Gorilla Unit

Facilitator Guide Adaptable for Grades 4th - 5th



Brought to you by:



Written by: Ashley Covington

Special Thanks to: Oklahoma City Zoo News9

How to use this guide:

This facilitator guide is designed to provide an organized structure and flow for presenting lessons about Mountain Gorillas and the continued conservation efforts of The Dian Fossey Gorilla Fund (DFGF).

Included in this guide are lesson plans with extension opportunities for you to use as you wish. While the guide provides detailed guidance and information, please feel free to customize these lessons and experiences to fit the needs of your students.

Table of Contents

Introduction Lesson 1: Basic Needs and Endangered Animals

Lesson 2: Wild About Africa

Lesson 3: Wild About Gorillas

Lesson 4: Wild About Dian Fossey

Lesson 5: Wild About the OKC Zoo and You!

Sources:

The lessons contain information gathered from many different sources, including:

- Oklahoma Citu Zoo
- The Dian Fossey Gorilla Fund International
- National Wildlife Federation
- World Wildlife Fund

Lesson 1 Introduction: Animal Needs, Endangered Animals and Conservation (4th-5th Grade)

Lesson Summary

Lesson Duration: 45 minutes

This lesson is an introduction to the basic needs of all animals and especially endangered animals. Students will explore what "endangered" means and learn about some animals who are in danger of becoming extinct. Videos and activities are available. This lesson will include the discussion of two species in particular that are endangered: gorillas and monarch butterflies in order to segue into Lesson 2 which starts the Gorilla portion of the unit.

Required Materials

Corresponding slides - Wild About...! Introduction 4th-5th

Videos:

- Animal Needs- https://youtu.be/Zg34DyIViWU
- Endangered animals- https://youtu.be/M1IDQSeJ1cs

Optional Activities:

- Bean Activity- will need 100 dried beans (or other small item to hide around room)
- Endangered animals coloring sheets
 https://www.supercoloring.com/coloring-pages/tags/endangered-animals
- Threatened/Vulnerable/Endangered Animal Profile (Student will need access to the internet)

 ***If students don't finish or there is not enough time for this activity, it can also be done in

 Lesson 2.

Essential Question

What do animals need and what happens if they don't get it?

Learning Goal

I can identify the basic needs of animals.

I can explain the primary reasons that animals become endangered or threatened.

Lesson Guide

Introduction: Basic Needs (Slides 3-8)

Optional: Open with the Bean Activity. Allow about 10 minutes for this activity. After the discussion, ask, "What do animals need to survive?". Discuss the difference between wild and domesticated animals and what each group needs to live.

Explanation

Slides 4-5:

Animals need certain things in their habitat to survive:

- 1. Food
- 2. Water
- 3. Shelter
- 4. Air (not all animals need air)
- 5. Space (to move around, play, have babies, find food)

Introduction: Endangered Animals (Slides 6-14)

- Ask and discuss "What happens if animals don't get what they need?"
- Introduce the various reasons animals become endangered. Explain that there are several reasons that can result in endangerment.
- Slide 9 contains the chart used to classify animals according to <u>iucnredlisted.org</u>. Explain how the chart flows from left to right. The animals we are focusing on for today's lesson and the rest of the unit will fall into the "Endangered" or "Critically Endangered" categories.

Vocabulary

Endangered- any type of plant or animal that is in danger of disappearing forever (extinct). Did you know? There are over 16,300 species of animals considered endangered around the world. Pictures of endangered animals are on the same slide. Discuss the number of endangered animals in the United States and in Oklahoma.

Explanation

Endangered Animals https://youtu.be/M1IDQSeJ1cs- video discusses endangered animals and reasons why they are endangered

Optional Activities

Identify Endangered Animals- coloring sheet activity (color sheets are included at the end of this lesson in the facilitator's guide, or visit

www.supercoloring.com/coloring-pages/tags/endangered-animals)

Put endangered animal coloring sheets facing down on their tables/desks. Instruct students to turn them over all at the same time and try to identify the endangered animal on their paper. There are also pictures on slide 18. There are a few "fast facts" about their animal on the coloring page. Together identify the animals: Green Sea Turtle, Rhinoceros, Monarch Butterfly, Red Panda, Goliath Frog, Mountain Gorilla, Sumatran Tiger, Mandrill, Blue Throated Macaw and Amur Leopard. Students may need help with animal names. There are a few "fast facts" about their animal on their coloring page.

Once animals have been identified and discussed, students can color their paper.

Animal Profile- (Student will need access to the internet)

- Students will visit <u>www.awf.org/wildlife-conservation/all</u> and explore different endangered animals of Africa.
- Pick an animal to fill out the profile about.
- Draw and color a picture of the animal, and answer questions 1-8 on the second page.
- Students can share their profile at the end of Lesson 2: Africa

Closing

Explain to students that the next few lessons will focus on one endangered species in particular- the gorilla. They will learn about the animal but also learn ways to help save that animal through conservation and what the Oklahoma City Zoo is doing to directly help.

Endangered Animals Hunt

Activity adapted from:

www.teachervision.com/endangered-species/endangered-animals-hunt

Materials:

□ 100 dried beans or other small items

Activity:

- 1. Prior to this activity, hide the beans or small items around the room.
- 2. Ask the students to hunt for the beans.
- 3. You can let them search for a while but they won't find them all. After some time searching, count the number of beans.
- 4. Challenge them to look for more beans and count how many are found in the second round.
- 5. Ask students to hunt for a third time and count results.

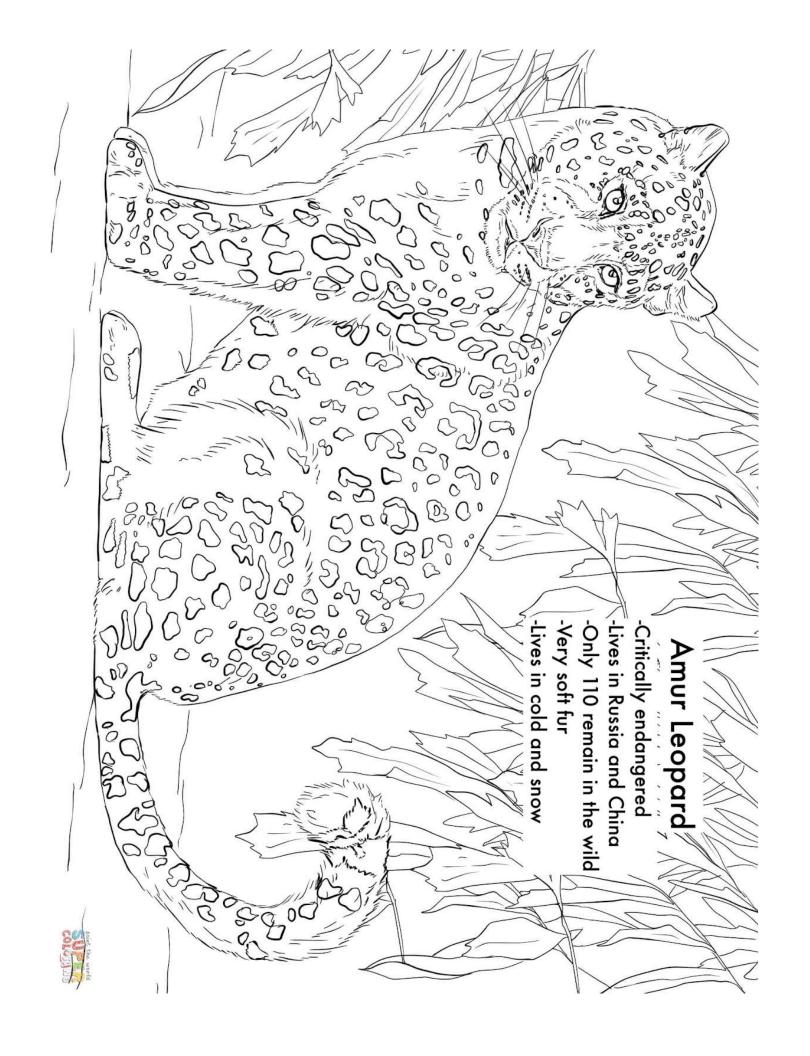
Discuss how each time they looked for the beans they were harder to find. The same is true with some animals. Over time, there are fewer and more difficult to find. This could be because they are hunted, their homes are being destroyed, or they don't have enough food. They've become endangered.

Endangered/Vulnerable Animal Profile

Directions:
□ Visit: www.awf.org/wildlife-conservation/all
\square Explore different threatened and endangered animals of Africa
☐ Pick one animal to create a profile on
□ Draw the animal in the box
\square Answer the questions on the next page

1.	Animal:
2.	How tall is your animal when fully grown?
3.	How much can your animal weigh when fully grown?
4.	What challenges does your animal face?
5.	Describe some of your animals behaviors.
6.	What is your animal's diet?
7.	What is your animal's habitat?
0	On the man of Africa, color the area your animal can be found





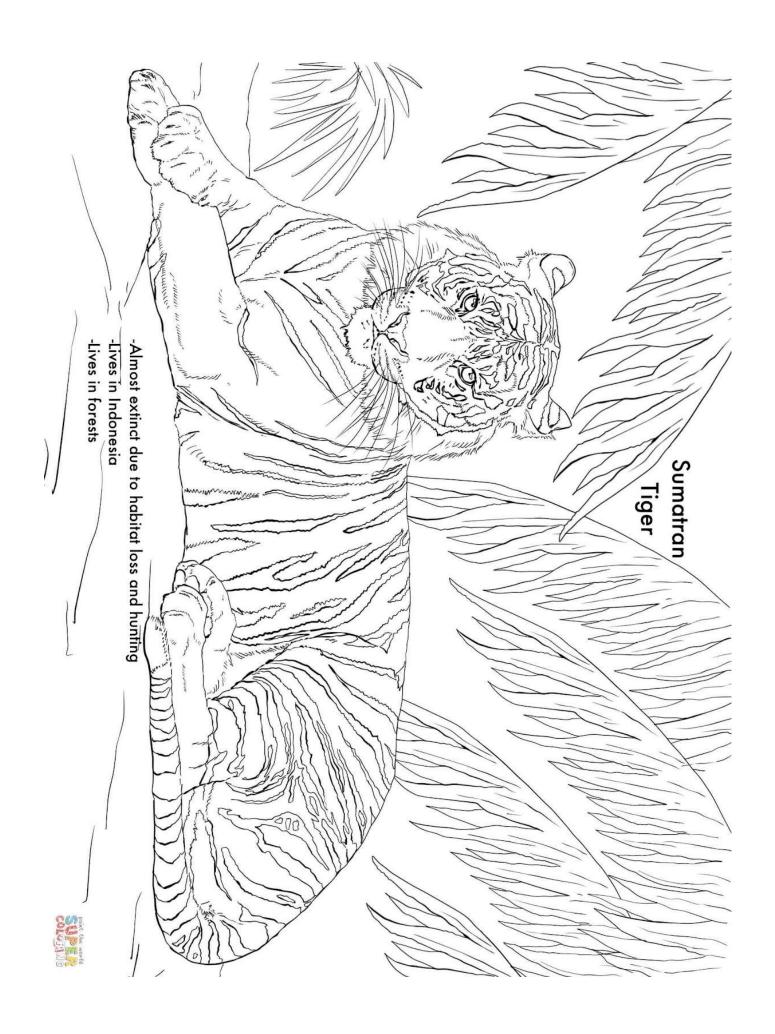


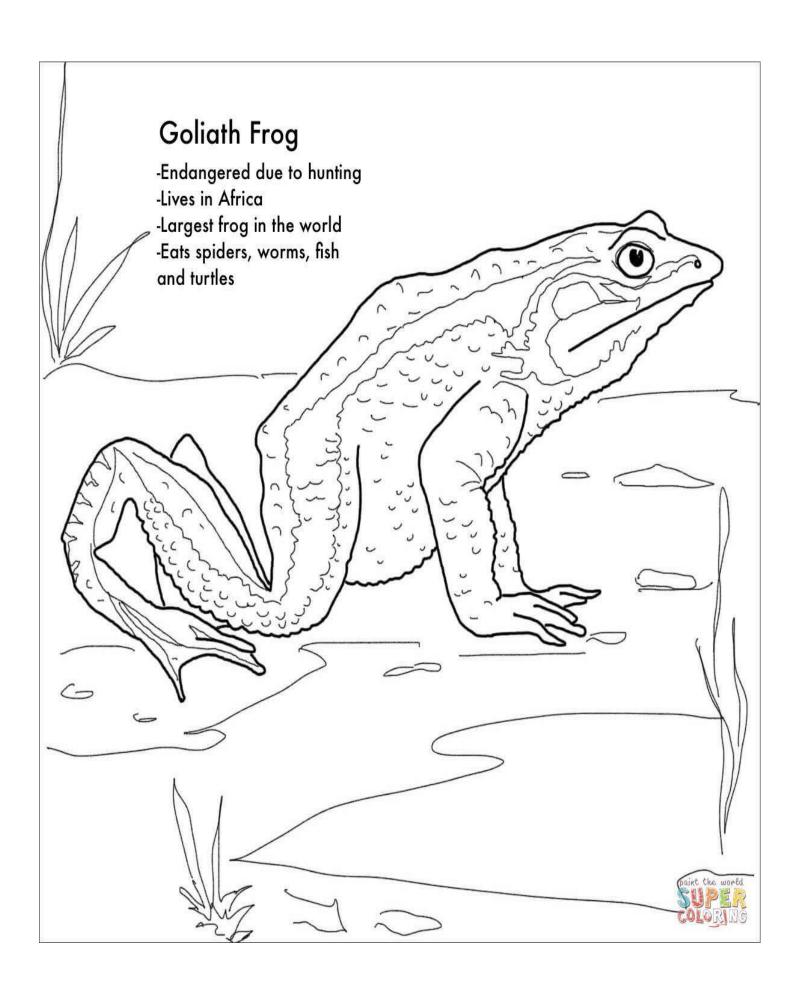


-Endangered due to pollution, habitat loss, and hunting

-Found in Atlantic and Pacific Oceans -Eats seagrass

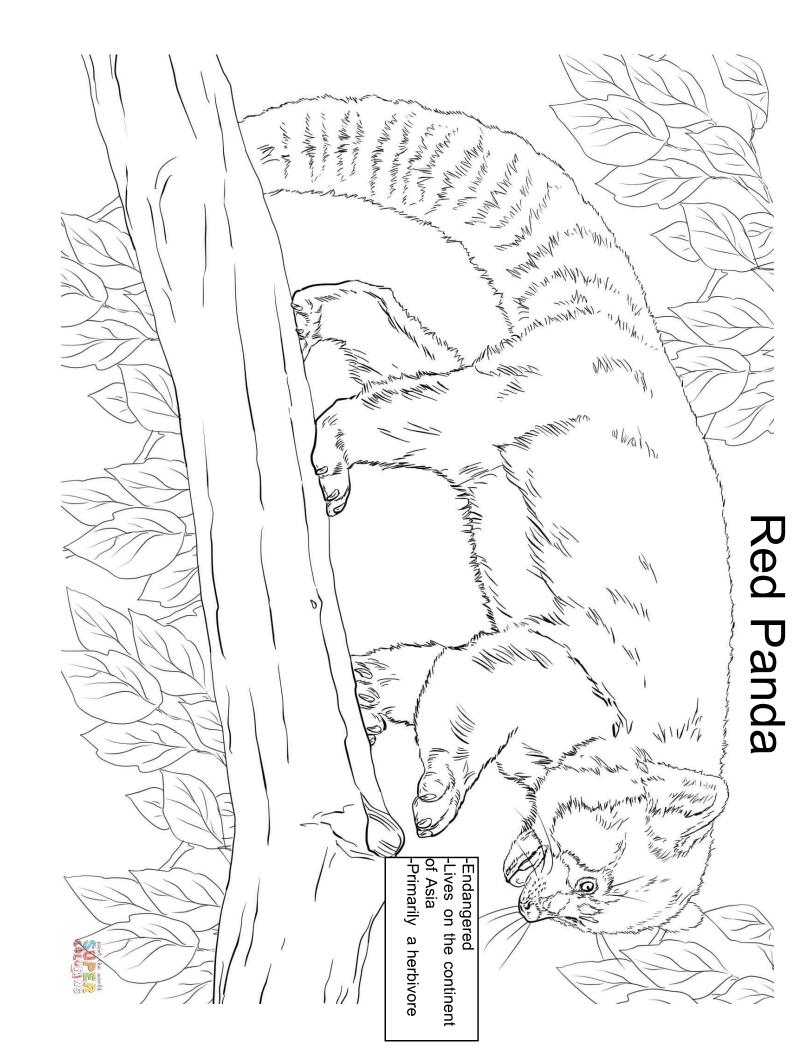
-Can live to be 90 years old



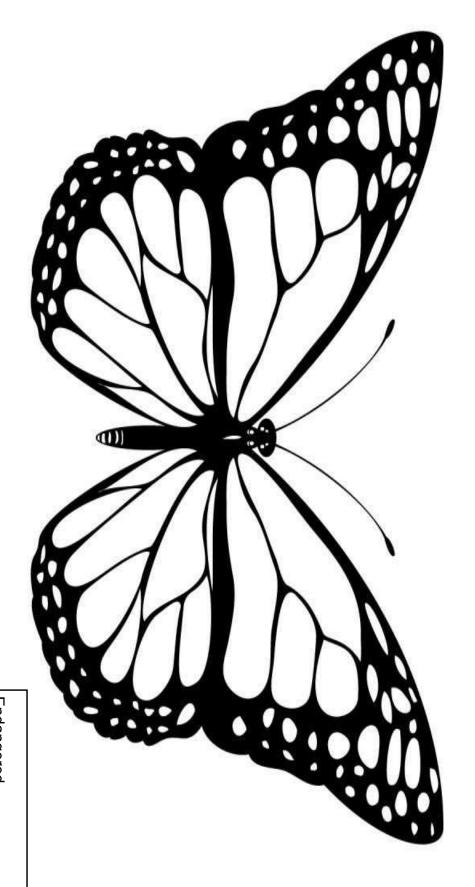




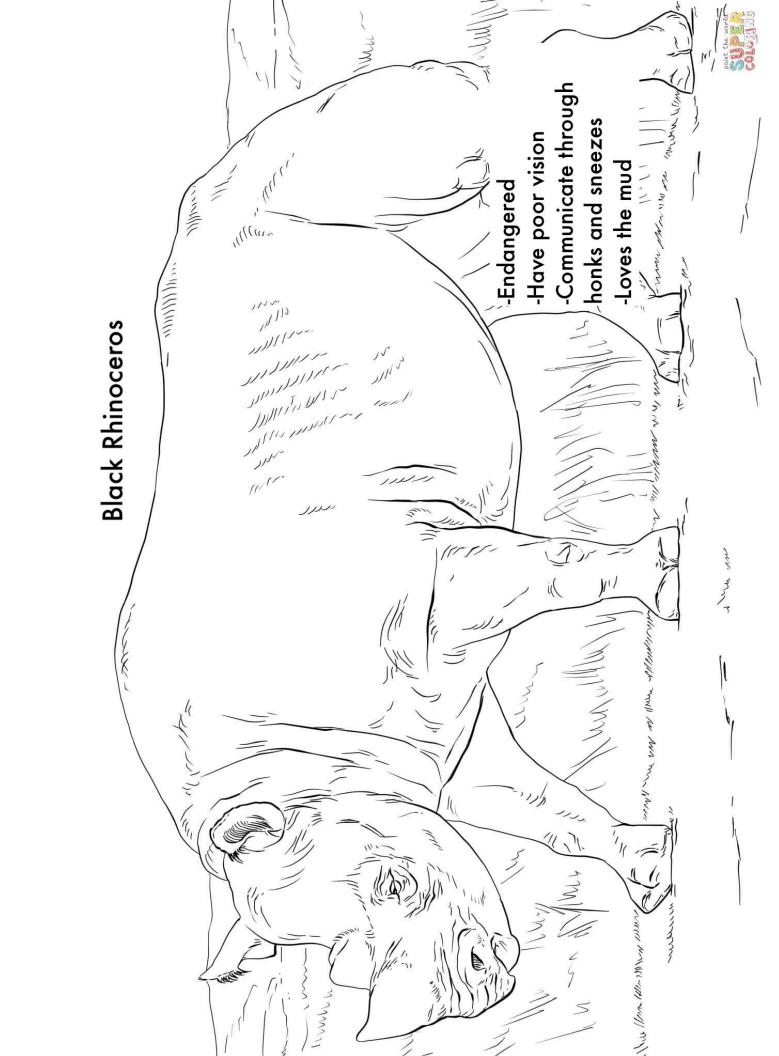




Monarch Butterfly



-Endangered -Has a long migration journey -Poisonous to predators



Lesson 2: Africa and Endangered Animals (4th-5th Grade)

Lesson Summary

Lesson Duration: 45 minutes

This lesson is an introduction to some background information about the continent of Africa. Students will explore some facts about Africa and learn about a variety of endangered animals. The end of the lesson will discuss vulnerable and endangered animals in Africa, leading to the Mountain Gorilla.

Required Materials

Corresponding slides - Wild About...! Lesson One 4th-5th Grades

Books:

Africa by Zukiswa Wanner

Videos:

- Africa | Destination World: https://www.youtube.com/watch?v=PSYHMWmyVfo
- Vulnerable and Endangered Animals: https://youtu.be/Ex7bSKqw4aw

Activities:

- Africa and North America Venn Diagram
- Students can share their Endangered Animal Profile from Lesson 1 at the end of this lesson
- Write An Animal Cinquain
- Exit Ticket: "What are some threats to vulnerable/endangered animals?"

Websites

- https://www.dkfindout.com/us/earth/continents/africa/
- https://www.nationsonline.org/oneworld/africa.htm
- Google Earth
- Various websites listed on the notes in corresponding slides*
- https://resourcelibrary.clemetzoo.com/Lesson/Details
- https://kidszoo.org/programs/lesson-plans/#fifth-grade-lesson-plans

Essential Question

How is Africa different from North America?

What endangered animals live in Africa?

Learning Goal

I can identify Africa on a map and compare/contrast Africa and North America.

I can recognize some endangered animals from Africa.

Lesson Guide

Part I: Africa

Slides 2:

Show the slide with the map of the world. Discuss where we live and where Africa is.

"Today, we are going to learn about a different continent. We are going to travel across the Atlantic Ocean, and visit the continent of AFRICA!"

You can use <u>Google Earth</u> to show how far Africa is from North America, and discover some different places in Africa.

Slide 3:

Ask the discussion question, "What do you know about Africa?". Have students share what they think they already know about Africa. You can write down students' answers and refer back to them later.

Slide 4:

Discuss the definition of a continent. Challenge the students to list all seven continents. If time permits: the link provided in the notes has facts about each continent.

Slide 5:

Africa is a REALLY big continent. As a matter of fact - it is the second largest in the world. There are 54 countries in Africa.

Photo: Africa is so big, the continental US, Alaska and China could fit inside Africa.

Visit www.dkfindout.com/us/earth/continents/africa/ for interactive information about Africa.

Slide 6:

Africa is a tropical continent. This is because areas of Africa maintain a monthly temperature of 64°F or higher with two seasons: wet/rainy season and the dry season

(<u>www.worldpopulationreview.com/country-rankings/tropical-countries</u>). The equator runs right through the middle of the continent, which means it is the closest to the sun.

Slide 7:

The hottest temperatures in Africa occur in the Sahara Desert, where temperatures can soar to 117°F. The Virunga Mountains is considered Africa's most biodiverse protected area and is home to over one thousand species. (https://virunga.org/)

Slide 8:

Destination: World video (https://youtu.be/PSYHMWmyVfo) Students can listen for facts to record or you can stop the video and ask questions. Facts can be used on their Venn Diagram.

Slide 9:

-Hand out the Venn Diagram. Students will compare/contrast Africa and North America.

Explanation

Size

- Africa is the second-largest continent. (Asia is the largest in the world!)
- It's so big, the United States, Alaska, China and Europe can fit inside the entire continent!
- There are 54 countries in Africa.

Climate

- The equator runs through the middle of Africa.
- Since the equator is the part of the Earth that is closest to the sun, Africa has warm temperatures.
- It can be hot during the day and cool at night.

Landforms

- The Sahara Desert is the biggest desert in the world. To learn more about the Sahara Desert, visit www.britannica.com/place/Sahara-desert-Africa/People.
- Mountain pictured: www.britannica.com/place/Virunga-Mountains. Virunga Mountains are important to point out because Virunga National Park is Africa's most biodiverse protected area, home to over one thousand species of mammal, bird, reptile, and amphibian as well as 1/3 of the world's endangered mountain gorillas (https://virunga.org/).
- Mount Kilimanjaro is Africa's highest free-standing mountain, and snow capped. For more
 information about Mount Kilimanjaro, education.nationalgeographic.org/resource/kilimanjaro.

Visit https://www.dkfindout.com/us/earth/continents/africa/ for interactive information about Africa. There are 54 countries in Africa (https://www.nationsonline.org/oneworld/africa.htm)

Activity

Venn Diagram - Slide 9

<u>Directions:</u> Discuss the differences and similarities between North America and Africa by creating a Venn Diagram. Students can discuss with their neighbors and share aloud as the teacher creates the Venn Diagram.

Endangered Animals in Africa

- Ethiopian Wolf
- African Elephant
- Mountain Gorilla
- Pygmy Hippopotamus

Explanation

Africa by Zukiswa Wanner

Vocabulary

Endangered - many of Africa's plant and animal species are in danger of dying out. Endangered species is one that meets any of the following criteria: 50-70% population decrease over 10 years, a total geographic area less than 5,000 kilometers, adult population size less than 2,500.

Explanation

Slide 11:

https://youtu.be/Ex7bSKqw4aw - This video explores different animals throughout the continent of Africa that are endangered or vulnerable.

Slide 12:

Shares four endangered animals in Africa. *Each photo is hyperlinked to find more information about each animal.* Click the slide again for a quick fact about each animal.

Mountain Gorilla: Killed due to poaching, habitat loss, and wars between humans. It is the most endangered gorilla in the world.

Pygmy Hippopotamus: There are fewer than 2,000 left in the wild. Their habitat is getting destroyed and they are hunted for their meat.

Ethiopian Wolf: Farmland has grown over so much of its habitat.

African Elephant: Often killed for their tusks.

Optional Activities:

- Students can share the research from the Animal Profiler in the Introduction Lesson.
- Write An Animal Cinquain courtesy of Fort Wayne Children's Zoo, students will write a poem about the endangered animal of their choice and use the formatting provided on the worksheet.
- Exit Ticket: What are some threats to endangered/vulnerable animals in Africa?



ANIMAL CINQUAIN

Create a poem about endangered animals



GRADES 2 - 4

KEY WORDS

- cinquain
- endangered
- threatened
- extinction

STANDARDS

• EL.2.5.4

OBJECTIVES

- Students will apply their knowledge of endangered animals in order to create a poem.
- Students will learn that species that are declining in numbers are classified, according to their danger of extinction, as endangered or threatened.

BACKGROUND INFORMATION

- Cinquain (sing-KANE) is a five-line oriental poem following a specific format of descriptive words.
- Example:

Polar bear

Shaqqy, white

Swims in water

Brrr, a cold life

Arctic

PROCEDURE

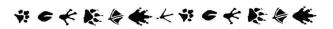
• Have students write a poem about the endangered animal of their choice based on the formatting provided in the worksheet.

RECOMMENDED ASSESSMENT

• Have students share their poem with the class.

EXTENSIONS

- Have students create a bookmark featuring their favorite endangered or threatened animal.
- Have students use contact paper to create a bumper sticker featuring an endangered animal or slogan to raise awareness.
- Read *The Lorax* by Dr. Suess to demonstrate how one person can make a difference with environmental issues.
- Have students play "yes or no" by attaching a picture of an endangered animal to each child's back. They may then ask yes or no questions of their classmates to correctly identify the animal.









ANIMAL CINQUAIN



Use the lines below to write a cinquain poem about an endangered animal.

Name	
(1 word - an animal)	
(2 words that describe it)	
 (3 words expressing action)	
 (4 words telling what you feel about it)	
 (sum up with 1 word)	







Name:

What are some of the threats to animals in Africa that are vulnerable/endangered?

Name:

What are some of the threats to animals in Africa that are vulnerable/endangered?

Name:

What are some of the threats to animals in Africa that are vulnerable/endangered?

Name:

What are some of the threats to animals in Africa that are vulnerable/endangered?

Lesson 3: Gorillas (4th-5th Grade)

Lesson Summary

Lesson Duration: 45 minutes

This lesson is an introduction to some background information about gorillas. Students will identify the differences between the Western Lowland Gorilla and Mountain Gorilla. Students will be introduced to the Western Lowland Gorillas that live at the OKC Zoo. The lesson will shift the focus to the Mountain Gorillas of Rwanda and the dangers gorillas face in the wild. The end of the lesson will introduce Dian Fossey, and her efforts of conservation. The corresponding slides also have instructor information in the "notes" section of each slide.

Required Materials

Corresponding slides -

Optional Read Aloud Books:

- He Leads: Mountain Gorilla, the Gentle Giant by June Smalls
- Gorillas by Gail Gibbons
- https://youtu.be/Mkgf_pxX9Cs Ivan: The Remarkable True Story of the Shopping Mall Gorilla by Katherine Applegate

Fictional Book Study For Extension:

- Magic Tree House: #26 Good Morning Gorillas by Mary Pope Osborne
- Magic Tree House #26: Good Morning Gorillas Activity Packet courtesy of Mary Pope Osborne's Classroom Adventures Program

Videos:

• https://youtu.be/Kren4c a3gc - BBC Earth Kids

Optional Activities (Several listed for convenience):

- Gorilla Pre Test Test their knowledge before beginning the lesson
- Lowland Gorilla Fact/Coloring Sheet The fact sheet corresponds with some of the slides
- Gorillas Find Traps courtesy of abdokids.com
- The Scoop On Poop courtesy of Lincoln Park Zoo, provides a math activity
- World Gorilla Day Activities
- Create the Gorilla's Habitat
- Kahoot! After watching the BBC Earth Kids video, you can play this fun Kahoot!

Websites:

- <u>nationalzoo.si.edu/animals/news/day-life-gorilla-smithsonians-national-zoo</u> provides a
 detailed look into the day-to-day life of a western lowland gorilla troop at the Smithsonian's
 National Zoo.
- https://www.funbrain.com/games/grammar-gorillas A fun game to tie gorillas and grammar together!

Essential Question

Why are gorillas important and what threats do they face?

Learning Goal

I can classify different subspecies of gorillas.

I can define dangers to gorillas and describe conservation efforts to protect the gorilla population.

Lesson Guide

Beginning the Lesson

Give students the Gorilla Pre Test and have them discuss their answers. Keep this pretest for them to correct after Lessons 3 and 4. Read one of the "Optional Read Aloud" book options provided on the first page of Lesson 3's facilitator guide and discuss with the class. All three books are nonfiction.

Explanation

It's important to understand what makes gorillas so unique. From their amazing anatomy and temperament, to their survival in the wild. Part One of this lesson will focus on understanding and appreciating what makes gorillas so amazing.

"Wild About Gorillas" Slides

Slide 2:

Prompt the question, "What do you know about Gorillas?". Have students share what they think they already know. You can write down students' answers and refer back to them later. Encourage students to tap into the information read during the read aloud. After a brief discussion, ask the students if they have any questions about gorillas that we might be able to answer today. Make a list. Slide 3-4:

True or False: Gorillas live in trees? Have students look closely at the pictures. What do they notice? <u>Slide 5-6:</u>

Gorillas live in groups called "troops". Each troop has a silverback male gorilla that is in charge and protects the troop. Gorillas only live in the forests of Africa, along the equator. Video Link: Impamo (3 years old at the time of the video), is learning to make his own nest.

Slide 7-9:

Gorillas are very complex! Not only are they the largest type of ape, they are very gentle and shy. Gorillas do not have tails and are *diurnal*. Silverbacks defend their families by roaring, beating their chests, charging or biting at danger. They have a good memory and can solve many problems. They eat leaves, fruits, bamboo shoots, and termites.

Slide 10:

Gorilla anatomy very closely resembles humans! One major difference is that gorillas have a thumb and a big toe! They use their big toe to pick up objects with their feet. It also helps them eat. Gorillas use their fingernails for opening, scraping, cleaning and scratching.

Slide 11:

BBC Earth Kids - this video (5:38) gives a great explanation about gorillas. Check in the notes section for a link to a follow up Kahoot! The Kahoot! link is also listed on the first page of Lesson 3's facilitator guide.

Slide 12:

This slide shows a photograph comparing the four subspecies of gorillas: Mountain, Cross River, Western Lowland and Eastern Lowland. What do your students notice about traits they have in common? How are they different? Why do they think the Mountain Gorilla has thicker fur?

<u>Slide 13:</u>

Mountain Gorilla Facts Video - (3:55)

Slide 14: Explains the Western Lowland Fact Sheet activity for the next few slides.

Slide 15:

Video provided by National Geographic Kids. "Amazing Animals" (1:46) provides a brief description of the lowland gorillas.

<u>Slide 16:</u>

Let's compare the Western Lowland Gorillas to the Mountain Gorillas. The Western Lowland Gorillas have shorter, lighter hair and are the smallest of all gorillas. The Mountain Gorillas have darker, longer hair to keep them warm in the mountains. They are usually bigger than the Western Lowland Gorillas. As babies, they can be as little as 4 pounds at birth! They live in cloud forests, which is a type of rainforest. Western Lowland Gorillas live in Cameroon and Equatorial Guinea, on the west side of Africa. Mountain Gorillas live in Rwanda, more in the center of the continent. Refer to the links in the note section of Slide 14 for more information.

Slide 17-20:

Why are gorillas important to the earth? There are many threats to gorillas. The main threats are disease, poaching, habitat loss and snares. Civil unrest also plays a big part in their safety.

Part II: Gorilla Conservation, Meeting the OKC Zoo Gorillas

Explanation

The OKC Zoo is home to ten Western Lowland Gorillas. Seven gorillas live together in the troop while three males live together in the "bachelor pad". You can even read the interview with the primate caregiver, Stephanie by visiting www.okczoo.org/blog/posts/gorillagab

Slide 22 - 22:

In human care, gorillas can thrive in a variety of ways. Some gorillas have displayed significant intelligence and have even learned simple human sign language! You can learn more about the troops at the OKC Zoo by clicking the link in the notes section of slide 22.

Slides 24-35:

Introduces you to the amazing gorilla troops at the OKC Zoo! Allow students time to talk and ask questions.

Slide 36:

Have you ever wondered what a normal day is like in the life of a gorilla? Visit the Smithsonian's National Zoo to watch videos and read all about it!

Slide 37:

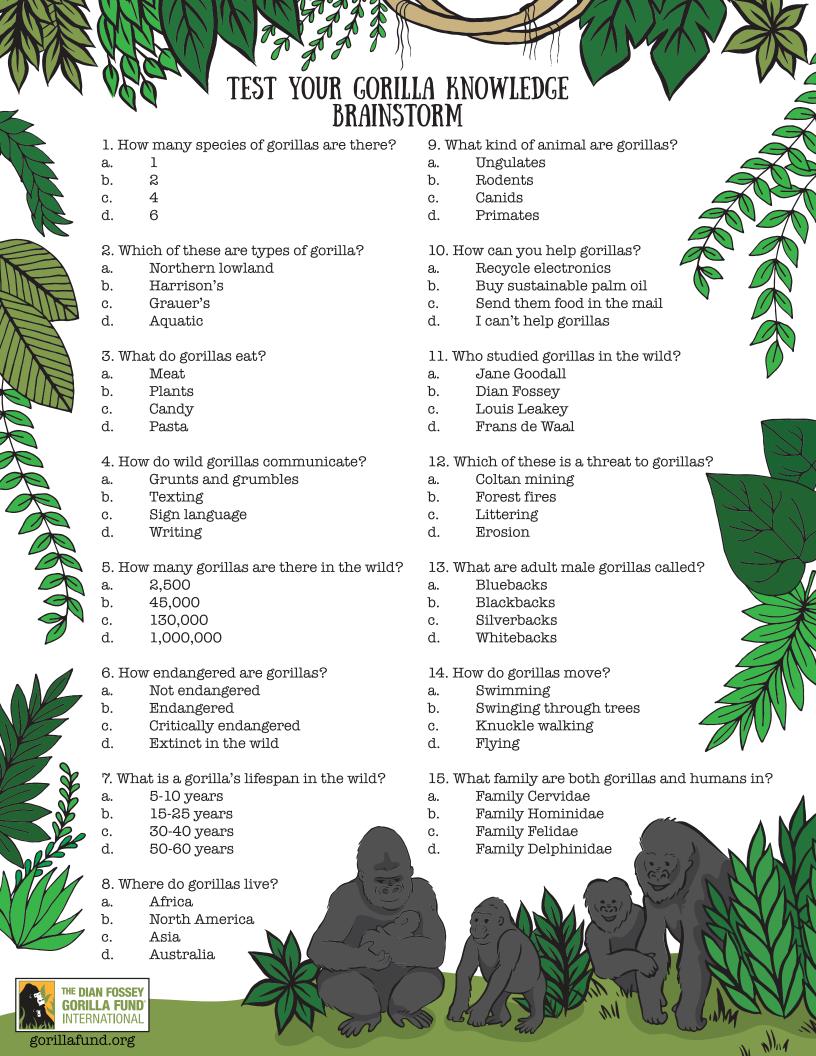
Why are gorillas at the zoo important? They help humans understand and learn more about gorillas. Gorillas in the zoo can also live up to 15 years longer. Be sure to click on the "Dian Fossey Gorilla Fund" logo for a link to a teaser for Lesson 4!

Closing

Gorillas are unique and complex creatures. What is causing harm to these majestic creatures? According to *Animals on the Brink: Gorillas* By Patricia Miller-Schroeder, all gorillas seem to have one main competitor - humans. Humans are competing for gorilla's habitats, poaching, setting traps, bringing diseases, and causing civil unrest which results in wildlife being stuck in the crosshairs. The gentle mountain gorillas of the Virunga Mountains have reached a status of endangered. What might have been a bleak outlook for the subspecies just a couple of decades ago has brightened in recent years due to conservation efforts (https://www.worldwildlife.org/species/mountain-gorilla). Although it looks more hopeful, we cannot be complacent. In the next lesson, we will learn about the life-long efforts of Dian Fossey and her continued legacy for the mountain gorillas.

Display Teaser Slide for a teaser/preview for lesson 4.

Extension Idea: Visit https://www.wwf.org.uk/learn/fascinating-facts/gorillas and record three interesting facts about gorillas.

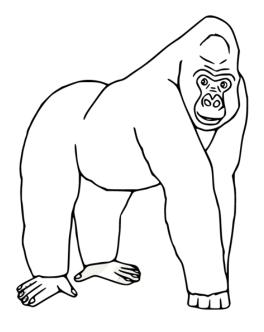


Western Lowland Gorilla Fact Sheet

Directions:

- 1. Follow along with the Gorilla slides
- 2. Answer the questions on the fact sheet
- 3. Didn't find all the answers you needed? No problem! Visit: nationalzoo.si.edu/animals/western-lowland-gorilla to get more information!
- 4. Be sure to color your gorilla when you're finished.

Western Lowland Gorilla



Did You Know?

The OKC Zoo is home to
gorillas. They can live to be
up to years old.
Western Lowland Gorillas are
critically
They have,
lighter hair than Mountain
Gorillas. Gorillas help
spread seeds through their
!

Western Lowland Gorillas are found here:

	Touria nete.
Measurements at Full Grown Weight: Height:	
How do they communicate? 1.	
2.3.	
In the box below, share	one interesting fact.

Teacher Answers:

The OKC Zoo is home to $\underline{10}$ gorillas. They can live to be up to $\underline{50}$ years old. Western Lowland Gorillas are critically <u>endangered</u>. They have <u>shorter</u>, lighter hair than Mountain Gorillas. Gorillas help spread seeds through their <u>poop</u>!

From

nationalzoo.si.edu/animals/western-lowland-gorilla Measurements at full grown:

Weight: <u>Up to 500 lbs</u> Height: <u>up to 6 feet</u>

How do they communicate?

1. Auditory Signals

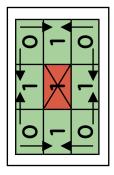
2. Visual Signals

3. Odors

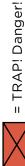


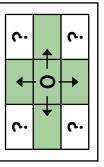
Gorillas will search the jungle for traps. They do this to keep themselves and the other members of their band safe. Can you find all 8 traps in this jungle?

that square. In this example, the trap has to be in the middle. The "O" shows the "1" near it is safe. how many traps are up, down, left, right, or on Each box has a number in it. The number tells









		abdokids.com
	٥.	abdokids ©2016 Abdo Kids
-0	•	a b d
	٥.	ABDO
	.,	J M ∀

I	0	0	0	0	1	0	0	0
G	0	1	1	1	1	2	0	0
F	1	2	2	1	2	1	1	0
Е	0	1	1	0	0	2	0	0
D	0	1	0	0	2	1	1	0
С	1	1	1	1	1	3	0	0
В	0	1	0	0	2	1	1	0
٧	0	0	0	0	0	-	0	0
	В	q	С	р	9	f	б	h

Create Your Own Gorilla Habitat

Directions: In the gorilla picture below, use different methods to create a habitat for the gorilla. You can use crayons, markers, colored pencils, watercolor, etc. Be sure to color your gorilla. Get creative and see what objects you can use to texturize his habitat. Forage for leaves, twigs, grass and glue them on. The opportunities are endless! Don't forget, gorillas love to eat. What foods can you give him? What will you name your new silverback?





An ecosystem is a community of living and non-living things that all interact with each other. For example, in a forest ecosystem, trees, soil, water, insects, birds, and mammals all interact with one another. They depend on each other to survive. Trees grow in soil and absorb water. Insects find shelter in the bark of the trees. Small

mammals, like mice, eat those insects and seeds from trees. Birds, like owls, hunt mice for food and build nests in trees. Animal droppings and dead plants **decompose**, or break down, to feed the soil and start the whole process over again! Ecosystems can be as small as a puddle or as big as the whole planet.



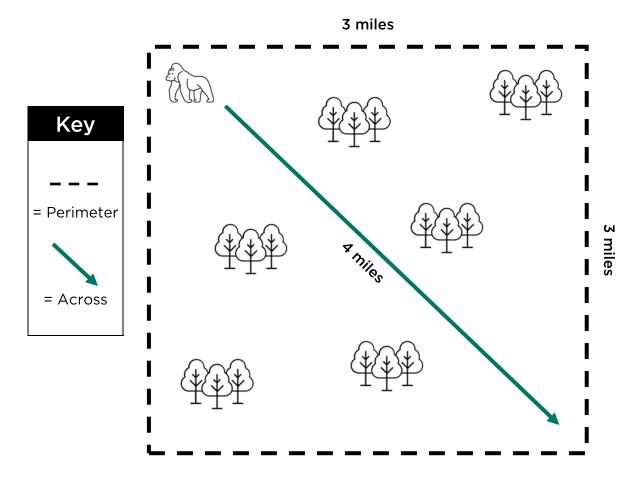
Western lowland gorillas play an important role in the tropical rainforest ecosystem where they live. One of the most important things they do is spread seeds throughout the rainforest so that new plants can grow. Gorillas eat lots of fruit. Adult male gorillas may eat as much as 45 pounds of food per day! As they move

through the rainforest, the fruit seeds get spread when the gorillas poop. Gorillas poop several times per day. As they move through the rainforest, they spread the seeds in areas with plenty of light and space for the seeds to grow. By moving the seeds, the gorillas help the forest thrive.

Each gorilla troop lives in a large home area. The troop travels about one mile each day gathering food and eats from about 100 different types of trees. This makes for a lot of gorilla poop!

Directions: Imagine you are a gorilla and you live in the home range pictured below. For the next few days, you will walk along the **perimeter**, or edge, of your home range.

Answer the questions on the next page to learn how your poop helps the forest grow!



Questions

1.) If you walk 1 mile per day, how many days will it take for you to walk along the top edge of your home range? days
2.) If you poop every half mile, how many times will you poop along the top edge of your home range? times
3.) If you continue walking one mile per day, how many total days will it take you to walk the whole perimeter of your home range? days
4.) If you continue pooping every half mile, how many total times will you poop along the whole perimeter of your home range? times
5.) It is about 4 miles across your home range. If you poop every half mile, how many times will you poop as you travel across your home range? times
6.) How many total times have you pooped when walking along the perimeter and across the middle of your home range? times
Western lowland gorillas are in danger of going extinct. Human activities, such as cutting down forests and mining are destroying gorillas' habitats. Challenge Question: What do you think would happen to the tropical rainforest ecosystems if gorillas went extinct?



Answer Key

- 1.) If you walk 1 mile per day, how many days will it take for you to walk along the top edge of your home range? 3 days (1 mile per day; 3 miles total)
- 2.) If you poop every half mile, how many times will you poop along the top edge of your home range? 6 times (3 miles = 6 half miles)
- 3.) If you continue walking one mile per day, how many total days will it take you to walk the whole perimeter of your home range? 12 days (each edge is 3 miles; 4 edges x 3 miles = 12 miles)
- 4.) If you continue pooping every half mile, how many total times will you poop along the whole perimeter of your home range? 24 times (12 miles = 24 half miles)
- 5.) It is about 4 miles across your home range. If you poop every half mile, how many times will you poop as you travel across your home range? 8 times (4 miles = 8 half miles)
- 6.) How many total times have you pooped when walking along the perimeter and across the middle of your home range? 32 times (24 + 8 = 32; answers from #4 & #5)
- Challenge Question: What do you think would happen to the tropical rainforest ecosystems if gorillas went extinct? Answers may vary: Tropical rainforests will see less new plant growth.





World Gorilla Day Suggested Activities

Forage like a Gorilla (intergenerational, children, family groups)

Focus: gorilla feeding strategies and diet

<u>Activity:</u> Fill a small plastic kiddie pool or tub with shredded paper, paper scraps, and/or straw to create bedding (though mindful of allergies if using straw). Within the bedding bury and hide plastic/artificial food. Encourage guests to dig through the bedding to find the food, emulating how a gorilla forages.

<u>Interpretation:</u> A staff member, volunteer, or teen volunteer can talk with guests about how gorillas find food in the wild and how animal care staff tries to feed them in different and challenging ways within the Zoo. (See "gorilla facts" for more detailed information on gorilla diet, feeding behaviors, and quantity.)

Gorilla Nose Prints (intergenerational, children, family groups)

<u>Focus:</u> Individual traits of gorillas, how researchers can tell gorillas apart, noses like thumbprints <u>Activity:</u> Visit <u>www.gorillafund.org/learning-materials</u> and download and print out the "Nose prints" PDF. See if guests can match which gorilla belongs to which nose print. Take it one step further: Get a picture of a gorilla nose at YOUR institution and see if guests can identify which gorilla at your zoo it matches.

<u>Interpretation:</u> Staff member, volunteer, or teen volunteer can talk with guests about the individuality of gorillas, how each is different. Just like how humans have unique fingerprints, gorillas have unique nose prints. This is one way that researchers can tell individuals apart.

Handprint over Handprint Pledge/Craft (intergenerational, children, family groups)

<u>Focus:</u> Size comparison between human hand and gorilla hand, creating a connection between humans and gorillas, providing an opportunity for youth to make a pledge to help gorillas). <u>Activity:</u> Print out sheets with a life-size gorilla handprint on each (prints from gorillas at YOUR own zoo make this even more fun). Add a conservation message, hashtag (#worldgorilladay), logo, or conservation pledge to it if you wish. Guests ink their own handprint (you provide the ink and the hand cleaning station) and make their print over top of, next to, near the gorilla handprint. To make this a pledge, have the pledge written on the paper along with the gorilla print and have the guests print indicate their "signature" signing up to help gorillas. "Some of the parts inside our cell phones and tablets come from mines in places where gorillas live. I pledge to help save gorilla habitat by recycling my old electronics so more of these parts don't have to be mined."

<u>Interpretation:</u> Zoo staff, volunteer, or teen volunteer can run this station and help to explain the link between electronics recycling and gorilla conservation. (See EcoCell resources for more information about recycling e-waste to benefit gorillas.)

Thumbprint Pledge Banner (intergenerational, family groups, all guests)

Focus: provide guests the opportunity to take a pledge to help gorilla conservation.

<u>Activity:</u> Similar set up and message as "Handprint over Handprint" activity. Instead of making handprint however, guests can ink their thumbprint and make their pledge for gorilla conservation by placing their thumbprint mark inside a line drawn gorilla on a vinyl or paper banner. Banner can have conservation messaging, hashtags (#worldgorilladay), or a conservation pledge printed along with the gorilla outline. (See "Handprint over Handprint" activity for example of pledge messaging)

<u>Interpretation:</u> Staff, volunteer, or teen volunteer can run this activity and help to explain the pledge and the link between the conservation action and gorillas.

50th Anniversary Card (intergenerational, family groups, all guests)

<u>Focus:</u> Celebrate the 50th Anniversary of Dian Fossey's Karisoke research center, the longest running gorilla field study site.

<u>Activity:</u> Make a giant Happy 50th Anniversary card or banner for Dian Fossey Gorilla Fund International (DFGFI). Invite guests to sign the card or banner. Take a picture of the completed card and post it on social media to "send" it to DFGFI, #worldgorilladay

Photo Station (intergenerational, family groups, all guests)

<u>Focus:</u> create a social media presence about World Gorilla Day and share gorilla conservation actions being done by guests

Activity: Create a photo frame out of coroplast, cardboard, or other durable material). Put your Zoo logo and the World Gorilla Day logo (visit the "downloads" section of the worldgorilladay.org for the official logo) on it along with #WorldGorillaDay. Provide props for guests to use during photo opportunities: binoculars, field notebooks, stethoscopes, hats, signs to hold with word bubbles or messages on them (see "Downloads" section for prop signs or create your own). Assist guests in using the props to stage a photo and encourage them to post their pic publicly on social media with #worldgorilladay and maybe even an additional conservation message.

<u>Interpretation:</u> Staff, volunteer, teen volunteers can help run this activity, taking photos with guests phones and helping them post to social media if needed/wanted.

Sign a petition (teens, adults)

<u>Focus:</u> To provide guests the opportunity to take direct conservation advocacy action on behalf of gorillas.

<u>Activity:</u> Provide pre-printed letters or tablets open to online petition signing for gorilla-related issues (Stop Coltan Mining, Reauthorize the Multinational Species Conservation Fund, etc.)
Guests can sign their names and add their voice to the cause.

Electronics Recycling Station (intergenerational, teens, adults, family groups)

<u>Focus:</u> promote cellphone and electronics recycling as a way to contribute to gorilla conservation, to make the connection between coltan, gorilla habitat and our electronics. <u>Activity:</u> Promote electronics recycling and encourage people to bring unused electronics to the Zoo to recycle at World Gorilla Day celebration. This can also be done as a collection drive at schools, community groups, etc. Electronics can be collected and then brought to the zoo or mailed directly to EcoCell, the official electronics recycling company of Dian Fossey Gorilla Fund International (DFGFI), proceeds benefit DFGFI gorilla conservation fund. (More information about this can be found in the EcoCell resources linked from worldgorilladay.org)

Other Ideas

Keeper/Researcher Talks

Feature your own zoo staff and the incredible work they do with gorillas by offering 15-30 minute Keeper Talks at the exhibit or around Zoo grounds throughout the day.

Enrichment for Interpretation

Zoo staff, docents, or volunteers can have example gorilla enrichment items for the public to explore and touch out on zoo grounds or at the gorilla exhibit. Staff member or volunteer can talk with guests about the importance of providing enrichment to gorillas in human care.

Special Feedings or Enrichment Times

Animal care staff might provide special feedings or enrichment items to gorillas on exhibit for World Gorilla Day. Staff from animal care, education, or volunteers can interpret the details of this special experience to guests.

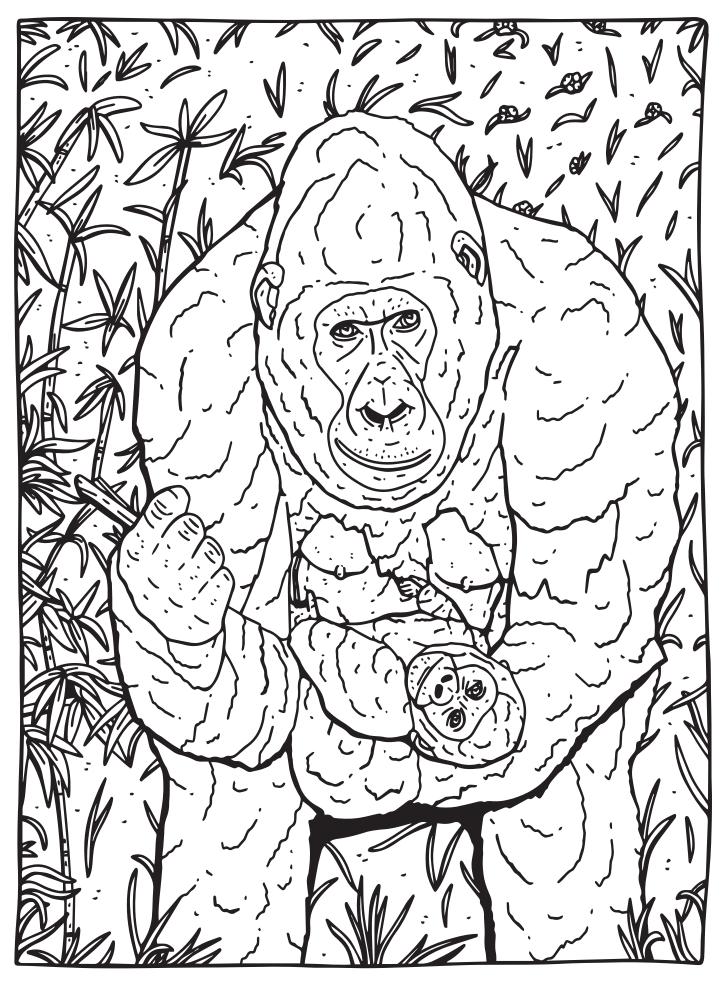
Toot your own horns for gorilla conservation

Share with your community all the incredible ways YOUR zoo is taking action on behalf of gorilla conservation every day. Through interpretive stations, graphics, social media posts, media spots, or other means, highlight the unique things that your zoo does when it comes to caring for gorillas in zoos and in the wild.

Gorilla Information and Fun Facts

Use this information to help guide educational messaging during your event

- Gorillas are the largest of all primate species in the world and are well adapted to life in the forests of equatorial Africa.
- Gorillas communicate within their family group and with outside groups using a number of vocalizations, body language and facial expressions.
- Gorillas are social apes and typically live in either a harem society with multiple females and one dominant male leader or a bachelor group consisting of multiple young male gorillas.
- Male gorillas and adult females play different roles in gorilla society and in parental care. The silverback plays the role of protector of his troop.
- Gorillas are primarily herbivores, eating leaves, shoots, stems, fruits and other plant materials. An adult male gorilla may consume up to 50 pounds of vegetation per day so gorillas spend a good bit of their day foraging for food and eating.
- Gorillas are among the longest studied primate species. Research on wild gorillas began in the 1960's with the pioneering work of George Schaller and Dian Fossey studying the behavior and ecology of wild mountain gorillas. Since then, field research on gorillas has expanded to cover all four subspecies and includes topics ranging from population dynamics and behavioral ecology to cognitive ability and epidemiology. Gorillas in zoos have also been the subject of extensive research, providing insights into their behavior, and management. Though research has come a long way, there is still much to learn.
- For more information on gorillas, visit <u>www.gorillassp.org</u> or www.gorillafund.org/learning-fun/





WESTERN LOWLAND GORILLA





Lesson Plan Summary

Magic Tree House #26:Good Morning Gorillas

"Actions Speak Louder Than Words."

THIS EXTENTION WILL ENABLE EACH CHILD TO:

- Learn facts beyond the text about different forms of non-verbal communication.
- Learn a song using American Sign Language and perform with classmates for an audience.
- Use supplemental resources to learn about scientific studies being conducted with gorillas using sign language to communicate with humans.
- Learn to use simple signs to respond to teachers and fellow classmates.
- Participate in a timed Magic Tree House activity with classmates that only allow students to use non-verbal cues.
- Demonstrate comprehension by actively participating in a Magic Tree House game.

COMMON CORE STANDARDS ADDRESSED:

Reading:

- Key Ideas and Details
- Craft and Structure
- Integration of Knowledge and Ideas
- Foundational Skills

Speaking and Listening:

- Comprehension and Collaboration
- Presentation of Knowledge and Ideas

Language Arts:

Knowledge of Language

Math:

Measurement and Data
 (Estimation of intervals of time)





Lesson Plan

Magic Tree House #26: Good Morning Gorillas

"Actions Speak Louder Than Words"

(Lessons in Non-Verbal Communication)

"To find a special kind of magic,
in worlds so far apart,
speak a special kind of language,
talk with your hands and heart."

Thank you,

Morgan

At the beginning of the book *Good Morning Gorillas*, Jack and Annie found this puzzling message on a piece of paper sticking out of a book in the tree house entitled *An African Rainforest*. Shortly after, the tree house lands in the volcanic mountains of Virunga in east-central Africa where Jack and Annie meet a family of gorillas. The pair learned exactly what this "special kind of language" was – **sign language!** Their new gorilla friends were able to learn the sign for "I love you" and demonstrated high levels of intelligence as well as the ability to socialize with family members and humans!

This lesson consists of various forms of non-verbal activities including the use of sign language used by the gorillas to communicate with Jack and Annie. The activities will focus on encouraging students to find multiple forms of communication and appropriate ways to express themselves without using spoken language. Many children do not have the ability to send and receive non-verbal cues in a socially acceptable manner, which makes it difficult for them to "fit in" and respond appropriately to their peers. This inability to "read" body language and social cues can sometimes result in a child being the target of bullying and rejection by their peer group. Consistently engaging your class in entertaining non-verbal activities can help to ensure unity and cohesiveness among your students. These types of activities are especially beneficial for students in your classroom who might have special needs such as Autism or Asperger's syndrome. These children often have significant difficulties with social interaction. The lesson will conclude with an entertaining way to communicate non-verbally with a touch of Magic Tree House fun

26-1LP112

Activity 1:

As Mary Pope Osborne points out in the "More Facts for Jack and Annie and YOU!" section in the back of the book, gorillas are very intelligent but will never be able to talk like people because they do not have the vocal cords necessary to produce the range of sound needed. However, gorillas have been taught sign language and are able to communicate quite well with humans as demonstrated by a famous gorilla named Koko who is part of a gorilla language project in California. She can make over 1,000 signs and understands about 2,000. After reading *Good Morning Gorillas*, your students will be eager to learn more about these amazing animals and the method by which they are trained to communicate with signs. Visit the Gorilla Foundation's website with your class to see Koko using the sign language she has learned.

http://www.koko.org/world/signlanguage.part2.html

Students will also enjoy the book *Koko's Kitten* written by her trainer, Dr. Penny Patterson, about Koko's tender friendship with a kitten. Readers will discover a special bond between a "gentle giant" and a small tabby kitten. Koko uses her sign language to express emotions much like humans do in this moving true story.

Activity 2:

Sign language was of course designed for the deaf and hard of hearing but many of the hearing public have benefitted from its use as well. Parents and teachers of hearing children are discovering that sign language is beneficial for children in a wide variety of situations. Children also LOVE to sign! Songs that incorporate the use of sign language are always favorites in the classroom. Teach the following version of "The Star-Spangled Banner" using ASL (American Sign Language) to your class and allow them to perform at a school function such as a Veteran's Day celebration or an assembly:

http://www.youtube.com/watch?v=CFPpJzLCs98

Activity 3:

Classroom teachers are discovering that not only is signing fun for their students, it is also proving to be an effective classroom management technique! Much research exists to support the use of sign language in the classroom for all students. Teachers using it effectively found that behavior management became easier, class participation increased and students were more actively engaged with fewer interruptions.

Allow your class to learn a few basic signs to avoid inefficient use of time responding to students who raise their hands with routine questions. This will be fun for the students and will allow you to communicate without interrupting instruction. You will be able to answer questions or send them to the restroom or pencil sharpener with a quick hand signal! Signing with students will also allow you to multi-task when you are working with small groups of students but must attend to the needs of others in the class. You can use American Sign Language or create your own signs. Visit the following website to download a classroom set of sign language posters that are designed to assist teachers with classroom management:

http://www.newmanagement.com/main/sign_language.html

.Activity 4:

Non-verbal communication takes on many forms but perhaps one of the most entertaining is the game of Charades. Add to the fun and excitement of this popular game with a touch of Magic!

Magic Tree House Charades

This game works well in the classroom or can be adapted to a transitional or "waiting" activity to help teachers fill the time gaps they encounter on a regular basis as they travel with their class to various activities throughout the course of a day. It is a silent game (non-verbal) and is appropriate to play in most all situations.

Most children will have had some experience with the game of Charades, but explain to your class that now they will give the familiar game a Magic Tree House "twist" and will be able to test their Magic Tree House knowledge!

Materials:

- a stopwatch or other timing device
- a notepad and pencil for scorekeeping or you may keep score on the blackboard or dry erase board so the class can see their scores
- Magic Tree House Charade Cards (provided)
- card stock or construction paper
- two baskets or other containers for the cards

Procedure:

- 1. Divide your class into two teams. Make certain that you have avid Magic Tree House readers on both teams.
- 2. You will play the part of the scorekeeper and will need a timer. After the children become familiar with the game, you may wish to choose a neutral child to be a scorekeeper.
- 3. Print the Magic Tree House Charade cards (provided) that have instructions for acting out scenes from various Magic Tree House books and divide them evenly into two baskets or other containers. You can use card stock or construction paper for printing. Copy paper may be used but may be too thin and could allow team members to see through the paper and read the answers. If copy paper is used, it would be best to reinforce by attaching to index cards. There should be one card for each player on each team. Most of the scenes to act out require more than one player. This will give children who might be intimidated to roleplay alone the extra confidence they need to participate.

^{*}There is a blank charade card master included as well so that your students can make up their own cards based on other scenes from their favorite Magic Tree House books for future games - and there are hundreds!

- 4. Have children sit with their teams in an area of the classroom that will provide ample space for "acting out" Magic Tree House scenes.
- 5. Allow a team leader from each team to roll a die to determine which team will begin play.
- 6. Decide on a method for order of play (oldest to youngest, number order if your students have numbers, alphabetical order of first or last names, etc...)
- 7. Place the two baskets of Charade cards at the front of the room and explain the rules to the class:

"Today we will be testing our Magic Tree House knowledge while playing a game of Charades. (Allow children to make connections by sharing any previous experiences with the game.) The most important rule is that players acting out the scenes cannot speak during this game. Players will try to get their teammates to guess the name of a Magic Tree House book by acting out a familiar scene from the book. Hand motions, facial expressions, and body movements will be used to give clues. If your scene requires more than one person to act it out, you may choose a member or members from your team to role play with you, but remember that you will not be allowed to speak with them during play. You may use props from the classroom if you wish and you feel that this would be helpful.

Your teammates may call out their answer as soon as they know the name of the book. They will have two minutes. (You may increase or decrease this time limit as needed.) If your team is unable to guess the name of the book within the 2 minute time limit I will record 2 minutes for your team and call time. You will hear the timer ring when two minutes have passed. If your team guesses the correct name of the book in less than two minutes, I will record the exact time it took to answer. Your team will forfeit their turn if speech is used and will be given the maximum time as a score for the round. The game will continue with the opposing team choosing a Charade card and acting out a scene. Play will continue in this manner until all team members have had a turn. At the end of the game, the team with the least amount of time recorded is the winner."

Your class will find this game an entertaining way to recall details in the Magic Tree House adventures and will be a useful tool for you in checking for comprehension. Most importantly, they will increase their confidence in their ability to communicate with one another and their skill in making non-verbal connections with others. Sometimes, "actions really do speak louder than words."!



2 Players

Jack is running with a frightening look on his face from a tyrannosaurus rex. The T-Rex looks fierce and is stomping loudly with his two little arms dangling in front as he chases Jack.

Answer: Dinosaurs Before Dark



3 Players

Captain Bones is pulling on Jack when Annie comes up and (PRETENDS) to kick him! Annie looks mad and Jack looks frightened. Captain Bones looks scary. Suggested Prop: small piece of paper for an eye patch for Captain Bones

Answer: Pirates Past Noon



3 Players

Jack and Annie have a flashlight and shine it into the eyes of the knight. (Remember the knight had never seen a flashlight) so the he is covering his eyes. Annie has a pretend flashlight and shines it into the knight's eyes while Jack stands behind her in fear!

Answer – The Knight at Dawn



2 Players

Jack and Annie get down on their stomachs and "fly" across the ice like the polar bears do to keep the ice from cracking.

Answer: Polar Bears Past Bedtime



1 or 2 Players

Jack and/or Annie cover their heads with pillows (but you could use your backpack for a prop) to keep the pumice and ash from hitting them as they are running from the erupting volcano. A look of fear and terror are on their faces.

Answer: Vacation Under the Volcano



2 players

Jack (or Annie) pretend to be swimming on the back of a dolphin. One player should be the dolphin. The dolphin is making up and down movements (the way dolphins swim) on the floor while Jack (or Annie) holds on for dear life! There is a look of excitement on his (or her) face!

Answer: Dolphins at Daybreak



3 Players

Jack and Annie are in the Dragon King's burial tomb looking around at the 7,000 clay warriors that were made to protect him after he dies. Another player can stand very still looking straight ahead with arms straight by his side to be one of the clay soldiers. Jack and Annie should look frightened! Something to use for a sword is a good prop for the clay soldier.

Answer: Day of the Dragon King



1 or 2 Players

Jack or Annie (or both) give the sign for friend that they learned from their Lakota Indian friend, Black Hawk. They should raise two fingers and have a happy look on their faces.

Answer: Buffalo Before Breakfast



2 Players

One player should be a kangaroo and hold a stuffed animal from the classroom in front of them to be a joey and hop away from a player who is acting like a fierce angry dingo down an all fours. Kangaroo should be very frightened!

Answer: Dingoes at Dinnertime



1 or 2 Players

Player should be Jack or Annie (Two players could be both) doing the moon walk in space. Walk in very slow motion. Jack could slowly fall down and Annie could be approaching him like she did in the scene from the book.

Answer: Midnight on the Moon



3 or 4 Players

Annie should be trying to pull Jack out of the circle as he is caught up in the dancing when they were trying to rescue Sir Lancelot and Sir Galahad. There might be one or two players (knights) who stay in the circle and keep dancing. All but Annie should have blank looks on their faces as if in a trance.

Answer: Christmas in Camelot



2 or 3 Players

Jack and Annie are desperately rowing a pretend canoe with a look of fear on their faces as if trying to get away. A third player could possibly be in the "water" playing a crocodile trying to bite at them.

Answer: Afternoon on the Amazon



3 or 4 Players

Jack and Annie should act like monsters and put their hands up in front of their faces and scare the hyenas away. You can have two hyenas down on all fours acting scared as they did in the book.

Answer: Lions at Lunchtime



3 Players

Prop – cloth to tie around the face of one player.

This player sits with legs crossed on the floor and plays the Ninja Master. Jack and Annie carefully approach with looks of uncertainty.

Answer: Night of the Ninjas



3 Players

One player is a tiger pretending to have its paw caught in a trap. Tiger is in pain. Jack and Annie are trying to free him and have a look of concern and sadness on their face. Annie is petting the tiger's head.

Answer: Tigers at Twilight



2 Players

Jack is doing arm exercises by holding his arms straight out at his sides and making little circles with his arms in the air. Priscilla is looking back and laughing (silently) as Jack looks confused. That is not what Priscilla meant when she said it was time for arm exercises!

Answer: Thanksgiving on Thursday



4 Players

You will need Jack and Annie and two players to be camels. Towels or cloths tied around Jack and Annie's heads with yarn would be great props! The camels get on all fours and Jack and Annie are riding them (but don't really sit down on them with all their weight. Just pretend to ride!)

Answer: Season of the Sandstorms



3 Players

You will need two players to be Jack and Annie and one to be a horse. Jack and Annie pretend to sit in a chariot and hold on to pretend reins of the horse that is down on all fours pretending to run. Jack and Annie look surprised as the horse pretends to lift off the ground and fly!

Answer: Hour of the Olympics



3 Players

Two players will be Jack and Annie. Another boy puts his arms around Jack and Annie so they can help carry him. His head is hung down and his feet shuffle because he is the drummer boy during the Civil War who suffered a heat stroke. He is about to faint. Jack and Annie have looks of concern and are comforting him.

Answer: Civil War on Sunday



3 Players

Jack and Annie are hurrying over to stacks of books and carrying them to a man who pretends to be loading the books on a wagon. There has just been an earthquake so they all are rushing around. The man pretends to drive away in the wagon (as if guiding a horse with the reins). Jack runs after him trying to stop him because Jack accidentally put his research book on the wagon.

Answer: Earthquake in the Early Morning



2 Players

Jack and Annie pretend to be surfing. First on their tummies paddling to catch a wave, and then standing up slowly with their hands out swaying gently from side to side. Annie is doing a great job but Jack is having trouble staying on. Annie is happy and confident but Jack is fearful and unsure.

Answer: High Tide in Hawaii



1 Player

Jack should be making movements with a pretend ax to chop wood. He tries his very best but it is too hard for him and he is getting very tired and frustrated and finally has to give up.

Answer: Abraham Lincoln at Last



3 Players

Jack and Annie are St. Bernards down on all fours digging in the snow to free Napoleon Bonaparte. Finally Napoleon is free and the "dogs" are very happy and pretend to lick him.

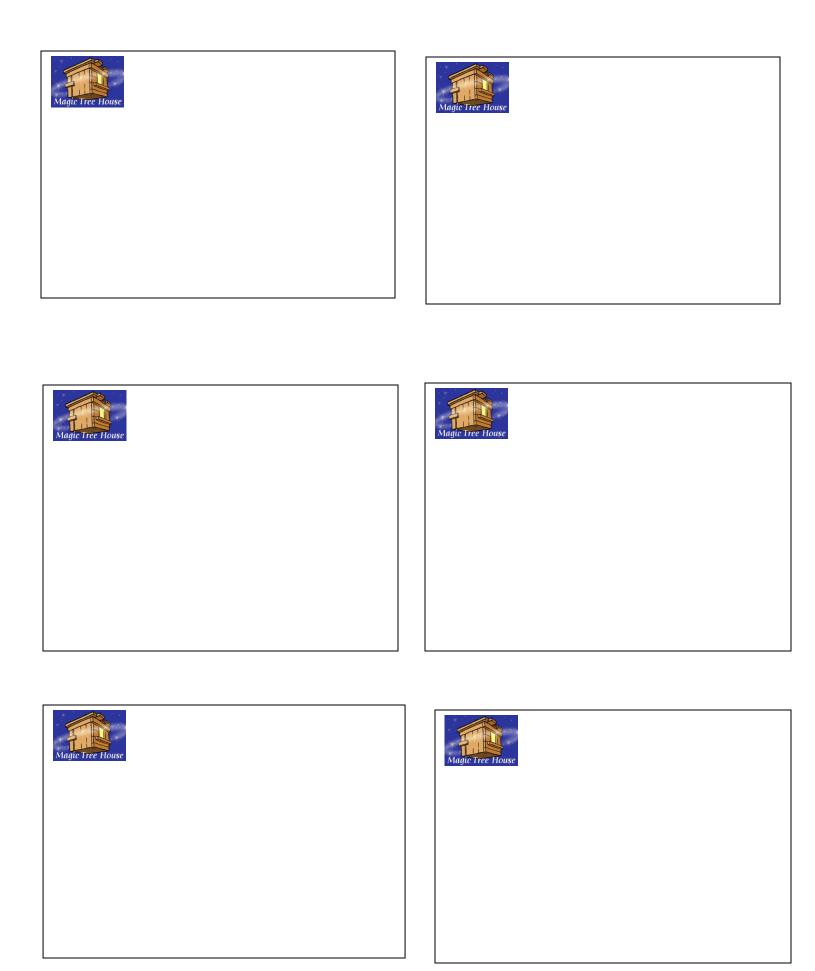
Answer: Dogs in the Dead of Night



3 Players

Jack and Annie are pretending to play a drum together. Props could be used for this – tapping a waste basket with pencils. Another player will play the role of Dipper and pretend to play a trumpet. He should make the finger movements on the instrument and puff out his cheeks as if he is blowing into the trumpet.

Answer: A Good Night for Ghosts



Lesson 4: Dian Fossey (4th-5th Grade)

Lesson Summary

Lesson Duration: 45 minutes

This lesson is an introduction to some background information about Dian Fossey. Students will get a brief biography and what led her to her research efforts in Africa. Various activities are provided to support her biography, research components and role in conservation. The end of the lesson will focus on the Karisoke Research Center, the Dian Fossey Gorilla Fund, and their vital contributions to conservation.

Required Materials

Corresponding slides

Optional Books:

- Unforgotten: The Wild Life of Dian Fossey and Her Relentless Quest to Save Mountain Gorillas by: Anita Silvey
- Primates: The Fearless Science of Jane Goodall, Dian Fossey and Birute Galdikas by Jim Ottaviani and Maris Wicks
- Who On Earth is Dian Fossey? Defender of the Mountain Gorillas by: Jill Menkes Kushner
- Jambo: A Gorilla's Story by: Richard Johnstone-Scot

Optional Videos:

• bedtimehistorystories.com/the-history-of-dian-fossey-for-kids/

Websites:

- gorillafund.org/who-we-are/dian-fossey/
- www.britannica.com/biography/Dian-Fossey
- kidskonnect.com/people/dian-fossey

Optional Activities/Resources:

- Know Your Noses Activity courtesy of Zoo Atlanta
- Dian Fossey Read, Answer and Color
- Dian Fossey Timeline

Optional Extension:

 Women in Science Mini Research - use this template to have students research notable women in science. (Special thanks to Lindsey Lane - Teacher by Day Songstress by Night for the template)

Essential Question

Who was Dian Fossey and what important role did she play in gorilla conservation?

Learning Goal

I can explain who Dian Fossey was and her important role in gorilla conservation.

Lesson Guide

"Wild About Dian Fossey" Slides

Explanation:

In order to understand gorillas and the vital role they play in maintaining the biodiversity of their forest home, we must first understand the important history of Dian Fossey. Dian Fossey was an American primatologist known for researching mountain gorillas. She was one of the leading researchers in her field, as well as a conservationist who fought against poaching and the preservation of gorilla habitats.

Vocabulary:

Karisoke Research Center Dian Fossey Gorilla Fund

Wild About Dian Fossey Slides:

Be sure to check the notes section of each slide for background information, optional websites and a more detailed explanation.

Closing:

Lesson 4 ends with the legacy of Dian Fossey, and the current CEO of Dian Fossey Gorilla fund, Dr. Tara Stoinski. It's important to note that conservation efforts continue despite Dian's early demise. Optional activities are listed on the first page of the Lesson 4 facilitator guide.

Extension Idea:

Students will research notable women in science, and pick a female scientist to create a mini biography.

Dian Fossey



Early Life:

Dian Fossey was born January 16, 1932 in San Francisco, California. She discovered her love for animals at a very young age that began with her pet goldfish. Dian loved to ride horses and aspired to be a veterinarian after she spent a summer working on a ranch in Montana.

Education:

After high school, Dian enrolled in the pre-veterinary program at the University of California. Later, she found the classes were too challenging and decided to study occupational therapy instead. She graduated college in 1954 and moved

to Kentucky to work at a Children's Hospital. During this time, she lived on a farm and helped to take care of the animals.

Life Changing Decisions:

Dian often dreamed of traveling the world and seeing wildlife. After seeing photos and hearing stories from a friend who had just traveled to Africa, she decided she needed to travel there herself. In 1963, Dian spent six-weeks traveling throughout Africa where she ultimately met Dr. Louis Leakey. During this visit, she encountered gorillas for the first time and became inspired to spend her life studying them. Dr. Leakey later informed Dian that if she were to follow through with her plans to research gorillas, she would first have to have her appendix removed. Perhaps it was a sign of her strong will that she

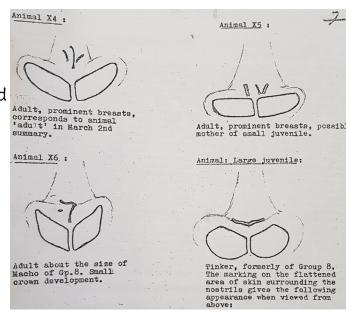
proceeded to do exactly that, only to later hear from Leakey that his suggestion was mainly his way of gauging her determination!

Dian Fossey Sets Off to Study the Mountain Gorillas:

In December 1966, Dian returned to Africa. At the beginning of her trip, she made a stop to visit the Gombe Stream Research Centre to meet Jane Goodall and observe her research methods with chimpanzees. Dian eventually made her way to Rwanda where she set up her camp and quickly set out to start tracking the gorilla troops.

Hard Work Pays Off:

Within ten minutes of her first gorilla troop tracking, Dian saw a male gorilla by himself. The gorilla was startled, and ran into the bushes. This gave Dian motivation to keep tracking the gorilla troops, even though they were unfamiliar to her. She eventually got to know three different gorilla troops. Dian was able to gain their trust by mimicking their behavior. She kept track of each gorilla by learning their "nose print". She also sketched the



gorillas from a distance and began to recognize each one. Later, Dian published a book about her many years of studying the gorillas called *Into the Mist.*

Mysterious Death:

During her many years spent researching the gorillas, Dian made a lot of enemies because she fiercely protected the gorillas. In 1985, Dian was found murdered in her cabin. To this day, there are theories but her murder has never been solved.

Reading Questions:

- 1. What career did Dian have before becoming a scientist?
 - a. Teacher
 - b. Veterinarian
 - c. College Student
 - d. Occupational Therapist
- 2. What was the name of Dian's book?
 - a. Into the Rain
 - b. Into the Mist
 - c. Studying the Mountain Gorillas
 - d. Mountain Gorillas and Me
- 3. What state did Dian live in before moving to Africa?
 - a. Kentucky
 - b. Oklahoma
 - c. New York
 - d. California
- 4. Dian was born in 1932. She was killed in 1985. How old was she when she died?
 - a. 32
 - b. 85
 - c. 27
 - d. 53
- 5. How did Dian get to know each gorilla?
 - a. By their size.
 - b. She kept records of their nose prints.
 - c. She named each of them.
 - d. By sketching their faces.
- 6. In the space below, write down one fact you thought was interesting about Dian Fossey's life.

(Teacher Answer Guide) Reading Questions:

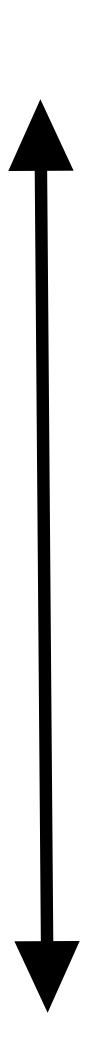
- 1. What career did Dian have before becoming a scientist?
 - a. Teacher
 - b. Veterinarian
 - c. College Student
 - d.)Occupational Therapist
- 2. What was the name of Dian's book?
 - e. Into the Rain
 - (f.) Into the Mist
 - g. Studying the Mountain Gorillas
 - h. Mountain Gorillas and Me
- 3. What state did Dian live in before moving to Africa?
 - (i.) Kentucky
 - j. Oklahoma
 - k. New York
 - I. California
- 4. Dian was born in 1932. She was killed in 1985. How old was she when she died?
 - m. 32
 - n. 85
 - o. 27
 - (p.)53
 - 5. How did Dian get to know each gorilla?
 - q. By their size.
 - (r.) She kept records of their nose prints.
 - s. She named each of them.
 - t. By sketching their faces.
- 6. In the space below, write down one fact you thought was interesting about Dian Fossey's life.
 - Answers will vary

Dian Fossey Timeline

Directions:

After going through the Dian Fossey slides, cut and glue Dian Fossey's life events in order from first to last onto the timeline.

Dian sees mountain gorillas for the first time	Dian Fossey is killed in 1985	Dian Fossey graduates college and becomes an occupational therapist	Dian sees a mountain gorilla after only 10 minutes of tracking
Dian Fossey moves to Kentucky to work at a Children's Hospital	Dian writes a book called <i>Into</i> the Mist.	Dian Fossey is born in 1932	Dian goes home, but decides to return to Africa
Dian goes to Africa and makes a stop to visit Jane Goodall	Dian Fossey has a pet goldfish and discovers her love of animals	Dian sets up her research camp and names it the "Karisoke Research Center"	Dian visits Africa for the first time.



Teacher Answers:

- 1. Dian Fossey is born in 1932
- 2. Dian Fossey has a pet goldfish and discovers her love of animals
- 3. Dian Fossey graduates college and becomes an occupational therapist
- 4. Dian Fossey moves to Kentucky to work at a Children's Hospital
- 5. Dian sees mountain gorillas for the first time
- 6. Dian goes home, but decides to return to Africa
- 7. Dian sees a mountain gorilla after only 10 minutes of tracking
- 8. Dian writes a book called Into the Mist.
- 9. Dian Fossey is killed in 1985



Know your Noses

In this activity, participants will learn how researchers in the wild tell individual gorillas apart. Match the nose prints to the gorilla profile photo.

Age: Children ages 7-12

Gather your Gear

• Optional: Print out the Nose Print and Gorilla Profile sheets

Get Ready You can help your child make connections by thinking about concepts before the activity.

There are two species of gorilla, each containing two subspecies. The two species are eastern and western, and the four sub-species are Cross River and western lowland (sub-species of the western species) and Grauer's and mountain (sub-species of the eastern species). All gorilla species are found in central Africa and listed as Endangered or Critically Endangered. Researchers study gorillas so that we have a better understanding of their habitat, behaviors, life cycles, and physical and biological attributes – all in an effort to learn more so that we can help conserve them.

Studying individual gorillas can be tricky – unless you know what you are looking for. Humans have unique fingerprints. Similarly, no two gorillas have the same nose print! Researchers who study wild gorillas use photos of nose prints to identify individuals. This allows them to keep track of individual gorillas throughout their lifetimes.

Activity Instructions:

- Optional: Print out the Nose Print and Gorilla Profile activity sheets found below.
- Observe each nose print and find the photo of the gorilla it belongs to.
- Once finished, check the answer key found below.

Answer Key:

A = Lulu; B = Charlie; C = Jasiri; D = Kudzoo; E = Mbeli; F = Ozzie; G = Taz; H = Choomba

Recap Have a conversation about what you saw/did and questions your child may have.

- How does a gorilla nose print database help researchers studying gorillas in the wild?
- What do you think researchers could learn about individual gorillas by studying them over their lifetimes?
- What might be some challenges to studying gorillas in the wild?

Relate

As we noted before, all gorilla species are either listed as Endangered or Critically Endangered. That means that there are not many left of them in the wild. One of the main threats to gorillas is habitat



Know your Noses

loss. Habitat loss is the reality of an ecosystem being drastically changed by human activity such that it can no longer provide the food, water, shelter, and other resources wildlife need to survive.

Mining for the mineral coltan is one thing driving habitat loss for wild gorillas. Coltan is a mineral found inside electronics such as cell phones and small electronic devices.

Recycle your cell phones! You can protect gorillas by recycling your old cell phone(s) right here at the Zoo! Recycling cell phones and other small electronic devices protects gorilla habitat by reducing the need to mine for coltan, which can be reused. We accept *any* kind of cell phone to be recycled with Eco-Cell. For each cell phone received, gorillas benefit in two ways: the threat to their habitat is reduced, and a donation is made to support the Dian Fossey Gorilla Fund International's gorilla conservation and research.

It takes a team.... join ours

Help us save species by joining the "Zoo Conservation Corps" and raise awareness about wild animals, their habitats and why conserving both is so important. If your family members are on social media, post to show what you have learned, and use the hashtags #OnlyZooATL and #WorldGorillaDay so that we can see all your great work!

Want to know more?

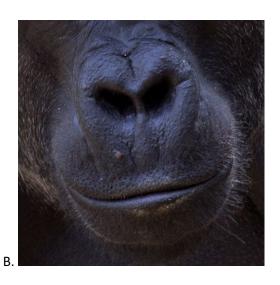
- For more on World Gorilla Day and gorilla conservation, go to: https://gorillafund.org/
- To learn more about cell phone recycling and Gorillas on the Line, visit: https://zooatlanta.org/conservation-action/gorillas-on-the-line/
- Visit Zoo Atlanta so see and learn more about western lowland gorillas!

ZOO ATLANTA

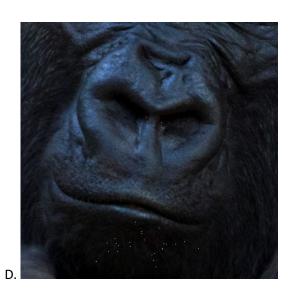
Know your Noses

Nose Prints:







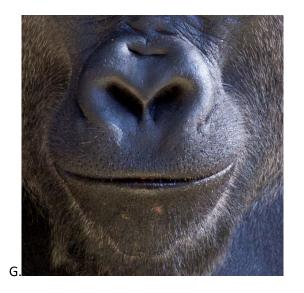


ZOO ATLANTA

Know your Noses





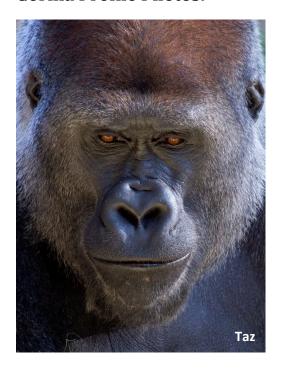




ZOO ATLANTA

Know your Noses

Gorilla Profile Photos:









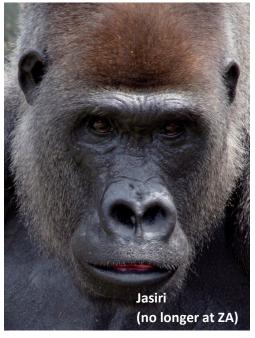
ZOO ATLANTA

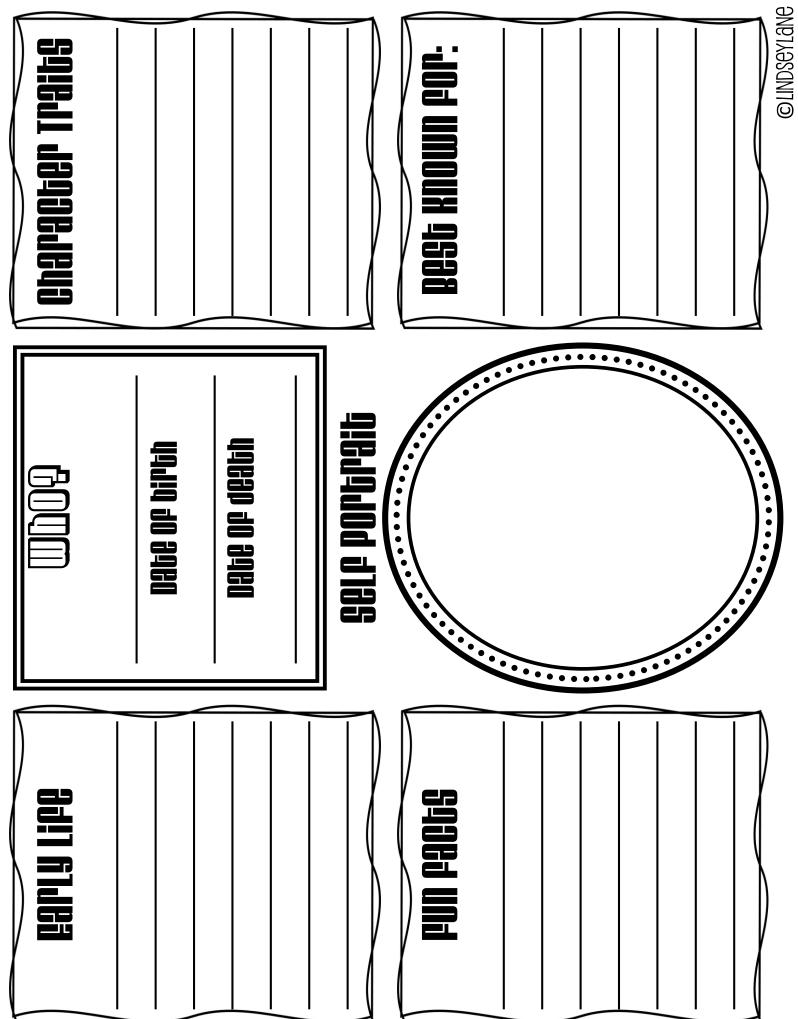
Know your Noses











Lesson 5: The OKC Zoo and You! (4th - 5th Grade)

Lesson Summary

Lesson Duration: 45 minutes

This lesson will cover the Oklahoma City Zoo's mission of conserving the world's wildlife and wild places including but not limited to African conservation through the Oklahoma Zoological Society and the RoundUp for Conservation Fund. Additionally, the Dian Fossey Gorilla Fund is one of the Zoo's legacy conservation partners and provides support for the operation of the Karisoke Research Center. Legacy partnerships are long-term established partnerships formed between the Zoo and selected conservation organizations. This lesson will also share different ways we can help!

Required Materials

Corresponding slides

Optional Books:

• If I Ran The Zoo By Dr. Seuss - https://youtu.be/v0g3MAw6zpo

Websites:

- www.ozsgiving.org
- www.aza.org
- www.okczoo.org

Optional Activities/Resources:

- Teacher Resource Slides learn more about all the teacher resources the OKC Zoo has to offer.
- If I Ran The Zoo Activity with STEM Extension no paper/printer access? No problem! http://www.sketchite.com/empty-zoo-cage-coloring-page-animals-for-kids/aSpwaW5pbWcqY 29tfG9yaWdpbmFsc3w4OXw3NnxhMnw4OTc2YTJjOTJmMDYOYzI5OTFkNTQwZDk1ZDQxN2Q 5MCpqcGc cGludGVyZXNOKmNvbXxwaW58NTU1NDkwOTM1MjczMTk2MjqOfA/
 - for students to draw their animals online!
- Conservation Coloring Pages print and color
- ReadAdventure Coloring Page

Essential Question

How is the OKC Zoo involved in conservation and how can I help?

Learning Goal

I can explain the OKC Zoo's efforts and support of conservation.

Lesson Guide

Wild About The OKC Zoo and You!

A variety of optional books and videos has been added to the first page of Lesson 4 facilitator's guide. These can be used to open the lesson, mid lesson or to close the lesson.

"Wild About the OKC Zoo and You!" Slides

Educator Resources Available Through the OKC Zoo

Explanation:

The OKC Zoo is home to over 50 endangered species! Continuing to strive to protect species around the world, the Zoo is committed to educating the community on the importance of protecting the world around us. The Zoo is involved in both local and international conservation efforts. Did you know September 24 is WORLD GORILLA DAY? The OKC Zoo celebrates in a big way!

Vocabulary:

Conservation Legacy Partner Coltan

Wild About the OKC Zoo and You! Slides:

Be sure to check the notes section of each slide for background information, optional websites and a more detailed explanation.

Closing:

Lesson 5 ends with a student challenge to create their own posters. Several pre-made posters were made for convenience and varying levels.

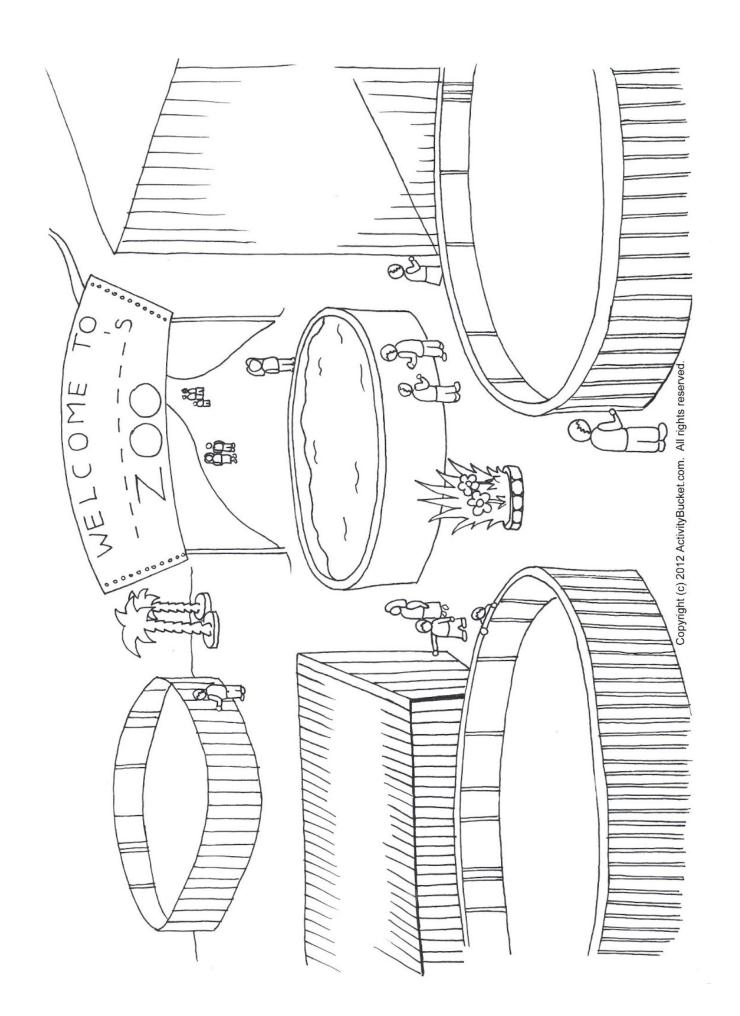
Create Your Own Zoo Student Activity

Directions:

- At the beginning of this lesson, read *If I Ran the Zoo* by Dr. Seuss aloud. Allow students to share ideas if they ran or created their own zoo.
- Students will use the zoo coloring page to draw and color the animals and habitats they would have at their zoo.
- Allow students to create their own animals or think about some of the animals they have learned about during this unit.

STEM Extension:

 Have students use various materials to create and design their own zoo: LEGOs, cardboard, glue, pipe cleaners, cotton balls, etc



Read For Adventure Brought to you by OKC TOO OG/E PARTICIPATING LIBRARIES 2022-2023

Absentee Shawnee Tribal Library Ada Public Library Addie Davis Memorial Library Allen Public Llbrary Almonte Library -Altus Public Library Alva Public Library Anadarko Community Library **Antlers Public Library** Apache Public Library Ardmore Public Library Arkoma Public Library - mail to Patrick Lynch Atoka County Library -Barnsdall Public Library **Beaver County** Belle Isle Library -Bethany Library -Beyond the Pages Blackwell Public Library Blanchard Public Library **Broken Bow Library Buffalo Public Library** Capitol Hill Library -Carmen Public Library Catoosa Public Library Champion Public Library -Chandler Public Library Chandler-Watts Memorial Library Chelsea Public Library Cherokee City - County Chickasaw Nation Tribal Library Chickasha Public Library **Choctaw County Library** Choctaw Library -Chouteau Public Library City of Perkins Public Library Clinton Public Library -Coal County Public Library Cordell Public Library -Coweta Public Library Crescent Community Library **Cushing Public Library** Davis Public Library -Del City Library -**Delaware County Library** Donald W. Reynolds CC & Library **Drumright Public Library Duncan Public Library** Edmond Library -El Reno Carnegie Library

Elgin Community Library Elizabeth Threatt Luther Library -Elk City Library **Enid Public Library** Eufaula Memorial Library Fairfax Public Library Fairview City Library Frederick Public Library Garland Smith Public Library Geary Public Library Gleason Memorial Library Glover Spencer Memorial Library Grace M. Pickens Public Library Grandfield Public Library **Grove Public Library Guthrie Public Library** Guymon Public Library and Arts Center Harrah Library -Hartshorne Public Library Haynie Public Library Hazel Cross Library -Healdton Community Library -Heavener Public Library Henryetta Public Library Hinton Public Library **Hobart Public Library** Hollis Public Library **Hominy Public Library Hulbert Public Library** Hydro Public Library Idabel Public Library Inola Public Library Iowa Tribal Library Jay C. Byers Memorial Library Jim Lucas Checotah Public Library John F. Henderson Public Library Johnston County Library -Jones Library -Kansas Public Library Kellyville Library Kennedy Library of Konawa Kingfisher Memorial Library Langley Public Library Latimer County Public Library Laverne Delphian Library Lawton Public Library Locust Grove Public Library

Love County Library -

M&ABJ Bristow Public Library

Mabel C. Fry Public Library

Madill City County Mannford Public Library Margaret Carder Library Mary E. Parker Memorial Library -Mattie Terry Library Maysville Public Library McAlester Public Library McLoud Library Medford public library Meeker Public Library Miami Public Library Midwest City Library -Minnie R. Slief Library -Moore Public Library Mounds Public Library Muldrow Public Library Muskogee Public Library Mustang Public Library Nelda Myers Public Library Newcastle Public Library Newkirk Public Library Nicoma Park Library -Noble Public Library Nora Sparks Warren Public Library Norman Public Library Central Norman Public Library East Norman Public Library West Oakdale Elementary Okeene Public :ibrary Okemah Public Library Okmulgee Public Olive Warner Library Patience S. Latting Northwest Library -Patrick Lynch Public Library Pawhuska Public Library Pawnee Public Library Perry Carnegie Library Piedmont Public Library Ponca City Library Pryor Public Library Purcell Public Library Q.B. Boydstun **Quapaw Tribal Library**

Ralph Ellison Library -

Salina Public Library

Library -

Library

Rieger Memorial Library

Ronald J. Norick Downtown

Sac and Fox National Public

Sapulpa Public Library Sayre Public Llibrary Seiling Public Library -Seminole Public Library Sentinel Public Library -Shattuck Public Library Shawnee Public Library Soutar Memorial Southern Oaks Library -Southwest Oklahoma City Public Library Spiro Public Library Spiro Public Library Book Mobile Stanley Tubbs Memorial Library Stigler Public Library Stillwater Public Library Stilwell Public Library Stroud Public Library Tahleguah Public Library Talala Area Public Library Talihina Public Library Tecumseh Public Library Tonkawa Public Library Tryon Public Library Tyler Memorial Library Village Library -Vinita Public Library Wagoner City Public Library Warner Public Library Warr Acres Library -Watonga Public Library Waurika Public Library Waynoka Public Library Weatherford Public Library -Wellston Community Libraary Wetumka Public Library Will Rogers Library Wilson Public Library -Wister Public Library Woodward Public Library Wright Library -Wynnewood Public Library Yale Public Library



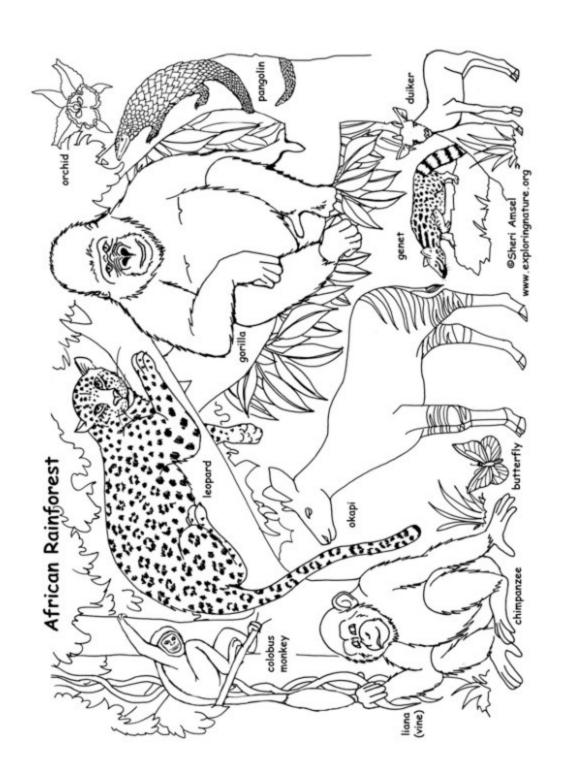
Save the Gorillas



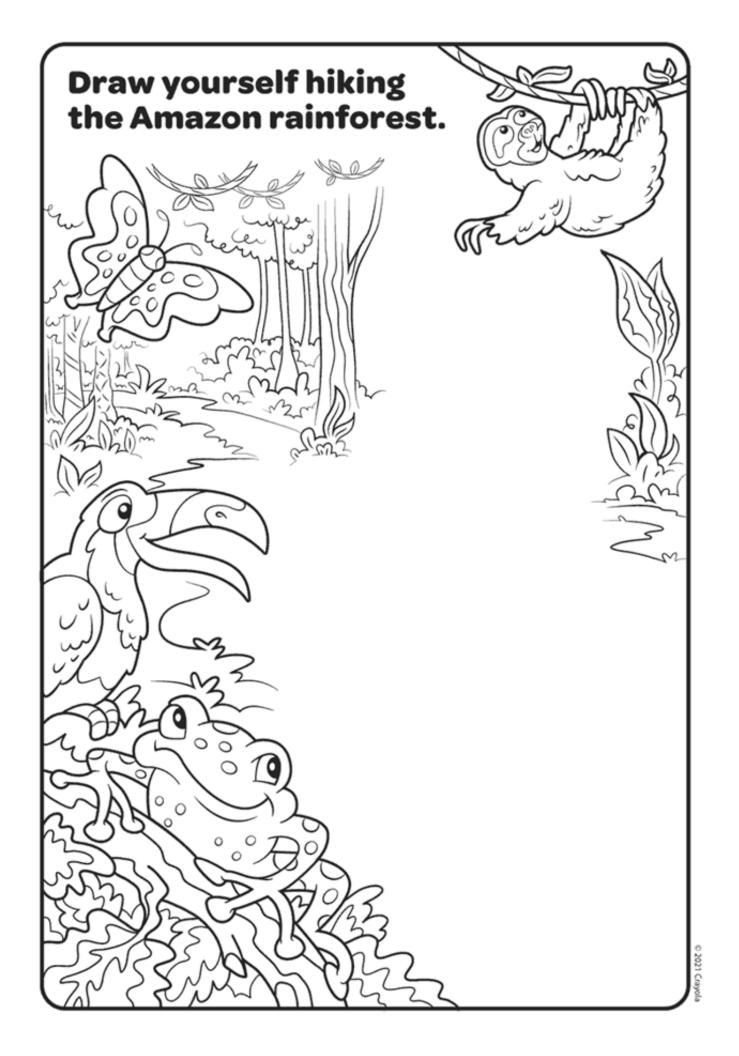












Gorilla Unit

Supplemental Activities Adaptable for Grades 4th - 5th



Brought to you by:





GORILLAS ARE CRITICALLY ENDANGERED. FEWER THAN 4500 EASTERN GORILLAS REMAIN IN AFRICA.

JOIN US TO SECURE A FUTURE FOR GORILLAS



Gorillas are powerful yet shy and intelligent. Eastern gorillas (Grauer's and mountain gorillas) are severely affected by human activity. They are hunted and their habitat is being lost to mining and agriculture.

Only 1000 mountain gorillas remain in two populations in Rwanda, Uganda, and the Democratic Republic of Congo (DRC). Fewer than 3500 Grauer's gorillas remain in DRC.

Our Future for Wildlife program protects eastern gorillas by...

- Equipping guards and conducting anti-poaching patrols
- Working with communities to protect gorilla habitat
- > Providing training and professional development

We have a responsibility to protect gorillas for future generations. Fewer than 4500 eastern gorillas remain in the world. Join our efforts to protect gorillas from habitat loss and poaching.

Visit FutureForWildlife.org to learn more and make a difference.

The Zoo's Gorilla Conservation Program

The Dian Fossey Gorilla Fund International (DFGFI) is dedicated to the conservation and protection of gorillas and their habitats in Africa through research, education, health, training and development initiatives. The Zoo works with the Dian Fossey Gorilla Fund International to secure a future for gorillas.

Dr. Dian Fossey established Karisoke[™] Research Center in 1967 launching one of the longest ongoing research and monitoring programs for any species in the world. DFGFI's staff of Rwandan and Congolese trackers, educators and scientists is on the ground every day in Rwanda and Democratic Republic of Congo protecting gorillas against threats from poaching, loss of habitat and disease.

Training young Rwandan scientists

DFGFI's Memoirs Program, in partnership with the Zoo (Case Western Reserve University) and the University of Rwanda, supports and conducts university student training at Karisoke™ Research Center to develop the next generation of scientists.

 Zoo staff has trained 30 Rwandan biology students in conservation science through this program since 2014.



Protecting Grauer's gorillas in Democratic Republic of Congo

DFGFI is protecting 150 gorillas in the Nkuba-Biruwe Conservation Area using monitoring and protection programs modeled after Karisoke $^{\text{TM}}$ Research Center's proven programs. The Zoo is working with DFGFI and local communities to double the number of Grauer's gorillas protected in this region by 2020.

 DFGFI constructed the first base camp in Nkube-Biruwe in 2015, creating a permanent forest presence in the area.



Increasing conservation knowledge around mountain gorilla habitat in Uganda

The Bwindi Apes Conservation Education Partnership (BACEP), a collaboration between the Zoo, Max Planck Institute for Evolutionary Anthropology, and North Carolina Zoo, conduct teacher trainings and other education programs in communities surrounding Bwindi Impenetrable National Park. These activities work to increase conservation knowledge and behaviors in teachers, students, and families living near protected gorilla habitat.

 BACEP has conducted teacher trainings for ten schools in Ruhija, a village near the edge of Bwindi Impenetrable National Park.



Join our efforts to secure a future for gorillas.

- Recycle your cell phone and other consumer electronics. Encourage others to do the same.
- Visit FutureForWildlife.org to learn more and make a difference.





Gorillas on the Line... Answer the Call!

Join an exciting campaign to help save gorillas in the wild. By collecting old mobile phones for recycling, you can help protect gorilla habitat in Africa. Get started with three easy steps.

Answer the call!

Register with your local coordinator listed below. They'll follow up with contest details and tools to help with the campaign.

Recycle those phones!

Gather your team and collect as many phones for recycling as possible, February 1-April 30. Then, ship your phones to Eco-Cell by the first Friday in May. We'll send a free shipping label when you register. Eco-Cell will process the phones and tabulate the totals. Contest winners are announced the first week of June.

Save gorillas!

Coltan is a mineral found in phones and other small electronics. It is mined from areas where endangered gorillas live. Recycling old mobile phones helps reduce the demand for coltan and protects gorilla habitat in Africa. Gorillas are on the line. Join us to answer the call and help save gorillas in the wild!

Coordinator:

Name: Email: Phone:

Tip: Make the head circle Tip: Make toll and skinny. extratall

How to Draw a Gorilla

by Brooke Robinson



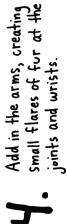
Sketch 3 circles to create

the head and back.

the edge of the back leg. Draw a dark line from the chin all the way to

Add circles to create

the arms, legs, hands, and feet.









Tip: Notice how the darkest
Tip: A sice under the and in the
spars are under the chin,
spars are stornech,
under the stornech. crease of the back leg Tip: The gorilla's nostrils and eyes are both shaped like a pair of quotation marks.





b. Draw the gorilla's hands **b.** and feet.

Tip: Notice how the gorilla has extra long toes!

Add in the legs, including the same flares of fur

that the arms have.



features, including the facial features and the Add in the remaining Small for marks at

the knees and elbows.



Shade in the for to add depth to the gorilla's body.



Instructor Page

Animal Behavior Ethogram

Activity Overview

Carefully observing animals is an inquiry-based activity that can be done anywhere, from the local zoo to the schoolyard. This activity asks students to select an animal of their choice and record its behavior over a set period of time. Scientists use ethograms to help them regularly collect this data.

Materials

	Copies for each student
	Stopwatch or timer
	Pencils and coloring tools
П	Animals to view—either live or through video



Instructions

- 1. Explain to students that they will be animal behavior scientists in this activity.
- 2. Find a space to view animals or choose a video of animals. Ask students to choose an animal to observe. More than one student can observe the same animal.
- 3. Provide individual students with a copy of the data sheets. The first page asks students to identify the weather for the day and also includes the "Animal Behavior Bank." This bank explains the possible behaviors students will see and matching icons for each behavior.
- 4. The students' data sheet shows six (6) total observation rows. You, or another instructor, will serve as the time keeper. Choose a determined amount of time and observation interval. **Recommended:** Three (3) minutes of observation with every 30 seconds counting as one (1) observation.
- 5. Announce every observation interval so students can record what they see on their data sheet.
- 6. After observation, the provided extension questions can be used for further exploration. Students may want to create graphs or tables to display their data.



Ethogram:			
Observation	Name		
Data Sheet			
Data Sficct	Date		

Today's weather is: (circle or color your choices)



Animal Behavior Bank					
Grooming	Animal is cleaning itself.	College			
Feeding	Animal is eating or looking for food.				
Moving	Animal is moving around its home.				
Resting	Animal is lying down or staying still.				
Vocalizing	Animal is making noise.	Ц»			
Not Visible	You cannot see the animal.	₿			

Ethogram: Observation Data Sheet

Name				

Date

Choose one (1) animal to watch. Your teacher will keep track of time and let you know when to mark your paper.

Describe your animal: _____

Observation	What is your animal doing?					
1	College			\bigcirc	()	\approx
2	College				Щ»	\approx
3	Cong					\approx
4	CONTRACT			\bigcirc	Щ»	\bowtie
5	Chilly .				Щ»	\approx
6	Cong			Ç	Ц»	\approx

Ethogram:	
Extension Questions	Name
	Date
Think about your animal and ans	wer these questions.
1.) What was your animal doing r	most of the time?
2.) What items did you see in the	e animal's habitat?
3.) Did your animal use any of th	ese items? Which ones?
4.) What else would you like to lanimals?	earn about studying

Ethogram: Extension Questions	Name Date
Draw your anin	nal in its habitat.



How Cell Phones Impact Gorillas



Coltan is a mineral used to manufacture cell phones, tablets, and small electronics.

Coltan is mined by hand in the Democratic Republic of Congo, which is also the natural habitat of endangered gorillas.

The deforestation and mining associated with coltan production has impacted and displaced gorillas, moving them closer to extinction.

Recycling and extending the life of electronic devices reduces the demand for coltan mining."

Recycle your phones at cell phone stores and approved locations.

1 Delawala, Imitiyaz. "What is Coltan?" ABC News. ABC News Network, n.d. Web. 26 Apr. 2017 2,3 Lovgren, Stefan. "Can Cell-Phone Recycling Help African Gorillas?" National Geographic.

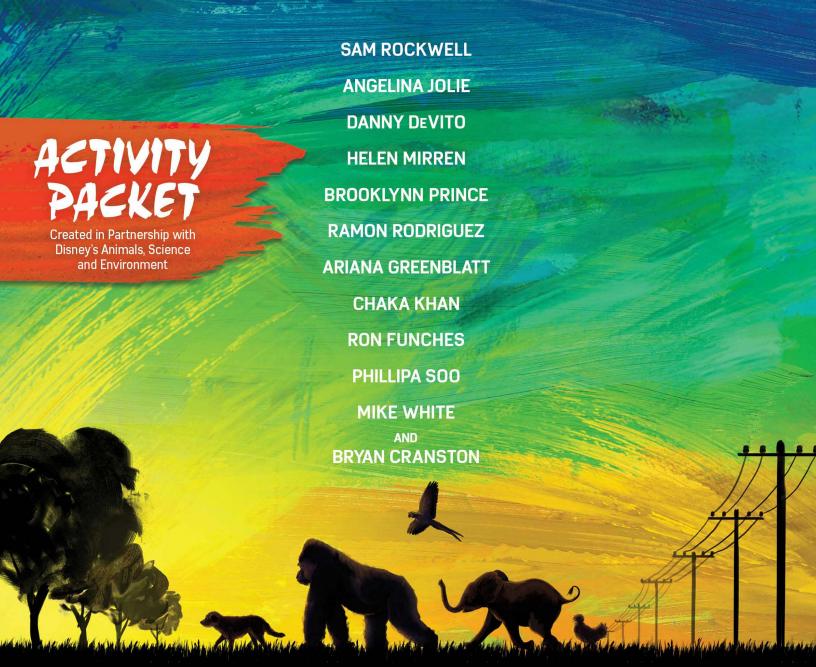
4 "Endangered Species " Cell Phone Recycling, Ecocell, n.d. Web, 26 Apr, 2017





Dallas Zoo

Extend the life of your cell phone: commit to using it a few years longer and recycle it when you upgrade. Through simple actions, we can help protect gorillas and their habitat on World Gorilla Day and beyond. Created by



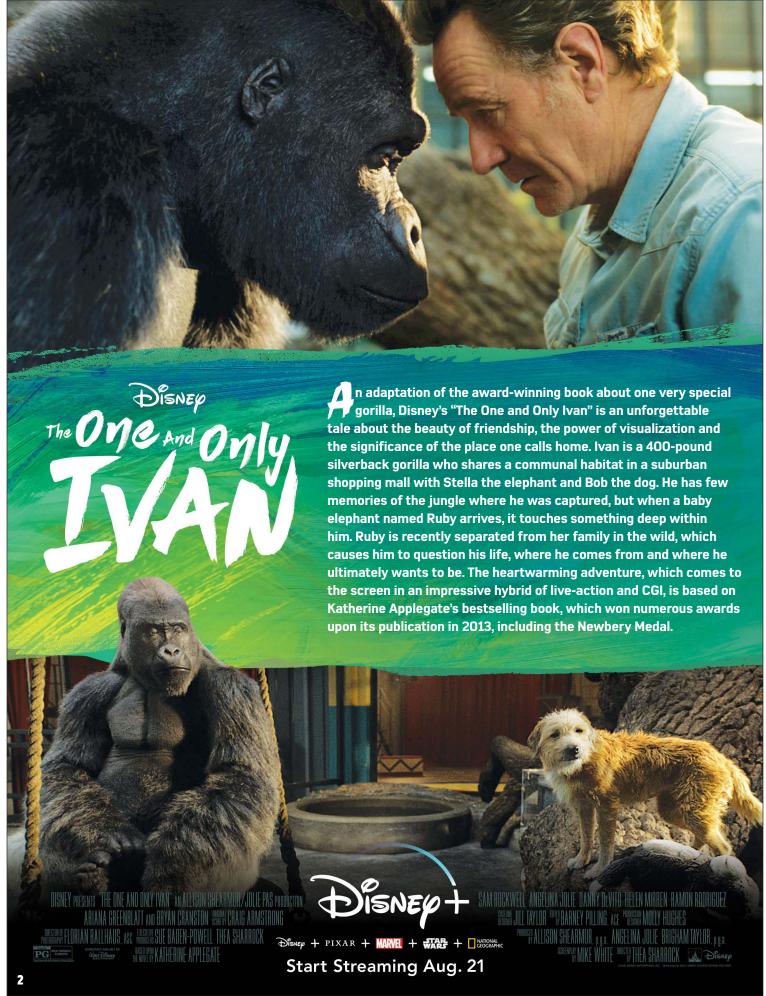


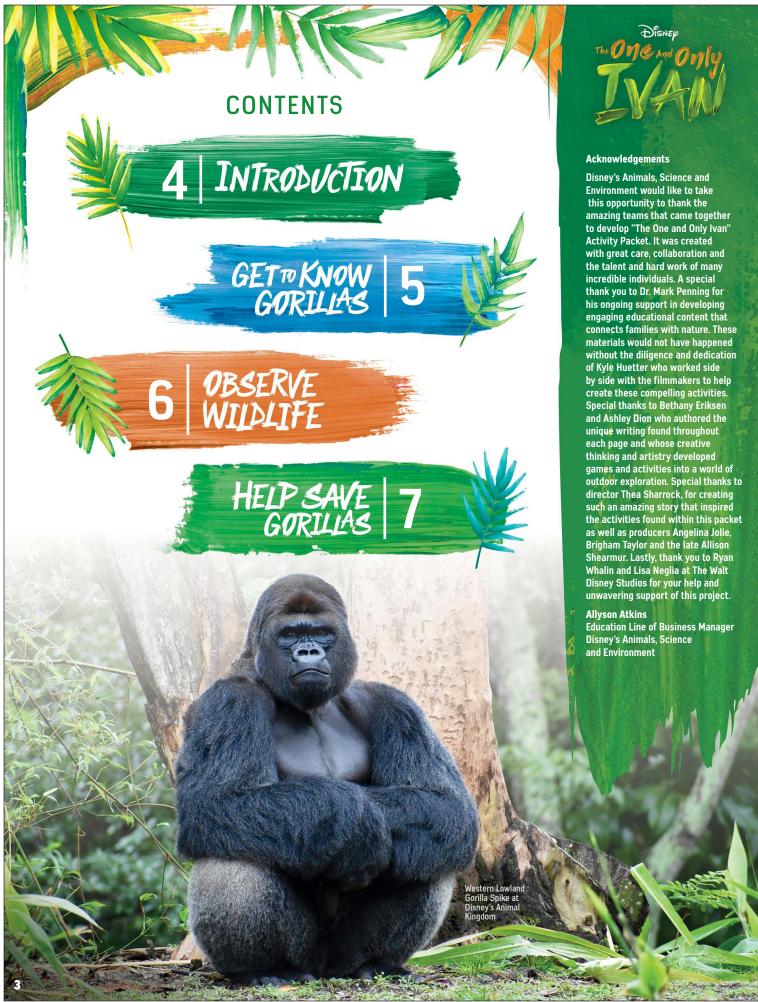


Disnep + PIXAR + MARVEL + WARF + COCGRAPHIC

Start Streaming Aug. 21







INTRODUCING THE WESTERN LOWAND GORTLAND

"The One and Only Ivan" tells the heartwarming story of Ivan, a western lowland gorilla.

How much do you know about these amazing animals?

estern lowland gorillas are actually one of four subspecies of gorillas in the world and are found in tropical rainforests throughout seven countries in western Africa. Western lowland gorillas can grow very large—standing 5-6 feet tall and weighing up to 400 pounds or more! In fact, gorillas are the world's largest primate next to humans.

Just like humans, gorillas are social animals and often live in family groups, called troops. A troop typically consists of one adult male called the silverback, several females and their young. An adult male gorilla is called a silverback because the hair on his back turns silver-grey as he gets older. Within a troop, the silverback protects the group,



keeps the peace and makes decisions about the troop's movement. The females follow the silverback and care for young gorillas by grooming, feeding and carrying them.

During the day, gorillas spend the majority of their time foraging, or looking for food, and eating. Western lowland gorillas are primarily herbivorous, feeding on plant species, while occasionally eating insects like ants and termites. After a long day of foraging, gorillas build their own nests to sleep on by tucking leaves and branches under and around their bodies. They never use a nest more than once, so they make a new one every time they sleep.

Though western lowland gorillas have the largest wild population of all gorilla subspecies, they are at great risk and considered critically endangered with a decreasing

population. One threat is poaching—the illegal hunting of gorillas and other animals for their meat. Another significant threat is habitat loss. Gorilla habitat is currently disappearing due to



forests being cleared for logging, agriculture, human settlement and mining. For example, mining for coltan—a mineral used to make electronics like cell phones and computers—disrupts the



Western Lowland Gorilla Kashata at Disney's Animal Kingdom

The ONE and Only

WORD BANK

6 TIMES (R)

CALF (J)

BIG TOES (E)

PUP (B)

PACK (C)

SILVERBACK (4)

TROOP (7)

EARS (D)

40 (L)

20 TIMES (Y)

200 (4)

INFANT (S)



Test your gorilla knowledge with a friend or family member!

DIRECTIONS: In the space below, complete each fact about gorillas by choosing a word or phrase from the word bank on the left. Then, use the letters found in parentheses at the end of each chosen word/phrase to unscramble a final word and complete a hidden phrase about gorillas. Note: Not all words/phrases from the word bank will be used in the activity.

An adult male gorilla is called

a _____.

- **2** The upper body strength of an adult male gorilla is _____ more powerful than that of an adult human!
- **3** Western lowland gorillas feed on more than ______ plant species.
- In addition to opposable thumbs on their hands, gorillas have opposable _____ on their feet, which they can grasp objects with.
- 5 A baby gorilla is called an ______.
- Gorillas are very social animals and live in groups. A group of gorillas is called

a _____.







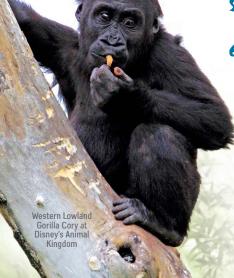
Western Lowland Gorillas at Disney's Animal Kingdom: Zawadi (top), Spike (middle), Kashata and Lilly (bottom)

HIDDEN PHRASE:

GORILLAS ARE THE WORLD'S

NON-HUMAN PRIMATES.

Answer Key: L. silverback, Z. 6 times, 3. 200, 4. big toes, 5. infant, 6. troop Hidden word: largest



Observations are an important way for scientists and conservationists to learn more about animals like gorillas and help protect them. By observing gorilla troops, they can learn more about behaviors and family group dynamics. In addition to direct animal observations, scientists also learn by looking for clues of what animals leave behind. Gorillas leave a number of clues behind including footprints, nests and dung. DIRECTIONS: Head outdoors and explore your own backyard or nearby nature spot. First, look for clues to learn what animals live nearby. Record a few clues by writing or drawing in the space provided. WILDLIFE CLUES 3 Example: NEXT, observe a pet or animal and fill out the ethogram provided. An ethogram is used by scientists and conservationists to catalog the behaviors of animals they observe throughout the day. Monitor the animal for 10 minutes. During this time, check off the boxes of the behaviors you see (Eat, Walk, Rest) in the "Observation 1" row. Repeat this process during different times of the day to complete "Observation 2 & 3" rows. **OBSERVATION 1:** RESEARCHER'S NAME **OBSERVATION 2: OBSERVATION 3:** ANIMAL OBSERVED Did you witness the animal eat? If so, what was it eating? ____ Where did it walk to? How did it rest? __ NOW, take these findings into consideration to improve the life of the animal you observed. What actions can you take to protect wild habitats and animals near where you live? Western Lowland Gorilla Gino





The Disney Conservation Fund is committed to saving wildlife, including gorillas, and building a global community inspired to protect the magic of nature together. In the Democratic Republic of the Congo, funding from the Disney Conservation Fund helped open the Gorilla **Rehabilitation and Conservation** Education Center (GRACE), the world's only sanctuary for orphaned and critically endangered Grauer's gorillas. GRACE's all-Congolese team are experts at helping rescued baby gorillas. When ready, they join an adoptive gorilla family, and live safely and happily in large forest enclosures. Disney Conservation continues to provide resources and share expertise with staff at GRACE.

For more information about Disney's commitment to conservation, visit:



Gorillas face many threats in the wild including habitat loss, disease and poaching, but luckily there are many ways to help gorillas.

Here are some of the ways you can help from home!

DIRECTIONS: Out of the options listed below, choose an action you will take to help save gorillas. Write it in the pledge box. Then, sign your pledge by making a handprint! Dip just the palm of your hand in non-toxic, washable paint or ink and make a handprint on top of the gorilla footprint provided. Note the similarities and differences between your print and the print of a gorilla. Be sure to check with an adult before using paint or ink.

MY PLEDGE

ACTIONS YOU CAN TAKE TO HELP GORILLAS:

M LEARN MORE

Learn more about gorillas and the threats they face in the wild and spread the word to friends and family members about these issues.

M RECYCLE

Recycle old electronics such as cell phones, computers and Mp3 players to reduce the need for additional mining in gorilla habitats.

M SHOP RESPONSIBLY

Choose sustainable and forest friendly paper and wood products. When buying products, look for companies that engage in sustainable foresting practices.

NAME:

I WILL HELP GORILLAS BY ...

The One and Only



