

WELCOME TO THE AFRICAN RAINFOREST



LESSON 6

Who Shares The Rainforest With Chimpanzees?

Grade Level: 4-6 | Subject Areas: Science, Art | Time Frame: 1 hour

Background Information: **Welcome to the African Rainforest: Home of the Chimpanzee (pages 9-10)**

VOCABULARY:

Canopy, emergent layer, ecosystem, forest floor, habitat, niche, rainforest, understory

STUDENTS WILL BE ABLE TO...

- Identify and describe the different rainforest layers
- List the four components that make up a habitat and explain how habitat differs from ecosystem
- Define the term niche and list at least two examples of different niches in the rainforest
- Describe how the tropical rainforest provides chimpanzees with everything they need to survive

WHAT YOU NEED

- Projector or interactive white board
- Activity Sheet 6A: *Who Shares The Rainforest With Chimpanzees?*
- Interactive Cards: *A Chimpanzee's Rainforest Neighbors*
- Computers with internet access or rainforest books for students to research materials



LEARNING ACTIVITIES

1. Ask students to close their eyes and imagine they are in a tropical rainforest in Africa. What type of weather could they expect? What sounds would they hear? What smells fill the air? What types of plants and animals might they see? Tell students this lesson will allow them to explore the tropical rainforest homes of chimpanzees.
2. Project the rainforest background image from activity sheet 6A onto a wall or interactive white board. Explain how the rainforest is divided into four layers: the rainforest floor, the understory, the canopy and the emergent layer. Divide the class into four groups with each group researching one of the layers. Students should identify the height at which each of these layers occurs in meters and then label their layer on the rainforest background at the front of the room.
 - *Students should determine the rainforest floor occurs between 0-10 meters, the understory occurs between 10-30 meters, the canopy occurs between 30-40 meters and the emergent layer occurs above 40 meters.*
3. Distribute one card to each student (all of the organisms depicted are found in the Tai National Forest in the Ivory

Coast). Students should use the clues on their card to determine where the organism lives and place their plant or animal into the appropriate rainforest layer on the rainforest background. Have students compare this completed rainforest with their original ideas of an African tropical rainforest.

4. Introduce the term habitat and the four requirements of any habitat. Ask students for an example of a habitat found within each layer of the rainforest. Explain how some animals find everything they need in one place – for example, a spider's web provides food, water and shelter. Other animals like chimpanzees have a much larger habitat. Chimpanzees use all layers of the rainforest to find what they need to survive. Ask students to find examples of a chimpanzee's habitat needs within the rainforest they have created. Students should mention examples of food, water, shelter and a place to raise young.
5. Review the term ecosystem with the class and explain how an ecosystem is different from a habitat. Just as chimpanzees depend on their habitat, the rainforest ecosystem is equally important to their survival. Discuss the non-living things in the rainforest ecosystem that a chimpanzee needs to survive.

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6. Introduce the term niche to the class and ask students to find specific examples of important niches within the rainforest on each of their animal cards. Write the different types of rainforest niches on the board and explain the importance of each. Students should conclude that all interactions are vital to the health of the tropical rainforest.

WRAP UP

7. Use these questions to further your discussion on the rainforest habitat, ecosystem and niche:
- Describe the layers of a tropical rainforest. Give at least one example of an animal that lives in each of these layers in an African rainforest. *Answers will vary but students should be able to explain the differences in each layer.*
 - Explain the difference between a habitat and an ecosystem. *A habitat is the area where an animal finds food, water, shelter and a place to raise young. An ecosystem is a collection of habitats, and includes the interaction of all living and non-living things.*
 - How would chimpanzees be affected if one of the four habitat elements was removed from the rainforest? *Students should conclude that removing one portion of a habitat can greatly impact chimpanzees. For example, taking away even one species of tree could reduce the amount of food available for chimpanzees, making survival difficult.*
 - Explain the term niche in your own words. Give at least two examples of different niches found within the tropical rainforest environment. *Answers will vary but students should be able to define niche as the role an organism plays in its environment. Examples might include pollinator, seed disperser, decomposer, insect control, prey or predator.*



EXTENDING THE LESSON: SCIENCE AND MUSIC

Option 1: Create an ecosystem journal for an area near your school! Record the types of food, water and shelter available. Study this ecosystem and complete a journal entry each week to learn how these resources change over time. Be sure to observe the relationship between these habitat elements and the other living and non-living things found there. Compare students' observations to the ways that chimpanzees depend on the rainforest home for survival.

Option 2: Split students into small groups to write and perform a rainforest rap. Rap songs often use a couplet rhyming scheme (two written lines linked together in the same end rhyme). Students should use this rhyming scheme to describe how chimpanzees use all four habitat elements and interact with at least three other plant or animal species in the tropical rainforests of Africa. During the groups' performance, some members may choose to provide a background beat using small hand drums, plastic buckets, coffee cans or oatmeal containers. Other group members can also layer in sound effects by imitating the sounds of a rainstorm, other rainforest animals or chimpanzee calls.

CONNECT WITH NATURE

Keep ecosystems healthy for wildlife in your area! With permission, organize a class outing to pick up litter, plant native flowers and trees, or start a school compost program. Check out Disney's Friends for Change – Project Green website for more ideas (<http://disney.go.com/projectgreen/>).

LESSON RESOURCES

For Students

- African Wildlife Foundation. Wildlife Gallery. 25 July 2011. <http://www.awf.org/section/wildlife/gallery>

Want to further your
classroom conservation work?
Visit **Disney.com/planetchallenge** TODAY!



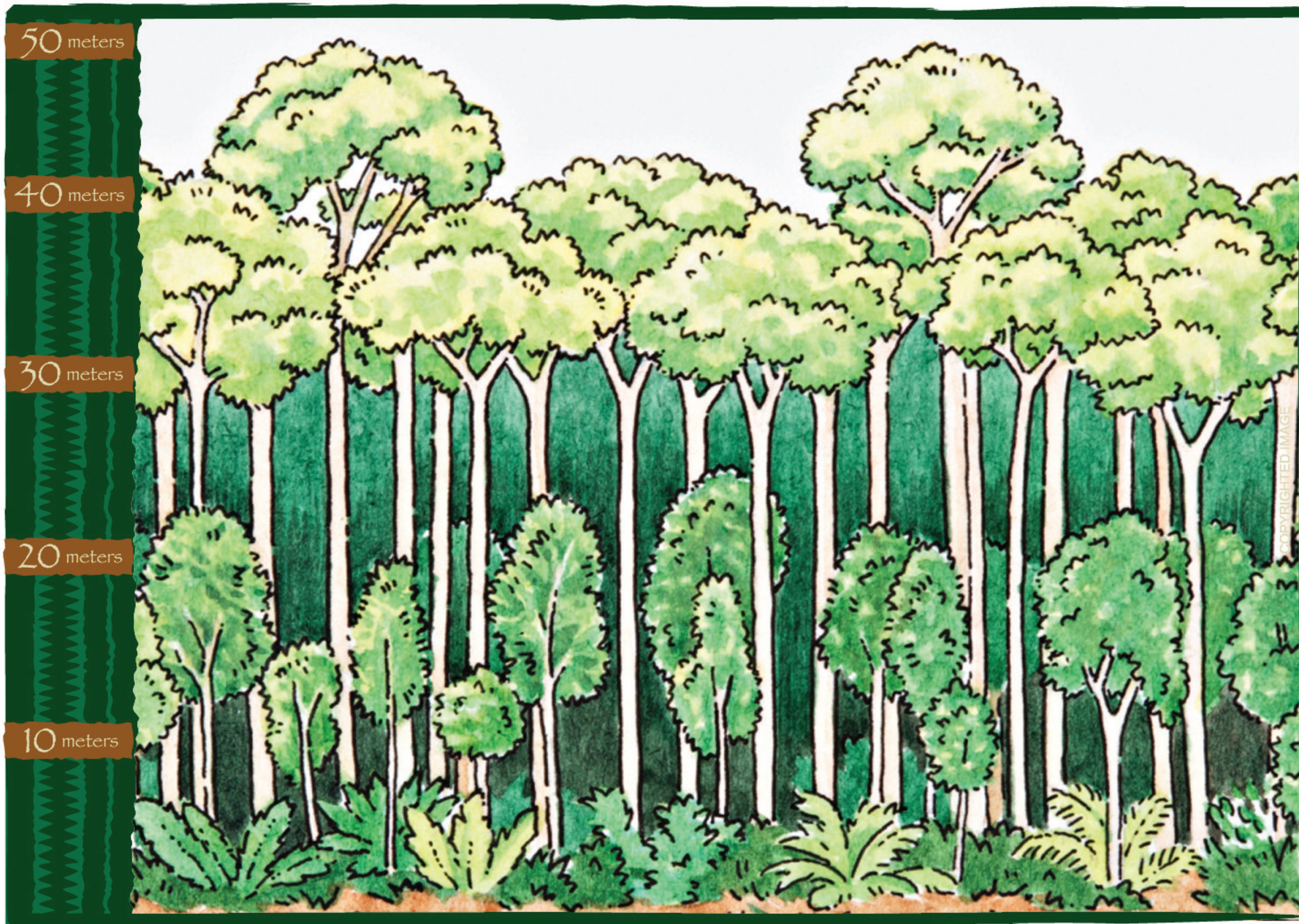
LESSON
6

ACTIVITY
SHEET **6A**
for grades 4-6

WELCOME TO THE AFRICAN RAINFOREST

Who Shares The Rainforest With Chimpanzees?

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ACTIVITY
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WELCOME TO THE AFRICAN RAINFOREST

Who Shares The Rainforest With Chimpanzees?

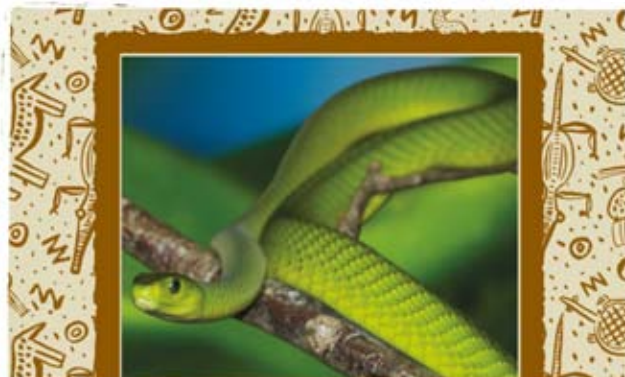
A Chimpanzee's Rainforest Neighbors

Cards 1 - 3



TREE HYRAX

My small body allows me to be a great climber, but I spend most of my time in trees less than 20 meters tall. At night I feast on twigs, leaves, grasses, fruit and insects. I help to spread seeds and control bug populations. I have to be careful of predators such as African golden cats and eagles.



GREEN MAMBA

The green scales all over my body help me camouflage into bushes and small trees no more than 30 meters tall. I use my fangs and venom to catch animals such as lizards, birds and mice. I also have to avoid predators such as birds and other snakes. My role is to keep animal populations healthy.



RED COLOBUS

My long fingers and flexible arms and legs make it easy for me to climb, jump and balance at any level of the rainforest. But, I spend most of my time in trees over 30 meters tall. I eat leaves, fruit and shoots. Seeds are spread in my dung which helps new plants grow. I am always watching out for eagles, chimpanzees and leopards.

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Cards 4-6



RED-CAPPED MANGABEY

My strong arms and legs allow me to easily walk, jump and climb through all levels of the rainforest. But, I prefer to spend my time in trees less than 30 meters tall. Here I can find fruit, seeds, nuts, leaves, mushrooms and insects to eat. I avoid predators like eagles and leopards by moving lower or higher into the trees.



YELLOW-BACKED DUIKER

I am built for life in the rainforest. My slender, arched body and long hind legs help me move through the dense brush. I spend the night looking for food, especially fruit that has fallen to the ground. The fruit seeds are passed in my dung, so I help re-plant the rainforest. I try to avoid predators such as leopards, crocodiles and large snakes.



BONGO

I am the largest antelope in the rainforest. My horns keep me protected and my striped coat helps me blend in with tall plants and bushes. I am a gardener of the rainforest. As I eat leaves, flowers and twigs, I trim back plants so that new ones can grow. I just have to be careful of predators like leopards.

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Cards 7-9



TERMITES

We find food and make our nests in fallen logs and trees. As nature's recyclers, we eat wood and return important nutrients back into the ground in our waste. Our bodies are built for digging, so we also do a great job of mixing up soil, and adding fresh dirt to the rainforest floor. We try to avoid lizards, frogs, birds and chimpanzees.



BUTTERFLY

I fly from flower to flower in search of a sugary liquid called nectar. Along the way, I collect pollen and transfer it to other flowers. This makes it possible for new flowers to grow. When I'm not flying, I like to rest in sunny spots near the ground. My colors help me hide from predators like birds, spiders and lizards.



LEOPARD

My strong legs are perfect for climbing and my spotted coat helps me camouflage into the thick rainforest brush. This means I can look for food on the ground and climb into trees that are less than 10 meters tall. As a top predator in the rainforest, I help keep other animal populations healthy and balanced.

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Cards 10 - 12



AFRICAN GOLDEN CAT

My short but powerful legs make it possible for me to hunt for animals like tree hyrax, monkeys and birds in trees up to 10 meters tall. My tan coat also helps me camouflage on the ground so I can hunt for rodents and small deer. My job is to keep animal populations balanced, but I still have to avoid other predators such as leopards.



AFRICAN PIED HORNBILL

My large bill is quite impressive. On top of my bill is a hollow ridge called a "casque". It acts as a microphone to make my calls louder. I live in trees that are 30-40 meters tall. I still have to be careful of crowned eagles. I eat fruit and insects, so I help spread seeds and keep bug populations balanced.



CROWNED EAGLE

My strong legs, razor sharp beak and powerful talons help me capture prey such as monkeys, hyrax and duikers. As a skilled hunter, it is my role to help keep other animal populations balanced. Although I can hunt at any level of the rainforest, I will only build my nest in very high trees over 40 meters tall. I have few predators.

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Cards 13 - 15



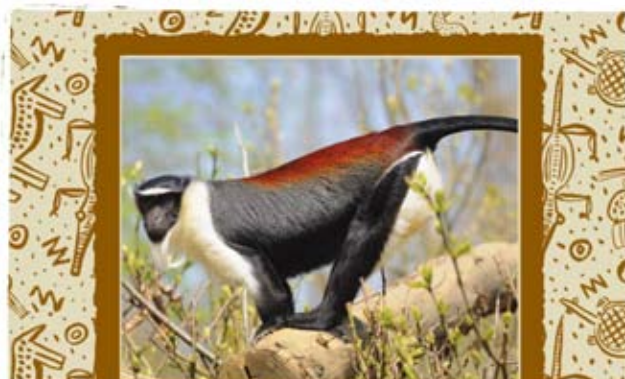
HONEY BADGER

Like my name states, I love to eat honey! But my short, muscular body and quick speed also help me hunt for lizards, snakes, rodents, birds and insects. My role in the rainforest is to keep other animal populations balanced. I am strong and will quickly defend myself against other animals, even some that are much bigger than me.



HONEY BEES

Our day is spent flying between plants that are 10-40 meters tall in search of nectar. In the process, we spread pollen to help new plants grow. Many animals eat our honey and honey comb, including honey badgers and chimpanzees. But we also have to watch out for predators such as spiders, birds and wasps.



DIANA MONKEY

My arms, legs and hands are perfect for climbing trees between 30-40 meters tall. Here, I try to hide from predators such as leopards, eagles and chimpanzees. I can also find my favorite foods such as fruit, seeds and leaves. The leftover seeds in my dung help to plant new trees in the rainforest.

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Cards 16 - 18



BLACK AND WHITE COLOBUS

My black and white fur helps me camouflage into the tops of trees that are 30 meters tall or more. I spend the day looking for food like leaves, fruit, flowers and seeds. I avoid predators like eagles, leopards and chimpanzees. Seeds in my dung are sometimes planted and grow into new trees.



STRAW-COLORED FRUIT BAT

My wings are long and narrow. This helps me fly long distances without tiring. I am most active at night when I am looking for fruit to eat. Fruit seeds are passed in my dung so I help plant new trees. During the day, I join a large group of other bats to rest in trees between 30-40 meters tall. My predators include eagles and owls.



AGAMA LIZARD

I am an excellent climber but I spend most of my time in rainforest layers between the ground and 10 meters tall. I use excellent vision and a sticky tongue to find ants and termites. Since I eat insects, I help control bug populations in the rainforest. I just have to be careful of birds and snakes, two of my main predators.

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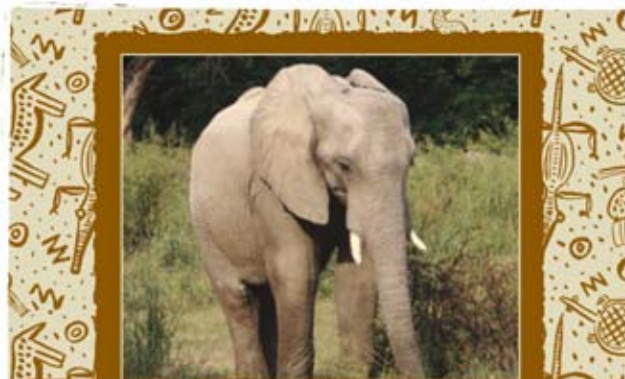
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FOREST ELEPHANT

I use my excellent sense of smell and good eyesight to find food such as leaves, tree bark, twigs and fruit. Since my muscular trunk can pluck a blade of grass or knock down a large tree, I shape the rainforest. I also clear paths and dig water holes that are used by other animals. As the largest land animal, I have no predators.



RED RIVER HOG

My short legs and stocky body make it easy to move through tall grasses and thick bushes, but I cannot climb trees. Instead, I look for food on the ground. My favorites include plant roots, fruit, insects and animal carcasses. I just have to watch out for large predators like leopards.



PYGMY HIPPOPOTAMUS

When compared to other hippos, my body is better built for land. My legs are longer, my toes have less webbing and my back is sloped to help me move through the rainforest. I eat grasses, ferns and fruit. My dung provides plants with the nutrients they need to grow. My size makes leopards my only predator.

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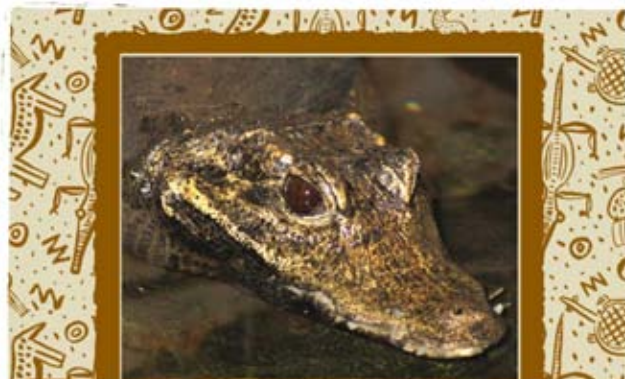
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Cards 22 - 24



DWARF CROCODILE

My thick skin and tough scales keep my body protected but I spend most of my day hidden in burrows beneath the water. At night, I hunt for my favorite foods such as fish, birds, turtles and small mammals. As a baby, I avoid large birds, fish and other crocodiles. As an adult, I help keep animal populations balanced.



DUNG BEETLE

I use my powerful back legs to roll animal poop, called "dung," into balls. These dung balls are food for me and my offspring. Rolling these dung balls helps to clean up the ecosystem, making me a janitor of the rainforest. I stay busy cleaning up all that dung, but I also have to watch out for predators like birds, frogs and lizards.



AFRICAN MILLIPEDE

As a recycler of the rainforest I spend the day eating rotten leaves, flowers, twigs and fruit that fall to ground. My dung helps return important nutrients back into the soil. I release a smelly liquid and use my hard outer shell, called an exoskeleton, to protect myself against predators like lizards, frogs, scorpions, bats and birds.

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Cards 25 - 26



EMPEROR SCORPION

I use my large pinchers and venomous stinger to catch food, especially termites. This controls insect populations, making me an important bug zapper in the rainforest. To avoid predators like lizards, frogs, bats and birds, I dig and hide in burrows. I also rely on my tough exoskeleton to keep me protected.



CHIMPANZEE

I am built for life in the rainforest. My flexible fingers, grasping thumbs, powerful arms and strong legs make me great at climbing. During the day, I may travel up and down the trees searching for food on the ground as well as further upwards. At night, I build a nest and sleep in trees between 30-40 meters tall.



Keep ecosystems healthy for wildlife in your area! With permission, organize a class outing to pick up litter, plant native flowers or start a school compost program.

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