



## LEARNING ASSESSMENT

### PREVIEW EXERCISE

The questions in Table 1 below touch on topics discussed in *The Guide*. Before watching the film, review these questions and respond using prior knowledge.

### POSTVIEW EXERCISE

Revise your responses in Table 1 based on what you saw in the film. After completing the table, answer questions 6–11 (and 12–14 if assigned by your instructor).

**Table 1.** Preview and postview exercise for *The Guide*.

	Preview	Postview
1. Yellowstone is an 898,317-ha (3,468-sq.-mi.) national park in Wyoming (U.S.). There are over 6,500 national parks in countries around the world. Describe two reasons for establishing national parks.		
2 a. The film you will watch is about a national park in Mozambique, a country in Africa. Describe what you think might be different about a national park in Mozambique and one in the United States.		
2 b. What might be the same about a national park in Mozambique and one in the U.S.?		
3. Describe what you think a national park tour guide's role is.		
4. Describe what you think a national park biologist's role is.		
5. Describe an argument a person might make against the establishment of a national park.		

6. Which of the following actions would *decrease* biodiversity in a protected land like Gorongosa National Park?
- Increasing sizes of human populations.
  - Increasing sizes of populations of small animals like insects and amphibians.
  - Decreasing pollution like acid precipitation.
  - Decreasing the amount of poaching of large animals.

7. List three human activities that have negatively affected biodiversity in Gorongosa National Park.

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8. In the film, Dr. E. O. Wilson and Tonga Torcida help the local children conduct a bioblitz in a small section of Gorongosa National Park. What is the purpose of a bioblitz?

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9. From 1977 to 1992 there was a civil war in Mozambique. Figure 1 shows the number of large animals in Gorongosa before and after the civil war. Study the graph and answer questions a – c.

- a. Describe in general what happened to these animal populations from 1972 to 2000.

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- b. State the estimated number of wildebeest that lived in Gorongosa before the war. After the war?

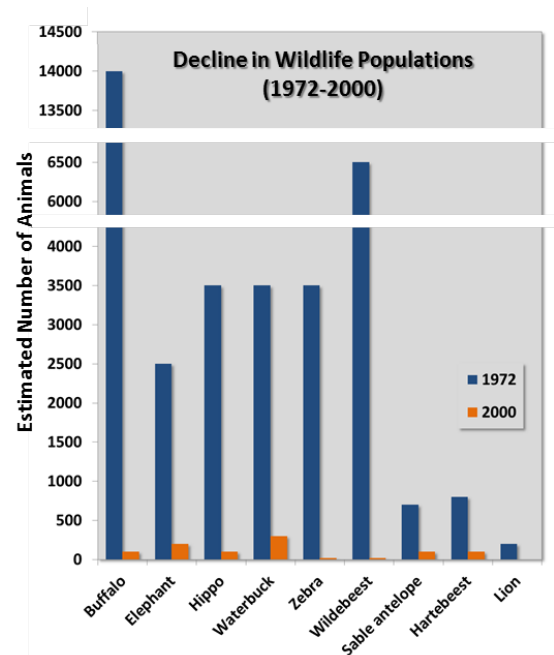
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**Figure 1.** Numbers of large animals living in Gorongosa National Park before (1972) and after (2000) the civil war.

- c. Using evidence from the graph, which animal population was most affected by the war? What evidence can you cite from the film that might have led to the decline of this particular animal species relative to the other species?

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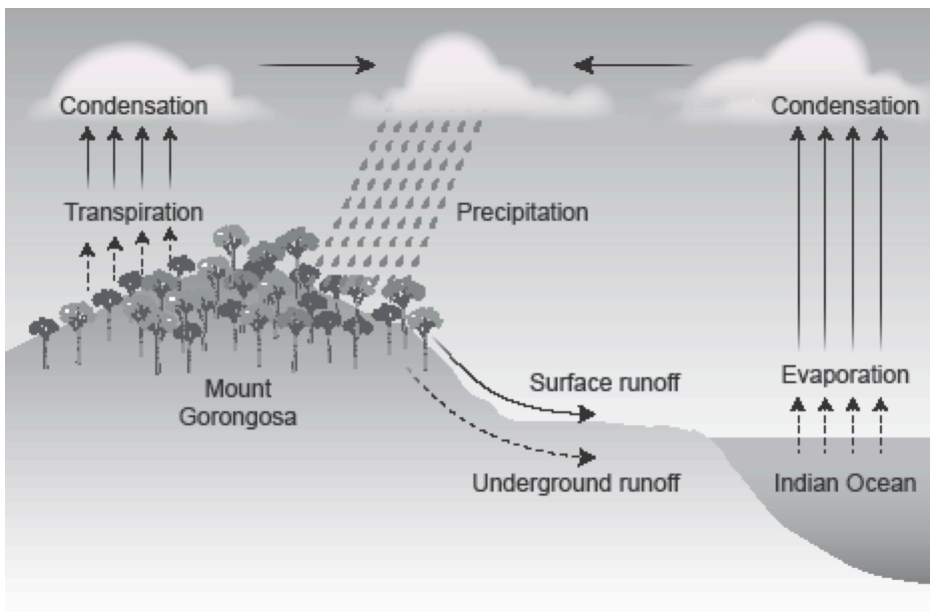


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In the film, Tonga explains that Mount Gorongosa is the source of the water that animals in the park drink. The trees on the mountain hold on to the water from the rain and release it slowly down the mountain over time—even during the dry season. Tonga says that when he was little, Mount Gorongosa was always covered with clouds, but there are no clouds anymore. The movement of water and the formation of clouds can be explained by the water cycle. A diagram of the water cycle is shown in Figure 2.



**Figure 2.** A simplified illustration of the water cycle in Gorongosa National Park.

10. Use the diagram to explain why destruction of the rain forest on Mount Gorongosa would result in a shortage of accumulated water in the park.

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11. Since the end of the civil war in Mozambique in 1992, many animal population sizes have changed. Estimated population sizes for a few of the large animals in the park are included in Table 2 below.

**Table 2.** Some large animal species population estimates in Gorongosa National Park, Mozambique, in 1972 before the civil war began. Estimates were made again in 2000, eight years after the war ended, and also in 2014.

Species	1972 estimates (prewar)	2000 estimates (postwar)	2014 estimates
African buffalo	14,000	100	500
Blue wildebeest	6,500	20	400
Elephant	2,500	200	400
Hippo	3,500	100	200
Lichtenstein hartebeest	800	100	300
Lion	200	No data	30
Sable antelope	700	100	500
Waterbuck	3,500	300	6,000
Zebra	3,500	20	40

a. Describe in general how the animal population sizes have changed since the year 2000.

b. Of the species listed, which park species appears to have made the greatest recovery in population size?



EXTENSION/CRITICAL THINKING

12. List three human activities that have negatively affected biodiversity in your (city, region, country).

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13. If you and your classmates conducted a bioblitz like the one in the film, but in the area around your school, list 10 species that you think you might find:

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Alternatively, conduct a bioblitz in your schoolyard, like the one conducted in the film. Using reference books and resources provided by your teacher, work in groups to identify at least 10 species:

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14. Certain animals such as zebra, lion, and wildebeest were reintroduced in the park after the war, but others were not. Based on what you've learned, why do some animal populations have to be reintroduced?

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