

Topography of Africa

KEYWORDS

Africa, topography, population, physical map

GRADE LEVEL

3-5

OVERVIEW

Within Africa's vast borders there are many topographical features, such as deserts, mountains, plateaus, and rivers. In this lesson, students will study Africa's diverse landscape and investigate how these features impact the available water supply, food sources, and population distribution of this unique continent. Three countries are highlighted in different locations with distinctive landforms, Algeria in Northern Africa, Ethiopia in Central Africa, and the country of South Africa. From the Sahara Desert to the Great Rift Valley, students will compare topographical features and their affect on each country's physical and human environments.

CONNECTIONS TO THE CURRICULUM

Science, Math, Language Arts

CONNECTIONS TO NATIONAL GEOGRAPHY STANDARDS

Standard 1: "How to Use Maps and Other Geographic Representations, Tools, and Technologies to Acquire, Process, and Report Information From a Spatial Perspective"

Standard 3: "How to Analyze the Spatial Organization of People, Places, and Environments on Earth's Surface"

Standard 4: "The Physical and Human Characteristics of Places"

Standard 15: "How Physical Systems Affect Human Systems"

CONNECTIONS TO OTHER NATIONAL STANDARDS

National Council for Social Studies Standards

<<<http://www.socialstudies.org/standards/strands/>>> •
People, Places and Environments

TIME

3-4 hours

MATERIALS REQUIRED

- Wall map or overhead of [world map](#)
<<http://www.nationalgeographic.com/xpeditions/atlas/index.html?Parent=world&Rootmap&Mode=d&SubMode=w>>
- Computer with Internet access for each group
- Copies of [map of Africa](#)
<http://www.nationalgeographic.com/xpeditions/atlas/index.html?Parent=africa&Mode=d&SubMode=w>>> available to students.
- Paper

- Pencil
- Poster board
- Crayons or colored pencils

KEY VOCABULARY

- **grassland plateau:** an elevated, comparatively level, expanse of land
- **Great Rift Valley:** a geologic depression of southwest Asia and eastern Africa extending from the Jordan River valley to Mozambique. The region is marked by a series of faults caused by volcanic action.
- **population distribution:** the arrangement or spread of people living in a given area
- **Sahara Desert:** the world's largest desert (3,500,000 square miles), located in northern Africa
- **topography:** graphic representation of the surface features of a place or region on a map, indicating their relative positions and elevations.

GUIDING QUESTION

How does the topography of Africa impact the availability of water, food sources, and population distribution?

OBJECTIVES

Students will

- Identify key countries in Africa (Algeria, Ethiopia, South Africa)
- Compare and describe landforms in each country (Sahara Desert, Great Rift Valley, grassland plateau)
- Evaluate the impact of each feature on the water supply, food supply, population

GEOGRAPHIC SKILLS

- Acquiring Geographic Information
- Organizing Geographic Information
- Answering Geographic Questions
- Analyzing Geographic Information

SUGGESTED PROCEDURE

• **Opening**

Begin the lesson by showing the students a world map <<<http://www.nationalgeographic.com/xpeditions/atlas/index.html?Parent=world&Rootmap=&Mode=d&SubMode=w>>>. Ask a volunteer to identify Africa. Next ask volunteers to come up and identify Algeria, Ethiopia, and South Africa. On a piece of chart paper or on the board, write Algeria, Ethiopia, and South Africa horizontally across the top. Ask students to describe each country. Example responses may be the location of the country, "It is in the north." They may be about the number of cities, lakes, or rivers it has, or the proximity to an ocean. Record all responses on the board or on chart paper. Introduce the word "Topography," and define it for students. Ask students what impact they think the topography of a place has on the physical environment. How about the people who live there?

• **Development**

Next, divide class into three groups. Tell students that they will participate in a jigsaw activity to learn about the different countries and the impact of the topography of each. Give each group a poster board and ask them to copy the following chart:

	Location Is it in the North, Central, Southern part of the continent?	Physical Features Which one... Sahara Desert, Great Rift Valley, Grassland Plateau?	Water Supply Are there rivers, lakes, or an ocean?	Food Resources Is there farm land or oceans?	Population Distribution Where are cities and towns?
Algeria					
Ethiopia					
South Africa					

Assign each group a different country to research. If the groups are large, tell the students that some group members will be researching and some will report information. Students can obtain information from the MapMachine <<<http://plasma.nationalgeographic.com/mapmachine/index.html>> and Peoples and Places <<<http://plasma.nationalgeouraphic.com/places/index.html>>> features. Give students about 15-30 min. to fill in the chart about their country. After the time is up, ask students to present their country with the information recorded on their chart. While one group is presenting, the other groups are completing their charts with the information provided by the presenting group.

• **Closing**

Once the last group has finished reporting, the entire class will have information on all three countries. Ask students to look over the information on their charts. What observations can they make? What do they observe about where Algeria's cities are located? How about South Africa's cities? If there is little water or available farming

land, what happens to the population? How about the countries on the coast? What are the resources there? Have students make connections between the different features. Ask if the topography of a different location (another country) would have an impact on its physical features.

SUGGESTED STUDENT ASSESSMENT

Tell students that now that they have their information and have seen pictures of the different countries, they need to plan a sight-seeing trip to Africa. Students may choose any of the researched countries. In the description of the trip, the students must give a list of things to see and do there. Information about the location, topography, landforms, where to get food and water, and towns to visit should be included.

EXTENDING THE LESSON

- **Inquiry Extension:** There are many places in Africa where there is enough water and good soil for farming, but people are starving — why? What else influences food resources and the population of a region?
- **Cross-Curricular Extension for Further Exploration:** Are animals and plants impacted by the topography of the land? If yes, what are some of the animals and plants that live in each of the regions? (Science)
- **Try This at Home:** Be a farmer! Choose a crop that is found in Africa. Try to grow it at home.

ADAPTATIONS

- Give some students charts that are already partially filled in with information.
- Instead of the jigsaw activity, complete the activity as a whole class.
- For the assessment, students can draw things to see on the trip.

Related Links

- South Africa <<http://plasma.nationalgeographic.com/places/countries/country_southafrica.html>>
- Algeria <http://plasma.nationalgeographic.com/places/countries/country_algeria.html>
- Ethiopia <http://plasma.nationalgeographic.com/places/countries/country_ethiopia.html>

RELATED ACTIVITIES

- Xpedition Hall (Locator Booth X4) <<http://www.nationalgeographic.com/xpeditions/hall/>>
- The Kennedy Center: African Odyssey — South Africa <<http://artsedge.kennedy-center.org/aoi/history/safrica.html>>

NOTE TO TEACHER

This activity is a great opportunity to familiarize your students with the MapMachine and People and Places features. They are useful resources for many multi-discipline subjects.

BACKGROUND INFORMATION

When we look at the world through a geographic perspective lens, we see it in a whole new way. We do not just see geographic features in isolation but rather look for the connections between

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them. Studying the topography of a region and then looking at the way it affects the physical and human environments helps us predict and understand the impact of topography in other places around the world.

TEACHER AND STUDENT HANDOUTS

None