

A Changing World

Essential Question

What events and technological advances paved the way for European exploration?

Reading Guide

Content Vocabulary

classical (p. 30) pilgrimage (p. 33)
 technology (p. 31) mosque (p. 33)
 astrolabe (p. 31) Quran (p. 33)

Academic Vocabulary

acquire (p. 31) impose (p. 32)

Key People and Events

Crusades (p. 29)
 Marco Polo (p. 29)
 Renaissance (p. 30)
 Mansa Mūsā (p. 33)

Reading Strategy

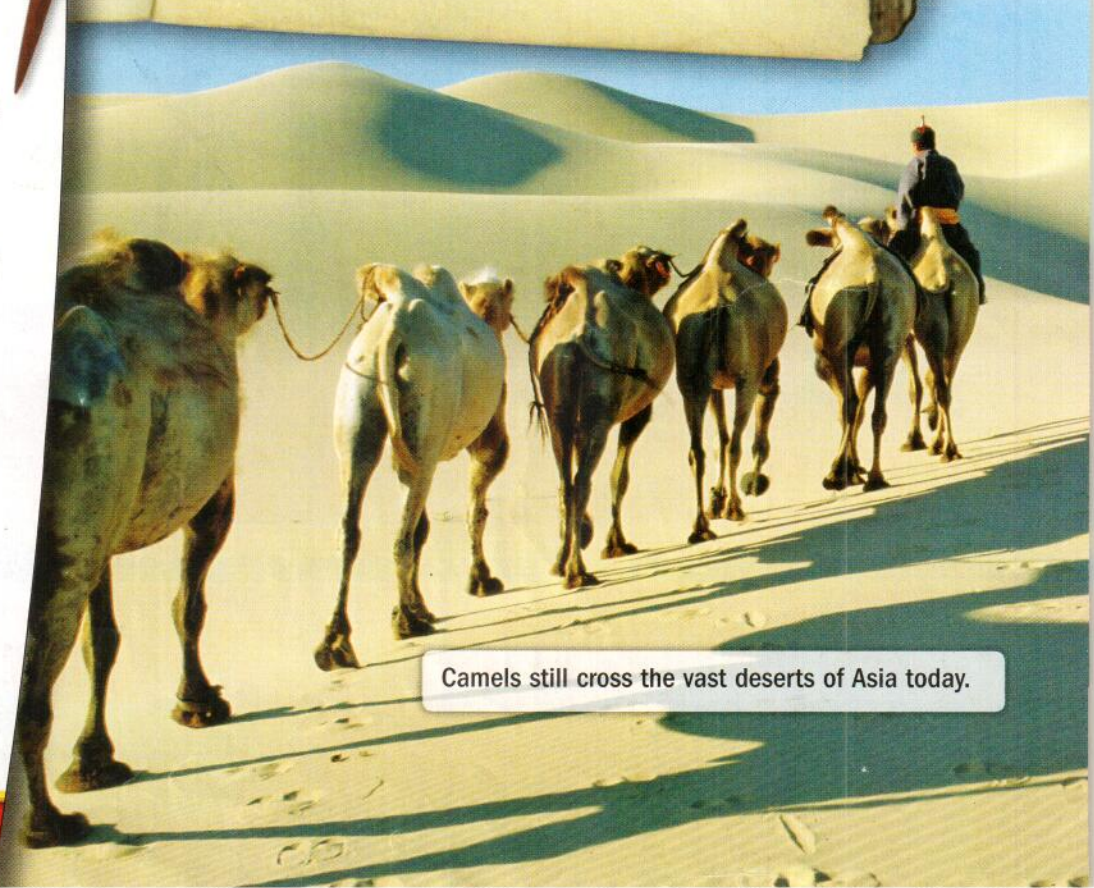
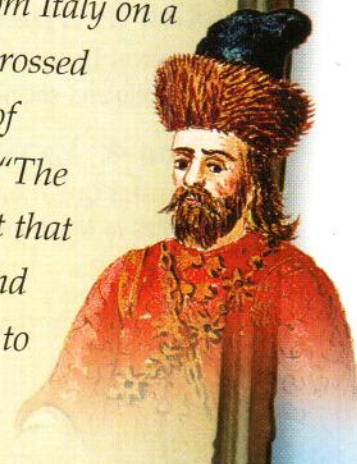
Taking Notes As you read, use a diagram like the one below to identify the advances in technology that paved the way for European voyages of exploration.



American Diary

In 1271 Marco Polo set off from Italy on a great journey to China. Polo crossed the Gobi, a desert area north of China, about which he wrote: "The length of this Desert is so great that 'tis said it would take a year and more to ride from one end of it to the other. And here, where its breadth is least [narrowest], it takes a month to cross it. 'Tis all composed of hills and valleys of sand, and not a thing to eat is to be found on it."

—from *The Travels of Marco Polo*



Camels still cross the vast deserts of Asia today.

New Ideas and Nations

Main Idea The Renaissance began in the Italian city-states and spread throughout Europe.

History and You What do you know about the ancient civilizations of Greece and Rome? Read to learn about the renewed interest in classical learning during the Renaissance.

By the time Marco Polo returned from China, European interest in Asia had begun to grow. For centuries after the Roman Empire fell, the people of western Europe were isolated from the rest of the world. Dominated by the Catholic Church, their world was divided into a number of small kingdoms and city-states.

Meanwhile, the religion of Islam swept across the Middle East and Africa. European Christians feared losing access to the Holy Land—the birthplace of Christianity, in what is now Israel. In 1095 the Europeans launched the first of nine expeditions, known as the **Crusades**, to regain control of their holy sites from the Muslims.

The Crusades brought western Europeans into contact with the Middle East. Arab

merchants sold spices, sugar, silk, and other goods from China and India to Europeans. As a result, European interest in Asia grew.

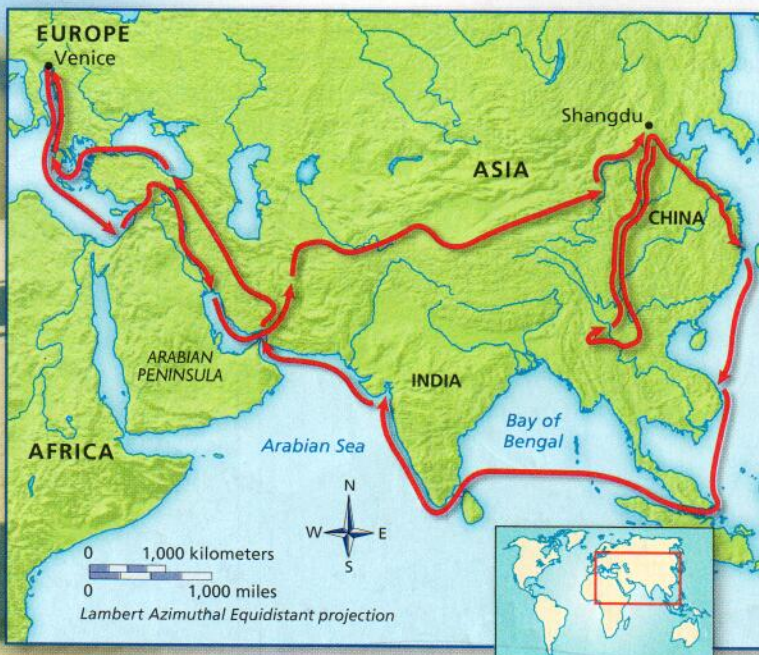
That interest grew even more after **Marco Polo** returned from China. In 1296 he began writing an account of his trip. He described Asia's marvels in his book *Travels*, which was widely read in Europe. Little did Marco Polo realize that 200 years later, *Travels* would inspire Christopher Columbus to sail in the opposite direction to reach the East.

The Growth of Trade

Merchants knew they could make a fortune selling goods from Asia. Wealthy Europeans clamored for spices from the East. They also wanted perfumes, silks, and precious stones.

Merchants first bought goods from Arab traders in the Middle East. These merchants then sent the goods overland by caravan to the Mediterranean Sea. From there the goods were sent by ship to Italian ports. The cities of Venice, Genoa, and Pisa prospered as centers of the growing trade. Arab merchants, however, charged high prices for their goods. Europeans began looking for a route to the East that bypassed the Arab merchants.

If You Were There A Young Explorer



▲ Map of Marco Polo's journey to China

En Route Only 17 years old when his trip began, Marco Polo journeyed with his father and uncle, both Venetian merchants. If you were with them, you would have traveled on camels for more than three years. You also would have crossed almost 7,000 miles (11,265 km) of mountains and deserts before reaching your final destination: the fabled court of Kublai Khan (KOO-BLUH KAHN), the Mongol emperor of China.

Critical Thinking

Explaining How would you have traveled to China? How long would it have taken to reach your destination?

The Growth of Ideas

In the 1300s a powerful new spirit emerged in the Italian city-states and spread throughout Europe. Banking and the expansion of trade with Asia made Italian merchants wealthy. These citizens wanted to improve their knowledge of past civilizations and of the world. They studied the **classical**—ancient Greek and Roman—works with new interest. Taking a more experimental approach to science, many thinkers tested new and old theories and evaluated the results.

Many authors began to write about the individual and the universe. Artists studied the sculpture and architecture of the classical world. They particularly admired the harmony and balance in Greek art.

The Renaissance

This period of intellectual and artistic creativity was known as the **Renaissance** (REH•nuh•SAHNNTS). The word means “rebirth” in French and refers to the renewed interest in classical Greek and Roman learning. The Renaissance spread throughout Europe

over the next two centuries. It changed the way Europeans thought about themselves and the world. It also paved the way for an age of exploration and discovery.

Powerful Nations Emerge

During the Renaissance, merchants and bankers sought greater profits through foreign trade. They wanted to buy goods directly from the East. The development of nation-states in western Europe helped expand trade and interest in overseas exploration.

For years Europe was a patchwork of small states. By the 1400s, however, a new type of centralized state began to emerge in western Europe. Strong monarchs came to power in Spain, Portugal, England, and France. They began to establish national laws, courts, taxes, and armies to replace those of the local lords. These ambitious monarchs sought ways to increase trade and make their countries stronger and wealthier.

 **Reading Check** **Identifying** What goods did wealthy Europeans desire from the East?

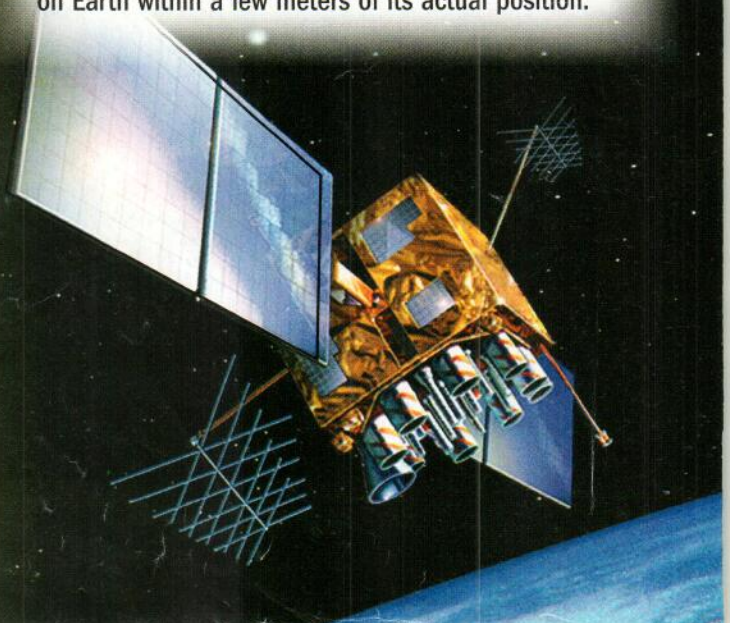
LINKING PAST TO PRESENT

THEN “Land ho!” The tools that early explorers used to sail the uncharted seas were much different from the instruments used today. Early navigation tools such as the astrolabe could help determine a ship’s approximate latitude by noting the locations of the stars.



Navigation Tools

NOW Today, navigation satellites do the work of an astrolabe—and much more. The NAVSTAR Global Positioning System (GPS) is a network of satellites launched by the United States. From space, the GPS can track the location of a ship or some other object on Earth within a few meters of its actual position.



Technology's Impact

Main Idea Technology produced better means of navigation and paved the way for European voyages of exploration.

History and You Have you ridden in a vehicle with an onboard navigation system? Read to learn how the astrolabe and compass improved navigation in the 1400s.

Advances in **technology**—the use of scientific knowledge for practical purposes—paved the way for European voyages of exploration. In the 1450s the introduction of the printing press made it much easier to print books. Now more people had access to books and to new information. Many Europeans read Marco Polo's *Travels* when it appeared in printed form in 1477.

Better Maps and Instruments

Most early maps were inaccurate because they were drawn from the often-mistaken impressions of traders and travelers. Little by

little, cartographers, or mapmakers, improved their skills. Using reports of explorers and information from Arab geographers, mapmakers made more accurate land and sea maps. These maps showed the directions of ocean currents. They also showed lines of latitude, which measured the distance north and south of the Equator.

Better instruments were developed for navigating the seas. Sailors could determine their latitude while at sea with an **astrolabe**. This instrument measured the positions of stars. Europeans also **acquired** the magnetic compass. A Chinese invention, the compass began to be widely used in Europe and the Middle East in the 1200s. The compass allowed sailors to determine their direction when they were far from land.

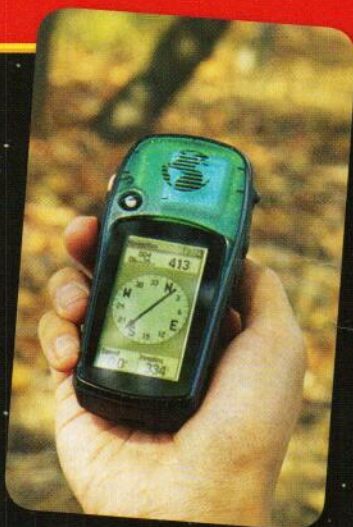
Better Ships

Advances in ship design allowed shipbuilders to build sailing vessels that were capable of long ocean voyages. The stern rudder and the triangular sail made it possible for ships to sail into the wind. Both of these new features came from the Arabs.

Then, in the late 1400s, the Portuguese developed the three-masted caravel. It was the first and most famous ship of the European age of exploration. The caravel sailed faster than earlier ships and carried more cargo and food supplies. It also could float in shallow water. This feature allowed sailors to explore inlets and to sail their ships up to the beach if they needed to make repairs. A Venetian sailor called the caravels "the best ships that sailed the seas."

By the mid-1400s, the Italian ports faced increased competition for foreign trade. As a result, a new era of exploration was launched. Powerful countries such as Portugal and Spain began searching for sea routes to Asia. Portugal began its explorations by sending ships down the west coast of Africa, an area Europeans had never visited before.

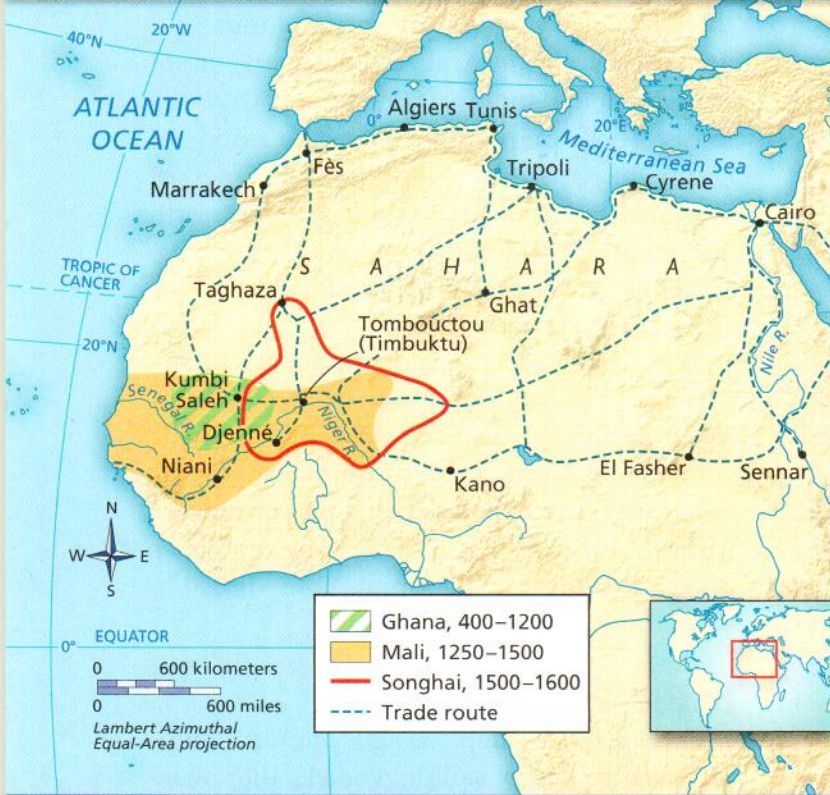
Hikers can use a handheld GPS receiver to stay on course in the wilderness. ▶



Critical Thinking

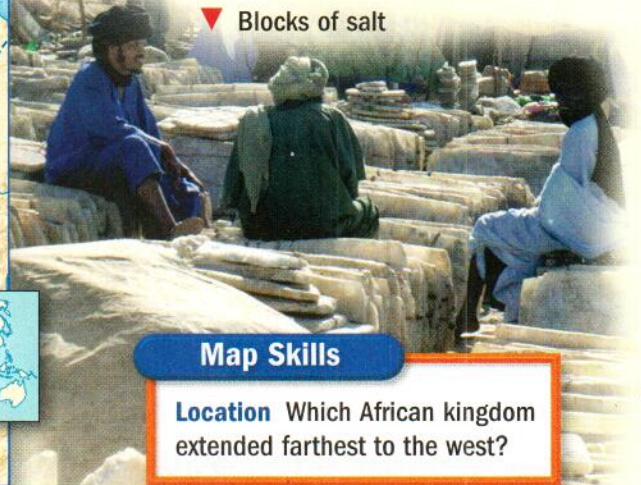
- Explaining** How have the tools used for navigation changed since the late 1400s?
- Analyzing** What major technological advancements have allowed improvements in navigation?

Reading Check **Explaining** How did the caravel affect overseas exploration in the 1400s?



"In the sands of that country is gold, treasure inexpressible. . . Merchants trade with salt for it, taking the salt on camels from the salt mines. . . When they reach Ghana they weigh their salt and sell it against a certain unit of weight of gold."

—Abū Hāmid al-Gharnāī, as quoted in *Sudanese Memoirs*



▼ Blocks of salt

Map Skills

Location Which African kingdom extended farthest to the west?

African Kingdoms

Main Idea Ghana, Mali, and Songhai were among the most powerful empires in Africa.

History and You What items are valued today because they are rare? Read to find out how rare items, such as salt, drove the economies of early African kingdoms.

Powerful kingdoms flourished in Africa south of the Sahara between A.D. 400 and A.D. 1600. Africans mined gold, copper, and iron ore. Trade with Islamic societies in North Africa brought wealth as well as Islamic ideas and customs to the West African kingdoms.

City-states on the east coast of Africa also benefited from trade. Arab traders from the Middle East brought cotton, silk, and porcelain from India and China. They exchanged these goods for ivory and metals from the African interior.

The Portuguese sailed south along the western coast of Africa in the mid-1400s.

They set up trading posts along the coastline. From these posts, they traded for gold and for enslaved people.

Ghana—A Trading Empire

Between A.D. 400 and A.D. 1100, a vast trading empire called Ghana emerged in West Africa. Well located between the salt mines of the Sahara and the gold mines to the south, Ghana prospered from the taxes **imposed**, or placed, on trade.

Caravans with gold, ivory, and slaves from Ghana crossed the Sahara to North Africa, where Muslim traders loaded caravans with salt, cloth, and brass and headed back to Ghana. Trading contacts led many West Africans to become Muslims.

In 1076 people from North Africa, called Almoravids, attacked Ghana and disrupted its trade routes. While Ghana fought the Almoravids, new trade routes and gold mines opened up to the east, bypassing Ghana. Ghana then began to decline, and new states emerged in the region.

Mali—A Powerful Kingdom

Mali, one of the new states, grew into a powerful kingdom. The people of Mali developed their own trade routes across the desert to North Africa. By the late 1200s, Mali's territory included the former kingdom of Ghana. The country was mainly agricultural, but gold mines enriched the kingdom.

Mali's greatest king, **Mansa Mūsā**, ruled from 1312 to 1337. He was described at the time as "the most powerful, the richest, the most fortunate, the most feared by his enemies, and the most able to do good to those around him." Mūsā made his kingdom famous.

In 1324 Mūsā, who was a Muslim, made a grand pilgrimage to the Muslim holy city of Makkah (Mecca) in western Saudi Arabia. A **pilgrimage** is a journey to a holy place. Arab writers reported that Mūsā traveled with a huge military escort. Ahead of him marched 500 royal servants who carried gold to distribute along the way.

Mūsā returned to Mali with an Arab architect who built great **mosques**, Muslim houses of worship, in the capital of Timbuktu. Under Mansa Mūsā, Timbuktu became an important center of Islamic art and learning.

The Songhai Empire

Some years later the Songhai (SAWNG•hy) people, who lived along the Niger River, rose up against Mali rule. They built a navy to control the Niger and in 1468 captured Timbuktu. Askīya Muhammad brought the Songhai Empire to the height of its power. Askīya strengthened his country and encouraged trade with Europe and Asia.

Plan of Government

Askīya introduced laws based on the teachings of the holy book of Islam, the **Quran**. Askīya also developed a sophisticated plan for his country's government. He divided Songhai into five provinces. To each province he appointed a governor, a tax collector, a court of judges, and a trade inspector. Everyone used the same weights and measures and followed the same legal system. In the late 1500s the North African kingdom of Morocco attacked the Songhai gold-trading centers. Using guns and cannons, the Moroccans easily defeated the empire.

Reading Check **Explaining** What goods did African kingdoms use for trading? What did they trade for?

Section 1 Review

History ONLINE
Study Central™ To review this section, go to glencoe.com.

Vocabulary

1. Use each of these terms in a sentence that will help explain its meaning: *classical, technology, astrolabe, acquire, impose, pilgrimage, mosque, Quran.*

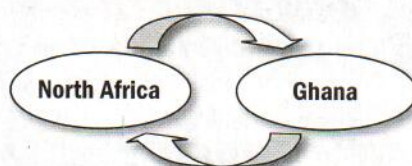
Main Ideas

2. **Identifying** Why did interest in trade with the East increase during the Renaissance?
3. **Describing** How were maps improved to help sailors?

4. **Discussing** How did Timbuktu, in Mali, become an Islamic cultural center?

Critical Thinking

5. **Organizing** Use a diagram like the following to show the exchange of goods and ideas between North Africa and Ghana.



6. **Persuasive Writing** Take on the role of Marco Polo. Write one paragraph for the back cover that will make readers want to buy your book, *Travels*.

7. **Answer the Essential Question**
What events and technological advances paved the way for European exploration?