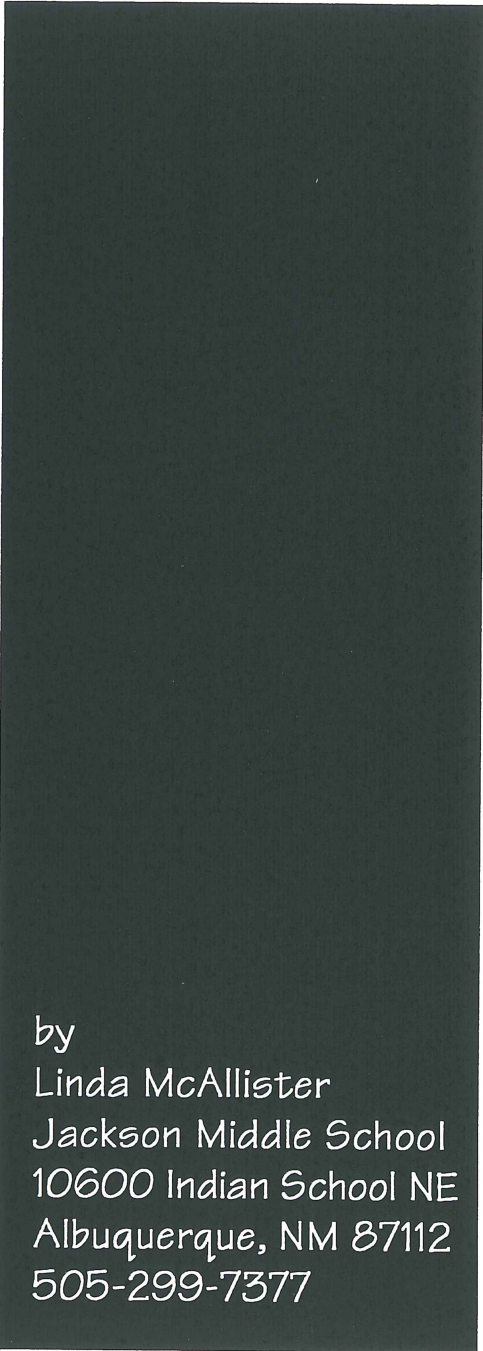




# AN APPRECIATION OF THE WORLD'S EVER-SHRINKING RAIN FORESTS



*Grade: middle school / special education*  
*Course: special education, life science and  
social studies of the southwest*

## Rationale

It is becoming more of a realization that humans are destroying the much needed rain forests throughout the world. This unit provides an opportunity for students to become aware of the number of species of insects, plants, and animals involved in the desecration of these life-giving areas. Opportunities for receiving information, application, analysis, synthesis, evaluation and creative thinking are available through visual, auditory and kinesthetic activities.

On a larger scale students can be introduced to questions concerning the indigenous peoples who still live in the rainforests and are trying to maintain the lifestyles that the rainforest has supported for generations. Ask the students to be thinking about WHY the loss of a rainforest is important. Introduce the interconnectedness of the world's economy, fight for natural resources and the ethical role science plays in the battle.

## Unit Overview

This unit integrates the social and scientific causes leading to the devastation of the world's rain forests. It is an integrated approach to life science, social studies and computer technology. The teacher and students will explore the causes of rain forest devastation from a variety of approaches. Both actual and potential destruction will be investigated including man's struggle to stop the damage.

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These lessons are intended for middle school special education students studying life science and social studies of the southwest. Plans are designed for groups of 12 or less. Lesson plans are also designed so that there is not a great amount of detailed information given to the students in any one sitting. Lesson plans can be easily modified for regular education students of middle school or elementary school age.

## Time Needed

The time needed for each lesson varies from one class period to one week. To finish the whole unit a 9 week block of time would be sufficient.

## Materials

Each lesson plan has an individual list of materials needed that is specific for each. Access to a computer is important. Working with a technologies teacher would be beneficial.

## Procedures

The unit will begin with a slide show from the SPICE Rainforest Curriculum accompanied by the Rainforest Slide Script. This will provide an overview along with the sublessons that will be addressed during the 9 week unit. Also exhibited somewhere in the classroom should be a map of the world showing the locations of the New World Rainforests. This map should remain during the presentation of the unit.

## Follow-up Activities

A good follow-up activity would be for students to research possible projects to heighten the awareness of the need for the ecology of our rainforests. Projects can be making bookcovers, childrens' books, posters, research papers, oral reports, and roll playing activities. This would ultimately take shape in student's taking a group approach to helping conserve our forested areas.

## Lesson 1: Introduction To The Rainforest

Life Science Lesson Plan: Exactly What and Where are the Rainforests

## Rationale

This lesson will provide an introduction to the basic location and composition of the world's rainforests. It will provide the opportunity for students to grasp the size and percentage of the world they cover, the vast number of species of plants and animals who live there and the important byproducts produced by the flora and fauna of the area.

## Objectives

The learner will :

- \* Become acquainted with the make-up of the rainforest
- \* Be able to locate the world's rainforest areas
- \* Become aware of the symbiotic relationships within the rainforest
- \* Becomes aware of the upcoming subjects to be addressed in relation to the rainforest

## Time Needed

1-2 class periods

## Materials

World map showing the rainforested areas, Posterboard, Slides

## Vocabulary

emergent layer, canopy, understory, indigenous, symbiotic, extinction, humid, deforestation, greenhouse effect, vine, subsoil, ecology, sustainable resources

## Procedures

1. Before class draw and cut out large replicas of the countries which contain rain forests. Give a country to each student being sure to point it out on the big map. Each time the teacher makes a reference to that country the student "owning" that country and those who surround it must put their countries together. Geography can be learned at the same time.
2. Explain to students that you will be showing them slides on the rainforests mostly existing in Latin America. Have them observe and look specifically for :
  - \* The type and size of various vegetation types
  - \* The size and type of the animal life
  - \* Description of the indigenous people who live there
3. Show the slides reading the commentary that accompanies them.
4. Hang the map in an obvious place where most students can see it during the unit.
5. Allow for students to form questions about the rainforest. Those that come up most often are:
  - \* What makes it a rainforest?
  - \* Where are they?
  - \* Who are the tribal people of the rainforest? How do they live?

- \* Why are the rainforests so important?
- \* What happens to a rainforest when the trees are chopped down?
- \* Won't a rainforest grow back?
- \* Why don't we stop cutting them down?

Answers to these and other questions can be found in the Rainforest Action Network

## Rainforest Lesson 2: Introduction To Species

Who and What Lives In the Rainforest? Parrots

### Rationale

This lesson will provide an introduction to the birds living in the rainforest and demonstrate what happens when the rainforest is cut down.

### Objectives

In studying birds, students will learn the numbers and varieties of species dependent on life in the rainforest for its survival. Students will:

- \* Recognize at least 10 species of rainforest parrots
- \* Become acquainted with bird physiology
- \* Begin to grasp the symbiotic relationships abundant in the rainforest environment
- \* Realize the chain of events caused by the cutting of just one tree.
- \* Learn 10 species of trees abundant in the rainforest

### Time Needed

1 class period

### Materials

Poster board, tape of Brazilian music, tape player, 8 chairs

### Procedures

1. Before class begins, cut out pictures of 10 species of birds who live in the rainforest. Try to pick varying species from the macaw family, the pionus, lorikeets and softbills.
2. Also cut out pictures of 10 species of tree living in the rainforest. Try to use both hard trunk and vines. Try to find species in which birds nest and give an idea on how long it take these trees to mature.



3. When students arrive, introduce the physiology of birds. Include, hollow bones, 4 toes, 4 chambered heart, etc. Have them tell the teacher what they already know about parrots and birds in general. Do the same with trees.
4. Assign each child a bird species to be during the class. They may wear name cards around their necks for during the musical chair activity. Also give out trees species. Set the chairs in two rows, back to back.
5. Turn on the music and play musical chairs. The chairs can be trees and the students can be birds. Each time the music stops, a species of bird dies.
6. When enough species die, have the students discuss the repercussions of a missing species on the rest of the life in the rainforest.
7. End with a recap of the information covered. Include the interesting points the students have brought up in their discussion.

## Handout

### Fact Sheet

1. More species of plants and animals live in rain forests than any other area.
2. Once they are cleared, the soil of a tropical rain forest will sustain crops for only a year or two.
3. Tropical rain forests are essential to the maintenance of the Earth's climate.
4. Deforestation is occurring at frightening rates - more than 40% have already been destroyed.
5. Rainforests are the oldest, richest ecosystems on the planet. They cover less than 2% of the earth's surface.
6. The highest part of the rainforest is called the emergent layer. The tallest trees here reach almost 200 feet.
7. Most plants and animals live in the canopy.
8. The greatest treasure of the rainforest is its great diversity. With such a stable climate and a continuing cycle of rain and evaporation, a wide variety of life forms have come to live there.
9. It is estimated that there are as many as 30 million species of plants, animals and insects living in the rainforest.
10. Birds spread seeds throughout the rainforest. Many of them are smuggled each year to become caged birds in someone's home. A great percentage die during the journey.
11. Man people have lived in the rainforest for centuries. The Kayapo people in the Brazilian rainforest are indigenous to the area and still try to maintain their farming ways.

12. Our rainforests are a source of many life-saving medicines.
13. Logging, agriculture, cattle ranching and mineral extraction are major reasons for the desecration of the rainforest.
14. When a rainforest is cut down, it is gone forever.

## Bibliography

Sources for this unit can come from books, textbooks, newspaper articles, magazine articles, brochures from eco-tourism companies, and the Internet.

"Brazilian Government Wants to Review All Demarcations of Indian Land Brasilia Indianist Missionary Council" (Newsletter n. 163) June 14, 1995

Children's Alliance for the Protection of the Environment Inc.

This is a non profit organization that promotes education and conservation Action programs world wide for children. They can be written to at: Children's Alliance for the Protection of the Environment Inc. P. O. Box 307 Austin Texas 78767

Copperman, Cara. "Computer Fun: Interactive Projects for All Levels." Creative Classroom. May/June 1995: 37-38.

Creative Classroom is a bimonthly magazine that generally has an article about technologies in the classroom.

*Rainforest Action Network* URL: <http://www.ran.org/>

Numerous articles including "Kid's Corner" and "Rainforest Information"

*Rainforest Action Network Information Service* Email [ran-info@econet.apc.org](mailto:ran-info@econet.apc.org)

Email to this address and request a listing of current materials that can be used In the classroom. They will e-mail back a listing and you may order from this list. They can also be written to: Rainforest Action Network Information Services, 450 Sansome #700, San Francisco, California

Gallant, Roy A. Earth's Vanishing Forests. Macmillan: 1991.

The books is recommended for grades 6-10. The author tends to point fingers of blame rather than letting the students figure it out. Only drawback to the book.

*[gopher://gopher.igc.apc.org:7011/environment](http://gopher.igc.apc.org:7011/environment)*

This citation provides interesting information on environmental issues.

*Indknow*: a list service that primarily deals with indigenous peoples. To subscribe Contact [listproc@u.washington.edu](mailto:listproc@u.washington.edu)

Joyner, Kim, D.M.V., M.P.V.M. "Miracles For Guatamala." Bird Talk February 1994: 105-11.

Bird Talk is a monthly publication available in most pet stores. About every other month they run an article about the importation or conservation of birds in the wild. This magazine deals mostly with parrots of Africa and South and Central America.

*Latin America Data Base*, URL: <http://ladb.unm.edu>

Articles using a search for Amazon and deforestation found approximately 15 useful articles

Martel, Laurence D., Ph.D. Integrative Learning Systems, Inc. South Carolina: Hilton Head, 1993.

This is based on a portfolio of information that stresses visual, motor and kinesthetic Methods to teach any subject. The curriculum includes music and concert.

*United Nations Environment Programme's Infoterra* E-mail [listproc@pan.cedar.univie.ac.at](mailto:listproc@pan.cedar.univie.ac.at) In the body of the message, type: subscribe infoterra your name"

This listing provides a wide range of discussion on conservation of the world's Main resources. People tend to stay on the subject. Messages provide distinct and useful information.

Weatherford, Jack. Indian Givers. New York: Crown, 1988.

This book is geared toward basic post-Columbia South America. It offers much varied information.