

Virtual Field Trip: Deserts and Grasslands of Africa

TEACHER'S GUIDE

Grades: 3-8

Subjects: Science and Geography

Description:

This virtual field trip occurred on February 5th, 2015. The link to the archived video is: <https://vimeo.com/120387070>

The virtual field trip is hosted by educator Tyler DeWitt and the main presenter is Charles Oluchina, the Director of Africa Field Programs at The Nature Conservancy who was broadcasting from Nairobi, Kenya. The event was produced by The Nature Conservancy and PBS LearningMedia.



Charles Oluchina
Director of Africa Field Programs

During the virtual field trip, field scientist Charles Oluchina describes how people and nature work together in the deserts and grasslands of Africa. Students will learn about the importance of grasslands and how ecotourism has benefited both the people and Kenya's majestic wildlife. Students will also visit Burkina Faso and learn how one African farmer invented an ingenious method to help restore forestlands that had been lost to desertification. The role of termites in helping to irrigate and restore degraded lands will also be explored.

Standards Connected to the Virtual Field Trip:

[Next Generation Science Standards Disciplinary Core Ideas](#)

- ESS3.C Human Impacts on Earth Systems
- LS2.A: Interdependent Relationships in Ecosystems
- LS2.C: Ecosystem Dynamics, Functioning, and Resilience
- LS4.D: Biodiversity and Humans

[National Geography Standards](#)

- 4 - The physical and human characteristics of places.
- 11 - The patterns and networks of economic interdependence on Earth's surface.
- 14 - How human actions modify the physical environment.
- 15 - How physical systems affect human systems.



Discussion Questions: You can use these questions for a follow-up discussion with your students after viewing the virtual field trip.

1. Describe some of the animals that can be found in the grasslands of Kenya.

Answer: Zebras, rhinos, lions, giraffes, wildebeests, elephants.

2. What is ecotourism?

Answer: It means traveling somewhere to see nature. You might add that ecotourism typically involves responsible travel to natural areas that conserves the environment and improves the well-being of local people. When people travel to these areas, the local economy benefits from tourist dollars and this provides an incentive to sustain these natural areas to keep attracting tourists.

3. What does the word **safari** mean?

Answer: It means “a long journey” and it comes from the Swahili language, which is spoken in Kenya.

4. What areas in the United States are most like the grasslands of Kenya?

Answer: The grasslands in Montana and Wyoming are the most similar type of landscape to the grasslands of Kenya.

5. Describe how people in Kenya coexist with the wildlife.

Answer: People support conservation because they embrace wildlife as an important part of their lives. The Maasai believe that wildlife was created before humans and they both respect the wildlife and realize the economic value inherent in the conservation of wildlife.

6. Describe desertification and explain how it impacts farmers in Burkina Faso.

Answer: Desertification is the spread of a desert environment into a non-desert. Desertification can be caused by drought and/or human actions like deforestation and overgrazing. Some areas of Burkina Faso have become desertified, which means that some farmlands have become unproductive. Population growth in Burkina Faso, which has led to over-cultivation of land, removal of trees for use as firewood, and overgrazing of livestock are huge contributors to desertification.

7. What does “reclamation” mean when talking about land?

Answer: Reclamation means to take back lands that were desertified.

8. Explain how Yacouba Sawadogo, a farmer in Burkina Faso, was able to reclaim his lands from desertification and save his farm in order to feed his family and generate income.

Answer: Before the rains, Yacouba Sawadogo dug small pits and placed leaf litter, dung, termites and seeds. These pits helped to retain moisture when the rains arrived. Yacouba was able to transform his dry lands and in twenty years, he transformed them into thirty acres of forest with over sixty species of trees. The increase in trees meant more shade, more windbreaks, less erosion, and more water retention.

9. Describe the role of termites in Yacouba’s fields.

Answer: The termites create tunnels in the land and this creates underground channels for the water to flow. It is a natural irrigation network!

10. What are some questions that you have after viewing the virtual field trip? What would you like to know more about?

Answer: Answers will vary. Discuss with students how they can find information to answer their unanswered questions.

Related Resources: The following lesson plans and videos can be used to supplement the virtual field trip.



Farming the Desert: The Science Behind Desertification

Grade Levels: 6-10

<https://www.natureworkseverywhere.org/#resources/5488c618c6435b4d9cd209b8>

In this lesson, students explore the factors that contribute to desertification and the solutions that have been implemented in the Sahel region of Africa. In one activity, students conduct an in-depth analysis of rainfall data and NASA satellite images from the Sahel. In another activity, students learn about microclimates and complete a survey design challenge to examine microclimates on their school grounds.



Farming the Desert: Geography of the Sahel

Grade Levels: 8-10

<https://www.natureworkseverywhere.org/#resources/5489d2efc6435b519762936a>

In this lesson, students are introduced to the geography and people of the Sahel region of Africa. In one activity, students compare and contrast the information from a video to related articles about local people who are working to “regreen” the desert and take back their farmlands. In another activity, students conduct in-depth research about the two major groups that inhabit the Sahel: nomadic pastoralists and farmers.



The Value of Ecotourism

Grade Levels: 6-8

<https://www.natureworkseverywhere.org/#resources/5277e765ac3932820657f687>

In this lesson, students role-play as cattle ranchers. They explore traditional culture and predicted economic outcomes to determine if they will sell or keep their land. They learn how raising cattle, combined with ecotourism, can be an alternative economic model to the boom and bust of selling land to the highest bidder.

Other Resources:

To learn more about the PBS series *EARTH A New Wild*, visit: <http://www.pbs.org/earth-a-new-wild/home/>

To find more educational resources related to the series, visit the Nature Works Everywhere site’s *EARTH A New Wild* collection: <https://www.natureworkseverywhere.org/#resources/EARTH>