

#3597

CREATING RAINFORESTS AND DESERTS

Grade Levels: 9-13+

25 minutes

AMBORSE VIDEO PUBLISHING 1998

DESCRIPTION

Earth is a living planet nourished and shaped by rains and winds--"a recipe for paradise and disaster." Wind and water are always moving, carrying heat and cold around the earth, producing rainforests and deserts and creating weather. Uses Hawaii as an example of wind and water at work; visits several deserts, and describes life in a rainforest. Narrated by James Earl Jones.

ACADEMIC STANDARDS

Subject Area: Science

- ◆ Standard: Understands basic features of the earth
 - Benchmark: Knows the processes involved in the water cycle (e.g., evaporation, condensation, precipitation, surface runoff, percolation) and their effects on climatic patterns (See Instructional Goal #1)
 - Benchmark: Knows how winds and ocean currents are produced on the earth's surface (e.g., effects of unequal heating of the earth's landmasses, oceans, and air by the sun; effects of gravitational forces acting on layers of different temperatures and densities in the oceans and air; effects of the rotation of the earth) (See Instructional Goals #1, #2, #4)
 - Benchmark: Knows how life is adapted to conditions on the earth (e.g., force of gravity that enables the planet to retain an adequate atmosphere, intensity of radiation from the sun that allows water to cycle between liquid and vapor) (See Instructional Goal #3)



INSTRUCTIONAL GOALS

1. To review the events that led to creations of tropical rainforests and deserts.
2. To examine several locations of rainforests and deserts.
3. To explain how certain species of life survive in the rainforests and deserts.
4. To explain the importance of the trade winds.

VOCABULARY

1. trade winds
2. lush
3. tropical

4. saturates
5. condenses
6. potent
7. monsoons
8. pacu
9. Mayan
10. Chac
11. Tlaloc
12. Totonac Indians
13. Tuareg nomads
14. Kilauea
15. Na-maka
16. Pele



BEFORE SHOWING

1. Post a picture of a tropical rainforest and a desert on opposite sides.
 - a. List adjectives that describe each.
 - b. List animals and plants that live in these regions.
 - c. Point out on a map the locations of some of the major rainforests and deserts in the world.
2. Display products or pictures of products that come from rainforests and discuss their uniqueness.
 - a. Brazil nuts
 - b. macadamia nuts
 - c. varnish
 - d. tea
 - e. mango
 - f. guava
 - g. African violet
 - h. turmeric
 - i. bamboo furniture
 - j. jute or rope
 - k. rattan furniture
 - l. ramie clothing
3. Display a cactus or yucca plant that is commonly grown in deserts. Discuss how the plants survive.



DURING SHOWING

Discussion Items and Questions

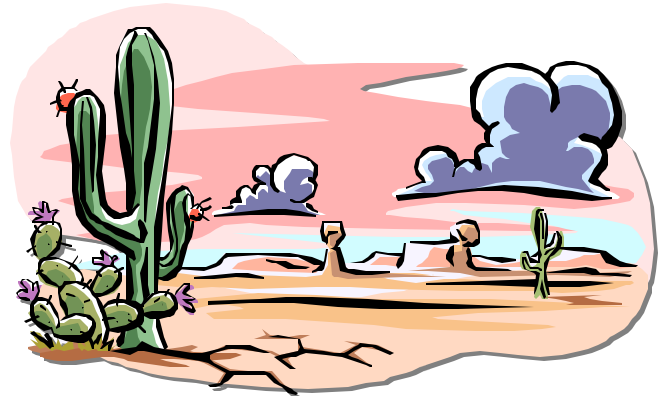
1. View the video more than once, with one showing uninterrupted.
2. Point out the various locations mentioned in the video on a world map.
3. Pause at the end of the section on rainforests.

- a. How much of the earth is covered with water?
- b. How are the tropical seas and the air above them warmed?
- c. How does this warm air become saturated with moisture?
- d. How are clouds formed?
- e. What causes the heavy rains in the tropical regions?
- f. What are monsoons and when do they occur?
- g. Where is the largest rainforest in the world?
- h. What is the largest river in the world?
- i. What fish in the rainforest disperse seeds from the trees?
- j. Who is the rain god of the Mayans?
- k. Who is the rain god of the Aztecs?



4. Pause at the end of the section on deserts.

- a. How are deserts created?
- b. Where is the Painted Desert located?
- c. Which desert is the greatest desert in the world?
- d. Where is it found and how long is it?
- e. What physical features do camels have that make them capable of traveling in the desert?
- f. How many feet below sea level is Death Valley located?
- g. What is the temperature in the shade?
- h. What fish can be found in the isolated pools in Death Valley?
- i. What happens in Death Valley in the spring and summer after thunderstorms occur?



5. Pause after the section on the trade winds.

- a. What causes the trade winds?
- b. Why were they so important in the travels by sea in early history?
- c. What bird depends on the trade winds to glide for long distances?
- d. Why are trade wind islands popular tourist resorts?

AFTER SHOWING

Applications and Activities

1. Write the following on poster strips to resemble captions and tell what they mean:
 - a. Wind and water are whipped into a frenzy.
 - b. Wind and water: a recipe for paradise and for disaster.
 - c. Nature runs rampant here, with uncountable numbers of different plants and animals.
 - d. The wind exposes the bare bones of the earth itself.

- e. Rain brings an explosion of life.
- f. Because the islands are so isolated, evolution had a field day.
2. Obtain a large map and mark the areas where major rainforests and deserts are located. Compare the longitude and latitudes of each location.
3. Create a life-size rainforest in the classroom or hall.
 - a. Using patterns for trees, plants, waterfall, and animal life, cut out a front and back for each.
 - b. Glue or staple the edges of the two together and stuff with newspaper or batting.
 - c. Paint or color each piece to make it more lifelike.
 - d. Hang the finished products from the ceiling so that they touch the floor.
 - e. Invite elementary children for a tour of the rainforest.
4. Research and report on:
 - a. Chac
 - b. Tlaloc
 - c. Pele
 - d. Na-maka
 - e. Totonac Indians
 - f. Tuareg nomads
 - g. pacu
5. Research and list the names of theme parks, restaurants, and other businesses that have a rainforest theme.
6. Design a computer-generated informational worksheet about rainforests and deserts and include graphics:
 - a. The world's largest rainforest and largest desert
 - b. The largest amount of rainfall received in one year.
 - c. The hottest temperature ever recorded in the sun
 - d. The hottest temperature ever recorded in the shade
 - e. The number of species of plants and animals living in rainforests
 - f. The number of species of plants and animals living in the deserts.
7. Report on the different species of trees and plants in the rainforest. Compare their heights with the amount of sunlight they receive.
8. Divide the class into two groups and set up a cooperative learning activity about a specific rainforest or desert.
 - a. Assign the following roles in each group: botanist, zoologist, and anthropologist.
 - (1) Botanists are to research main foods of the area and species of plants.
 - (2) Zoologists are to research which animals live in the area, how they adapt to the environment, and what kind of food chain is present.
 - (3) Anthropologists are to research the history of the area, the native people, and the customs or rituals.
 - b. Compile the results of the research in each area and set up a trifold exhibit to display the results.

9. Create interactive exhibits about rainforests and deserts such as plays, games, storytelling, graphs, multimedia presentations, art, dance, and cooking.
10. Report on rain dance rituals and customs.
11. Write a journal about life in a rainforest or in a desert.

RELATED RESOURCES



Captioned Media Program

- The Amazon: Part 1 #3429
- The Amazon: Part 2 #3430
- The Desert (Revised) #2372
- The Tropical Rain Forest: Utilization and Destruction #3526
- The Western Dry Lands #2442

World Wide Web



The following Web sites complement the contents of this guide; they were selected by professionals who have experience in teaching deaf and hard of hearing students. Every effort was made to select accurate, educationally relevant, and "kid-safe" sites. However, teachers should preview them before use. The U.S. Department of Education, the National Association of the Deaf, and the Captioned Media Program do not endorse the sites and are not responsible for their content.

- **SCIENCE IN THE RAINFOREST**

http://www.pbs.org/tal/costa_rica/index.html

Includes information such as rainforest statistics, rainforest facts, and rainforest products. Click on the icons to take a walk on a self-guided tour of the rainforest.

- **THE AMAZON EXPEDITION**

<http://goals.com/thayer/amazon/amazonfm.htm>

Recaptures the experiences taken by Helen and Bill Thayer on a 1,200-mile expedition into a remote area of a Brazilian rainforest. Indigenous Indians show them jungle medicine and how to live off the rainforest.

- **THE SAHARA EXPEDITION**

<http://goals.com/thayer/sahara/saharafm.htm>

Re-creates the adventures of Helen and Bill Thayer on a 1,400-mile walk across the Sahara Desert. Their journals tell of their experiences living among the Tuaregs and learning their customs.