



CHAPTER
17

Africa

Physical Geography and Early History

1

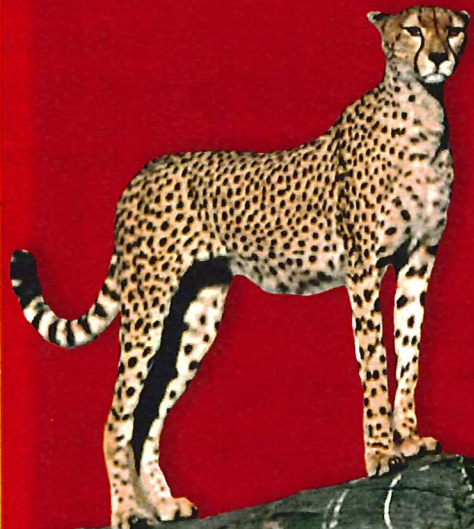
GEOGRAPHY

Africa's Geographic Extremes

2

HISTORY

Human Beginnings in Africa



ESSENTIAL QUESTION

How do humans interact with the extreme African environment?



CONNECT

Geography & History

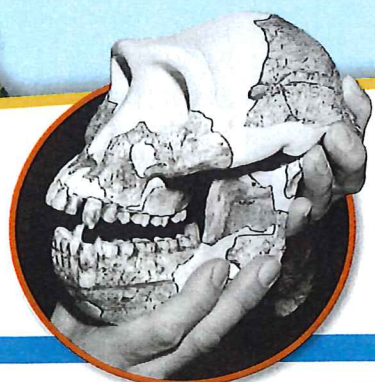
Use the map and the time line to answer the following questions.

1. The highest mountain in Africa is closest to what coast?
2. From what locations might it have been easiest for *Homo erectus* to migrate out of Africa?

History

6–7 Million Years Ago
First hominids appear. ▶

8,000,000 B.C.



History

1.8 Million Years Ago
Homo erectus begins to migrate out of Africa.

Culture

2.5 Million Years Ago
Hominids develop first tools, beginning the Stone Age. ▶



Physical Geography of Africa

Click here to explore Africa @ ClassZone.com



History

195,000 Years Ago
Earliest known *Homo sapiens* appears in Ethiopia.

Geography

3100 B.C. Upper Egypt and Lower Egypt are united. ▶



2000 B.C.

Culture

◀ **4000 B.C.** Early sickle blades are used for farming in Egypt.



SECTION 1

Reading for Understanding

▶ Key Ideas

BEFORE, YOU LEARNED

Landforms in the Earth's tropical zones have warm climates.

NOW YOU WILL LEARN

Africa, the world's second largest continent, lies almost entirely in the tropics.

▶ Vocabulary

TERMS & NAMES

- basin** a region drained by a river system
- escarpment** a steep slope separating two flat areas of different heights
- Mount Kilimanjaro** the highest mountain in Africa, in northeast Tanzania (TAN•zuh•NEE•uh)
- Sahara** the world's largest desert
- Victoria Falls** a 355-foot waterfall on the Zambezi River in South Central Africa
- Nile River** the longest river in the world, which empties into the Mediterranean Sea in northeast Egypt
- canopy** the highest layer in a forest, formed by the treetops
- Sahel** (suh•HAYL) a semiarid region just south of the Sahara

desertification the change of fertile land to desert

REVIEW

- tectonic plates** a large rigid section of the Earth's crust that is in constant motion
- savanna** a grassland in the tropics or subtropics



Visual Vocabulary Sahara


▶ Reading Strategy

Re-create the chart shown at right. As you read and respond to the **KEY QUESTIONS**, use the chart to summarize information about the physical geography of Africa.

 Skillbuilder Handbook, page R5

SUMMARIZE

	AFRICA'S CLIMATE	AFRICA'S VEGETATION
Along Equator		
Tropical Zones		
Outside Tropics		

 **GRAPHIC ORGANIZERS**
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Africa's Geographic Extremes

Connecting to Your World

Africa, the world's second largest continent, is a land of geographic extremes. Parts of the vast Sahara may not see a drop of rain for years. In contrast, areas in Africa's rain forest region may receive more than five feet of rain a year. On Africa's savanna, herds of zebras, gazelles, and elephants graze, hunted by lions and leopards. They are just a few of Africa's thousands of animal and plant species.

The Plateau Continent

KEY QUESTION What are some of Africa's geographic features?

Most of Africa is a plateau, a high and flat landform. The African plateau overlooks a thin strip of coastline. Several places on the plateau contain bowl-shaped areas called **basins**. The Niger River flows through the Niger Basin, the Sudan River flows through the Sudan Basin, and the Congo River flows through the Congo Basin. In the Chad Basin in West Central Africa, water collected to form Africa's fourth largest lake, Lake Chad.



Lion Most African lions, like this one in Kenya, now live in protected wildlife reserves.

Africa's Serengeti Wildebeests and zebras graze on the Serengeti Plain in Tanzania.



Distinctive Landforms Slow, dramatic forces shaped Africa. Erosion gradually molded southern Africa's **Great Escarpment**, a slope separating the high plateau of the interior from the narrow eastern coast.

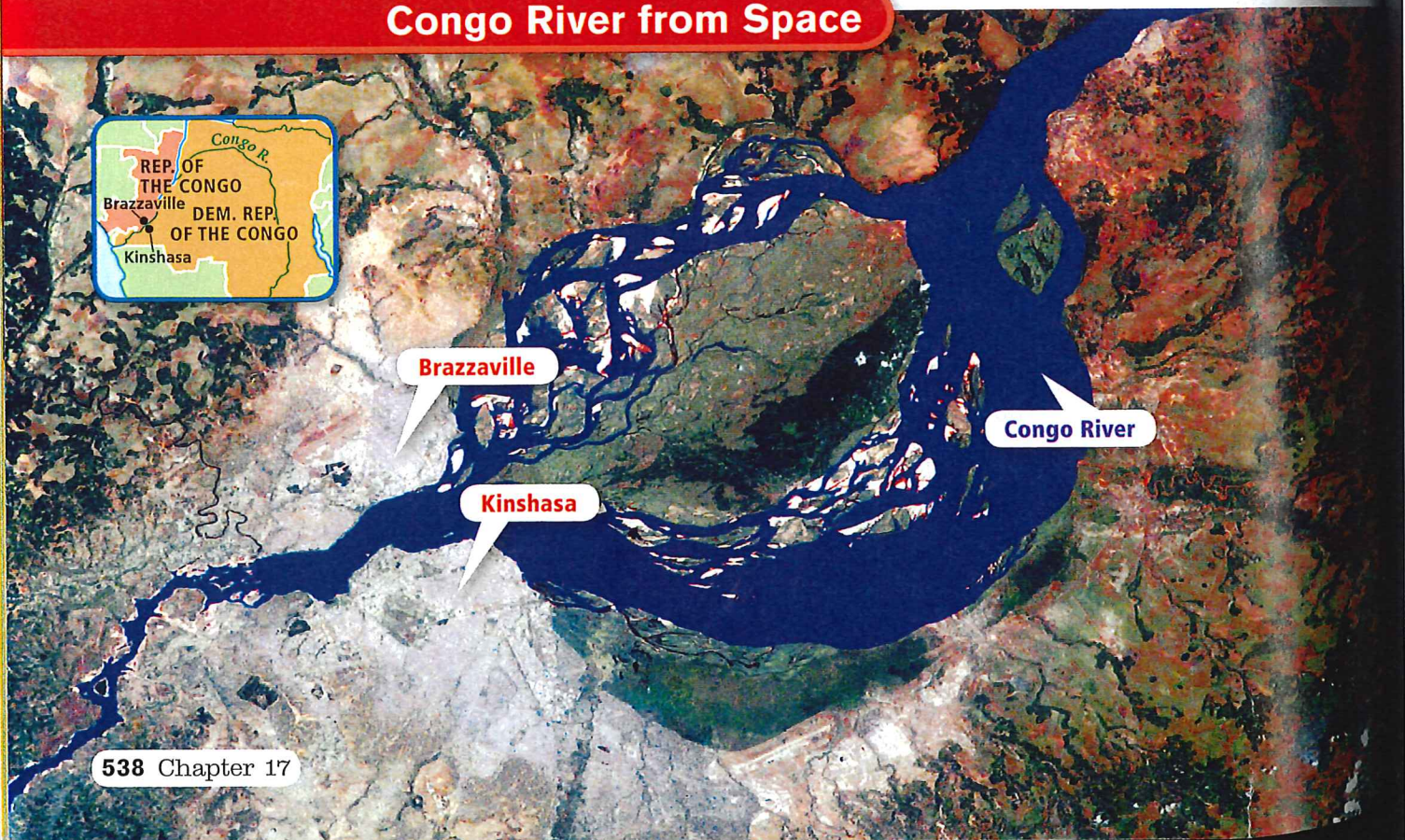
Earlier you learned that **tectonic plates** move inside the earth. In eastern Africa, sections of the African Plate are slowly pulling apart. This change, called divergence, opened the Great Rift, a series of valleys running 4,000 miles down most of the continent. Long, deep lakes formed in the Great Rift, including Lake Nyasa and Lake Tanganyika. However, Lake Victoria, Africa's largest lake, lies in a shallow basin between two rift valleys. The Earth's plates pushing together produced Africa's volcanic mountains. These include Mount Kenya, Mount Cameroon, and Africa's highest mountain, **Mount Kilimanjaro**.

The **Sahara**, the world's largest desert, stretches across North Africa. Sahara is the Arabic word for "desert." Its total area is roughly equal to that of the continental United States. Other African deserts include the Kalahari and Namib, both located in southern Africa.

Congo River This satellite photo shows Kinshasa and Brazzaville, two capital cities on opposite banks of the Congo River. The city areas are the lighter areas in the photo. What might the dark green areas represent?

Rivers of Africa Most of Africa's rivers have rapids and waterfalls, making them hard to navigate. The Congo River winds through Central Africa. Many tributaries feed into the Congo, making the Congo river system the largest in Africa. While much of the upper Congo is navigable, 32 high waterfalls dot the river near its mouth. People who live near **Victoria Falls**, a 355-foot waterfall on southern Africa's Zambezi River, call it Mosi-oa-Tunya (MOH•see•oh•ah•TOON•yah), "the smoke that thunders," because of its roaring mist.

Congo River from Space



COMPARING Landforms




Great Rift Tectonic plates pulling apart created Africa's Great Rift. 1. What is this tectonic process called?



Mount Kilimanjaro

Tectonic shifts also created volcanic mountains, such as Tanzania's Kilimanjaro. 2. How can plate movement create volcanic mountains?

The world's longest river, the **Nile**, flows north through northeast Africa for more than 4,000 miles. For thousands of years, people have depended on the Nile's annual floods to enrich their soil for farming. But for most of that time, no one knew where the river began. The ancient Greek geographer Ptolemy guessed the Nile's source was in a snowy area he called the "Mountains of the Moon." In the 1870s explorers found that Lake Victoria was the main source of the Nile.

 **SUMMARIZE** Describe the key geographic features in Africa.

Climate, Plants, and Animals

 **KEY QUESTION** How does Africa's location shape its climate?

The Equator divides the Earth into two hemispheres, and also runs right through Africa's midpoint. Turn the page to see climate and vegetation maps of Africa.

A Warm Continent Along the Equator, the climate is tropical wetland. Bands of tropical wet and dry climate border these wetlands. Next come strips of semiarid climate, and then deserts. In the southeast part of the continent lies a small area of humid subtropical and marine west coast climates. Areas of higher elevation have a highland climate, with rainy winters, dry summers, and typically cooler temperatures than tropical and semiarid climates.



Fun Facts!

EXTREME INSECTS

The Goliath Beetle, found in Africa's rain forest, is one of the heaviest insects in the world. It is about five inches long and can weigh up to 100 grams, or 3.5 ounces. Goliath beetles are harmless to humans, feeding on dead plant matter, other insects, and animal waste.

Africa's vegetation mirrors the climate, with rain forests **A** (on the map, opposite) along the Equator. Areas of grasslands and woodlands, called **savannas B**, are in the wet, dry, and semiarid regions. Scattered shrubs and some grasses grow in the desert **C**. The plants most able to survive in the desert have long root systems that can reach underground water sources. Mediterranean vegetation grows along Africa's northern coast and southern tip. In those areas, native plants include shrubs, small trees, and grasses.

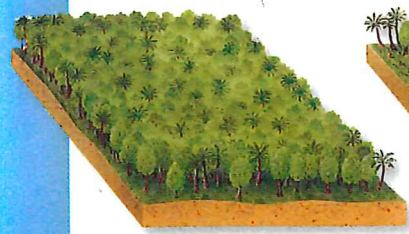
Animal and Plant Life Ferns and mosses make up the rain forest's ground floor, below a middle story of trees and palms. The top layer, towering to about 150 feet, is called the **canopy**. There, leaf-filled branches sprout dazzling orchids. The canopy is also home to fruit-eating parrots and pigeons, seed-eating beetles, and gorillas and chimpanzees.

Grazing animals feed on the grasses and trees of the savanna. Bordering both the savanna and the Sahara Desert is a semiarid region called the **Sahel** (suh•HAYL), from the Arabic word for "shore." But **desertification**, a process in which fertile land becomes desert, is turning the Sahel into the Sahara. The illustrations below show how human activity is speeding desertification.

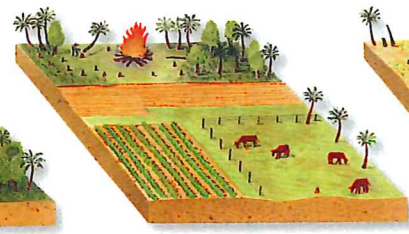
DRAW CONCLUSIONS Describe how Africa's location affects its vegetation.

CONNECT Geography & Science

Desertification Climate change expanded the Sahara in ancient times. Today, human activity is speeding up the process.



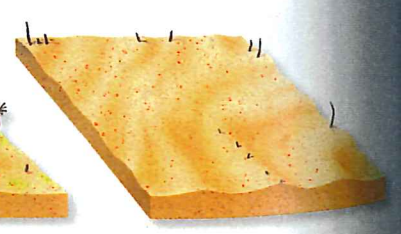
1. The Sahel receives very little rainfall. The vegetation lives in a fragile state.



2. Farming, overgrazing by livestock, and the collection of wood for fuel can erode and expose soil.



3. Vegetation gradually disappears. The remaining plants do not cover the soil as well as the grass did.



4. With less vegetation covering the fertile topsoil, the soil eventually dries up and blows away.

CRITICAL THINKING

Draw Conclusions What impact might desertification have on people living in the affected areas?

Vegetation Regions of Africa

[Click here](#) to see regions of Africa @ [ClassZone.com](#)

	Tropical rain forest
	Tropical grassland
	Desert and dry shrub
	Temperate grassland
	Mediterranean shrub



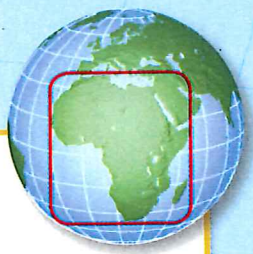
Climates of Africa



	Tropical		Mid-Latitude
	Tropical wet		Mediterranean
	Tropical wet and dry		Marine west coast
	Dry		Humid subtropical
	Desert		Highland
	Semiarid		

CONNECT Geography & Culture

READING A VEGETATION MAP



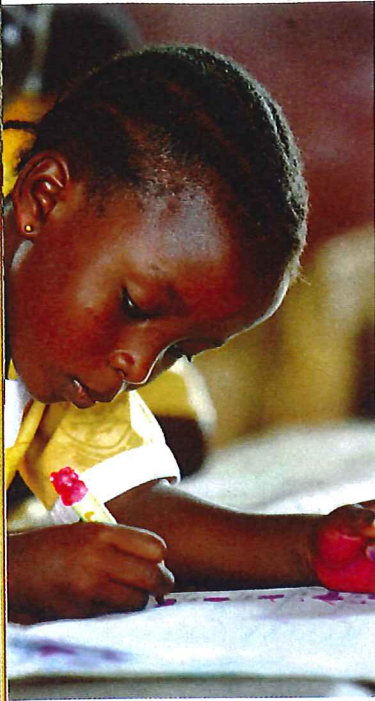
Africa's vegetation regions closely mirror the continent's climate zones. As you study Africa's vegetation,

- compare the two maps shown
- note how the climate and vegetation bands are similar
- think about how these vegetation zones affect human activity

- 1. Location** What type of vegetation zone lies between Africa's northern coast and the rest of the continent?
- 2. Human-Environment Interaction** Which vegetation zones would best support livestock?

Africa's Population

KEY QUESTION What challenges does Africa's growing population face?



Schoolgirl in Ghana

Although school is free for children under 16 in Ghana, nearly 25 percent of children in the country have never attended school.

Population distribution in Africa varies dramatically. Large areas of the Sahara, for example, have no people at all. But more than 95 percent of Egypt's population live along the Nile Valley, making it one of the most densely populated places on Earth. The most densely populated areas in Africa are along rivers, lakes, and coastlines. Although most Africans live in rural areas, African cities are growing steadily.

Africa's population is the second-largest, but fastest-growing, in the world. This rapid growth sometimes causes problems. Most countries have few doctors to care for the sick. In addition, the United Nations estimates that about 40 million children south of the Sahara do not attend primary school. African nations and the UN are working to improve education by training more teachers and making school more affordable.

More than 1,500 languages are spoken in Africa. The Democratic Republic of the Congo, in Central Africa, has more than 200 languages and dialects just within its own borders. Many Africans also use a second language to ease communication. For example, French is a language commonly spoken in some West and Central African countries. The language remains in Africa from the years when France held colonies in the region.

FIND MAIN IDEAS Describe some of the challenges for Africa's growing population.

Africa's Resources

KEY QUESTION What are some of Africa's natural resources?

Africa's savannas once teemed with wildlife. But hunters and poachers killed animals for game, and farmers have turned grassland habitats into farmland. To halt this decline, many African countries have established national parks. There, protected animals live in their natural habitats, tourists can take pictures of the animals, and scientists can study their behavior.

Energy and Other Mineral Resources Oil is one of Africa's most valuable resources. Oil-producing countries include Algeria, Kenya, Libya, Egypt, Angola, and Nigeria. Africa also produces about 40 percent of the world's diamonds and more than half of its gold. South Africa has abundant gold, diamonds, and platinum. Other diamond-producing countries include Ghana and Namibia. Zambia produces copper and cobalt, while Zimbabwe mines chromium.

Are Resources Enough? Even the richest mineral resources do not guarantee economic success. For example, the oil that enriches Nigeria has also led to conflicts between ethnic groups over who profits from the resources. Oil production also brings natural gas deposits to the surface, which are often burned off. This “gas flaring” wastes an energy source and harms the environment. Oil companies are now looking for ways to better use natural gas resources. In Angola, rebel groups have mined diamonds, possibly using slave labor, and have sold them to fund civil wars. The United Nations and other groups are working to keep these “conflict diamonds” off the world market.

African countries that export farm crops usually concentrate on one or two crops, a practice put in place during Africa’s colonial era. For example, Ethiopia and Uganda export coffee, while Chad exports cotton. But, as with oil wealth, relying on any single crop puts a country at risk when prices fall or resources run out. Many countries are working to make their economies more diverse.



Drying Food These Nigerian women are using the heat from gas flares to dry food on round trays. However, the flaring releases pollutants into the air.

SUMMARIZE Identify some of Africa’s key resources.

ONLINE QUIZ
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Section 1 Assessment

TERMS & NAMES

1. Explain the importance of

- basin
- savanna
- Sahel
- desertification

USE YOUR READING NOTES

2. Summarize Use your completed chart to answer the following question:

How does Africa’s vegetation reflect the climate it grows in?

	AFRICA’S CLIMATE	AFRICA’S VEGETATION
Along Equator		
Tropical Zones		
Outside Tropics		

KEY IDEAS

3. The Nile is the world’s longest river, but the Congo river system is Africa’s longest. How is this difference possible?
4. What process formed the Great Escarpment?
5. What have been some of the problems associated with Africa’s oil resources?

CRITICAL THINKING

6. **Analyze Causes and Effects** How have plate tectonics shaped Africa’s landscape?
7. **Identify Problems and Solutions** Why is it risky for a country to depend on a single resource?
8. **CONNECT to Today** How might increasing oil consumption in the United States affect African oil-exporting countries?
9. **ART Tourism Brochure** Create a brochure for an African national park. Include information on the animals and habitats people will see, and explain how the park will protect those animals and habitats.