Layers of the Rain Forest

Summary

Students will learn about the layers of the rain forest and the plant life in the rain forest. Students will create a rainforest mural in the classroom.

Time Frame

3 class periods of 45 minutes each

Group Size

Small Groups

Materials

wire or clothesline; green craft paper; scissors; rolls of crepe paper streamers (in a variety of shades of green); brown butcher paper; green, yellow, white, and dark brown tempra paint; small sponge; tape; blue celophane; stapler;

Background for Teachers

The rain forest is made up of four layers. The Forest Floor is ver dark and is humid, damp and soggy. There are few green plants. It is home to fungi, insects, reptiles and easily camoflaged aniamls such as the tapir and the jaguar. The Understory or Lower Canopy represents the area of the rain forest 30-60 feet above the forest floor. Because it recieves a small amount of light, the trees that grow there are only 12-20 feet tall. The flowers are brilliant in color, though, and this level is home to butterflies, frogs and bees as well as gorillas, pythons, and leopards. The Upper Canopy is located 60-90 feet above the forest floor. The leaves and branches grow close together forming a dense mesh. Vines (Lianas) create a woven, netlike efect. This canopy recieves a large amount of light and rain, so the leaves at this level are smooth with pointy tips and large veins that funnel water efficiently. With its abundant food supply, almost half of the rain forest mammals live in this layer. Monkeys and sloths make their home in this layer. So do exotic bird. Insects and butterflies also live among the orchids of the Upper Canopy. The Emergent Zone or Sunlit Zone is the uppermost layer of the rain forest. Only the tops of the oldest rain forest trees are exposed to this layer 90-150 feet off the forest floor. The small, waxy leaves of these tallest trees and exposed to the most sunlight, wind, and temperature fluctuations . The animals here include harpy eages, parrots and some monkey species.

Intended Learning Outcomes

Students will identify climatic conditions that rainforests exist in. Students will understand the similarities and differences of plants in the three levels of rainforest growth.

Instructional Procedures

Read,'Welcome to the Green House' by Jane Yolan. 1. Cover an entire wall or bulletin board with blue craft paper. On the left and right side of the board, staple lengths of brown craft paper to represent trees. Assign one group of children to tear tree branches from other pieces of craft paper and staple them to the tops of the tree. Instruct another group of students to cut vines of various lengths of spiral shapes from the green craft paper. Wrap some around the tree trunks. Allow other to dangle down freely. Have another group of students cut leave from green paper. Using pictures of rain forest vegetation as a guide, cut long thin, pointy leaves for the Upper Canopy, large, broad leaves for the Lower Canopy, and smaller leaves for the Emergent Layer. Staple or tape the leaves to the board or wall. (It's a good idea to assign a pair of children to each different leaf type to avoid

confusion.) At the right side of the board, place labels indicating the four levels of the rain forest: The Forest Floor 0-30 feet; The Understory 30-60 feet; the Canopy 60-90 feet; The Emergent Layer 90-120 feet. Allow the class to create flowers of bright colors to be added to the display. Dip the sponge in tempera paint and squeeze excess off. Lightly dab paint onto the display as follows: white--for clouds above the Emergent Layer; green--for moss on tree trunks at Understory and Canopy Layers; yellow--for sunlight at Emergent and Canopy Layers and dark brown for Forest Floor. Scrunch and staple or tape the length of celophane along the floor of the forest display to simulate a rain forest river.

Extensions

Social Studies: Exploring With Maps: Have students spend time looking at world maps locating the world's rain forests. Point out the equator and the tropics of Cancer and Capricorn. Identify the main regions that rain forests are located and discuss why. Science: Find Your Own Rubber: Did you know that rubber comes from the rain forest tree called hevea? Rubber is like latex and can be found in certain plants that we can find right outdoors. Have your students collect dandelions. They should break the stem and push a white liquid out of the stem. This is latex. Students can let it dry on their fingers until it is colorless. You will find that it has all the properties of latex. If enough is collected, you can even use it as an eraser. Have fun! Creat a Canopy: Using the following materials: a plant cutting such as a philodendron, a glass of water, a jar that is large enough to go over the glass, two thermometers. The students will make a mini-canopy. Place the plant cutting in the glass of water and let it grow. Once the plant cutting has begun to root, put the large jar over the class of water and plant. Put the glass in direct sunlight. Place a thermometer on the inside and outside of the jar. Have the students make predictions about what will happen in one hour and what they predict will happen over several days. Make observations and record in their science journal. The activity should show how the canopy of the rain forest traps heat and moisture. You may want to take the time to review the water cycle. Math: A Rain Comparison: It rains at least 20 feet per year in a typical rain forest. It rains about 3 feet per year in the United States. Have the students compare the two measurements. They can mark of 20 feet and 3 feet of rain in the classroom or outside with sidewalk chalk. They will be amazed at the difference!

Bibliography

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