

Leave Me Alone!

Name: Sylvia Mastin

Grade Level: 8

Content area(s): Language Arts, Visual Arts

Classroom Time: 90 minutes

Purpose: Enhance reading comprehension by turning on their “mind movie” while reading

Skills Addressed:

ELA skill: Establish purpose for reading selected text

Visual Arts Skill: Use imagery to create setting and characters

Supplies: aluminum foil, shoe boxes or small boxes, paper, pen/pencil, handouts, internet connection, and markers

Lesson Process:

Warm-up –

- A. Students will complete a “Tropical Rainforest” K-W-L (Present knowledge and what they want to learn - *Attachment 1*) chart focusing on rainforests.
<http://www.readingquest.org/strat/kwl.html>
- B. Students share with their neighbor what they know and what they would like to learn.

Lesson procedure –

- A. The teacher will introduce text by distributing the handout (*Attachment 2*)
- B. Ask students to offer reasons why someone might agree or disagree to each statement – *Ex: Gaining natural resources is more important than animal habitats because we have to be able to have air-conditioning/heat to live, etc.*
- C. Students will mark agree or disagree on their papers for each statement and state a short reason why.
- D. The teacher will provide copies of the article “What Is a Tropical Rainforest?”
http://www.ran.org/new/kidscorner/about_rainforests/factsheets/what_is_a_tropical_rainforest/
- *Attachment 3*
- E. The teacher will read the article through the first question.
- F. Students will complete oral reading of text using the “Popcorn” method.
(<http://www.interlakes.org/ilhs/avid/Popcorn.pdf>)
- G. Ask students to finish numbering each paragraph of the article.
- H. The teacher will guide the students to recognize supporting evidence for the first statement on the Anticipation-Reaction Guide. – *Ex: #1 – Paragraph #17 – they control the world’s climate*

- I. Instruct students to copy the statement on the Evidence column and to write the paragraph number in the paragraph number column of the chart.
- J. The students will complete the remaining boxes independently.
- K. Once the students have finished filling in the boxes, have the students revisit the Agree/Disagree checkmarks and explain on a separate piece of paper why they may feel differently or the same about their initial reactions to the statements.
- L. Give each student pieces of foil.
- M. Students create a diorama of a tropical rainforest using aluminum foil. Characters and foliage must be represented

Student assessment or final product to be developed:

Class participation

Table

Paper stating if they still agree or if they now disagree with the statement and why

Diorama

Extension activities:

Put all the dioramas together to create a larger rainforest.

Students research rainforests and write a paper on what they learned.

K - W - L

Rainforests

Name _____ Date _____ Period _____

	Knowledge
	Want
	Learned

Anticipation-Reaction

Name _____ Date _____ Period _____

Agree	Disagree	Statement	Evidence	Paragraph #
		1. When we cut down trees, gaining natural resources is more important than maintaining animal habitats.		
		2. Homegrown fruit is more beneficial than fruit grown in other countries.		
		3. We can use as much water, sunlight, and food as we like since they are renewable resources.		
		4. The environment is affected by all paper products.		

About Rainforests

What is a Tropical Rainforest?

A tropical rainforest is one of the earth's most spectacular natural wonders!

Q: Where can you find tropical rainforests?

2 A: Tropical rainforests are located around the equator—from the Tropic of Cancer in the north, to the Tropic of Capricorn in the south. The largest rainforests are in Brazil (South America), Zaire (Africa) and Indonesia (islands found near the Indian Ocean). Other tropical rainforests lie in Southeast Asia, Hawaii and the Caribbean Islands. The Amazon rainforest in South America is the world's largest, covering an area about two-thirds the size of the continental United States.

Q: Why are they called "rainforests?"

A: Because they're wet! Tropical rainforests are defined by their wet and dry seasons. Tropical rainforests receive 160 to 400 inches (400-1000) cm) of rain each year. Compare this with the city of Los Angeles, which only receives an average of 10-20 inches of rain a year! Also because rainforests lie near the equator, temperatures stay near 75-80 degrees Fahrenheit all year-round.



Q: What does a rainforest look like?

A: Picture yourself walking on a thin carpet of wet, rotting leaves. If you looked up you would see an umbrella of dark green leaves. Only a spot or two of blue sky would peek through the thick mass of tree branches and leaves. You would also see beautiful flowers growing wild upon the trees, as well as on the ground. You would hear the constant sound of insects, birds, and falling twigs. In some rainforests, you might hear the sounds of large animals like the gorilla or jaguar.

There are so many species of plants and animals in the rainforest that, if you stood in one place and turn a complete circle, you might see hundreds of different species. This incredible number of species of living things is one of the major differences between tropical rainforests and the forests of North America.

A tropical rainforest consists of four layers: the emergent trees, canopy, the understory, and the forest floor. The emergent and canopy layers make up the very top of the rainforest, where a few trees, called emergents, poke out above the green growth to reach the sun. Most of the plant growth is here in the sun, so most rainforest animals, including monkeys, birds and tree frogs, live in the canopy.

Below the canopy are the young trees and shrubs that make up the understory. The plants in this layer rarely grow to large sizes because the canopy blocks most of the sunlight. The forest floor is almost bare because very little light can get through the canopy and understory to the ground. This is where fallen leaves and branches rot quickly to release nutrients for other plants to grow. Large mammals such as South American tapirs and Asian elephants who are too heavy to climb up into the canopy layer live in the dim light of the understory and forest floor.

Q: How do rainforest plants and animals depend on each other?

A: In all of nature, and especially in rainforests, plants and animals depend on each other for survival. This is called interdependence. For example, some insects can only survive in one type of tree, while some birds only eat one type of insect. If this tree is destroyed, the insects will have no home. If these insects die, the birds who rely on them for food will starve to death. Because of this interdependence, if one type of plant or animal becomes extinct, several others could be in danger of extinction as well.



Q: What is the secret to making this system work?

A: One secret to this lush environment is that the rainforest reuses almost everything that falls to the ground and decays. When leaves fall from the trees, when flowers wilt and die, and when any animal dies on the forest floor - it decays and all of the nutrients in the decayed species are recycled back into the roots of the trees and plants.

Only the top few inches of the rainforest soil has any nutrients. Most of the nutrients are in the biomass, the bulk of animal and plant life above the ground. The roots of the rainforest trees are not very deep; that way they can collect all of the nutrients in the top few inches of the soil.

Rainforests even recycle their own rain! As water evaporates in the forest it forms clouds above the canopy that later fall as rain.



Q: How do humans depend on rainforests?

A: Rainforests are essential-not just to those who live in or near them, but to everyone on the whole planet. They help control the world's climate. However, when the rainforests are burned and cleared, carbon is released that causes the weather to be much hotter. (this is called the greenhouse effect)

People also use many rainforest materials. Many of our medicines come from plants that grow in rainforests. Perhaps someday the cure for cancer or AIDS will be found in a tropical rainforest. Some of the medicines we now use come from tropical rainforest plants, such as aspirin, heart disease treatment and painkillers.

Many products, such as medicines and Brazil nuts, can be taken from rainforests without destroying them; but other products-such as timber, gold, and oil-require a more destructive method of extraction. Logging for tropical timber and gold mining have contributed to much of the destruction of tropical rainforests.

Q: Do people live in rainforests?

A: Indigenous, or native peoples have lived in tropical forests for thousands of years. They use every part of the forest in a sustainable manner, or in a way that does not destroy the forest. Recently, many other people have moved to tropical rainforests, but have used the forests in ways that destroy them.

Q: What happens to a rainforest when the trees are logged or cleared with fire?

A: About 80% of the rainforests nutrients comes from trees and plants. That leaves 20% of the nutrients in the soil. The nutrients from the leaves that fall are instantly recycled back up into the plants and trees. When a rainforest is clear-cut, conditions change very quickly. The soil dries up in the sun. When it rains, it washes the soil away, leaving the land barren and desert-like.

Q: Can rainforests grow back once they have been destroyed?

A: A rainforest cannot be replaced. Once it has been destroyed it will be gone forever. Once the web of interdependence has been broken, plants and animals have no way to rebuild their complex communities.

Rainforests have been evolving for 70 to 100 million years. They contain plants and animals that live nowhere else on earth. When a rainforest is destroyed, so are the plants and animals who have lived

there for millions of years. Once they are destroyed, they will only be memories of our past - unless we help to preserve them now!

Glossary

Biomass: Living and dead matter produced, including plants and animals.

Canopy: The highest layer of the rainforest, made up of the tops of trees. Animals such as howler monkeys, red-eyed tree frogs, sloths and parrots live here.

Equator: An imaginary circle around the earth, equally distant at all points from the North and South poles. It divides the earth into two halves - the Northern and Southern Hemispheres.

Emergent: The tops of the tallest trees in a rainforest.

Evaporate: When moisture changes from liquid to gas in the air.

Extraction: To remove something (for example, to take out Brazil nuts from the Amazon rainforest).

Forest Floor: The ground layer, made up of tree roots, soil and decaying matter. Mushrooms, earthworms, and elephants all make their homes here.

Greenhouse Effect: The warming of the planet caused by chemicals which trap heat in the air. This process is being sped up by humans who put too many heat-trapping chemicals into the air. Some causes include car exhaust, factory smoke, and burning rainforests.

Interdependence: The concept that everything in nature is connected to each other, and cannot survive without the help of other plants, animals and abiotic factors (such as sun, soil, water and air) around it.

Nutrients: Food needed for growth by living things.

Species: A distinct kind of plant or animal that has many common characteristics or qualities.

Sustainable: Using products of the forest in a way that does not permanently destroy them, so that people in the future can also use them.

Tropic of Cancer: A circle around the earth, parallel and to the north of the equator.

Tropic of Capricorn: Similar to the Tropic of Cancer, but to the south of the equator.

Understory: The second layer of rainforests, made up mostly of young trees and shrubs. Animals that live here include jaguars, tapirs, fer-de-lance snakes, and woodpeckers.

Written by Susan Silber & Illisa Kelman

http://www.ran.org/new/kidscorner/about_rainforests/factsheets/what_is_a_tropical_rainforest/

National Standards

ELA

Students apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies, and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, graphics).

Visual Art

NA-VA.5-8.1 UNDERSTANDING AND APPLYING MEDIA, TECHNIQUES, AND PROCESSES

Students intentionally take advantage of the qualities and characteristics of art media, techniques, and processes to enhance communication of their experiences and ideas

NA-VA.5-8.3 CHOOSING AND EVALUATING A RANGE OF SUBJECT MATTER, SYMBOLS, AND IDEAS

Students use subjects, themes, and symbols that demonstrate knowledge of contexts, values, and aesthetics that communicate intended meaning in artworks

TAKS Objectives

ELA

Determine the purposes for listening such as to gain information, to solve problems, or to enjoy and appreciate (4-8)

Art TEKS

Perception: The student develops and organizes ideas from the environment. The student is expected to: (A) illustrate ideas from direct observation, imagination, and personal experience and from experiences at school and community events

Creative expression/performance: The student expresses ideas through original artworks, using a variety of media with appropriate skill. The student is expected to: (A) create artworks integrating themes found through direct observation, personal experiences, and imagination; (B) apply design skills to communicate effectively ideas and thoughts in everyday life