



Picturing Gorillas

Grade Level

Grade 4

Engage

This activity is designed to start your students in recognizing themselves as scientists and thinking critically about problem-solving. The goal is to teach concepts through discovery and to encourage using scientific thought processes. As with all lessons provided, please feel free to adapt them according to your students' abilities. You may find it more successful to lead activities and discussions as a whole group rather than using individual Research Plan sheets. Certain scientific vocabulary may or may not be appropriate for your students' level of understanding. Take these ideas, make them your own and your students will have a greater chance at success.

Why is one kind of Eastern gorilla seeing a population increase while the other is seeing a decrease?

1. Ask your students what comes to mind when they think of gorillas.
2. Divide students into two groups and have each group research one of the two species of Eastern gorilla (mountain gorilla or Grauer's gorilla). Using the Research Plan sheet, have them write down their initial thoughts/ideas as to why mountain gorilla populations are increasing or why Grauer's gorilla populations are decreasing.
 - ❖ The two types of Eastern gorilla are mountain gorilla and Grauer's gorilla.
 - ❖ There are roughly 1000 mountain gorilla left in the wild and they live in two separate populations. One is spread throughout three countries – Rwanda, Uganda, and the Democratic Republic of Congo – while the other lives exclusively in Uganda. The Dian Fossey Gorilla Fund works to protect these gorillas and has since 1967 when Dian Fossey established the Karisoke Research Center. This program is very intensive and because of the protections, this type is the only who whose population numbers are steadily increasing.
 - ❖ There are roughly 3500 Grauer's gorilla living in the eastern part of the Democratic Republic of Congo. To date, they have been studied less and protection efforts are nowhere near the protection efforts for the mountain gorilla. The Dian Fossey Gorilla Fund also works to protect these gorillas, but it is a relatively recent endeavor (2015).

- ❖ A mineral found in cell phones and small electronics is mined in the Congo. The mining is causing a lot of conflict with humans. This mining overlaps with gorilla habitat. Because humans have created a huge demand for these everyday items, more mining is taking place which means more gorilla habitat is being destroyed. By recycling old cell phones and small electronics, we can reduce the demand and help save gorillas.
- 3. Explain that gorillas are considered critically endangered, which means that there are so few individuals left of this species that they are in real danger of going extinct. Tell your students that you will be playing a Pictionary-like game to help them understand some of the natural and man-made threats gorillas face in the wild.

Explore

4. Using the cards provided in this lesson, place the stack of cards face down in the center of the playing area.
5. Divide students into two groups.
6. Flip a coin or have them pick a number to decide which group will go first.
7. Have a member of the first group pick a card. They should not show their card to anyone.
8. The student who drew the card will have one minute to draw on the board or on flip-chart paper a picture of the large, bolded word at the top of the card. As they are drawing, their group should attempt to guess what they are drawing.
9. If their group guesses correctly before the time finishes, that group gets one point. If the timer runs out before the group correctly guesses, the other team has one chance to guess the word. If they guess correctly, they get one point. If neither team guesses correctly, no points are given and the student drawing should share the word with the entire group.
10. The student that drew the card should then read the gorilla trivia question to their team. The trivia questions and answers are related to the word that was drawn. If their group guesses correctly, they get an additional point.
11. The game proceeds with the other group drawing a new word.
12. Once all of the cards have been used, the game is over. The group with the most points wins.

Explain

13. Gorillas face a lot of challenges in the wild. Some challenges are a result of natural changes to their environment and some challenges are a result of man-made changes.
14. Encourage your students to learn more about the conflicts gorillas encounter when living near humans and how they can be avoided.

Expand

15. Discuss the role humans play in Eastern gorilla populations increasing and decreasing. What role do humans play that help gorillas? What role do humans play that hurt? Did they learn anything from their initial research that would support their hypothesis? Did they learn anything in the game that would support their hypothesis?
16. With your students, discuss how knowing more about an animal can change how you view them and their role in the environment. Although gorillas face many natural changes to their environment, many of the challenges they face in the wild are a result of human activity. As students play the game, discuss if the challenges presented on the cards are natural or man-made. Were the challenges beneficial to their survival or harmful? Can we learn anything from the human activity that is helping gorilla and apply it to the gorilla population that is decreasing?
17. Have your students choose one challenge gorillas face in the wild that was discussed as a part of the game. Using a computer or tablet, have them research that challenge and a potential solution to it.

Assess

18. Students can make a poster or flier to present their solutions to the class. These presentations should include the gorilla challenge they chose, why that challenge is harmful to gorilla survival, what their potential solution is, and how that solution would help gorillas.
19. After all students have presented their solutions, discuss with the class how similar or different the solutions were. If they are different, why are they different? Revisit the inquiry question. Did they learn anything from their research or the game that would support their hypothesis? Which type of Eastern gorilla is seeing an increase in their population? Which one is seeing a decrease? Discuss the reasons why.

Optional Extension

20. Run a cell phone recycling drive with your students. More information to get you started can be found here: <https://www.clevelandmetroparks.com/zoo/learn/educational-programs/educational-opportunities/gorillas-on-the-line#:~:text=Gorillas%20on%20the%20Line%20is,protect%20gorilla%20habitat%20in%20Africa.>

Standards

Ohio Academic Content Standards
Grade 4 Life Science Topic: Earth's Living History Changes in an organism's environment are sometimes beneficial to its survival and sometimes harmful.

Picture Prompts

<p>Africa</p> <p>Trivia Question: Name one country where mountain gorillas are naturally found.</p> <p>Answer: Rwanda, Uganda, and Democratic Republic of Congo</p>	<p>Cell Phone</p> <p>Trivia Question: How does recycling your cell phone help gorillas?</p> <p>Answer: Recycling your cell phone reduces the demand for a mineral (coltan) that is mined in gorilla habitat.</p>
<p>Nose</p> <p>Trivia Question: How are gorilla noses like human fingerprints?</p> <p>Answer: Gorilla nose prints are unique to each gorilla. No two gorilla nose prints are the same.</p>	<p>Leaves</p> <p>Trivia Question: Gorillas eat mostly plants. What are animals that eat plants called?</p> <p>Answer: Herbivores</p>

Nest

Trivia Question:

What do gorillas make their nests out of?

Answer:

Leaves and branches

Family

Trivia Question:

A group of gorillas is called a troop. What is the dominant male in the troop called?

Answer:

Silverback

Hair

Trivia Question:

What is one reason gorillas groom each other?

Answer:

Grooming helps gorillas maintain social bonds.

Zoo

Trivia Question:

What organization does Cleveland Metroparks Zoo work with to help protect gorillas?

Answer:

The Dian Fossey Gorilla Fund

Rope

Trivia Question:

Sometimes people illegally trap gorillas using snares. What is the term for people who hunt animals illegally?

Answer:

Poachers

Scientist

Trivia Question:

What is the term for a scientist that studies apes and other primates?

Answer:

Primatologist

Bank

Trivia Question:

What is one way you can help gorillas?

Answer:

Donate money

School

Trivia Question:

Cleveland Metroparks Zoo partners with Dian Fossey Gorilla Fund International to help train students in what subject?

Answer:

Conservation science

Pickaxe

Trivia Question:

What industry related to cell phones threatens gorilla habitat?

Answer:

Mining for the mineral coltan

Equator

Trivia Question:

Gorillas live near the equator. What is it about this habitat allows them to survive there?

Answer:

Temperature, humidity, rainfall, availability of food, shelter for the troop

Mountain

Trivia Question:

What two types of gorillas do Cleveland Metroparks Zoo and The Dian Fossey Gorilla Fund work to protect?

Answer:

Mountain and Grauer's gorillas

DNA

Trivia Question:

What percent of DNA do humans and gorillas share?

Answer:

98%

Bulldozer

Trivia Question:

What is one threat gorilla's face in the wild?

Answer:

Habitat destruction

Baby

Trivia Question:

How many babies do gorillas usually give birth to at a time?

Answer:

One baby

Hand

Trivia Question:

Like other primates, gorillas have what on their hands that make them different from other types of animals?

Answer:

Thumb

Teeth

Trivia Question:

A silverback gorilla will bare their teeth to protect their group. What are some scenarios where this might happen?

Answer:

A gorilla that's not a part of their group comes too close, a predator comes too close

Eat

Trivia Question:

What percentage of the day do gorillas spend eating?

Answer:

30%

Tree

Trivia Question:

In what type of habitat do gorillas live?

Answer:

Tropical forests

Rain

Trivia Question:

What happens if there isn't enough rainfall in gorilla habitat?

Answer:

Not enough leaves for them to eat, environment is dryer, fires are more likely to occur

Lake

Trivia Question:

True or False – Gorillas drink a lot of water.

Answer:

False – gorillas don't drink water. They get all of the water they need from the leaves they eat or the morning dew.



Picturing Gorillas

My Research Plan

Why is one kind of Eastern gorilla seeing a population increase while the other is seeing a decrease?

1. What is my research question?
Is it a good question?



2. How can I get my information?



3. What will I do with this information?



4. How will I know I did my job well?

