

SCIENTISTS IN THE FIELD

WHERE SCIENCE
MEETS ADVENTURE

DISCUSSION AND ACTIVITY GUIDE

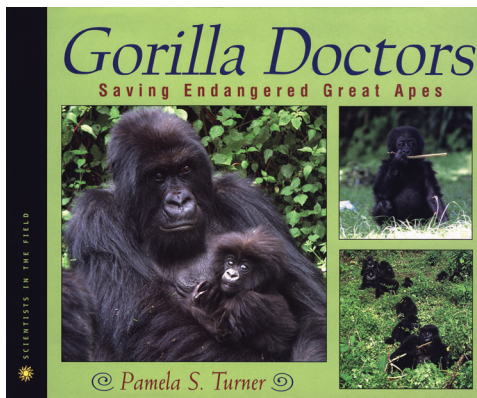
Gorilla Doctors: Saving Endangered Great Apes

by Pamela S. Turner



About the Series

Gorilla Doctors is part of the award-winning Scientists in the Field series, which began in 1999. This distinguished and innovative series examines the work of real-life scientists doing actual research. Young readers discover what it is like to be a working scientist, investigate an intriguing research project in action, and gain a wealth of knowledge about fascinating scientific topics. Outstanding writing and stellar photography are features of every book in the series. Reading levels vary, but the books will interest a wide range of readers.



*Gorilla Doctors:
Saving Endangered Great Apes*
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About the Book

Mountain gorillas are one of the most endangered species on earth. Intelligent, curious, playful and protective of their families, mountain gorillas face threats from poachers, loss of habitat, and human diseases. Coming to their aid are the dedicated scientists of the Mountain Gorilla Veterinary Project working to save these important animals populations in Rwanda and Uganda. *Gorilla Doctors* explores the work being done to study, care for, and preserve these amazing animals.

About the Author

Pamela S. Turner visited mountain gorillas in 1978 and the experience eventually led to this book published in 2005. Turner has written about science and nature for many years, winning prizes and acclaim for her ability to present accurate information that is easy to understand and fun to read. She has written several other books for the Scientists in the Field series, including *The Frog Scientist*, published in 2009, and *The Dolphins of Shark Bay*, which will be published in the fall of 2013.

Pre-Reading Activity

Without providing any information to students, have them look at pictures of various types of primates and see whether they can determine which are new world primates and which are old world primates. Try to have pictures of at least twenty different primates, with some from each group. Once the students have grouped the animals, check to see whether students paid attention to whether the primate has a tail. Discuss the differences between gorillas, chimpanzees, bonobos, and other monkeys and apes. Have students come up with a prediction for why gorillas are called great apes. Have them discuss how the primate called human fits into the discussion.

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Now look at pictures of gorillas and lowland mountain gorillas. How are they the same and how are they different? Can students see the difference?

Have students draw two pictures of themselves or another person. In the first picture, have them draw and label themselves feeling good and healthy. In the second picture, have them draw and label themselves feeling sick. Discuss the similarities and differences in the two pictures. Make a list of the characteristic that are easily observed that suggest a person may be ill. Find group pictures online that show lots of faces. Look closely at the faces to see which faces suggest a possibility of illness.

Ask a veterinarian to visit the class or have students visit a vet in their neighborhood. Ask the vet to explain how they identify animals that are not healthy and then how they decide what is ailing any given animal. Ask about whether or not there are universal treatments for a variety of species. When an animal is not able to speak, how are we sure that our treatment is correct? Make sure to ask the vet about whether or not, like humans, certain animals have allergies to otherwise safe and effective medicines.

Discussion Questions

What is the percentage of DNA difference between humans such as a white woman from Kansas and an Asian male from Thailand? How does this compare to the DNA difference between gorillas and humans? How much DNA difference must there be before we assign constitutional civil rights protections to any given animal? If two animals can share blood, is that enough to provide each animal with the same protection?

In the book, Turner states that poachers will kill the adult males, the mother, and others of the troop just to capture a baby gorilla. What should the penalty be for this poacher? What is actually likely to happen to the poacher? Why do people kill gorillas? Can you imagine a set of circumstances that would cause you to become a poacher?

Since there are other gorillas, what is the harm in allowing mountain lowland gorillas to go extinct? Since mountain lowland gorillas can catch human diseases and since they are on the verge of extinction, should humans be allowed to have any contact with them?

Do humans have a superiority complex? If they do, is it wrong? Do animals have emotions or is that a human assumption about animal reactions?

Applying and Extending Our Knowledge

Scientists rely upon observations of animals. They look at facial expressions, behavior, body language, condition of fur/skin, and more to determine the likelihood that an animal is in good health.

- Look at healthy animals of one species such as birds. Now look at unhealthy animals of another species. What, if anything, do we see in the healthy animals that we should see, but do not see, in the unhealthy animals? Do we catch glimpses of a general definition of good health? Explain.
- Turner tells us that Patience Dusabimana knows that Agashya's tantrum (page 5) is a warning and not an attack. Predict how Dusabimana knows. Compare this with other animal behaviors that may look and sound more serious than they actually are.
- Have students discuss whether things like showing teeth in a human smile mean the same thing for other animals. Discuss what a gorilla would look like and would be doing if he or she really planned to attack instead of warn.

Common Core Connections

RST.6-8.9. Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

CCSS.ELA-Literacy.RI.6.7 Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.

On page 21 Diane Fossey is quoted: "Maybe poachers aren't the worst thing to happen to gorillas. Perhaps WE are." However, in the beginning of the book, Mararo would have lost a foot and perhaps died if Dusabimana and staff had not captured Mararo and removed the snare. In addition, tourist dollars have made it possible for doctors to track gorillas and treat illnesses, remove snares, and provide protection. We also learn that gorillas are responsible for two classrooms in Ntungamo.

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- Debate the boundaries for human/gorilla interactions. Research the cost of living in the Democratic Republic of the Congo or Uganda or Rwanda. Does this area have the human resources, educational resources, and financial resources to provide gorilla doctors? How much do you estimate that it costs to have gorilla doctors and staff in this part of the world? How many tourists would you need (and at what cost) to fund gorilla doctors? Is the price you predict an amount that people in this area could afford?
- Research other diseases that cross species lines. Add to the “Deadly Neighbors” chart on page 29 for other species affected by the same disease.
- Compare Mgahinga National Park, Virunga National Park, and Parc National des Volcans with each other and with a National Park in the United States. Present your findings with maps, online videos, slide shows, pictures, charts, posters, or pamphlets, etc. Make sure that your report compares the sizes of the parks, the major animal life found there, the number of visitors, habit description, striking features (what makes this area worthy of national park status), and major challenges or threats.

Common Core Connection

CCSS.ELA-Literacy.W.7.7 Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.

CCSS.ELA-Literacy.W.7.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

CCSS.ELA-Literacy.RST.6-8.2 Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

CCSS.ELA-Literacy.RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

Further Reading

Eszterhas, Suzi. *Gorilla*. Frances Lincoln, 2012.
Use this book for its excellent photographs of Mountain Gorillas.

Hatkoff, Juliana, Isabella Hatkoff, Craig Hatkoff, and Dr. Paula Kahmbu. *Looking for Miza: The True Story of the Mountain Gorilla Family Who Rescued One of Their Own*. Scholastic, 2008.

Nichols, Michael, with Elizabeth Carney. *Face to Face with Gorillas*. National Geographic, 2009.

Pimm, Nancy Rof. *Colo's Story: The Life of One Grand Gorilla*. Columbus Zoological Park Association, 2011.

Simon, Seymour. *Gorillas*. Harper, 2000.

Another Website to Explore

Endangered Species International
www.endangeredspeciesinternational.org/gorillas.html

Site of Endangered Species International, an organization of scientists and conservationists that provides information on a variety of endangered species. Includes information on habitat, communications, diet, social interaction, and diseases and threats.