictures, each depicting a different ecosystem. These ecosystems could be large-scale (the North American prairie and the African savanna, for example) or from the student's community (perhaps a stand of native trees and a local wetland). After careful observation of the pictures, students should be able to create a Venn diagram with at least five unique descriptors of each ecosystem and three that apply to both.

Extending the Lesson

Create a classroom Rain Forest Resource Center on the two types of rain forest ecosystems. Materials could include related books and magazines, posters, slides, videos, and field guides.

Have students make collages of rain forest ecosystems, using pictures from their illustration collections, original drawings, and key words and phrases copied from their Venn diagrams.

Have students write an essay comparing the two types of rain forest ecosystems. (Preparing Venn diagrams serves as the pre-essay activity.)