



Teacher's Guide

Gorillas

Dear Educator,

Your students will become naturalists as they visit the rain forest homes of African gorillas. They will learn about the daily lives of gorillas in their natural environments and be introduced to other members of the great ape family. In **KIDS DISCOVER Gorillas**, your young scientists explore these and other topics.

This Teacher's Guide is filled with activity ideas and blackline masters that can help your students understand more about gorillas and their way of life. Select or adapt the activities that suit your students' needs and interests best.

Thank you for making **KIDS DISCOVER** a part of your classroom agenda.

Sincerely,

KIDS DISCOVER

P.S. We would love to hear from you. E-mail your comments and ideas to teachers@kidsdiscover.com

Meeting the Standards

Life Science

✓ Populations and Ecosystems

✓ Visit www.kidsdiscover.com/standards to find out more about how **KIDS DISCOVER** meets state and national standards.

PAGES	WHAT'S IN GORILLAS
2-3	A Great Ape Gorillas are gentle giants.
4-5	A Closer Look Gorillas have opposable thumbs and unique nose prints.
6-7	Not Just a Hoot and a Holler Gorillas reveal their emotions.
8-9	Rise 'n' Shine The day's filled with work, rest, and play.
10-11	Titus Titus and his troop relax.
12-13	All in a Day's Search Gorillas forage for food.
14-15	All in the Family Chimps and gorillas are related.
16-17	At the Edge Gorillas need protection.
18-19	Game Pages Enjoy puzzles, matching activities, and reading suggestions.


• IN THIS TEACHER'S GUIDE •

2 Prereading Activities

3 Get Set to Read (Anticipation Guide) 

4 Discussion & Writing Questions

5-6 It's in the Reading (Reading Comprehension) 

7 Everything Visual (Graphic Skills) 

8 Cross-Curricular Extensions

9-12 Answer Keys to Blackline Masters

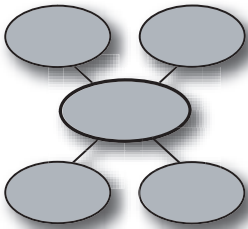
PREREADING ACTIVITIES

Before distributing **KIDS DISCOVER *Gorillas***, activate students' prior knowledge with these activities.

Discussion

To get students thinking about how this topic relates to their interests and lives, ask:

- ✓ Have you seen gorillas at a zoo or on television?
- ✓ Are gorillas able to communicate in some of the same ways as humans?
- ✓ Young gorillas play games. What kinds of games do you think they play?



Concept Map

Explain to students that they will be reading *Gorillas*. Ask: *What are some words related to gorillas, their relatives, and their environment?* List students' responses on the board. (See

box below for some terms they may suggest.) After creating a list, ask students to group the words into categories, such as **Physical Characteristics, Behavior, Environment, and Relatives**. Create a concept map by writing *Gorillas* on the board and circling it. Write the categories around the circle and draw lines between the ideas to show the connections. Then list examples and write the words from the list around the appropriate categories. Encourage students to add more words to the concept map as they read *Gorillas*.

KEY TERMS

- | | | |
|---------------|-----------------|-------------------|
| ✓ great apes | ✓ opposable | ✓ orangutan |
| ✓ primate | thumbs | ✓ bonobos |
| ✓ rain forest | ✓ chest-beating | ✓ gibbons |
| ✓ omnivores | ✓ silverback | ✓ Africa |
| ✓ zoos | ✓ troop | ✓ endangered |
| ✓ species | ✓ grooming | ✓ Dian Fossey |
| ✓ strong | ✓ chimpanzees | ✓ protected parks |

Get Set to Read (Anticipation Guide)

Copy and distribute the **Get Set to Read** blackline master (page 3 of this Teacher's Guide). Explain to students that this **Anticipation Guide** will help them find out what they know and what misconceptions they have about the topic. **Get Set to Read** is a list of statements—some true, some false. Ask students to write whether they think each statement is true or false in the **Before Reading** column. Be sure to tell students that it is not a test and they will not be graded on their answers. The activity can be completed in a variety of ways for differentiated instruction:

- ♦ Have students work on their own or in small groups to complete the page.
- ♦ Assign pairs of students to focus on two statements and to become "experts" on these topics.
- ♦ Ask students to complete the **Before Reading** column on their own, and then tabulate the class's answers on the chalkboard, on an overhead transparency, or on your classroom computer.
- ♦ Review the statements orally with the entire class.

If you predict that students will need assistance finding the answers, complete the **Page Number** column before copying **Get Set to Read**.

Preview

Distribute *Gorillas* and model how to preview it. Examine **titles, headings, words in boldface, pictures, charts, and captions**. Then have students add new information to the **Concept Map**. If students will be reading only a few pages at one sitting, preview only the selected pages.

BE WORD WISE WITH POWER VOCABULARY!

You have exclusive access to additional resources including Power Vocabulary blackline masters for every available KIDS DISCOVER title! These activities introduce students to 15 specialized and general-use vocabulary words from each KIDS DISCOVER title. Working with both types of words helps students develop vocabulary, improve comprehension, and read fluently. Follow the links from your Teacher's Toolbox CD-ROM and find your title to access these valuable resources:

- ♦ Vocabulary cards
- ♦ Crossword puzzle
- ♦ Word find
- ♦ Matching
- ♦ Cloze sentences
- ♦ Dictionary list



Name _____ Date _____

Get Set to Read

What do you know about gorillas and other great apes? In **Before Reading**, write *true* if you think the statement is true. Write *false* if you think the statement is not true. Then read **KIDS DISCOVER Gorillas**. Check back to find out if you were correct. Write the correct answer and its page number.

CHALLENGE: Rewrite each false sentence in a way that makes it true.

Before Reading		After Reading	Page Number
_____	1. Gorillas live in lowland and mountainous regions of Asian rain forests.	_____	_____
_____	2. Gorillas are herbivores that eat only plants.	_____	_____
_____	3. Gorillas have an opposable thumb and an opposable big toe.	_____	_____
_____	4. Most gorillas in today's zoos are western lowland gorillas.	_____	_____
_____	5. Koko is a gorilla that has been taught to communicate by typing on a computer.	_____	_____
_____	6. Silverback males are the leaders of gorilla groups.	_____	_____
_____	7. Unlike chimps and bonobos, gorillas get around by knuckle walking.	_____	_____
_____	8. Gorillas groom each other by removing dead skin and bugs from the other's hair.	_____	_____
_____	9. Orangutans are the only great apes living outside Africa.	_____	_____
_____	10. Dian Fossey studied chimpanzees as she lived with them in their natural environment.	_____	_____

DISCUSSION & WRITING QUESTIONS

Use the following questions as discussion starters or as writing prompts for journals. For additional in-class discussion and writing questions, adapt the questions on the reading comprehension blackline masters on pages 5 and 6.

Cover

Before students read *Gorillas*, have them look at the cover. Ask:

- ✓ What adjectives would you use to describe the gorilla pictured on the cover?
- ✓ What do you think the heading “50 Pounds of Greens a Day” means?

Pages 2–3

Gorillas live in the rain forests of Africa. Ask:

- ✓ How are gorillas like all other primates?
- ✓ Why do you think gorillas did poorly when they were first brought to zoos?
- ✓ What makes up most of a gorilla's diet?

Pages 4–5

Scientists have studied the subspecies of gorillas. Ask:

- ✓ How are the teeth of gorillas and humans alike?
- ✓ How does a gorilla's hair help protect it?
- ✓ How are eastern gorillas and western gorillas alike and different?

Pages 6–7

Gorillas communicate with each other. Ask:

- ✓ How would a gorilla show fear?
- ✓ What are the nine actions gorillas display to signal they are ready to charge an enemy?
- ✓ Describe Project Koko.

Pages 8–9

Gorilla troop members work, play, and rest together. Ask:

- ✓ What is the daily routine of gorillas?
- ✓ When do young males leave the troop? What do they do?
- ✓ What kinds of games do young gorillas play?

Pages 10–11

A troop rests. Ask:

- ✓ At what age do males turn silver?

Pages 12–13

Gorillas enjoy different kinds of food. Ask:

- ✓ How have gorillas made and used tools?
- ✓ With what do gorillas make their nests?
- ✓ How do mothers carry baby gorillas?

Pages 14–15

Gorillas are related to other apes. Ask:

- ✓ How are orangutans like and unlike gorillas?
- ✓ Why are the apes threatened or endangered species?
- ✓ How much bigger are chimpanzees than bonobos?

Pages 16–17

Gorilla populations need protection. Ask:

- ✓ Why do researchers get different counts of gorilla populations?
- ✓ What are ecotourists? How can they help the gorillas?
- ✓ Who was Dian Fossey? Why do you think her work was important?

All Pages

After students read the issue, ask:

- ✓ Identify three facts you have learned about gorillas and other apes in this issue of KIDS DISCOVER.



Name _____ Date _____

It's in the Reading

After reading **KIDS DISCOVER Gorillas**, choose the best answer for each question.
Fill in the circle.

Find your answer on the pages shown in the book icon next to each question.

1. Which of the following is NOT a characteristic of all primates?

- A. eyes on the front of the head
- B. eyesight that enables them to judge depth
- C. fingers that can grasp things
- D. arms longer than their legs



2. "As a result, scientists describe gorillas as omnivores, not herbivores."

What is the meaning of the term *omnivores*?

- A. animals that eat only fruits and flowers
- B. animals that eat only plants
- C. animals that eat only animals
- D. animals that eat both plants and animals



3. What gorilla characteristic is unlike that of humans?

- A. opposable thumb
- B. opposable big toe
- C. 32 teeth
- D. two sets of teeth



4. What is one way that eastern gorillas differ from western lowland gorillas?

- A. Eastern gorillas live in rain forests.
- B. Eastern gorillas have shorter hair than western lowland gorillas.
- C. Eastern gorillas have longer faces than western lowland gorillas.
- D. Eastern gorillas have fingernails that they use for scraping.



5. What is a gorilla that looks directly at another gorilla communicating?

- A. fear
- B. anger or hostility
- C. satisfaction
- D. tension



6. Which member of a troop makes all the decisions?

- A. highest-ranking female
- B. silverback
- C. black back
- D. all members in a group decision



7. Why don't gorillas swing through trees?

- A. Their arms are not long enough.
- B. They do not climb trees.
- C. They are too heavy.
- D. They find everything they need on the ground.



8. What is one way that orangutans differ from other great apes?

- A. They live outside of Africa.
- B. They are omnivores.
- C. They are endangered or threatened species.
- D. They live in rain forests.



9. What is one way ecotourism helps protect gorillas?

- A. It provides money to residents who can then work to protect gorillas.
- B. It builds closed garbage pits to keep gorillas from eating trash.
- C. Its doctors treat gorillas suffering from injuries or illnesses.
- D. It trains park workers to better monitor gorillas in the national parks.



10. Do you think efforts should be made to protect the gorillas and other great apes? Give reasons for your answer.



Name _____ Date _____

Everything Visual

Maps are drawings that show geographical areas. The maps in this issue of KIDS DISCOVER provide information about where apes live. Study the maps on pages 4 and 15. Then answer the questions.

Use the maps on page 4 to answer the following questions.

1. What is the title of the maps? What do the maps show?

2. Why is the inset map shown?

3. Which of the maps have more detail? Why?

4. The large map of Africa provides the names of only some of the countries? Why?

Use the map on page 15 to answer these questions.

5. What is the title of the map? What does the map show?

6. How is this map like the maps on page 4? How does it differ?

7. Which apes live in Africa? Which apes do not?

CROSS-CURRICULAR EXTENSIONS

Have students try these activities to extend their knowledge and interest in gorillas and other great apes.

Social Studies/Language Arts

- ◆ One of the words Koko learned in American sign language was more. Help students learn “more” about American sign language. Students might research information about American sign language. If possible, invite a teacher of American sign language to speak to the class. Have students prepare interview questions for the teacher. You might ask the teacher to teach the students to sign several phrases.

Language Arts/Science/Social Studies

- ◆ Have students research one of the organizations that work to protect gorillas. Have them choose one of the organizations found on pages 16 and 17 to research in small groups. Encourage students to produce and present an illustrated report about the organization and its work.

Music/Language Arts

- ◆ Students may enjoy listening to a recording of “If I Could Talk to the Animals” from the movie *Dr. Doolittle*. After they listen to the lyrics, encourage them to write their own lyrics about talking with gorillas, bonobos, orangutans, and gibbons. Have them sing the song with their new lyrics.

Language Arts

- ◆ Take a look at this sentence from *Gorillas*: “At birth, they weigh two to four pounds and have very little hair.” This sentence is filled with words that are homophones. Homophones are words that sound alike but have different meanings and different spellings. Encourage students to make a list of each word that has a homophone in this and other sentences in the magazine and to write its homophone next to it. For example, they would list *birth* and *berth*, *weigh* and *way*, and so on.

Art/Science/Social Studies

- ◆ Have students select one of the rain forest environments where gorillas or other great apes live and find out what other animals live in that rain forest. Have students draw a map of the rain forest and pictures of the animals that live in the rain forest. They can display their map and pictures on a poster for display in the classroom.

Art

- ◆ Bring out the colored pencils and pastels. Have some students create gorilla portraits. They might choose to produce a drawing of one of the gorillas depicted in *Gorillas* or use another photograph or stuffed animal as a model for their drawings. Other students can design a rain forest environment in which to display the portraits on a bulletin board.





Name **ANSWER KEY** _____ Date _____

Get Set to Read

What do you know about gorillas and other great apes? In *Before Reading*, write *true* if you think the statement is true. Write *false* if you think the statement is not true. Then read **KIDS DISCOVER Gorillas**. Check back to find out if you were correct. Write the correct answer and its page number.

CHALLENGE: Rewrite each false sentence in a way that makes it true.

Before Reading		After Reading	Page Number
_____	1. Gorillas live in lowland and mountainous regions of Asian African rain forests.	<i>False</i>	<i>p. 3</i>
_____	2. Gorillas are herbivores omnivores that eat only both plants and animals .	<i>False</i>	<i>p. 3</i>
_____	3. Gorillas have an opposable thumb and an opposable big toe.	<i>True</i>	<i>p. 4</i>
_____	4. Most gorillas in today's zoos are western lowland gorillas.	<i>True</i>	<i>p. 4</i>
_____	5. Koko is a gorilla that has been taught to communicate by typing on a computer American sign language .	<i>False</i>	<i>p. 7</i>
_____	6. Silverback males are the leaders of gorilla groups.	<i>True</i>	<i>p. 8</i>
_____	7. Unlike Like chimps and bonobos, gorillas get around by knuckle walking.	<i>False</i>	<i>p. 9</i>
_____	8. Gorillas groom each other by removing dead skin and bugs from the other's hair.	<i>True</i>	<i>p. 13</i>
_____	9. Orangutans are the only great apes living outside Africa.	<i>True</i>	<i>p. 14</i>
_____	10. Dian Fossey studied chimpanzees mountain gorillas as she lived with them in their natural environment.	<i>False</i>	<i>p. 17</i>

Name **ANSWER KEY** _____ Date _____

It's in the Reading

After reading KIDS DISCOVER *Gorillas*, choose the best answer for each question.
Fill in the circle.

Find your answer on the pages shown in the book icon next to each question.

1. Which of the following is NOT a characteristic of all primates?

- A. eyes on the front of the head
- B. eyesight that enables them to judge depth
- C. fingers that can grasp things
- D. arms longer than their legs (*compare and contrast*)



2. "As a result, scientists describe gorillas as omnivores, not herbivores."

What is the meaning of the term *omnivores*?

- A. animals that eat only fruits and flowers
- B. animals that eat only plants
- C. animals that eat only animals
- D. animals that eat both plants and animals (*word meaning*)



3. What gorilla characteristic is unlike that of humans?

- A. opposable thumb
- B. opposable big toe (*compare and contrast*)
- C. 32 teeth
- D. two sets of teeth



4. What is one way that eastern gorillas differ from western lowland gorillas?

- A. Eastern gorillas live in rain forests.
- B. Eastern gorillas have shorter hair than western lowland gorillas.
- C. Eastern gorillas have longer faces than western lowland gorillas.
(*compare and contrast*)
- D. Eastern gorillas have fingernails that they use for scraping.



5. What is a gorilla that looks directly at another gorilla communicating?

- A. fear
- B. anger or hostility (*details*)
- C. satisfaction
- D. tension



6. Which member of a troop makes all the decisions?

- A. highest-ranking female
- B. silverback (*details*)
- C. black back
- D. all members in a group decision



7. Why don't gorillas swing through trees?

- A. Their arms are not long enough.
- B. They do not climb trees.
- C. They are too heavy. (*cause and effect*)
- D. They find everything they need on the ground.



8. What is one way that orangutans differ from other great apes?

- A. They live outside of Africa. (*compare and contrast*)
- B. They are omnivores.
- C. They are endangered or threatened species.
- D. They live in rain forests.



9. What is one way ecotourism helps protect gorillas?

- A. It provides money to residents who can then work to protect gorillas. (*details*)
- B. It builds closed garbage pits to keep gorillas from eating trash.
- C. Its doctors treat gorillas suffering from injuries or illnesses.
- D. It trains park workers to better monitor gorillas in the national parks.



10. Do you think efforts should be made to protect the gorillas and other great apes? Give reasons for your answer.

Essay: Opinions will vary but should be supported with logical reasons.



Name **ANSWER KEY** _____ Date _____

Everything Visual

Maps are drawings that show geographical areas. The maps in this issue of KIDS DISCOVER provide information about where apes live. Study the maps on pages 4 and 15. Then answer the questions.

Use the maps on page 4 to answer the following questions.

1. What is the title of the maps? What do the maps show?

The title is Where the Gorillas Are. The maps show where the gorillas live.

2. Why is the inset map shown?

The inset map shows where gorillas live in relation to the entire world. It highlights how small an area is home to gorillas.

3. Which of the maps have more detail? Why?

The large map of Africa has more detail because it shows a smaller area.

4. The large map of Africa provides the names of only some of the countries? Why?

The borders of all African countries are shown but only the names of countries that have gorilla populations are given.

Use the map on page 15 to answer these questions.

5. What is the title of the map? What does the map show?

The title of the map is Where They All Are. It shows where gorillas and their relatives live.

6. How is this map like the maps on page 4? How does it differ?

This map shows a portion of Africa and south Asia. Like the other maps, the countries of Africa are outlined. The maps show where gorillas live. This map also shows where the chimps, orangutans, bonobos, and gibbons live. Both main maps use keys to identify the color symbols.

7. Which apes live in Africa? Which apes do not?

Gorillas, chimps, and bonobos live in Africa. Orangutans and gibbons live in Asia.