

# Habitats; the Rain Forest

## Unit 6

### Lesson #2; How adaptable are you?

Book(s):

Time Frame: 1 session of 30 minutes

Learning Standards:

Earth and Space Science

- 1) Recognize that water, rocks, soil, and living organisms are found on the earth's surface.

Life Science

- 1) Recognize that animals (including humans) and plants are living things that grow, reproduce, and need food, air, and water.
- 6) Recognize that people and other animals interact with the environment through their senses of sight, hearing, touch, smell, and taste.
- 8) Identify the ways in which an organism's habitat provides for its basic needs (plants require air, water, nutrients, and light; animals require food, water, air, and shelter).

Technology/Engineering

- 5) Describe how human beings use parts of the body as tools (e.g., teeth for cutting, hands for grasping and catching), and compare their use with the ways in which animals use those parts of their bodies.

Skills of Inquiry

- Ask questions about objects, organisms, and events in the environment.
- Tell about *why* and *what would happen if?*
- Discuss observations with others.

Student will be able to:

- 1) Tell what a habitat provides for a living thing.
- 2) Explain some adaptations they have made in their lives.
- 3) Discuss some adaptations of animals living in the rain forest.

environments. After talking about their adaptations, the children look at six animals that have adapted to the rain forest habitat. To end, the children will demonstrate the adaptation of camouflage as a strategy for survival.

- 1) Anticipatory Set: Discuss the disappearance of the dinosaurs. Why did they become extinct? Why did some of the earlier reptiles survive? One group was not able to adjust to new and changing environments while others were able to make the adjustment. We call this ability to adjust adaptation. They have been able to find food, water, air and a safe shelter to live. Let's look at some adaptations you have to make in your life, (seasonal, new class, new house, cold climates, and warm climates). Then we will look at the rain forest habitat, some unusual animals, and how they have adapted to their habitat.

#### Activity:

- 1) Discuss how the children adapt in their lives.
- 2) What can the children tell you about the rain forest habitat?
- 3) Hand out worksheet with pictures of the animals.
- 2) Read the poems and see if the children can find the adaptations. Discuss how each animal is adapted to its canopy home.

#### Closure:

##### Play, Hide and Seek in the Canopy:

Place enough colored paper insects or colored paper around the room for the children to find. Have enough insects for twice the number of children.

Half the insects should be easy to see by color, the other half should blend into the walls and furniture in the room.

Each child is a bird in the canopy looking for food. Show an example of what they are looking for.

Designate a spot in the room as the nest. Each child makes one flight from the nest, around the room and back to the nest and picks up an insect or piece of paper. They must be able to continue to move and find the insect as they fly. They can only pick up one insect.

Keep checking the color of the insects as the children fly home.

The insects found are usually the brighter colored insects.

Explain camouflage as an adaptation to protect animals from predators.

Assessment: Think like an insect. What color would the children be if they were insects in the rain forest? Why did they choose that color?

Resources and Materials: Pictures of rain forest animals, the poems to go with the insects, colored paper insects or colored paper



RANGER RICK'S NATURESCOPE: RAIN FORESTS—TROPICAL TREASURES

(See Canopy Critters—p 24)

CRITTER POEMS

1-E. Dwarf Bush Baby

My great big round eyes  
Help me see in dim light  
As I search for my prey  
In the dark of the night  
My big ears can hear  
The softest of sounds  
And I move through the trees  
In great leaping bounds.

2-D. Long-Tailed Pangolin

My long, scaly tail  
Helps me grab hold of trees  
As I move here and there,  
Wherever I please.  
My super-sharp claws  
Can open the nests  
Of termites and ants—  
The foods I like best.

4-F. African Gray Parrot

Tree seeds and fruits  
Are my favorites to eat.  
I hold on to these foods  
With my scaly, clawed feet.  
I climb through the treetops  
And nibble all day  
Then I finally fly back  
To my roost far away.

3-A. Gold's Tree Cobra

My shiny, black body  
Can be 7 feet long.  
And my fangs inject prey  
With a poison that's strong.  
I slither through treetops  
At night when it's dark.  
And the scales on my body  
Help me grip the trees' bark.

6-B. African Giant Swallowtail

Way up in the treetops  
I flutter around  
But you might also find me  
Way down on the ground.  
I have 9-inch-wide wings  
And my colors are bright  
I'm orange and black  
With some yellow and white.

5-C. Scaly-Tailed Flying Squirrel

The scales on my tail  
And a claw on each toe  
Help me grip limbs and tree bark  
Wherever I go.  
Loose skin on my sides  
Helps me glide through the air.  
I am active at night  
And I'm also quite rare.

## Habitats; the Rain Forest

### Unit 6

#### Lesson #3; Why are SWANS in the rain forest?

##### Learning Standards:

##### Earth and Space Science

- 1) Recognize that water, rocks, soil, and living organisms are found on the earth's surface.
- 2) Understand that air is a mixture of gases that is all around us and that wind is moving air.
- 4) Recognize that the sun supplies heat and light to the earth and is necessary for life.

##### Life Science

- 1) Recognize that animals (including humans) and plants are living things that grow, reproduce, and need food, air, and water.
- 3) Recognize that plants and animals have life cycles, and that life cycles vary for different living things.
- 6) Recognize that people and other animals interact with the environment through their senses of sight, hearing, touch, smell, and taste.
- 8) Identify the ways in which an organism's habitat provides for its basic needs (plants require air, water, nutrients, and light; animals require food, water, air, and shelter).

##### Technology/Engineering

- 2) Identify and explain some possible uses for natural materials (e.g., wood, cotton, fur, wool) and human-made materials (e.g., plastic, Styrofoam).
- 3) Identify and describe the safe and proper use of tools and materials (e.g., glue, scissors, tape, ruler, paper, toothpicks, straws, spools) to construct simple structures.

##### Skills of Inquiry

- Ask questions about objects, organisms, and events in the environment.
- Make predictions based on observed patterns.
- Discuss observations with others.

##### Student will be able to:

- 1) Tell the difference of living and non-living things
- 2) Explain the habitat of a plant

phosphorous, and potassium. Unlike animals, plants take these minerals, combine them with water and carbon dioxide from the air, and in a process called photosynthesis, build carbohydrates in the plant. Animals, on the other hand, take the carbohydrates and break them down as nourishment. For this reason, plants are the beginning of the food chain in an ecosystem.

Anticipatory Set: Are plants living or non-living? Just like all living things, plants need a habitat to grow and make more plants. Introduce SWANS, the habitat of a plant. (sun, water, air, nutrients, space)

Activity:

- 1) Last week we talked about animal adaptations in the rain forest. Plants also have adaptations. Today we are going to pretend we are plants in the rain forest. How would you keep animals from eating you? (thorns, poison). What if you needed an animal to come pollinate your flowers to make fruit? What color would you like to be? What if you needed your fruit's seeds to be dropped away from the mother plant? (thorns to stick on animals, fleshy fruit to be eaten by animals, wings to fly). These are all adaptations for plants.
- 2) Plants and animals are dependent on each other in the rain forest. Plants provide food, animals pollinate and disperse seeds.
- 3) Let's look at a special plant from the rain forest. Show bromeliad, orchid, or air plant. This plant has adapted itself to live high up in the branches of trees without soil. Think of SWANS. What will these plants get more of by being high up in the tree branches.
- 4) The name for these plants is called epiphytes.

Closure: Create a limb of a tree covered in epiphytes and flowers. Little fingers will need some adult help with some of these projects.

- Get a long branch that has fallen outside.
- Drape the branch with thick green yarn to imitate vines called lianas.
- Each table is responsible for part of the branch. Children will make:
  - 1) Ferns: Fold 3 templates in half and cut out. Print rows of spores on the back with ink and an eraser or a pencil. Wrap a pipe cleaner around the three fronds and attach to the branch
  - 2) Flowers: Take three circles of tissue paper and fold in half. In the middle of the fold cut a little nip in the paper. Run a pipe cleaner through the hole to make the pistil. Pinch the bottom of the flower so that the pipe cleaner can be wrapped around the flower bottom and the pipe cleaner itself. Attach to the limb with the pipe cleaner.
  - 3) Bromeliads: Roll a piece of green printing paper into a tube. Tape. Cut along the lines. When done, gently pull the leaves to extend the roll of paper. Pinch the bottom

of the bromeliad and wrap a pipe cleaner around the pinched end. Attach to the branch with the other end of the pipe cleaner.

4) Morpho butterflies: Cut out butterflies. Punch out two holes near the holes on the butterfly. Using bits of sponge, print a blue ink on the wings. Place one end of the pipe cleaner in each hole. Twist. Attach to the branch with the other end.

5) Frogs are made by everyone: demonstrate the folding of the frogs from the front of the room. Attach frog to the branch with circle stickers to show the foot adaptation of the frog.

**Assessment:** The children will be able to explain why plants grow on tree limbs in the rain forest.

**Resources and Materials:** branch; thick, green yarn; pipe cleaners; fern template copies on green paper; black ink pad; tissue paper circles; scissors; bromeliad template copies; tape; blue ink pad; sponge pieces; small hole punch; frog paper for each child; small round stickers.



**Create a limb of a tree covered in epiphytes and flowers.**

- Get a long branch that has fallen outside.
- Drape the branch with thick green yarn to imitate vines called lianas.
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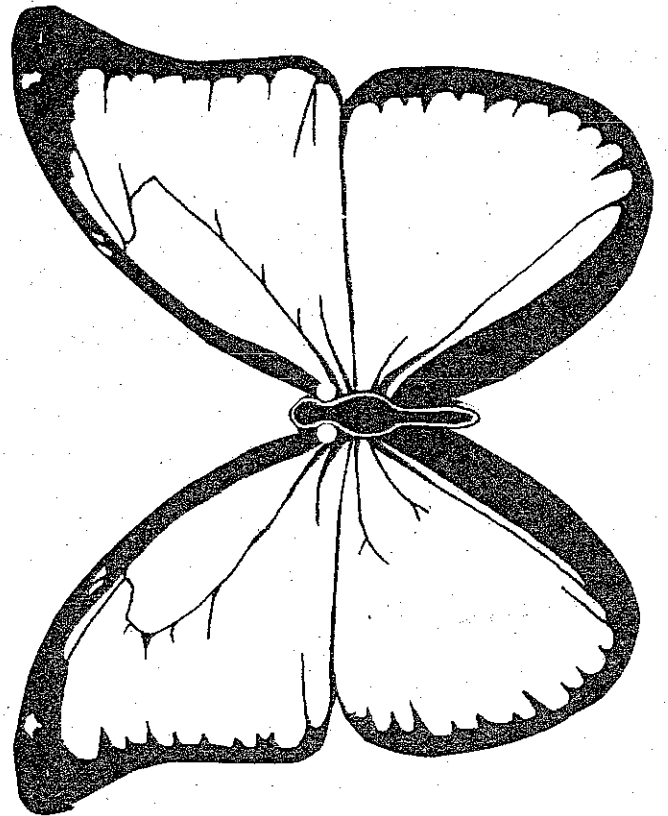
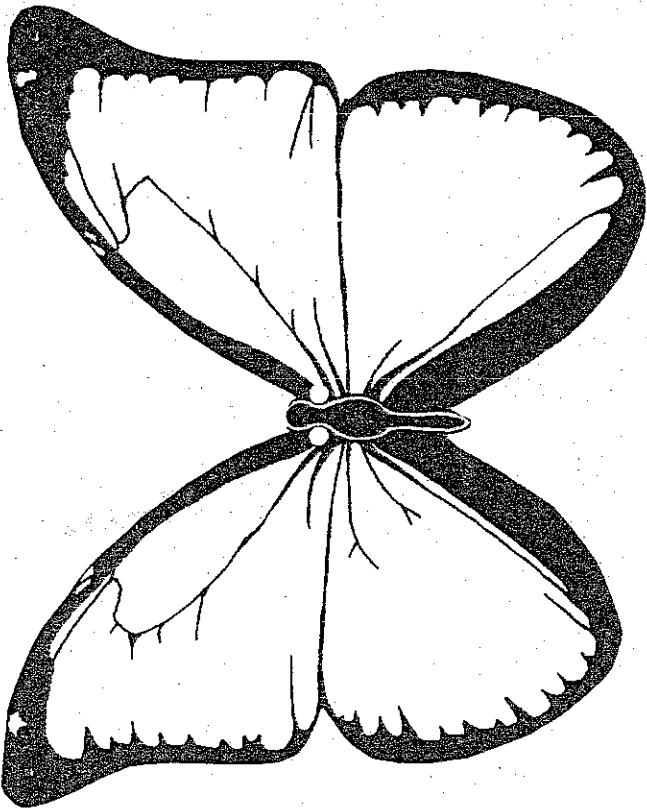
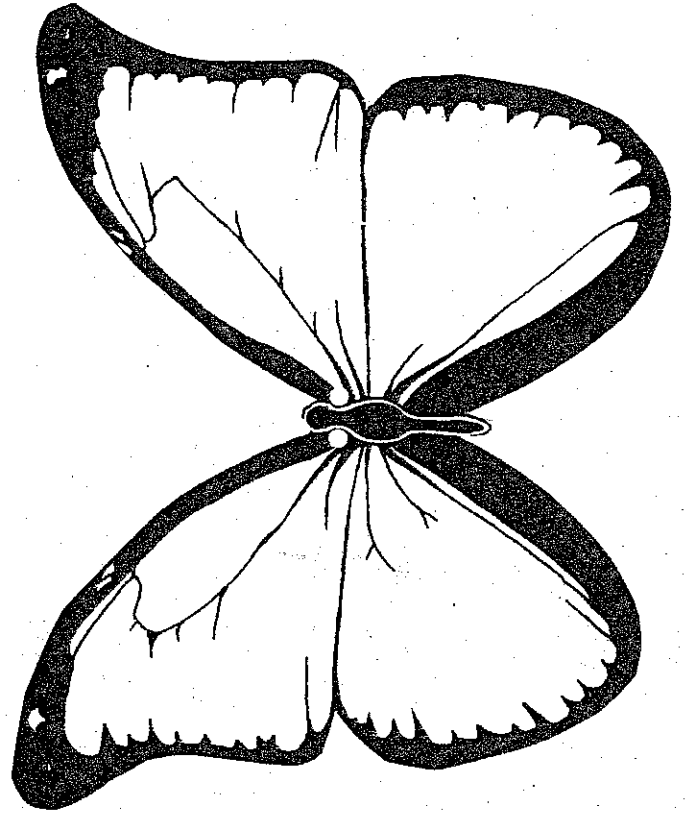
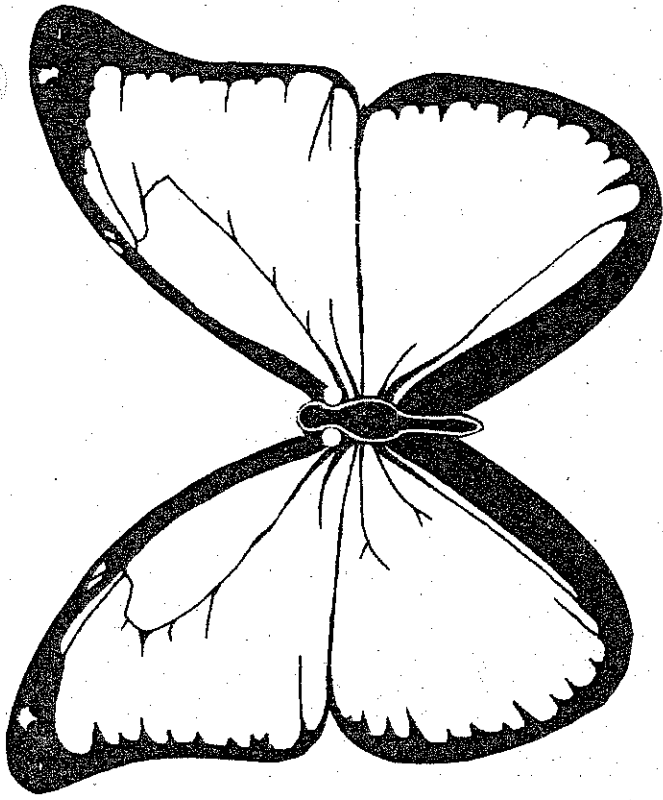
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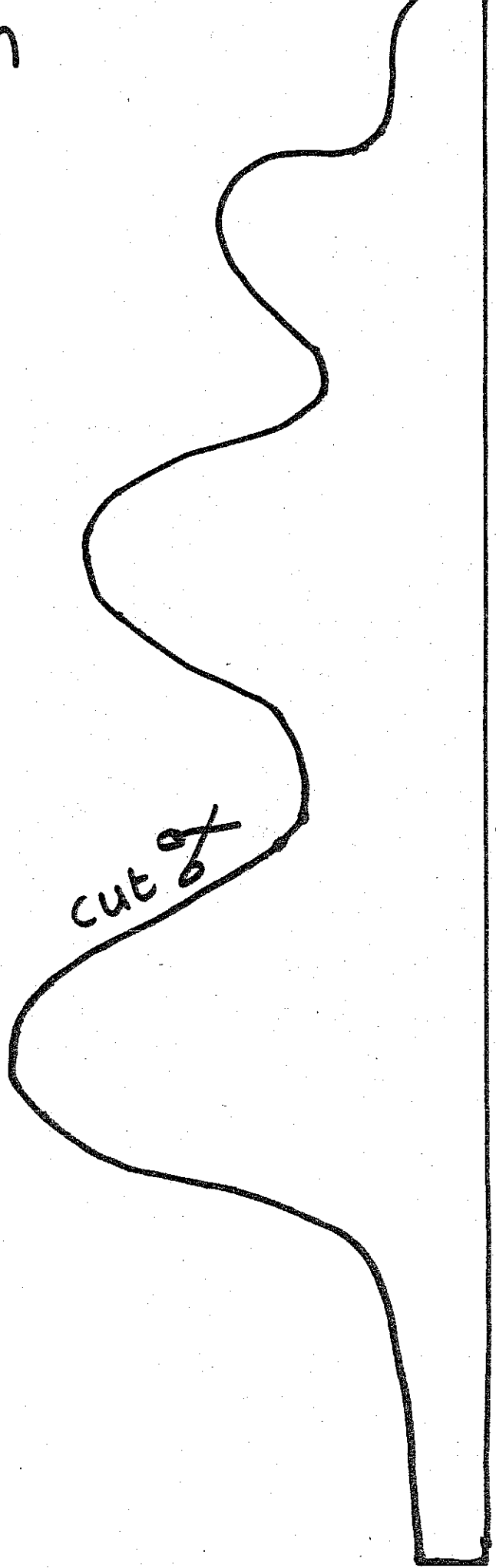


Bromeliads



Tissue Paper Flower

Fern



cut  $\frac{\circ}{\circ}$

fold