

In collaboration with the Amazon Conservation Team, authors Patti Biddinger and Gretchen Schlesinger have created an easy to use study guide that will not just make teaching about the rainforest fun and easy, but also give 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: maps and graphing, discussion questions and topics, trivia, coloring, writing activities, how to create a rainforest right in the classroom and much more!

To teachers everywhere for instilling the love of learning in their students.

—P. B.

To Brad, for making the world a better place.

—G. S.

To all those who dedicate their lives to preserving our planet and the life that inhabits it.

—W. E. J.

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"Destroying the rainforest may change the climate all over the world..."

ACTIVITY #1 VISUAL IMAGERY

Turn off the lights in your classroom. Take your students on a journey through the rainforest using this visual imagery lesson.

Can you all do something for me? Close your eyes, and try for a few minutes to imagine what it's like to stand in the middle of a rainforest. Imagine that it is hot and damp and very still. You start to sweat a little bit because there is no breeze. The dampness has a certain smell too. You take a few steps forward and hear crunching leaves under your feet. You can smell their earthy scent.

All around you there are faint sounds that fill the forest. To the left you hear the rising buzz of cicadas and the chirping crickets. To your right are bird calls and rustling sounds in the trees above you and other sounds you don't recognize at all. It is like someone turned the lights to low, and every shade of green that you have ever seen or could imagine is all around you. There are some beams of sunlight that are sneaking their way through the leafy walls around you.

You decide to walk around and see what else you can find. It is clear in front of you but you are careful not to trip over any tree roots that run along the ground. You are also careful of the leaves that have become wet and slippery.

Right in front of you is a large tree trunk, only its roots don't go deep into the ground like you are use to. The base of the tree is like a fluted skirt, giant and spread out, sitting on the ground. You look around and see that many of the rainforest tree roots look like this one. The base of this tree would reach the ceiling of your classroom! Then you stretch up on your toes to see that the tree then narrows and becomes straight and round.

You reach out and touch the trunk of the tree. It feels smooth and damp and there are little ferns and moss growing all over it. You lean in a little bit closer to see the ants going up and down the tree in a line. The ants coming down the tree are all carrying a piece of leaf that is larger than the ant itself! The ants going up the tree aren't carrying anything at all.

You watch the ants working so hard—when a sudden chattering and rustling in the branches overhead catches your attention and you duck as a small light rainfall of twigs and leaves comes down around you. You look up and see hundreds of eyes staring at you. It is a troop of spider monkeys. Some have babies on their backs and they are all using their tail for grabbing. Then in a swing and swish the monkeys disappear up and out of sight.

As you start to walk forward you notice the thick stiff ropes hanging down everywhere. The rainforest is full of these woody vines and aerial roots. You realize how strong these woody vines are as you see that some of them are holding up fallen trees.

You take a few steps back and a wonderful fragrance surrounds you. There are no flowers in sight. Then, a handful of pink blossoms fall from the sky and land all around you. You look up and realize that these beautiful pink blossoms are from another world, a world far, far above you where a tree blossoms. It is up there, in the canopy where most of the rainforest plants and animals live their entire lives.

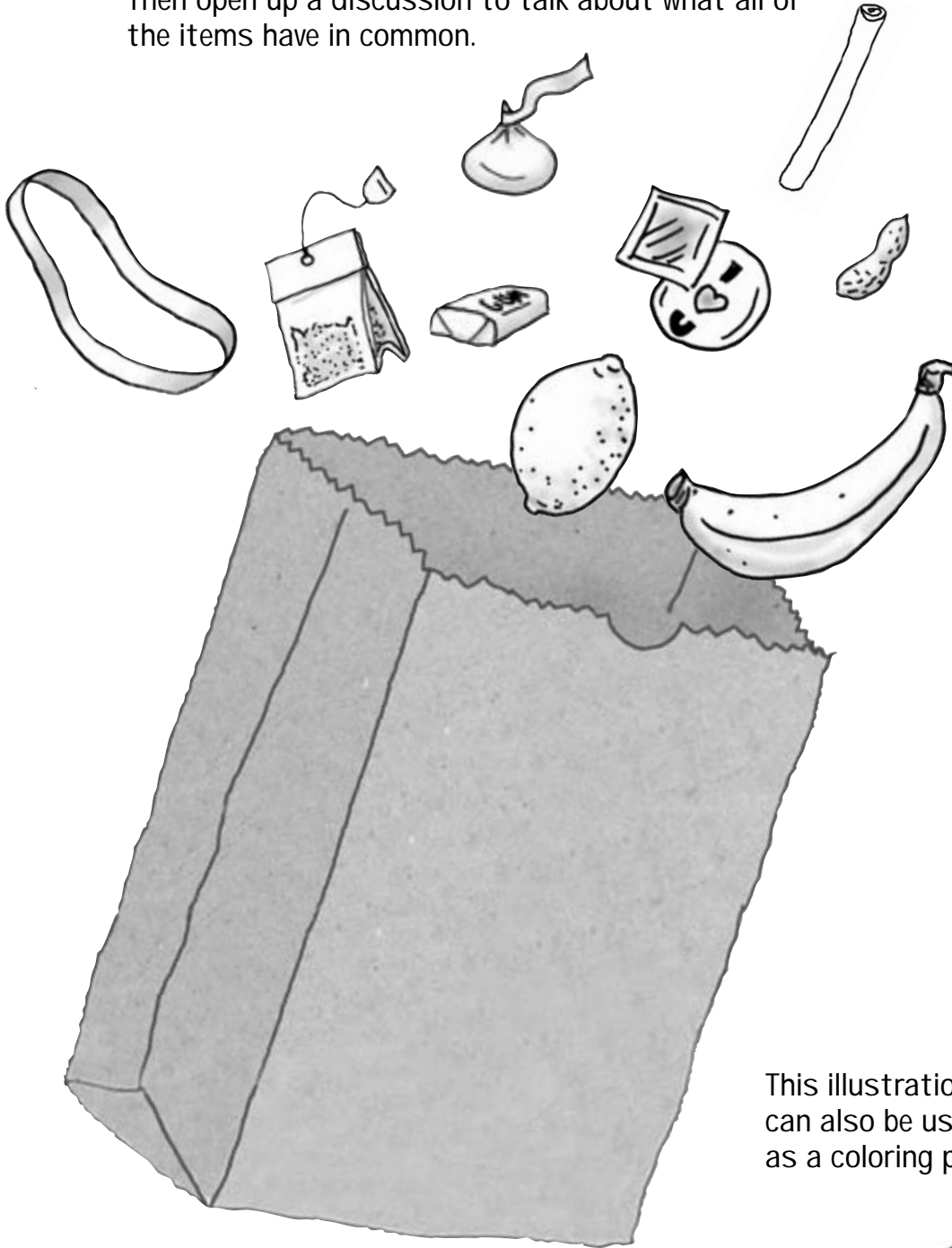
Then a gentle rain starts to fall and you can open your eyes. It's time to end our journey to the rainforest.

"We have only sampled a tiny fraction of the rainforest."

"...rest."

ACTIVITY #2 MYSTERY BAGS

To introduce the rainforest to your students, fill up several brown paper bags for each table or small groups with the following items: a rubber band, a tea bag, a lemon, a banana, a Hershey's Kiss[®], bubble gum, cinnamon stick and stickers. Let the students take the items out of the bag and discuss them. Then open up a discussion to talk about what all of the items have in common.



This illustration can also be used as a coloring page.

"There are native tribes who have lived here for thousands of years without causing any long-term damage."

ACTIVITY #3

PRODUCTS FROM THE RAINFOREST

Put this list in ABC order.

THE ABC'S OF THE RAINFOREST

1. Coffee _____
2. Mango _____
3. Peanut _____
4. Lemon _____
5. Toucan _____
6. Banana _____
7. Bubble gum _____
8. Rubber band _____
9. Frogs _____
10. Pineapple _____
11. Chocolate _____
12. Stickers _____

"Giant bamboo plants can grow up to ..."

ACTIVITY #4 TREASURES FROM THE RAINFOREST

Do you know the rainforest is also the world's largest treasure chest? Look at the list of things that come from the rainforests. Put a check mark next to each thing that is found in your home.

WOODS

Look at furniture, floors, doors, toys, cabinets and models

- balsa
- mahogany
- rosewood

FOOD PRODUCTS

- avocado
- banana
- Brazil nuts
- cashew nuts
- coconuts
- coffee
- cola
- grapefruit
- guava
- heart of palm
- lemon
- lime
- macadamia nuts
- mango
- orange
- papaya
- passion fruit
- pepper
- pineapple
- plantain

- tangerine
- tapioca
- tea

HOUSEPLANTS

- African violet
- begonia
- bird's nest fern
- bromeliad
- Christmas cactus
- corn plant
- dieffenbachia
- fiddle-leaf fig
- orchid
- philodendron
- rubber plant
- snake plant
- umbrella tree
- zebra plant

OILS

Look in medicines, insect repellents, suntan lotions, soaps, candles, snack foods and perfumes

- camphor
- coconut
- lime
- palm

- rosewood
- sandalwood

SPICES AND FLAVORS

- allspice
- black pepper
- cardamon
- cayenne
- chili pepper
- chocolate or cocoa
- cinnamon
- cloves
- ginger
- nutmeg
- paprika
- turmeric
- vanilla

GUMS AND RESINS

- chicle
Look for chewing gum
- rubber
Look for balloons, erasers, foam rubber, rubber bands, gloves, hoses and tires

"Indigenous means: originating and ..."

... in an area or environment."

ACTIVITY #5 WORD SEARCH

Search for the words listed below. Words can go up and down or across.

ACT	CLIMATE	ENVIRONMENT
CANOPY	ENDANGERED	RAINFOREST
EMERGENT	INDIGENOUS	SLOTH
FROG	SLASH	TREES
SHAMAN	TOUCAN	BURN
SURINAME	UNDERSTORY	ECOTHUMB
TROPICS	BAT	EQUATOR
ANTS	ECOSYSTEM	





"Female red-eyed tree frogs lay about 2000 eggs which hatch into tadpoles within a few days."

ACTIVITY #6 COLORING PAGE

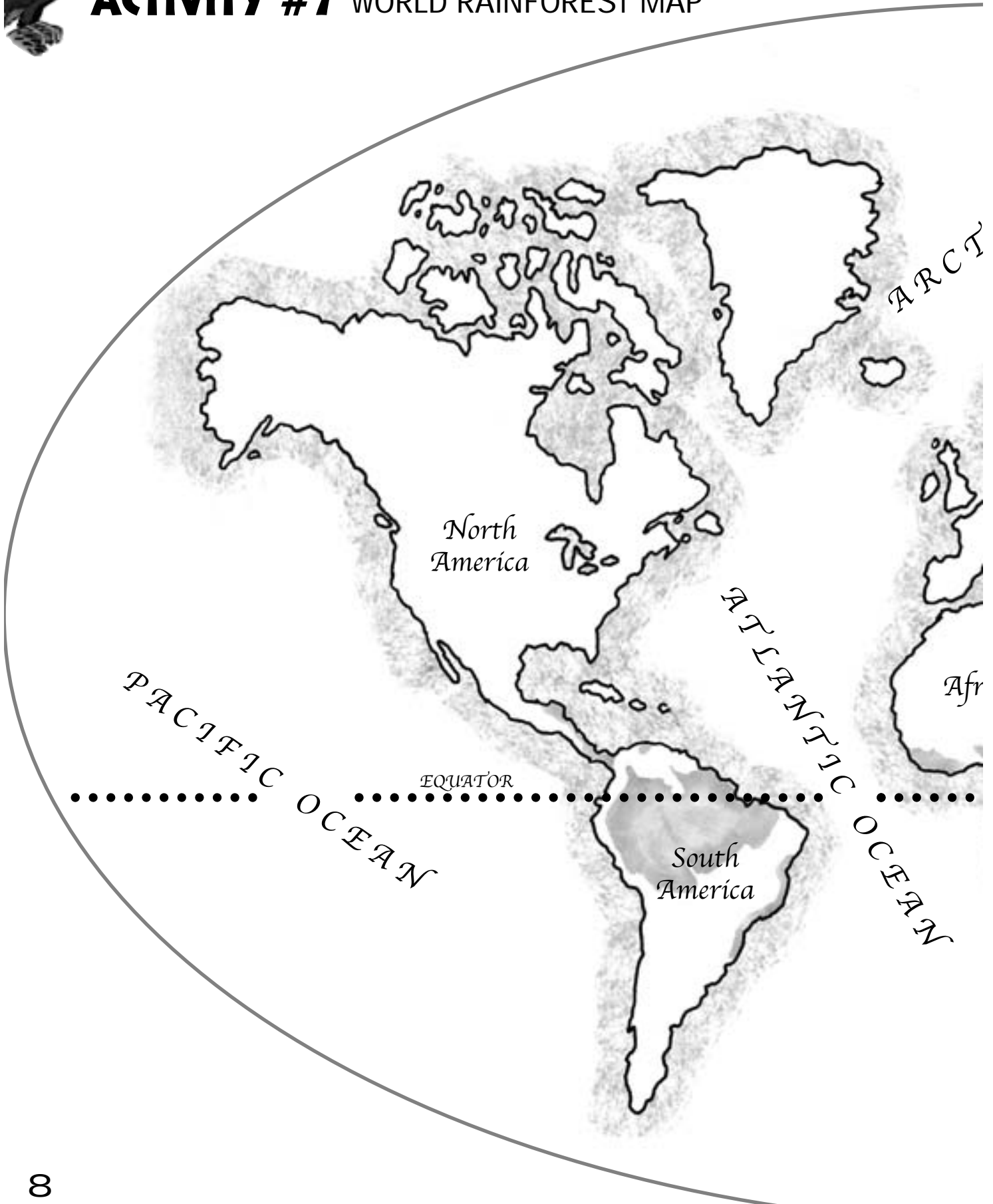




"The rainforests around the world are ...

... equator."

ACTIVITY #7 WORLD RAINFOREST MAP

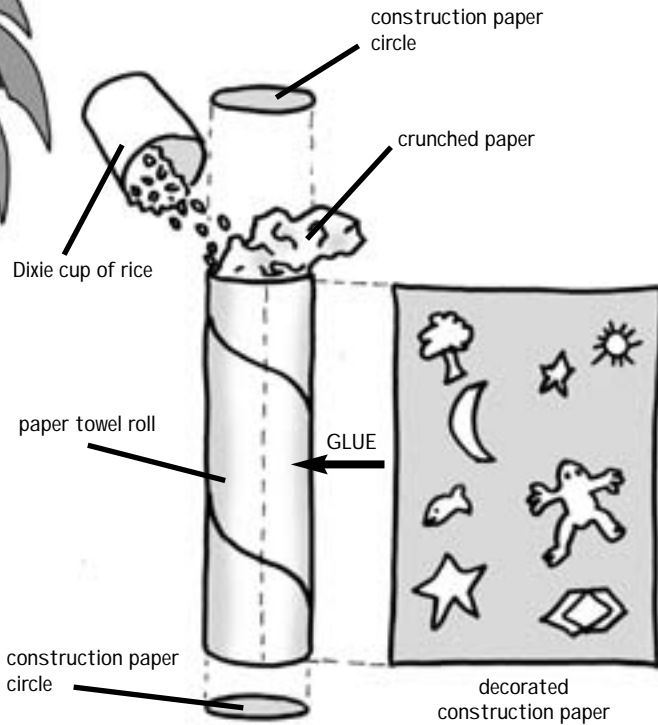


On the map below, draw small tree symbols on the shaded areas of the map. Color the rainforest areas green and the oceans of the world blue.



"The Amazon gets nine feet of rain every year."

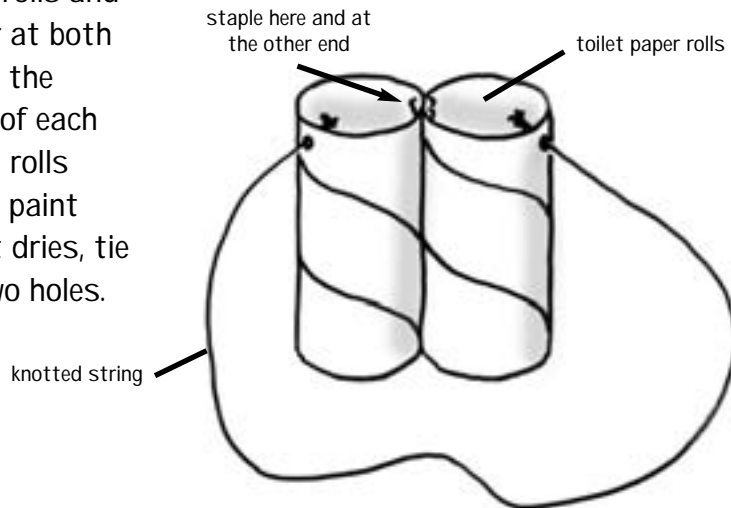
ACTIVITY #8 MAKE A RAINSTICK



Take a paper towel roll and a sheet of paper. Crunch the paper lengthwise and insert it into the roll. Cover one end of the roll with a circle of construction paper. Pour in a bathroom-size Dixie cup full of rice. Seal the other end of the roll with another circle of construction paper. Decorate construction paper with designs and symbols. Wrap the paper around the towel roll and glue.

ACTIVITY #9 CONSTRUCT BINOCULARS

Take two toilet paper rolls and staple them together at both ends. Punch a hole on the outside near the top of each one. Hold the stapled rolls with a clothespin and paint them. After the paint dries, tie string through the two holes.





"Some animals such as monkeys, vultures, and toucans they need to survive in the emergent layer and never leave it."

ACTIVITY #10 RAINFOREST LAYERS

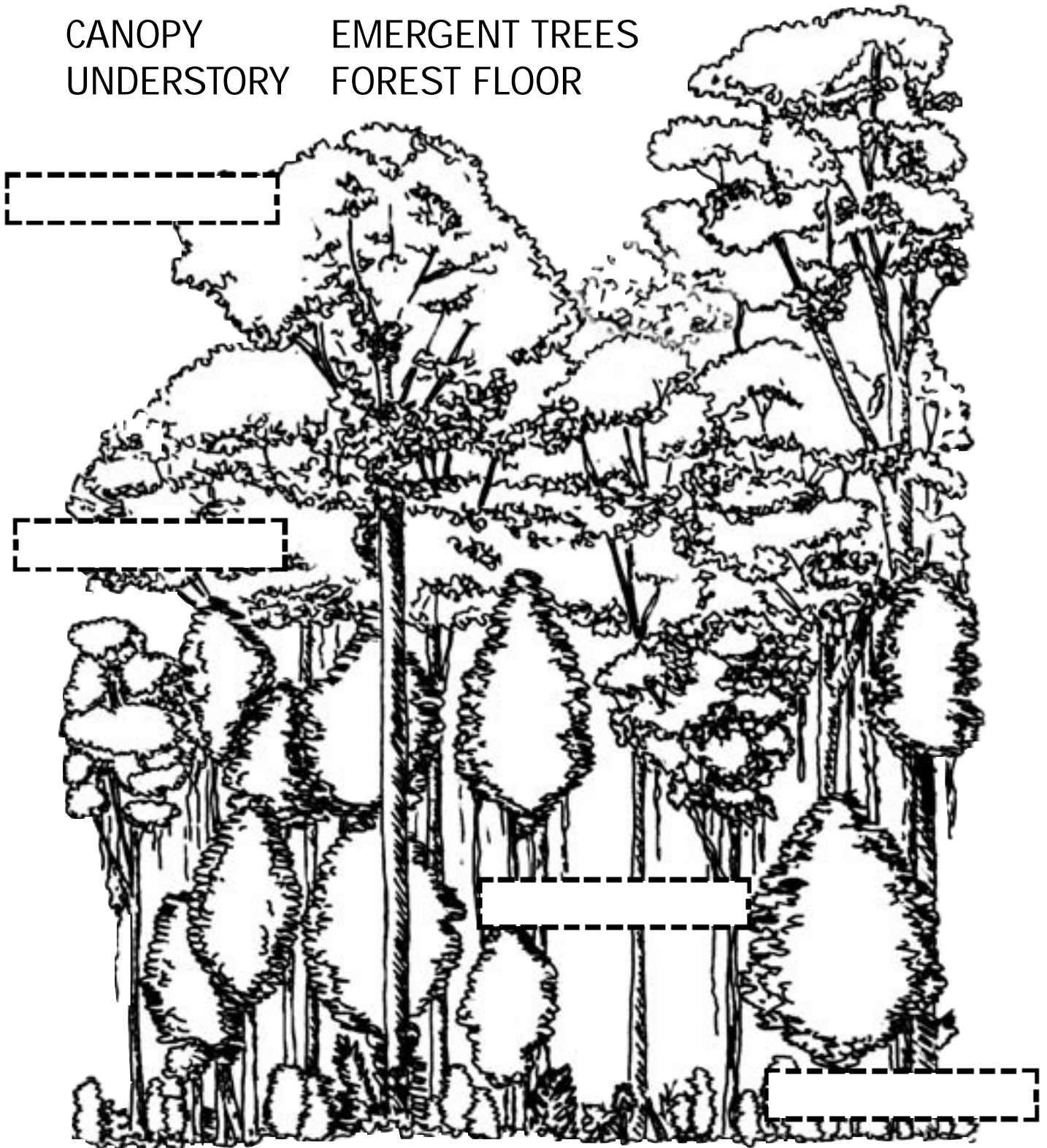
Label the layers of the rainforest.

CANOPY

EMERGENT TREES

UNDERSTORY

FOREST FLOOR



The illustration above can also be used as a coloring page. You can copy the animal pictures from page 12 and glue them into the layer they inhabit.

RAINFOREST ANIMALS

MAMMALS

BIRDS

INSECTS

REPTILES

AMPHIBIANS



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

ACTIVITY #11 RAINFOREST ANIMALS

Cut the left side of the page along the dotted line and glue to the top of a clean piece of paper to form a classification sheet.

Color and cut out the animals, then arrange and paste them onto the classification sheet to create an animal classification web.

GLUE



"There are more than 40 different kinds of toucans, and the toucan is the largest of the toucan family."

ACTIVITY #12 RAINFOREST CHALLENGE

Research an animal from the rainforest and answer the following questions.

The animal I chose is _____

I found these facts from _____

1. What does it eat?

2. What does it look like?

3. How does it protect itself?

4. What layer of the rainforest do you think it lives in and why?

5. Other interesting things I learned are...

"Wild pepper is used for toothache."

ACTIVITY #13

READING OR VIDEO:
THE SHAMAN'S APPRENTICE by
Lynne Cherry and Mark J. Plotkin
Harcourt Brace & Co.

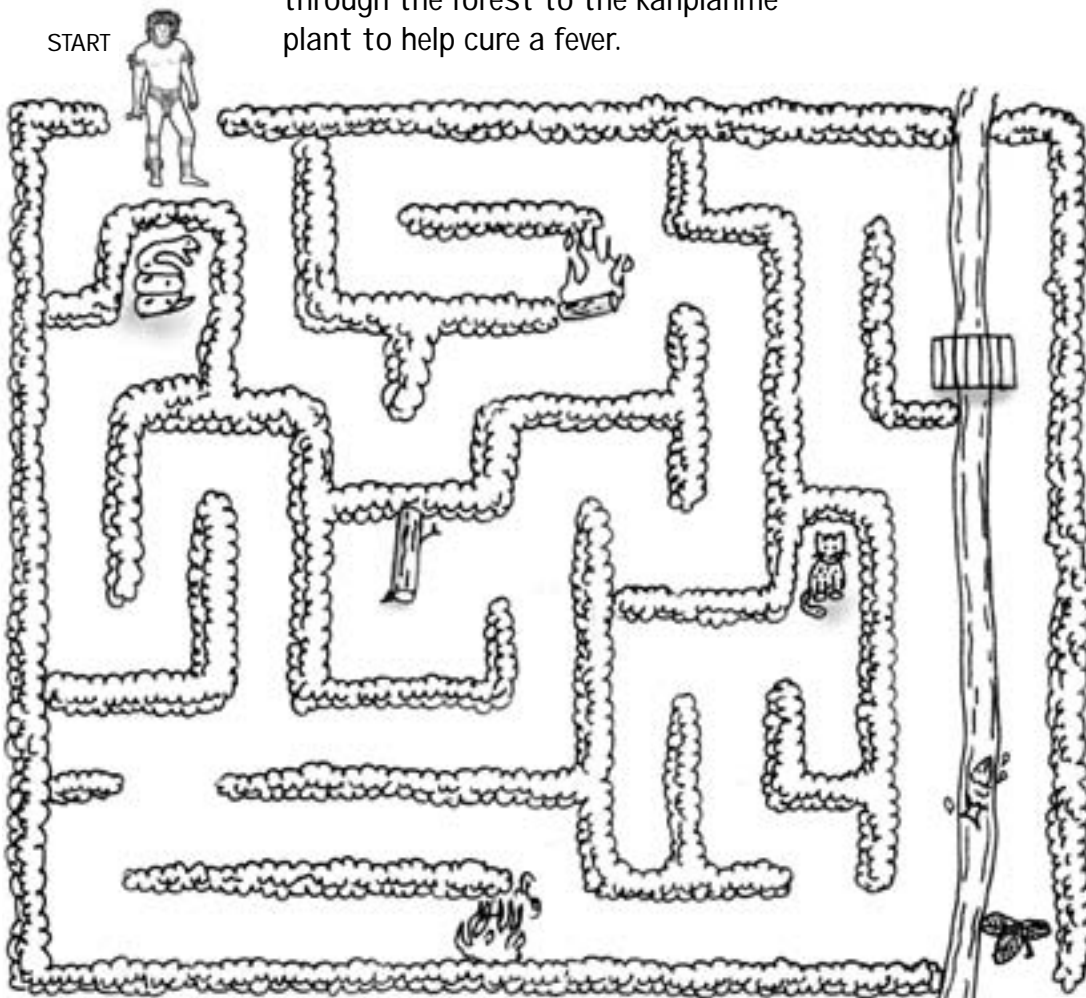
The Shaman's Apprentice is a wonderful way to bring into the classroom a real sense of the rainforest people, their knowledge and passion. The book is an excellent read-aloud with colorful illustrations. Also available on DVD (30 minutes) as part of the "Reading Rainbow" series (and seen on PBS). The DVD takes viewers into the rainforest to the home of this beautifully told story.



MAZE

Help the shaman find his way through the forest to the kahpiahme plant to help cure a fever.

START



FINISH

"ACT recently set up a school for boys who study and learn everything about their culture and the rainforest."

ACTIVITY #14 WORLD JOBS

Research and discuss how jobs in the rainforest are different from jobs where you live. Have students fill in the sheet below.

HOW DOES WHERE YOU LIVE AFFECT JOBS?

Your Home	Amazon Rainforest
FATHER	
MOTHER	
SON	
DAUGHTER	
GRANDPARENTS	



"For thousands of years, shamans have passed on information about the healing medicines of the rainforests to the next generation."

ACTIVITY #15 PEOPLE OF THE RAINFORESTS BOOK

Use pictures of people from page 17 as visual aids. Students will need the bottom half of this page, page 17 and a copy of page 11 for this activity. Display pictures of the individuals destroying the rainforests one at a time as you read the facts about them (below the pictures on page 17). When you have finished each person, have students cut away 1/6 of page 11 as you model. Make sure students know that some of these agents of forest removal are not necessarily doing so because they are selfish. Consider this sequence until you have finished the five people who destroy the rainforest (knowingly or not) and the students can realize they only have a small portion of the rainforest left for the helpful scientist, indigenous woman and the shaman.

Rainforests are vanishing at the rate of 70 football fields every minute. If they disappear at that rate, our rainforests will be gone by the year 2050.

Some people don't realize they are a part of the forest destruction and are not doing it to be selfish.

We need to educate people and help them stop the destruction of the rainforest before it is too late.



PEOPLE
OF THE
RAINFOREST

by



This man is a poor farmer looking for a place to live. He cuts and burns down part of the rainforest so he can plant his crops. He destroys tens of millions of acres each year.



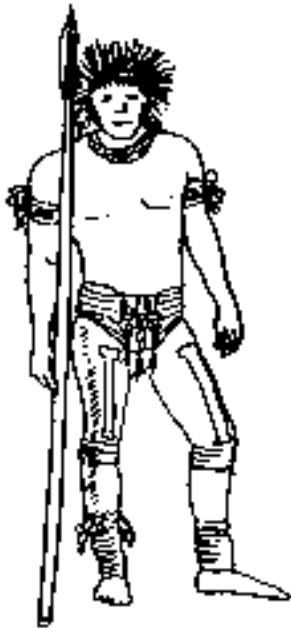
This man is a logger. He cuts down trees for wood for building and to burn for fuel. He destroys 10 millions of acres of rainforest each year.



This man is a poacher. He illegally traps animals to sell for pets and kills some for their fur. He destroys many animals in the rainforest each year.



This woman is a developer. She builds roads, constructs dams or starts mining in the rainforest. Her ideas destroy the rainforest around them.



This man is a shaman. He is a traditional doctor who passes down healing information to his tribe and the younger generations.



This woman makes jewelry to sell to local markets. She helps make money for her family and her community.



This man is a cattle rancher. He uses cleared rainforest land for cattle pasture.



This man is a scientist. He studies plants and animals of the rainforest. He has very little left to work with.

"Ipecac flowers are used for curing..."

ACTIVITY #16 RAINFOREST STORY PROBLEMS

Read each box aloud.
Add or subtract. This can
be done in class or as a
take-home assignment.



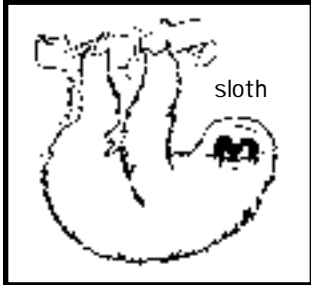
<p>1 piranha swims by. 3 more catch up with them. How many in all?</p> <p><input type="text"/> piranhas</p>	<p>8 toucan birds rest in a tree. 4 fly away. How many are left?</p> <p><input type="text"/> birds</p>	<p>9 alligators are sun- ning on the river bed. 2 more join them.</p> <p><input type="text"/> alligator</p>
<p>2 ipecac flowers are in bloom. 8 ipecac flowers were already in bloom. How many in all?</p> <p><input type="text"/> flowers</p>	<p>1 shaman teaches about rainforest plants that heal. 7 students listen closely. How many people in all?</p> <p><input type="text"/> people</p>	<p>7 red-eyed tree frogs hop by. 3 green frogs hop behind them. How many frogs in all?</p> <p><input type="text"/> frogs</p>
<p>3 monkeys chatter. 5 more chatter. How many in all?</p> <p><input type="text"/> monkeys</p>	<p>7 sloth hang upside down. 2 sloth leave. How many are left?</p> <p><input type="text"/> sloth</p>	<p>6 ants are working. 2 ants go home. How many are left?</p> <p><input type="text"/> ants</p>



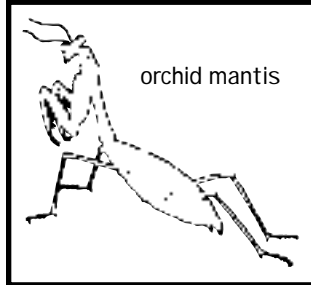
"Poison dart frogs are bright in color -- potential predators that they are poisonous."

ACTIVITY #17 RAINFOREST RIDDLES

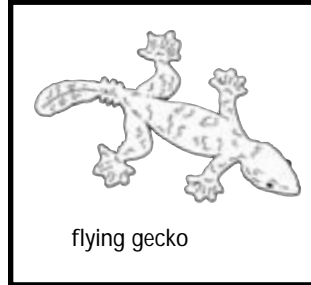
Have students cut out the pictures at the top half of the page. Match them with the descriptions below and glue them into place.



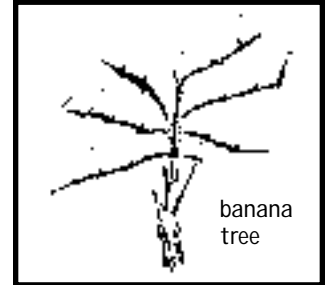
sloth



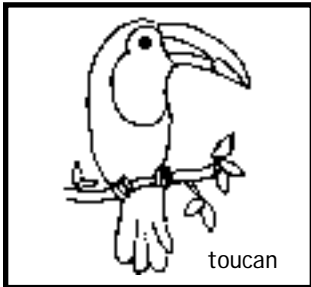
orchid mantis



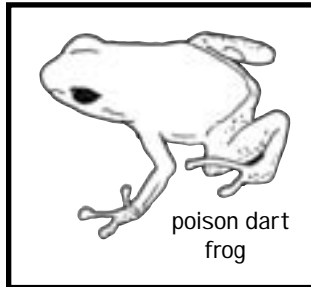
flying gecko



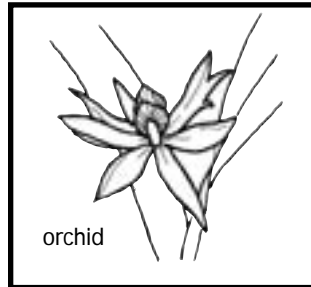
banana tree



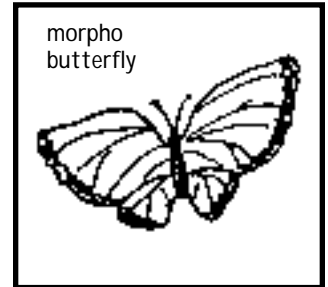
toucan



poison dart frog



orchid



morpho butterfly



There are more than 100 kinds of this species. They are bright in color and their skin contains poison.



This animal will hang in a tree for hours, wrapping itself around the tree trunk or hanging upside down.



This animal lives high in the rainforest going from tree to tree. If it loses a tail, it grows a new one.



This brightly colored bird uses its beak to collect fruits and berries.



This beautiful flower grows up high in trees and uses its long roots to soak up moisture from the air.



A delicious fruit that grows in bunches can be found on this tree.



This has beautiful blue wings with black around the edges and will fly above the treetops warming itself in the sun.



This unusual insect hides in flowers and its arms make it look like it is praying.

"Even though the rainforests cover only 6 percent of the Earth's surface, 50 percent of all plants and animals live there."

ACTIVITY #18 RAINFOREST CINQUAIN POEM

Create three lists. Brainstorm with students on list one—words to name a rainforest (e.g., jungle, forest, etc.). Brainstorm with students on list two—words to describe a rainforest (e.g., damp, dark, etc.). Brainstorm with students on list three—words that would show actions in a rainforest (e.g., noisy, rainy, jumping, etc.).

Students will choose one word from list one for the top line, two words from list two for the second line, three words from list three for the third line, two words from list two for the fourth line and one word from list one for the fifth line.

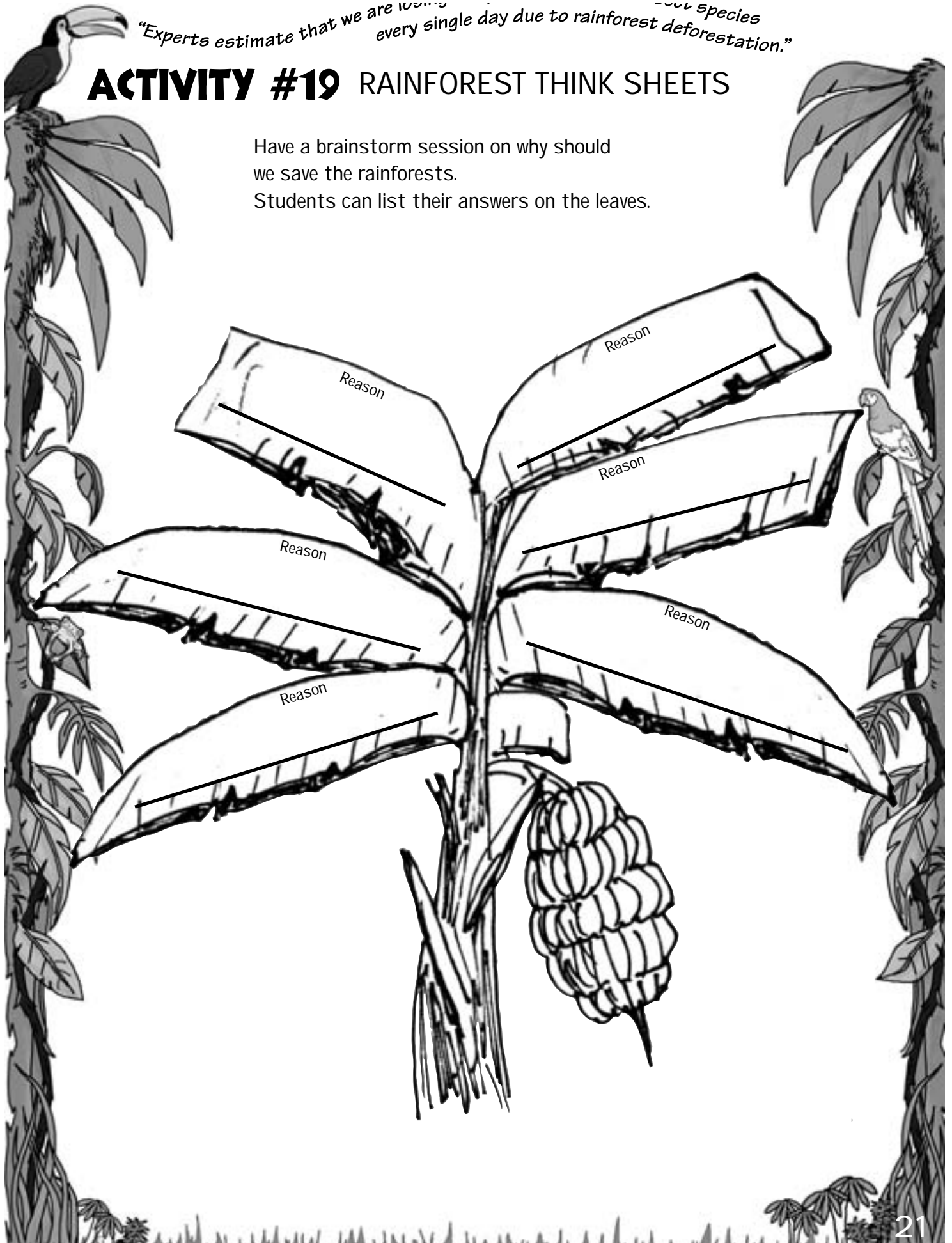
Color, mount on construction paper and display.

"Experts estimate that we are losing 100 species every single day due to rainforest deforestation."

ACTIVITY #19 RAINFOREST THINK SHEETS

Have a brainstorm session on why should we save the rainforests.

Students can list their answers on the leaves.



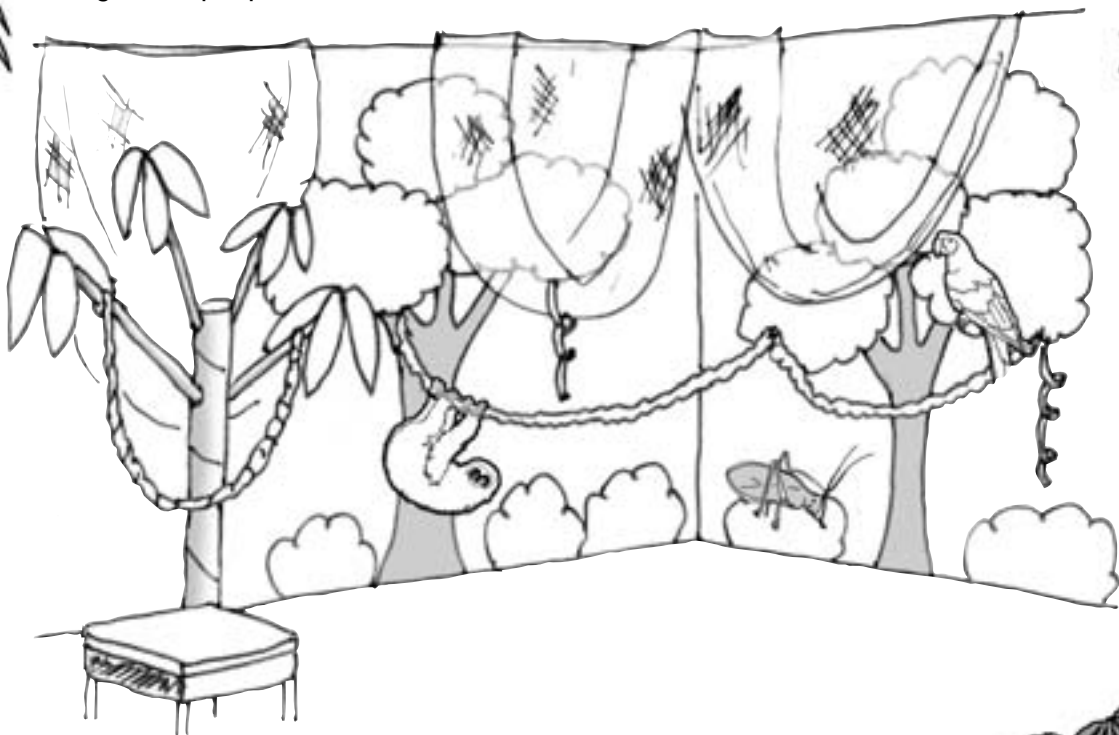
"People often refer to the rainforest as the 'lungs of the planet.'
Trees and plants take in carbon dioxide and give off oxygen."

ACTIVITY #20 CREATE A RAINFOREST IN THE CLASSROOM

You will need:

- Brown butcher paper or cardboard tube from carpet store;
- Green netting from fabric store;
- Additional activities for this project are included throughout the book (page 10).

To create a rainforest in your classroom make a tree out of brown butcher paper and attach it to the wall. An alternative is to get a center cardboard tube from a carpet store and secure it to desks so it can free stand. Use butcher paper to roll into tight long vines and limbs. Take green netting (from a fabric store) and attach it loosely from the ceiling and all around the trunk. Suspend the rolled tubes looping down to form branches. As you teach the layers of the rainforest, add different craft projects (see next page) of the plants and animals of each individual layer to suspend from the branches and netting. When finished make binoculars (page 10), backpacks (page 24), safari hats and cameras (visit www.amazonteam.org for templates). Play a CD with rainforest sounds and have your students use these items to take a virtual trip through the rainforest. Have the students gather in a circle and read *The Shaman's Apprentice: A Tale of the Amazon Rainforest* written by Lynne Cherry and Mark Plotkin. Students will get a vivid sense of the lives of the Amazon's indigenous people.

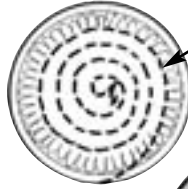


*"Many rainforest snakes have green ...
with the leaves and trees."*

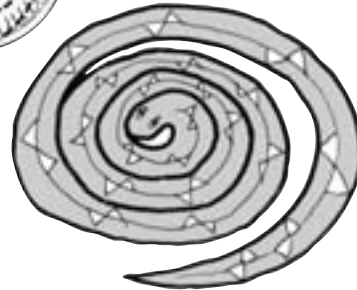
... blend in

ACTIVITY #21 PAPER PLATE SNAKE

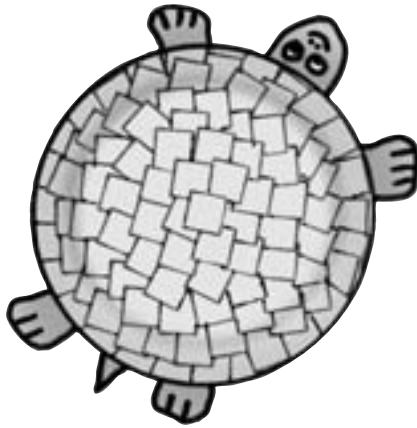
1. Starting at the rim of a paper plate, cut the spiral as shown. Keep the body of the snake about an inch wide.
2. Color the body and add features.
3. The snake can hang by tying a piece of string from the head, or wrap it within the foliage of a house plant.



CUT ON
DOTTED LINE



ACTIVITY #22 TERRIFIC TURTLES

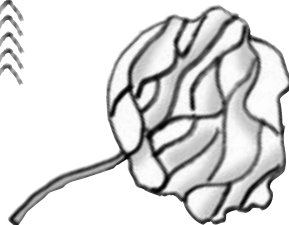


To make the shell, cut one-inch lengths of masking tape and attach them in an overlapping fashion to an inverted seven-inch paper plate. Be sure to cover the entire surface of the plate, including the rim. Next, use the sponge-tip applicator of a bottle of brown shoe polish to paint the tape-covered plate. When dry, cut out a turtle head, tail and four legs from construction paper. Add desired details to cutouts with a marker, then glue the cutouts under the rim of the painted shell.

ACTIVITY #23 RAINFOREST FLOWERS

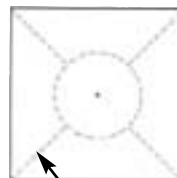
Tissue Flower

Take five squares of construction paper, 4"x4" or 5"x5" (depending on the size of the flower). Stack the squares together. Fold like a fan, back and forth. Fasten in the center with a pipe cleaner and pull the sheets apart.

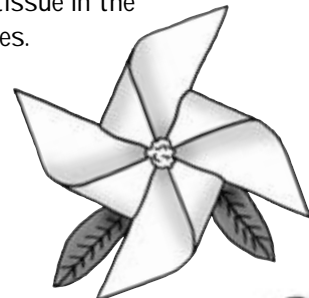


Pinwheel Flower

Take a square of construction paper, 4"x4" or 5"x5". Put a dot in the center. Cut from each corner toward the dot. Stop an inch from the dot. Fold every other corner toward the center. Add a ball of tissue in the middle and some leaves.



CUT TO CIRCLE



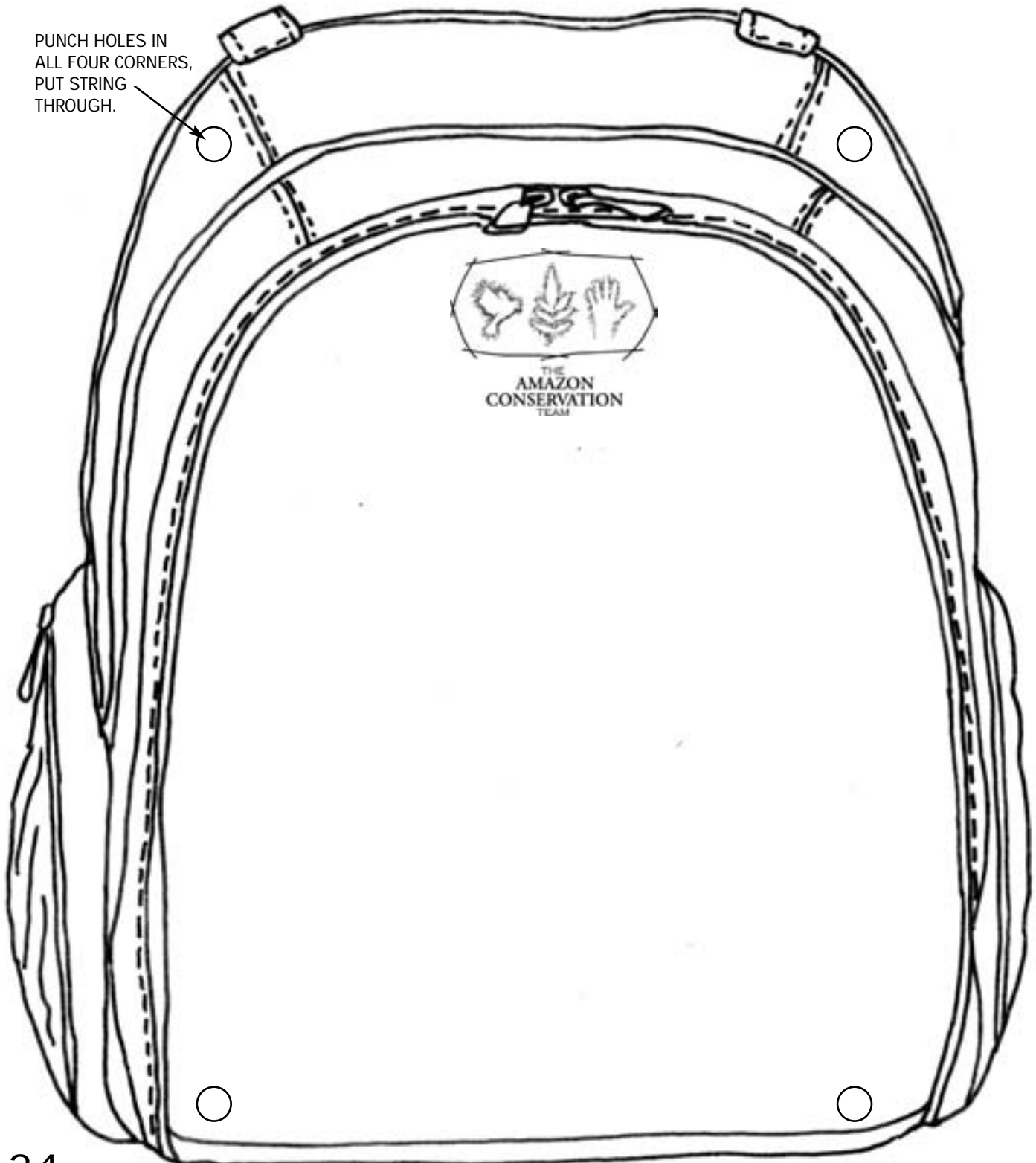


"In 2007, ACT held a traditional knowledge exchange between people, leaders and healers from four countries."

ACT PACK

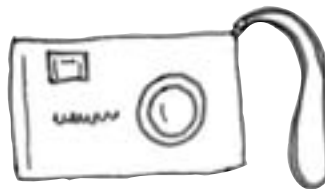
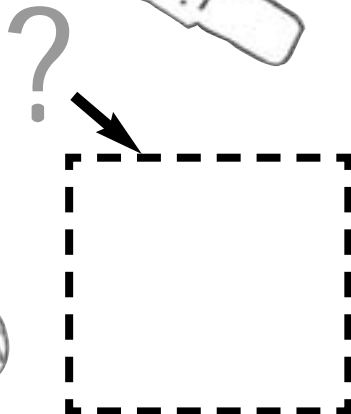
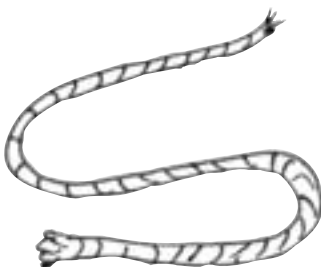
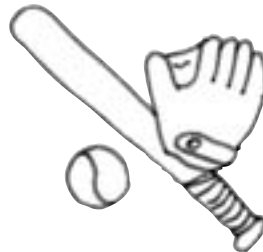
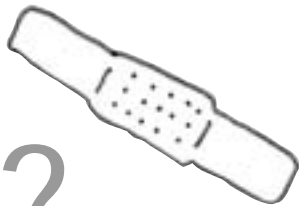
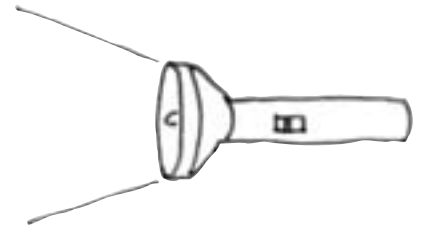
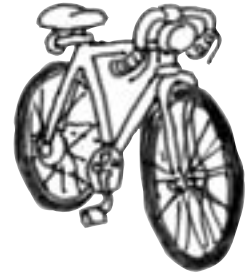
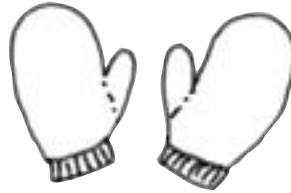
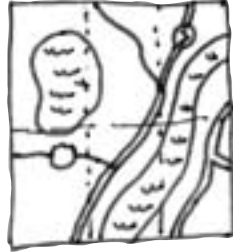
Here is a backpack for you to take to the rainforest. Color it in, and the items you will need for your trip (on the opposite page). Cut out the things you will need and glue them to your backpack.

PUNCH HOLES IN ALL FOUR CORNERS, PUT STRING THROUGH.



RAINFOREST WANTS AND NEEDS

Put an "X" through the things you would not need in the rainforest.



GLOSSARY FROM THE WORD SEARCH (PG. 6)

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

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

Emergent The tallest trees are the emergents. They can tower as much as 200 feet above the forest floor with trunks that measure up to 16 feet around.

Frog Any of numerous tailless, aquatic, semiaquatic or terrestrial amphibians mostly having a smooth moist skin, webbed feet and long back legs. Poison dart frogs are native to the rainforest.

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.

Ants Any of various social insects of the family, known to be very abundant in the rainforest.

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 that it is at risk of extinction.

Indigenous Originating and living naturally in an area or environment.

Slash-and-burn When an area of forest is cleared by cutting and burning and is then planted, usually for several years, before being left to return to forest.

Toucan Tropical birds having brightly colored plumage and a very large bill and feeding mainly on small fruits.

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

Bat Any of various nocturnal flying mammals having membranous wings that extend from the forelimbs to the hind limbs or tail.

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

Environment The combination of external physical conditions that affect and influence the growth, development and survival of organisms.

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

Sloth A tree-dwelling mammal having a long snout, long sticky tongue, and shaggy hair feeding on plants and insects.

Trees Woody plants having a main trunk and usually a distinct crown and leaves.

Ecotumb Someone who understands and lives by doing things that help the earth.

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



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At Nature's Path we are working towards organic foods in every home. It has been said, "you are what you eat." What we eat is directly transformed into blood, bones, skin, muscle and consciousness. So, where does the food we're eating come from? What does "organic" mean to us? Eating organic foods can make a big difference in our bodies and to the environment, because organic farmers don't use synthetic pesticides, herbicides, or fertilizers. All these things can harm wildlife and kids.

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Eco-thumb [ek'ō thŭm] 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 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 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 harmful threats to their survival. When a rainforest is destroyed, the climate changes very quickly. The soil will dry out in the sun without any protection from the trees' leaves. 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—the local women, men, and children—who live in the rainforests 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.

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