

In collaboration with the Amazon Conservation Team (ACT) authors Thom Kudla and Gretchen Schlesinger have created an easy to use study guide that will not just make teaching about the rainforest fun and easy but give the students an unforgettable hands-on experience. ACT's holistic methods and efficient use of resources to save the rainforest have put their organization on the map as a highly rated charity.

The Official Amazon Conservation Team Rainforest Study Guide achieves the ultimate goal of leaving a lasting impression on students that will help them realize their strong potential to impact a lush tropical world that is slowly vanishing—and worth saving.

* Activities include: Creating an eco-friendly company, debate questions, research and class projects, a writing contest and much more!

For a greener future.

—T. K.

To Ethan, my favorite navigator..

—G. S.

To Avalynn Rose, who tomorrow will inherit
the world we create today.

—W. E. J.

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JUST THE FACTS

There are many things we do not yet know about the tropical rainforests around the world.

Here are some things we do know:

In 2007, ACT held a traditional knowledge exchange in Suriname between people, leaders and healers from four countries.

ACT set up a school for students to study and learn everything about their culture and preserving the rainforest.

For thousands of years, shamans have passed down important information about the healing medicines of the rainforest to the next generation.

There are more than 40 different kinds of toucans; the “Toco” is the largest of the toucan family.

People often refer to the rainforest as the “lungs for the planet”. Trees and plants take in carbon dioxide and give off oxygen.

Some animals find everything they need to survive in the emergent layer and never leave it.

We have only sampled a tiny fraction of the foods in the rainforest.

The rainforests around the world are in a wide band near the equator.

Giant bamboo plants can grow up to nine inches a day.

Ipecac flowers are used for curing fevers.

The Amazon gets nine feet of rain every year.

There are at least 80 different species of monkeys in the rainforest; one is so tiny that it can fit in a teacup.

Poison dart frogs are bright in color to send off a warning to potential predators that they are poisonous.

Many rainforest snakes have green skin that allows them to blend in with the leaves and trees.

Female red-eyed tree frogs lay about 50 eggs, and the eggs hatch into tadpoles within a few days.

Flying frogs, squirrels and snakes can be found in the Asian rainforest.

There are native tribes who have lived in the rainforest for thousands of years without causing any long-term damage.

It is believed that one hectare (2.47 acres) of rainforest can contain over 750 types of trees and 1500 species of higher plants.

Experts estimate that we are losing 137 plants, animal and insect species every single day due to rainforest deforestation.

Wild pepper is used for toothaches.

Destroying the rainforest will forever change the climate all over the world.

ACTIVITY #1 A CAUSE FOR DEBATE

IN CLASS:
TWO PERSON DISCUSSION

Pick a side in each of the following three premises and craft an argument to be openly debated in class.

Premise 1:

You are an executive at “TropicQuill,” a stationery company. “TropicQuill” wants to cut down some trees in the Amazon Rainforest in order to produce more of its fine stationery. Craft an argument as to why you should be permitted to process some trees from the rainforest in order to make more stationery.

You are a representative from a nonprofit rainforest protection organization. You do not want to let “TropicQuill” touch the rainforest. Give compelling reasons why the rainforest should be protected from “TropicQuill’s” plans.

Premise 2:

You are a cattle farmer who wants to clear out some space in the Amazon Rainforest for expanded meat and dairy processing. Craft an argument as to why you think the economic and agricultural pros of doing so outweigh the benefits of rainforest conservation.

You are an economist working with the Amazon Conservation Team. You believe the benefits of harvesting the resources naturally present in the rainforest far outweigh those of expanding cattle farming into the rainforest. State your case.

Premise 3:

You are a wild-game hunter who is petitioning to have access to the Amazon Rainforest for the sake of sport. Try to persuade the government to allow you into the rainforest to do this.

You are a biologist who studies the diverse plants and animals of the rainforest. Explain why the inhabitants of the rainforest must be protected and why you, as a biologist, hold this issue close to your heart.

After hearing these debates, why do you think it’s important to save the Amazon Rainforest? Write down some reasons you think it’s important to save the rainforest. If you don’t know enough about the rainforest to formulate an opinion on the topic, please still try to come up with some reasons. You might want to consider the variety of plant and animal species found in the Amazon Rainforest, the oxygen provided by rainforest trees, the medicines derived from Amazon-native plants, the multitudinous foods naturally cultivated in the rainforest, and the economic consequences of deforestation.

ACTIVITY #2 THE COMPANY POLICY

IN CLASS:
INDIVIDUAL SPEECH

The rainforest is around you every day, in your house and part of your life. From the list below, check off what products you use every day. Pick a company that exists today. The company can apply environmentally friendly or environmentally unfriendly business practices. Research the history of this company, their green practices, or lack of green practices. NOTE: If the company has been around for a long time, research how they have evolved either to be environmentally friendly or unfriendly.

Be prepared to discuss the company products and policies. When thinking about HOW the company produces its product also consider WHAT products the company produces. Write a five minute speech.

THE COMPANY I CHOOSE

HISTORICAL NOTES

PRODUCTS AND POLICIES

ACTIVITY #3 TRY WALKING IN THEIR...PAWS



RESEARCH AND WRITING
ASSIGNMENT

Pretend you're one of the following inhabitants of the Amazon Rainforest (listed below). Describe your environment, your daily routine, and why you want your home to be protected from harm. Be sure to inform your creative writing with research about the animal you choose.

- | | |
|-----------------------|-----------------|
| Jaguar | Parrot |
| Capybara | Quetzal |
| Spider Monkey | Toucan |
| Poison Dart Frog | Anaconda |
| Red-Eyed Tree Frog | Black Caiman |
| Blue Morpho Butterfly | Boa Constrictor |
| Leafcutter Ant | Manatee |
| Harpy Eagle | Piranha |
| Hoatzin | |

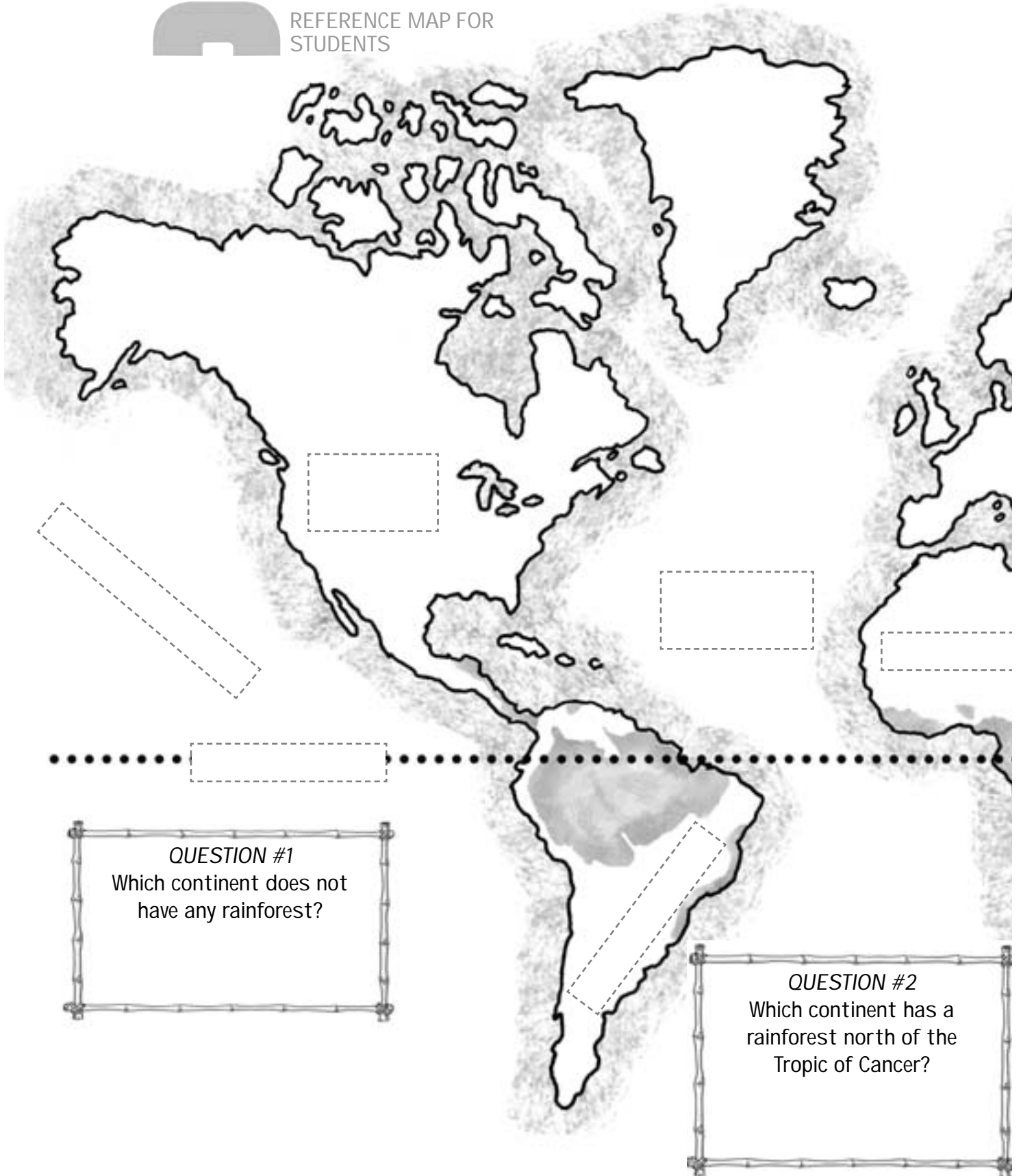
Research sources:

ACTIVITY #4

WORLD RAINFOREST MAP



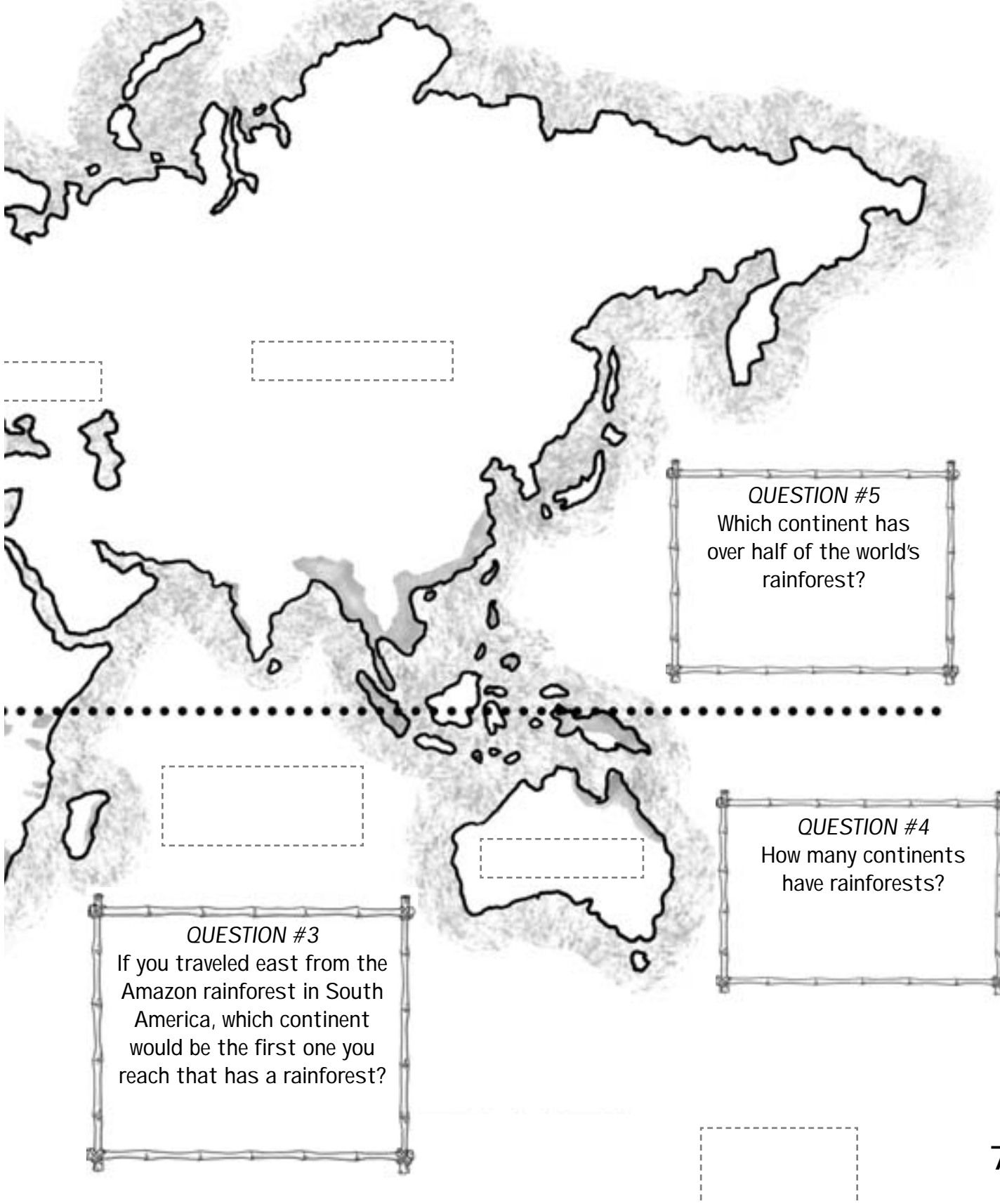
REFERENCE MAP FOR STUDENTS



QUESTION #1
Which continent does not have any rainforest?

QUESTION #2
Which continent has a rainforest north of the Tropic of Cancer?

On the map, label the following in the boxes: _____, equator, North America, South America, Africa, Asia, Europe, Australia, Antarctica, Pacific Ocean, Atlantic Ocean, Indian Ocean and the Arctic Ocean. See where the rainforests are located, then answer the questions below. Use resources at the library or the Internet. State the sources. Color code the map, add or draw any details that make your map a work of art. Include the ethno-mapping symbols.



QUESTION #3
If you traveled east from the Amazon rainforest in South America, which continent would be the first one you reach that has a rainforest?

QUESTION #5
Which continent has over half of the world's rainforest?

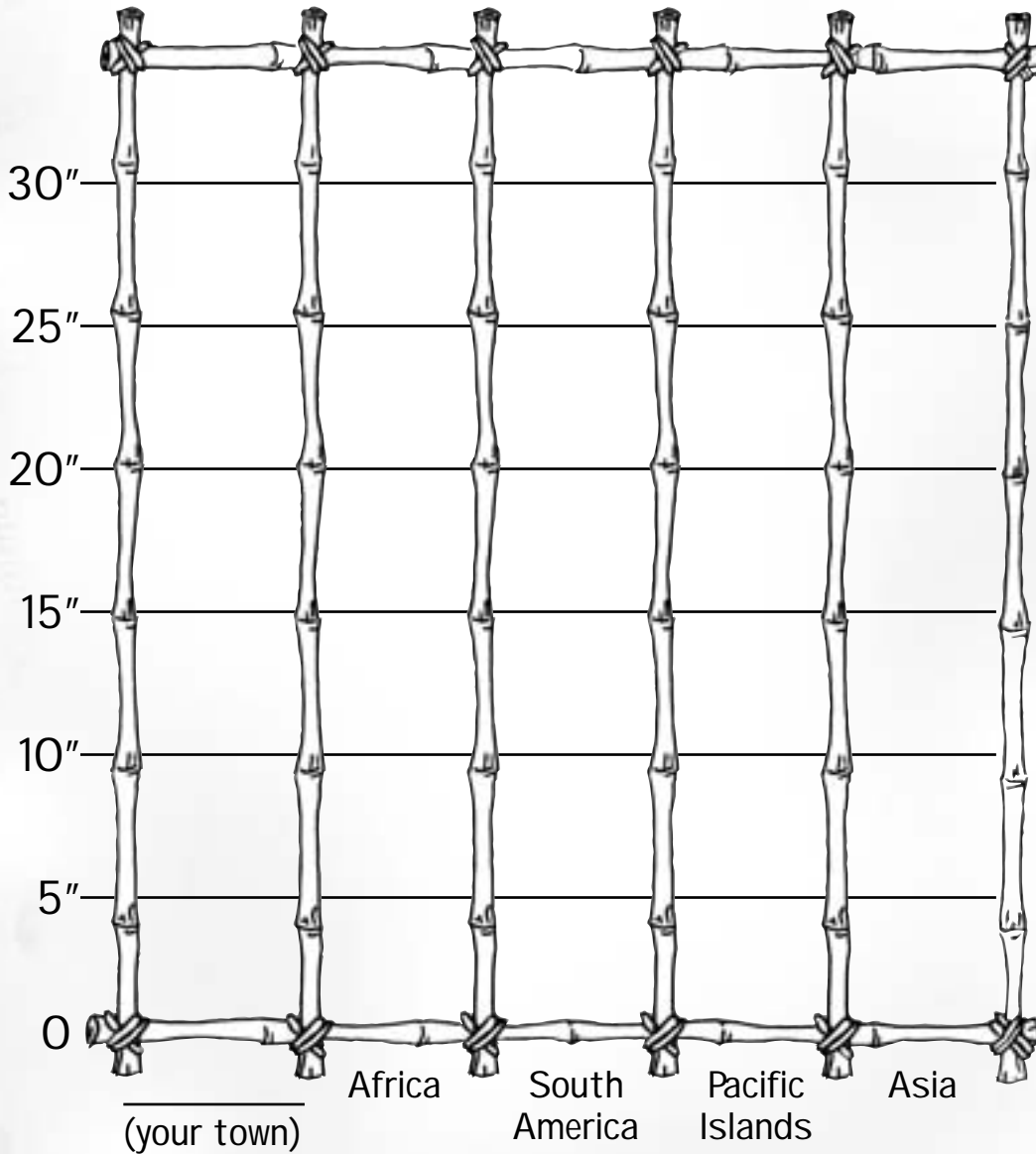
QUESTION #4
How many continents have rainforests?

ACTIVITY #5 MAP FINDINGS

IN CLASS: RESEARCH AND REPORT FINDINGS

There is still much information we are learning about the rainforests. It is difficult to find accurate information about such matters as how much forest is being lost every day. Research the list of questions, fill in the following graphs below based on your research and findings. Record your sources.

Break into small groups and compare the differences. Come up with one consensus group answer for each question from the individual findings of each member of each group. Select one member from each group to present the findings. Put on the board and discuss.



How much rain does a place need to get per year to be considered a "rainforest"? _____

According to your research, which rainforest gets the most rainfall? _____

Which rainforest gets the least amount of rainfall? _____

According to your research, are there any other rainforests? _____

ACTIVITY #7 PLAY

IN CLASS:
CREATIVE PRESENTATION

Break into small groups, assign jobs to each other and write a 15 minute play related to saving the rainforest. Each person should be a character in the play. Use props and costumes if appropriate.

STORYLINE

CHARACTER NAMES & ACTORS

PROPS, COSTUMES

MISC. NOTES

ACTIVITY #8 RAINFOREST FUNDRAISER



WHOLE CLASS ACTIVITY

Plan a “Save the Rainforest” party for your grade or school. Have a bake sale or auction off items and gift certificates to raise money for a charitable organization—the Amazon Conservation Team.

Make everything about your party eco-friendly. Serve cupcakes with green frosting (made from natural food coloring), create a toss the shoe into the carbon footprint game, or play rainforest Jeopardy. Make sure your napkins are bio degradable, and don’t forget to recycle!

For a hands-on experience that you will never forget, as well as great ideas for party give-away treats check out these web sites:

<http://www.teachersource.com/BiologyLifeScience/InsectCandy.aspx>

<http://www.teachersource.com/BiologyLifeScience/InsectCandy/LarvetsWormSnax.aspx>

http://192.107.108.56/portfolios/r/ruggiero_p/intech/jeopardy.htm

FOODS & TREATS

GAMES

ACTIVITY #9 DISCOVERING STRATEGY



IN CLASS:
GROUP PROJECT

Passion and hope are the driving forces that live inside every activist. The earth has lungs but relies on its activists to speak about the realities and consequences of human actions. While passion and hope are key factors, any activist would tell you that a sound strategy is one of the keys to success.

Throughout the history of environmentalism, conservation activists have used various *strategies* to further causes that work towards the greater good. Dr. Mark Plotkin has worked directly with the tribes of the Amazon to help protect tens of millions of acres of rainforest and to revitalize traditional medicine systems. Rosalie Edge led protest marches and attracted the media in her fight against the timber industry to preserve a rain forest in Olympia, Washington. Wangari Maathai founded the Green Belt movement, a grassroots environmental NGO that has planted over 40 million trees across Kenya to prevent soil erosion.

During this activity, your class will divide into small groups, and research different strategies and tactics that environmental activists have used that led to awareness and success. Consider all their strategies such as creating and distributing pamphlets, holding rallies, and interviewing with magazines and newspapers as well as other ways to invite media attention.

Research within your own community, pick a local cause or community environmental project (example: increasing the number of people who recycle) and devise a strategy to create awareness.

Submit your group strategies for review in front of the class. Make updates based on class feedback. Move forward with the project.

When your project is complete, write a one page report and present your experience to the class as a small group. Describe how effective or ineffective its methods were, and what you learned both about the project you chose and about developing effective strategies.

STRATEGY NOTES

ACTIVITY #10

ISLAND CREATION

IN CLASS:
GROUP PROJECT

Your small group has just landed on a remote island in the tropical rainforest. Now you must learn as much as you can to survive. Describe everything about your island. What animals live there? What does it look like?

Come up with an island flower, flag and mascot. Draw a map of the island and describe what kinds of products would you create from the things you discover on the island. Students can each take part in presenting things about the island and its wonders.

DRAW YOUR ISLAND MAP HERE.

FLAG

FLOWER

MASCOT

MY ISLAND IS...

ANIMALS THAT LIVE THERE...

PRODUCTS I WOULD CREATE...



ACTIVITY #11 RAISING AWARENESS



RESEARCH AND
WRITING ASSIGNMENT

The first goal of activists is to raise awareness regarding their cause. Some activists stage protests, others circulate literature, and yet others use the entertainment industry to help publicize their cause. When it comes to protecting the environment, filmmakers have been known to elaborate on their causes through documentaries. Rent one of the following documentaries and write a short report on it.

Consider these questions:

- What's the premise of the documentary?

Describe the credentials of the filmmakers and/or the people they interviewed for the documentary.

- Do they have a convincing argument?
- Does the documentary succeed in its primary goal of raising awareness?
- Does it do more than raise awareness—does it make you want to actively pursue this cause?

If you choose a film that's not an argumentative documentary, still report back about it, describing its purpose, content, and your personal reactions to it. Be prepared to present this in class with a short clip from the film if possible.

"Who Killed the Electric Car?"

"An Inconvenient Truth"

"IMAX Presents... Tropical Rainforest"

"11th Hour"

"Life After People"

"National Geographic's Strange Days on Planet Earth"

"Global Warming: The Signs and the Science"

"Bugs! A Rainforest Adventure"

"Planet in Peril"

"National Geographic's Six Degrees Could Change the World"

"Conserving America: Champions of Wildlife"

"Shark Water"

"The Possibility of Hope"

MY CHOICE/CHOICES

ACTIVITY #12

BIOGRAPHY OF A CONSERVATIONIST



RESEARCH AND
WRITING ASSIGNMENT

The conservation movement was started by a handful of people who were so inspired by nature that they made it their life's work to protect it.

Research someone in the state or community where you live who is an environmental role model (even if he or she is just a role model for you personally). Collect and organize background information about this person, prepare a set of interview questions for him or her, and then contact your role model to request an interview. The questions should be broad, open-ended, and varied. They should include everything from "What events from your childhood, if any, contributed to your interest in conservation?" to "What conservation issues do you feel are most pressing and why?" When you have completed the interview, compile the information into a biographical article for the school newspaper.

Alternatively, write about any past environmentalists in history. When writing the report, write in an interview style, and answer the questions the way you suspect your environmentalist would if he or she were alive. Base your answers on what you learned about him or her while conducting your research.

To celebrate environmentalists throughout history, plant at tree on your school campus every Earth Day!

MY CHOICE

QUESTIONS I WILL ASK

ACTIVITY #13 THE DOMINO EFFECT



RESEARCH, ART AND
WRITING ASSIGNMENT

Every living thing on the planet plays an important part in the global food chain. If one species becomes too numerous or voracious, the stability of an ecosystem can be threatened.

Be creative, using the facts below and your artistic and research ability to design and draw a food chain. Write a one page report to support your art. Keep these things in mind:

- How species depend on one another and on the environment for survival.
- The relationships that exist among organisms in food chains and food webs.
- An understanding that humans can modify ecosystems and cause irreversible effects.

The facts—

The Producers: These are living things which take the non living matter from the environment (minerals and gases used to support life). *FYI: Green plants are considered producers and they are at the beginning of the food chain.*

The Consumers: These living things need the producers to be their food. *FYI: Animals who eat plants are called herbivores and are considered consumers.*

The Carnivores: These are animals who eat other animals. They also considered consumers. *FYI: Carnivores are a link farther along on the food chain since they need the herbivores for their food.*

The Omnivores: These are animals that eat both animals and plants. *FYI: Omnivores also are part of the consumer piece of the ecosystem.*

The Decomposers: These are the living things that feed off dead plants and animals and reduce their remains to minerals and gases. *FYI: Examples of decomposers are fungi (such as mushrooms, and bacteria).*

SOME PRELIMINARY NOTES/SKETCHES

ACTIVITY #14

SEEING THE RAINFOREST FOR THE TREES



RESEARCH AND
WRITING ASSIGNMENT

Instead of viewing Earth as a planet, what if you looked at the world as another human being? Would you think twice about littering? Would you be more conscientious of air pollution? Would you care more about the Earth's well being? In a sense, as the planet ages and weathers the challenges posed by its inhabitants, such as pollution, deforestation, and exorbitant waste, it reacts as a human would react when getting sick—it has fevers characterized by heat waves and chills, in this case manifesting as a more calamitous climate resulting from global warming. By personifying the earth in this way, it may become easier for us to care about the “health” of the planet.

There are some people who make it part of their creed to value all living things in nature equally. For instance, in deep ecology, every living creature—plants and animals alike—is seen as part of the whole. When one part is suffering, the whole feels adverse effects. How might the perspective of a deep ecologist provide insights into the benefits of rainforest conservation?

Write a three page report on the above issues.

THOUGHTS AND IDEAS

ACTIVITY #15 INVESTIGATIVE REPORTER



RESEARCH AND
WRITING ASSIGNMENT

You're a journalist for a scientific magazine. Do some investigative reporting on a topic of your choosing regarding the rainforest or the environment in general. Cite sources whenever possible. As a journalist of high integrity, be sure to maintain a fair, balanced, and objective point of view. You may want to consider interviewing someone knowledgeable on the topic.

Here are some suggested topics, but you may want to come up with your own:

- The energy crisis—how did it get to be a crisis and how can we begin to remedy the situation?
- What does it mean to be “green”? Survey public opinion by conducting interviews and collecting data. Try to draw a conclusion based on your survey and interviews.
- How have governments succeeded in protecting the rainforest? How have they failed? Be critical in your analysis.

SOME PRELIMINARY NOTES/SKETCHES

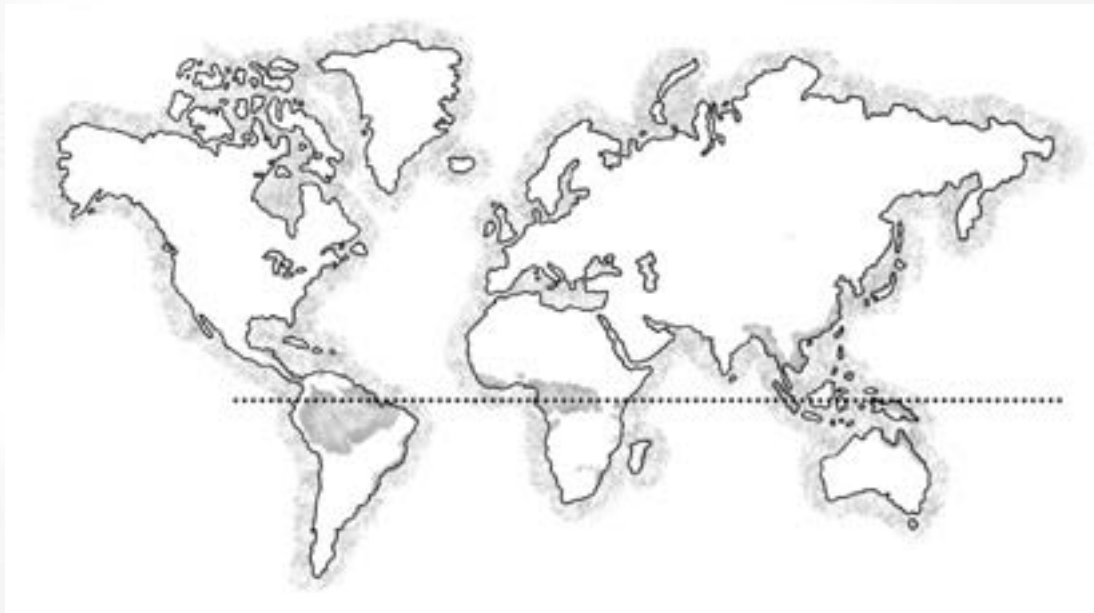
ACTIVITY #16 RAINFOREST RESEARCH PAPER



RESEARCH AND
WRITING ASSIGNMENT

Write an essay about a specific rainforest, addressing the climate, the topography, the geography, the history, the layers, the inhabitants, the endangered species, the extinct species originally from there (if any), and human interaction with the forest, such as what has been done to harm it and what is currently being done to protect it. Be sure to cite your sources. Please select from one of the following countries' tropical rainforests in greater Amazonia:

- | | |
|-----------|---------------|
| Brazil | Bolivia |
| Peru | Guyana |
| Colombia | Suriname |
| Venezuela | French Guiana |
| Ecuador | |



MY CHOICE AND SOURCES

ACTIVITY #17 GROWING PLANTS



IN CLASS:
GROUP PROJECT

Examine a variety of tropical fruits and seeds and have students determine the seeds' means of dispersal. Identify a range of dispersal methods that reflects the great variety of the rainforest's flora and fauna.

Try to germinate tropical plant seeds in the classroom and determine the best conditions for plant growth. Keep all factors in mind, such as high humidity and warm temperatures.

Save seeds from tropical fruits you eat, or order seeds from the list below.

For seeds of tropical plants to grow in your classroom or greenhouse, contact:

The Banana Tree
715 Northampton St.
Easton, PA 10842
<http://www.banana-tree.com>

Park Seed Co.
Highway 254 North
Greenwood, SC 29647

SEEDS I'VE CHOSEN:

WRITE ON...

ACT's Official WRITING CONTEST!

Sharpen your pencils!
Get out your recycled paper!

Enter the official **Amazon Conservation Team Writing Contest** for Fiction and Non-Fiction categories. Winners will receive a prize and the winning stories will be posted on the ACT website (story and first name only). Stories will be collected twice a year—January 1 and June 1.

F.Y.I.

Here is what our judges will be considering when reading your entries:

1. SETTING

Which rainforest? Is the context vividly drawn?

2. PLOT

Does the story pull the reader in—and have a logical conclusion?

3. CHARACTERIZATION

Are the characters believable?

4. DIALOGUE (if used)

Does it sound natural?

5. STYLE, TONE, LANGUAGE

Does the writer write to *all* senses?



OFFICIAL ENTRY FORM

Name _____ Story Title _____

Street address _____

City _____ State _____ Zip _____

School _____

All entries are confidential. Any information disclosed on the entry form will not be shared outside of ACT.

SEND TO: The Amazon Conservation Team
ATTN: ACT WRITING CONTEST
4211 N. Fairfax Drive
Arlington, VA 22203

GLOSSARY

ACT A group of people working hard to help the indigenous people—local women, men and children—who live in the rainforest.

Canopy The cover formed by the leafy upper branches of the trees in a forest.

Conservation The careful utilization of a natural resource in order to prevent depletion.

Deforestation To divest or clear of forests or trees.

Ecosystem An ecological community together with its environment, functioning as a unit.

Emergent The tallest trees are the emergents. They can tower as much as 200 feet above the forest floor.

Equator The imaginary great circle around the earth's surface, in the middle of the poles.

Ethnobotanist A scientist who studies the relationship between plants and people.

Rainforest A dense evergreen forest occupying a tropical region with an annual rainfall of at least 2.5 meters (100").

Shaman A respected member of a tribe who studies rainforest medicines and passes down information to younger generations.

Suriname A country of northeast South America on the Atlantic Ocean.

Tropics The geographic region of the Earth, centered on the equator, where the sun reaches a point directly overhead at least once a year.

Climate The conditions of a region, including temperature, precipitation and wind, that are characteristic of a specific place.

Endangered A species present in such small numbers or whose numbers are decreasing so rapidly that it is at risk of extinction.

Indigenous Originating and living naturally in an area of environment.

Slash-and burn When an area of forest is cleared by cutting and burning.

Tributaries A stream that flows to a larger stream or other body of water.

Understory An underlying layer of vegetation, especially the plants that grow beneath a forest's canopy.

RESOURCES

Amazon IMAX DVD, 2-Disc Large Format WMVHD Edition

Tales of a Shaman's Apprentice: An Ethnobotanist Searches for New Medicines in the Amazon Rain Forest by Mark J. Plotkin

Medicine Quest by Mark J. Plotkin, PhD

A Neotropical Companion by John Kricher and Mark Plotkin

The Natural History of Medicinal Plants by Judith Sumner and Mark Plotkin

Sustainable Harvest and Marketing of Rain Forest Products by Scott Mori, Mark Plotkin, and Lisa Famolare

The healing forest: the search for new jungle medicines. An article from: *The Futurist* by Mark J. Plotkin

The Green Pharmacy by Mark Plotkin



In an effort to help parents raise healthier kids and to encourage them to make a difference in the world early on, Nature's Path offers nutritious, organic breakfast cereals and snacks that also give back to the environment with the EnviroKidz line.

EnviroKidz products are made only from organic foods and do not contain any Genetically Modified Organism (GMO) ingredients, artificial colors, flavors or preservatives. They have more whole grains and less sugar, fat and sodium than many conventional options.

Kids also help the planet with each bite of EnviroKidz products—1% of sales are donated to endangered species protection, habitat conservation and environmental education for kids. Nature's Path works with organizations such as The Amazon Conservation Team, The Lemur Conservation Foundation, The Defenders of Wildlife, The Wildlife Trust and The Dian Fossey Gorilla Foundation.

For fun activities and facts about some of the animals the EnviroFund helps protect and to find out how you and your students can help make a difference, visit the EnviroKidz website (www.envirokidz.com).



Eco-thumb Publishing™
books for green minds

Eco-thumb [ek'ō thūm] n : One whose environmental awareness is so conscious that it has become a way of life.

It's believed that there are certain people who possess a power over plants, some innate ability to make them grow—more commonly known as a “green thumb”

Since a story's origin is never fully certain, we considered the original tale of King Edward I of England, a king known to be fond of green peas. It is believed that he kept half a dozen serfs shelling peas during the season—and the king would handsomely reward the serf who had the greenest thumb.

Maybe the truth is in the handful of similar stories that followed, maybe we are meant to draw our own conclusions or just never really know for sure.

At Eco-thumb Publishing, here is what we *do* know: We all have the power to be green—green on your thumb, green in your heart, green in your life. We believe that we have the power to change, to promote growth, like a tree, an idea, or for us, a growing mind. We believe that the words eco-thumb and green thumb are meant to work in unison. We know that people who live on Earth can also learn to live in it—and ultimately we all might one day have the fortune of possessing an eco-thumb.

Correctly used in a sentence: Katie started a recycling club at her school; after that, her friends all said she had an eco-thumb.



THE
AMAZON
CONSERVATION
TEAM

The Amazon Conservation Team (ACT) is working hard to protect the rainforests of tropical America. Rainforests are important—not just to those who live in them, but to everyone on the whole planet. They help control the world’s climate. Many of our medicines come from plants that grow in rainforests. Perhaps someday the cure for cancer will be found in a tropical rainforest.

Each year, the Amazon rainforests face grave threats to their survival. When a rainforest is destroyed, the climate changes very quickly. Without protection from the trees’ leaves, the rainforest soil will dry out in the sun. When it rains, the soil will get washed away, leaving the land empty like a desert. A rainforest cannot be replaced. Once it has been destroyed it will be gone forever.

ACT is trying to help the indigenous people of the rainforest—the local women, men, and children—to protect their homes and forest culture. ACT works with them in the South American countries of Brazil, Colombia and Suriname to protect and preserve their culture, their health and the rainforest. When ACT succeeds, Earth wins.

The forest has a voice. But it needs you to be heard.

For more information, please visit
www.amazonteam.org or www.myspace.com/amazonconservationteam