

#8933

THE TROPICS

Grade Levels: 5-12

27 minutes

ACADEMIC MEDIA NETWORK 2001



DESCRIPTION

Earth's landscapes vary because there are different climatic zones that have unique, distinguishing conditions. One of these, the tropic zone, is divided into four more specific zones. The rainy tropics, wet-dry tropics, tropical and subtropical deserts, and tropical highlands are similar, yet different. Includes information on vegetation, animal life, human settlement, urban centers, and climatic conditions.

ACADEMIC STANDARDS

Subject Area: World History

- ◆ Standard: Understands the processes that contributed to the emergence of agricultural societies around the world
 - Benchmark: Understands the development of early agricultural communities in different regions of the world
- ◆ Standard: Understands the development of agricultural societies and new states in tropical Africa and Oceania
 - Benchmark: Knows the routes by which migrants settled the Pacific Islands and New Zealand and the navigational techniques they used on long distance voyages
 - Benchmark: Understands influences on state-building in West Africa
 - Benchmark: Understands the establishment of agricultural societies on the Pacific Islands and New Zealand
- ◆ Standard: Understands the expansion of states and civilizations in the Americas between 1000 and 1500
 - Benchmark: Understands how the natural environment affected the organization of developing societies of the North American plains, Southwestern deserts, and the tropical forests of the Yucatan

Subject Area: Geography

- ◆ Standard: Understands the characteristics of ecosystems on Earth's surface
 - Benchmark: Knows plants and animals associated with various vegetation and climatic regions on Earth
 - Benchmark: Knows ecosystems in terms of their biodiversity and productivity and their potential value to all living things
- ◆ Standard: Understands how human actions modify the physical environment
 - Benchmark: Understands the global impacts of human changes in the physical environment
- ◆ Standard: Understands how physical systems affect human systems
 - Benchmark: Knows conditions and locations that place limits on plant growth and therefore on the expansion of human settlement

INSTRUCTIONAL GOALS

1. To describe climates that contributed to the emergence of societies in the tropics.
2. To present how the natural environment affected the organization of developing societies in the tropics.
3. To depict the characteristics (plants, animals, biodiversity and productivity) of tropical ecosystems on the Earth's surface.
4. To examine how human actions modify the physical environment and how physical systems affect human systems.

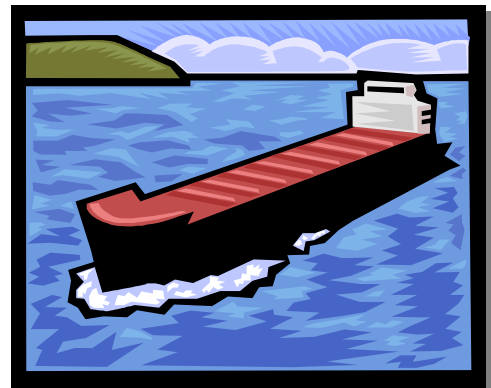
VOCABULARY

- | | |
|---------------------|-------------------|
| 1. alluvial soil | 15. papaya |
| 2. cassava | 16. plantains |
| 3. citrus fruit | 17. plateau |
| 4. cultivation | 18. precipitation |
| 5. dense population | 19. rural |
| 6. domesticated | 20. savanna |
| 7. drought | 21. sedentary |
| 8. epiphytes | 22. selva |
| 9. latex | 23. sorghum |
| 10. lianas | 24. taro |
| 11. mango | 25. timber |
| 12. manioc | 26. urban |
| 13. millet | 27. vegetation |
| 14. monsoon | |



BEFORE SHOWING

1. On a map of the world find the boundaries for the tropics: the Tropic of Cancer and the Tropic of Capricorn.
2. Find these places located in the rainy tropics and discuss possible weather conditions, vegetation, animal life and patterns of human settlement.
 - a. The Amazon River
 - b. The Rio Negro
 - c. Ecuador
 - d. Central America
 - e. West Africa
 - f. Singapore (at the tip of the Malay Peninsula)
 - g. Manaus, Brazil
3. Find these places located in the wet-dry and monsoon tropics and discuss possible weather conditions, vegetation, animal life and patterns of human settlement.
 - a. Africa
 - b. Latin America
 - c. Australia
 - d. Southern and southeastern Asia
 - e. New Delhi, India
 - f. Bangkok, Thailand
 - g. Guangzhou, China
4. Find these places located in the tropical and subtropical deserts and discuss possible weather conditions, vegetation, animal life and patterns of human settlement.
 - a. North Africa
 - 1) The Sahara Desert
 - 2) Morocco
 - 3) Egypt
 - 4) Cairo, Egypt
 - 5) The Namib Desert
 - 6) The Nile River
 - b. Asia
 - 1) The Arabian Peninsula
 - 2) The Thar Desert of Pakistan
 - 3) India
 - 4) The Indus River
 - c. North America
 - 1) The southwestern United States
 - 2) Mexico
 - 3) The Colorado River
 - d. Australia
 - e. The Atacama Desert, South America



5. Find these places located in the tropical highlands and discuss possible weather conditions, vegetation, animal life and patterns of human settlement.
 - a. South America
 - 1) The Andes Mountains
 - 2) Quito, Ecuador
 - 3) Chimborazo (volcano in Ecuador)
 - 4) Cusco, Peru
 - 5) La Paz, Bolivia
 - 6) Potosi, Bolivia
 - b. The Himalayas, Asia
 - c. Mexico City, North America



AFTER SHOWING

Discussion Items and Questions

1. Define the tropics.
 - a. What are the physical boundaries of the tropics?
 - b. What is similar about the seasons in all tropical areas?
 - c. What accounts for the major variation in the tropical regions?
 - d. Why does altitude and precipitation cause variance in vegetation in the tropics?
 - e. Why have the tropics long been the most attractive areas for human settlement?
 - f. How has increased urbanization placed pressures on tropical environments?
 - g. How can the Earth's tropics be subdivided?
2. Discuss the rainy tropics.
 - a. Where are the rainy tropics located?
 - b. What is the climate like in the rainy tropics?
 - c. What kinds of plants and animals are found in the rainy tropics?
 - d. Why is the dim forest floor sparsely vegetated?
 - e. Where do dense thickets of jungle vegetation develop?
 - f. How have humans adapted to and modified the rainy tropical regions?
 - g. What are the differences between shifting cultivation and sedentary cultivation?
 - h. What are the principal food crops in the rainy tropics?
 - i. What are the benefits and drawbacks of living in a rainy tropical region with volcanic activity?
 - j. What does commercial plantation agriculture need to be successful in the rainy tropics?
 - k. Where are the rainy tropics most densely and sparsely populated? Why?
 - l. What has depleted the rain forests even in remote areas?
 - m. What are heat tolerant livestock?
 - n. Why, until recently, were the interior rain forests viewed as underdeveloped lands? How has this perception changed?
 - o. What are less destructive ways to use rainy tropical resources?

3. Discuss the wet-dry and monsoon tropics.
 - a. What are the seasonal rhythms or rain and drought typical to these areas?
 - b. How does the vegetation in the wet-dry and monsoon tropics vary? Why is there this variation?
 - c. Why have humans inhabited the wet-dry tropics since the earliest times?
 - d. Why can the wet-dry tropics support sustained agriculture and grazing more than the rainy tropics?
 - e. What are the important food crops of the wet-dry and monsoon tropics?
 - f. Why are human populations in many of the wet-dry areas growing rapidly?
 - g. Why do substantial wet-dry areas in Africa and parts of Latin America remain sparsely populated?
 - h. Why has the southern Asia monsoon tropical area had dense rural populations?
4. Discuss tropical and subtropical deserts.
 - a. Where are these deserts located?
 - b. Why are these deserts hot and harsh regions?
 - c. Why are the perennial rivers that flow through these deserts referred to as exotic rivers?
 - d. What kind of special adaptations have desert plants and animals developed?
 - e. What are oases?
 - f. Why have the river valleys in these deserts supported dense human populations?
 - g. Why do only a few desert dwellers still live traditional nomadic lives?

Applications and Activities

1. Research ancient peoples who lived in the rainy tropics. Consider both the Mayas and the Middle American Olmecs.
2. Investigate the plants and animals native to the tropics. Categorize each by the area of the tropics they flourish in.
 - a. The rainy tropics
 - b. The wet-dry or monsoon tropics
 - c. The tropical and subtropical deserts
 - d. The tropical highlands
3. Plan a trip to a continent. Include destinations that highlight the various climatic areas of that continent. Include stops in all four tropical climates.
4. Research how human actions have modified the environment in the tropics. Consider problems and possible solutions related to the following topics:
 - a. Runoff and sediment
 - b. Soil degradation
 - c. Habitat destruction
 - d. Air pollution
 - e. Alterations in the hydraulic cycle
 - f. Increases in world temperatures
 - g. Groundwater reduction

RELATED RESOURCES



Captioned Media Program

- The Amazon Part I #3429
- The Amazon Part II #3430
- Creating Rainforests & Deserts #3597
- A Day in the Rain Forest Through the Eyes of a Butterfly #3452
- Exploring the Diversity of Life #3606
- Mid-latitude and Polar Regions #8817
- The Tropical Rain Forest: Utilization and Destruction #3526



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.

- **OUTLINE MAPS**

<http://www.eduplace.com/ss/ssmaps/index.html>

A plethora of outline maps of countries, continents and hemispheres including both political and physical maps.

- **UNIVERSITY OF TEXAS AT AUSTIN: PERRY-CASTANEDA LIBRARY MAP COLLECTION**

<http://www.lib.utexas.edu/maps/world.html>

In addition to political and physical maps, includes maps of special interest (i.e. disease maps).

- **THE EQUATOR, HEMISPHERES, TROPIC OF CAPRICORN AND TROPIC OF CANCER**

<http://www.geography.about.com/science/geography/library/misc/blequator.htm>

Provides a brief summary of the tropics and also includes links to a host of geography related sites on topics relative to the tropics.