The Search Is On

Cinnamon, pepper, nutmeg, cloves... these and other spices were a vital part of the world economy in the 1400s. Because the spice trade was controlled by Arab merchants and traders, Europeans didn't know how to get the spices they desperately needed. Even when Europeans learned that spice plants could be obtained in Asia, they didn't have a hope of growing them in Europe. As an Indian ruler boasted to a European trader, "You may be able to take our plants, but you will never be able to take our rain." Europeans knew that the only way they could take control of the spice trade would be to establish sea routes to Asia—at any cost.

Focus Question How did the search for spices lead to global exploration?

The Search for Spices

Objectives
- Understand European motivations for exploring the seas.
- Analyze early Portuguese and Spanish explorations.
- Describe European searches for a direct route to Asia.

Motivations for Exploring the Seas

Europeans traded with Asians long before the Renaissance. The Crusades introduced Europeans to many luxury goods from Asia, carried on complex overland routes through the Mongol empire of the 1200s and 1300s. The Black Death and the breakup of the Mongol empire disrupted that trade. By the 1400s, though, Europe's population was growing, along with its demand for trade goods. The most valued items were spices, used to preserve food, add flavor to meat, and make medicines and perfumes. The chief source of spices was the Moluccas, an island chain in present-day Indonesia, which Europeans then called the Spice Islands.

Throughout history, groups of people—from the ancient Greeks to Muslim Arabs and the Vikings of Scandinavia—had explored the seas, trading and migrating over long distances. The European sailors of the 1400s began a dramatic new period of exploration.

Vocabulary Builder

High-Use Word Definition and Sample Sentence
Authority, p. 87  A. the power to give commands and enforce obedience When the president of the company is absent, the vice president has the authority to make decisions.
Portugal Sails East
Prince Henry led the way in sponsoring exploration for Portugal, a small nation next to Spain. First, Prince Henry’s navigators discovered that the Muslims could no longer control the sea. Prince Henry then led the way in sponsoring exploration for Portugal, a small nation next to Spain. First, Prince Henry’s navigators discovered that the Muslims could no longer control the sea. Prince Henry then gathered scientists, cartographers, and other experts. They redesigned ships, prepared maps, and trained captains and crews for long voyages. Henry’s ships then slowly worked their way south to explore the western coast of Africa.

By 1415, Portugal had expanded into Muslim North Africa, and claimed the Madeira and Azores islands to the west and southwest of Portugal. Prince Henry saw great promise in exploring the coast of Africa he would find the sources of riches the Muslim traders controlled. Finally, Prince Henry hoped to find an easier way to reach Asia, which meant going around Africa. The Portuguese felt that with their expert knowledge and technology, they could accomplish this feat. At Sagres, in southern Portugal, Henry gathered scientists, cartographers, and other experts. They redesigned ships, prepared maps, and trained captains and crews for long voyages. Henry’s ships then slowly worked their way south to explore the western coast of Africa.

Henry died in 1460, but the Portuguese continued their quest. In 1488, Bartholomeu Dias rounded the southern tip of Africa. Despite the turbulent sea around it, the tip became known as the Cape of Good Hope because it opened the way for a sea route to Asia.
Portugal Sails East

Instruct

■ Introduce As students read about Prince Henry, point out that Prince Henry himself never sailed on a voyage of exploration. Ask What motivated Prince Henry to make overseas exploration one of his life goals? (He wanted to make Portugal a world power; he hoped to gain converts to Christianity.) Did Prince Henry fulfill his goals? (He made Portugal a world power, but he did not succeed in spreading Christianity. He also encouraged advances in navigation and mapmaking.)

■ Teach Ask What was Vasco da Gama’s major accomplishment? (He found a sea route to India.) How did da Gama establish a foothold for a Portuguese empire? (He left Portuguese merchants in India and forced a treaty upon an Indian ruler.)

■ Analyzing the Visuals Display Color Transparency 82: European Explorations for Spices, About 1500. Use the lesson suggested in the transparency book to guide a discussion.

Independent Practice

Primary Source To help students better understand the role of cartography in the age of exploration, have them read the selection Mercator Projection and answer the questions on the worksheet. Teaching Resources, Unit 1, p. 28

Monitor Progress Ask students to write a paragraph explaining how and why Portugal took the lead in overseas exploration. Check that students have emphasized the key role of Prince Henry.

Answer

The Portuguese established forts or took over cities that were centers of trade; over time, they connected them into a large empire.

Seeking India In 1497, Portuguese navigator Vasco da Gama followed in Diaz’s footsteps, leading four ships around the Cape of Good Hope. Da Gama, however, had plans to go farther. After a ten-month voyage, da Gama reached the great spice port of Calicut on the west coast of India. On the long voyage home, the Portugese lost half their ships, and many sailors died of hunger, thirst, and scurvy, a disease caused by a lack of vitamin C in the diet.

Despite the hard journey, the venture proved highly profitable. In India, da Gama had acquired a cargo of spices that he sold at an enormous profit. He quickly outfitted a new fleet, seeking greater profits. In 1502, he forced a treaty on the ruler of Calicut. Da Gama then left Portuguese merchants there whose job was to buy spices when prices were low and store them until the next fleet could return. Soon, the Portuguese had seized key ports around the Indian Ocean, creating a vast trading empire. Da Gama’s voyages confirmed Portugal’s status as a world power.

Checkpoint How did Portuguese exploration lead to the creation of a trading empire?

Navigation—Past and Present The astrolabe made long sea voyages possible—but the navigation tool wasn’t easy to use. To use the astrolabe, the sailor needed to hold it steady so that he could take a reading on a star or the sun. The ship’s deck often heaved and rolled, making it nearly impossible to hold the astrolabe still. As a result, errors of hundreds of miles were often made. Keeping accurate time was another problem. Early explorers used an hourglass to mark the passage of each half hour. Forgetting to turn over the glass was disastrous; each minute lost could put a ship 15 miles off course.

Today, sailors navigate using GPS, or the Global Positioning System. Based on a network of satellites in orbit around Earth, GPS can pinpoint a location to within 50 feet, no matter where the user is.
Columbus Sails West

News of Portugal’s successes spurred other people to look for a sea route to Asia. An Italian navigator from Genoa, named Christopher Columbus, wanted to reach the East Indies—a group of islands in Southeast Asia, today part of Indonesia—by sailing west across the Atlantic. Like most educated Europeans, Columbus knew that Earth was a sphere. A few weeks sailing west, he reasoned, would bring a ship to eastern Asia. His plan made sense, but Columbus greatly underestimated Earth’s size. And he had no idea that two continents lay in his path.

Reaching Faraway Lands Portugal refused to sponsor him, but Columbus persuaded Ferdinand and Isabella of Spain to finance his voyage. To increase their authority, the Spanish rulers had taken radical measures, including expelling Jews from Spain. They hoped their actions would strengthen Catholicism. However, the loss of some of Spain’s most affluent and cultured people weakened the nation. The rulers hoped Columbus’s voyage would bring wealth and prestige.

Columbus Sails West

Instruct

■ Introduce: Vocabulary Builder
Have students read the Vocabulary Builder term and definition. Ask them to predict who might authorize a European voyage of exploration.

■ Teach
Emphasize the importance of the voyages of Columbus in shaping European knowledge of the world. Ask What were the main accomplishments of Columbus? (Columbus was the first European to reach the Americas, and he motivated other explorers.) How did the Treaty of Tordesillas affect competition among European nations? Why? (It intensified competition, because European nations felt they needed to claim land quickly before there was nothing left to discover.)

■ Analyzing the Visuals
Have students review the Infographic on these pages. Ask students to compare the two world maps on this page, and then explain how new technology helped produce the more accurate world map.

Independent Practice
Have students fill in the Outline Map Global Explorations, labeling the major routes with the correct explorer.

Teaching Resources, Unit 1, p. 34

Monitor Progress
Circulate to make sure students are filling in their Outline Maps accurately by labeling the routes with the correct explorer.

Answers

Thinking Critically
1. Synthesize Information: Why would a portolan map be inappropriate as a resource for a geography class?
2. Draw Inferences: What limitations did the astrolabe have that the magnetic compass did not?

Link to Science

Scurvy
This vitamin C deficiency disease was a frequent problem for sailors, who often did not eat enough fresh fruits and vegetables while at sea. One sufferer described the horror of scurvy in graphic terms: “It rotted all my gums, which gave out a black and putrid blood. My thighs and lower legs were black and gangrenous, and I was forced to use my knife each day to cut into the flesh in order to release this black and foul blood. I also used my knife on my gums, which were livid and growing over my teeth . . . Many of our people died of it every day.”
Native Americans from what is now Canada were familiar with the disease and offered afflicted Europeans a cure made from brewed hemlock branches. It wasn’t until 1753 that Scottish naval surgeon James Lind prescribed the consumption of orange, lemon, or lime juice, all loaded with vitamin C, as a preventive and curative measure.
The Search for a Direct Route Continues

Instruct

- Introduce: Key Terms Have students find the key term circumnavigate (in blue) in the text. Elicit from students the difficulties that Magellan would have had to overcome to carry out this feat. Point out the quotations by Pigafetta at the end of this section. Have students discuss what compelled him to make that statement.

- Teach As you describe Magellan’s voyage, trace it on a world map. Ask Why did European monarchs fund such risky voyages by navigators? (They were willing to take risks in exchange for the possibility of claiming new lands, finding a northwest passage, or discovering sources of wealth.) What was Magellan’s basic mistake when planning and carrying out his voyage? (He greatly underestimated the size of the Pacific Ocean.)

- Quick Activity Have students take on the roles of sailors aboard Magellan’s ship. Explain that they have just passed through the Strait of Magellan. Ask them to debate whether they should return to Spain the way they came or keep going across the Pacific. Students should use maps and information from the section to support their positions.

Independent Practice

Biography To help students better understand the age of exploration, have them read the biography Ferdinand Magellan and answer the questions on the worksheet.

Teaching Resources, Unit 1, p. 30

Monitor Progress

Check Reading and Note Taking Study Guide entries for student understanding.

Answers

BIOGRAPHY Henry appears to be a solemn, thoughtful, and impressive figure. His discoveries prompted Spain to obtain the treaty, ensuring that the lands Columbus discovered, along with future discoveries, would belong to Spain.

On August 3, 1492, Columbus sailed west with three small ships, the Nina, the Pinta, and the Santa Maria. Although the expedition encountered good weather and a favorable wind, no land came into sight for many weeks. Provisions ran low, and the crew became anxious. Finally, on October 12, land was spotted. Columbus spent several months cruising the islands of the Caribbean. Because he thought he had reached the Indies, he called the people of the region “Indians.” In 1493, he returned to Spain to a hero’s welcome. In three later voyages, Columbus remained convinced that he had reached the coast of East Asia. Before long, though, other Europeans realized that Columbus had found a route to previously unknown continents.

Dividing the Globe in Half In 1493 Ferdinand and Isabella appealed to the Spanish-born Pope Alexander VI to support their claim to the lands of the new world. The pope set a Line of Demarcation, dividing the non-European world into two zones. Spain had trading and exploration rights in any lands west of the line. Portugal had the same rights east of the line. The specific terms of the Line of Demarcation were agreed to in the Treaty of Tordesillas, signed between the two countries in 1494. The actual line was unclear, because geography at the time was imprecise. However, the treaty made it obvious to both Spain and Portugal—and to other European nations, eager to defy what they saw as Spain and Portugal’s arrogance—that they needed to build their own empires quickly.

Naming the Western Hemisphere An Italian sea captain named Amerigo Vespucci wrote a journal describing his voyage to publish a map of the region, which he labeled “America.” Over time, the term “American” came to be used for both continents of the Western Hemisphere. The islands Columbus had explored in the Caribbean became known as the West Indies.

Check-up How did Columbus influence the Treaty of Tordesillas?
The Search for a Direct Route Continues

Though Europeans had claimed vast new territories, they had not yet found a direct route to Asia. The English, Dutch, and French explored the coast of North America unsuccessfully for a “northwest passage,” or a route from the Atlantic Ocean to the Pacific through the Arctic islands. Meanwhile, in 1513 the Spanish adventurer Vasco Núñez de Balboa, helped by local Indians, hacked a passage westward through the tropical forests of Panama. From a ridge on the west coast, he gazed at a huge body of water. The body of water that he named the South Sea was in fact the Pacific Ocean.

On September 20, 1519, a minor Portuguese nobleman named Ferdinand Magellan set out from Spain with five ships to find a way to reach the Pacific. Magellan’s ships sailed south and west, through storms and calm and tropical heat. At last, his fleet reached the coast of South America. Carefully, they explored each bay, hoping to find one that would lead to the Pacific. In November 1520, Magellan’s ships entered a bay at the southern tip of South America. Amid brutal storms, rushing tides, and unpredictable winds, Magellan found a passage that later became known as the Strait of Magellan. The ships emerged into Balboa’s South Sea. Magellan renamed the sea the Pacific, from the Latin word meaning powerful.

Their mission accomplished, most of the crew wanted to return to Spain the way they had come. Magellan, however, insisted that they push on across the Pacific to the East Indies beyond. Three more weeks, he thought, would bring them to the Spice Islands. Magellan was wrong. For nearly four months, the ships plowed across the uncharted ocean. Finally, in March 1521, the fleet reached the Philippines, where Magellan was killed. On September 8, 1522, nearly three years after setting out, the survivors—one ship and 18 sailors—reached Spain. The survivors had been the first Europeans to circumnavigate the world. This was the first of the few survivors of the expedition, observed: “I believe of a certainty that no one will ever again make such a voyage.”

Checkpoint What was the significance of Balboa’s discovery?

Assess and Reteach

Assess Progress

1. Have students complete the Section Assessment.
2. Administer the Section Quiz.

Reteach

1. For students who need more instruction, have them read the section summary.
   - Reading and Note Taking Study Guide, p. 46
   - Adapted Reading and Note Taking Study Guide, p. 46
   - Spanish Reading and Note Taking Study Guide, p. 46

Extend

See this chapter’s Professional Development pages for the Extend Online activity on the risks and rewards of exploration.

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