

- We are all explorers in some way. Have students develop narratives describing a personal exploration story — when they tried something new or different. How do these stories compare with the stories of famous voyages of exploration? Which elements are similar and different?
- Exploration of any type, whether to new places or into new areas of knowledge, can be challenging, exciting and dangerous. Have students select a person who explored an area (geographic, scientific or otherwise) and research what the person discovered, what challenges they had to face, how they overcame those challenges and what the significant results of the exploration were. Students should present their findings to the class, perhaps in the way of posters that may be displayed on classroom walls for future reference.
- Successful exploration could not have occurred without the aid of various navigational tools and technologies that mankind has invented, adapted and perfected to propel explorers into previously unknown territories. Have groups of students develop models of some of the key navigational or technological systems that aided exploration. With these models, students can present peer instruction as to how the models or technologies work and why they were of such importance.
- Historians warn us that history is not inevitable. There are many variables that contribute to a particular outcome. Just because an event happened does not mean it had to have happened. Have students write an alternative history of what might have happened if Chinese Admiral Zheng He had maintained a presence in the Indian Ocean and met the Portuguese and Spanish head on in the 16th and 17th centuries.
- Students can develop a classroom wall map that graphically portrays the many exploration routes that have been documented throughout the history of exploration.

### Suggested Internet Resources

Periodically, Internet Resources are updated on our Web site at [www.libraryvideo.com](http://www.libraryvideo.com)

- [www.ruf.rice.edu/~feegi/](http://www.ruf.rice.edu/~feegi/)  
“Latitude: The Art and Science of 15th Century Navigation” is a Web site that describes navigational developments throughout the history of exploration. Focus is placed on the development of the system of latitude and longitude, and the arts of map-making and ship building.
- [www.win.tue.nl/~engels/discovery/index.html](http://www.win.tue.nl/~engels/discovery/index.html)  
The “Discoverers Web” is an excellent site for many sources and information about the history of exploration. The biographies of many individual explorers are included, in addition to details about many voyages of exploration.
- [www.acs.ualgary.ca/HIST/tutor/eurvoya/index.html](http://www.acs.ualgary.ca/HIST/tutor/eurvoya/index.html)  
The University of Calgary’s “The European Voyages of Exploration” site contains facts about many European explorers and the highlights of the European Golden Age of Exploration.

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- [www.mariner.org/age/menu.html](http://www.mariner.org/age/menu.html)  
The Mariners’ Museum Web site is dedicated to the study of discovery and exploration. The Age of Exploration Curriculum Guide on this site provides information for students about the history of exploration.

### Suggested Print Resources

- Fritz, Jean. *Around the World in a Hundred Years: From Henry the Navigator to Magellan*. Putnam’s, New York, NY; 1994.
- Ganeri, Anita. *The Story of Maps and Navigation*. Oxford University Press, New York, NY; 1997.
- Johnson, Sylvia A. *Mapping the World*. Atheneum Books, New York, NY; 1999.
- Konstam, Angus. *Historical Atlas of Exploration*. Facts on File, New York, NY; 2000.
- Lepore, Jill. *Encounters in the New World: A History in Documents*. Oxford University Press, New York, NY; 2000.
- Steins, Richard. *Exploration and Settlement*. Raintree Steck-Vaughn, Austin, TX; 2000.

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### TEACHER'S GUIDE

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## A HISTORY OF EXPLORATION

This guide is a supplement designed for teachers to use when presenting programs in the video series *Explorers of the World*.

**Before Viewing:** Give students an introduction to the program by relaying aspects of the historical overview to them. Select pre-viewing discussion questions and vocabulary to provide a focus for students when they view the program.

**After Viewing:** Review the program and vocabulary, and use the follow-up questions and activities to inspire continued discussion. Encourage students to research the topic further with the Internet and print resources provided.



## Historical Overview

The history of exploration is complete with noteworthy success stories and the unfortunate failures of many explorers. People have always been curious about the world, and this quest for knowledge has driven explorers on bold adventures throughout the ages. Exploration has also been motivated by the desire for wealth and power, the wish to spread one's culture and religion, and the need to reach new trading partners. Many navigational tools developed over time have enabled explorers to reach these goals.

## Time Line

**c.2750 BCE** — The ancient Egyptians begin exploring the Mediterranean Sea, the Red Sea and the Nile River.

**c.2500 BCE** — Polynesian expansion and exploration in the Pacific Ocean begins.

**c.600 BCE** — The Phoenicians explore the African coast.

**c.325 BCE** — Pytheas, a Greek sailor, sails around England and into the North Sea.

**c.73–151 CE** — Claudius Ptolemy, a Greek scholar, perfects a map system and develops the concepts of longitude and latitude.

**c.100 CE** — The Romans establish an empire of trade, commerce and exploration.

**c.100 CE** — The Chinese are credited with the invention of the compass.

**c.900 CE** — Lateen sails become commonplace on trading vessels.

**1394–1460 CE** — Prince Henry of Portugal begins his school of navigation, setting the stage for Portugal's vast exploration of Africa and Asia.

**1405–1433 CE** — The voyages of the famous Chinese explorer Zheng He.

**1492 CE** — Christopher Columbus reaches the western hemisphere on his first voyage of exploration for Spain.

**1487 CE** — Bartolomeu Dias rounds the Cape of Good Hope.

**1497 CE** — Vasco da Gama makes his first voyage to India.

**1521 CE** — Hernán Cortés conquers the Aztec Empire for Spain.

**1533 CE** — Francisco Pizarro conquers the Inca Empire for Spain.

## Vocabulary

**exploration** — The process of investigating in search of a goal, such as wealth, information or colonization.

**papyrus** — A type of reed plant found along the Nile River from which the Egyptians manufactured writing paper. The Egyptians also used papyrus lashed together in thick bundles for the hulls of their ships.

**lodestones** — Naturally occurring magnetic minerals used to magnetize  
*(Continued)*

needles that would then be floated in water and point in a generally northern direction.

**bulkheads** — Walls within the hull of a ship that create compartments that can flood in case of storm or accident. Bulkheads attempt to contain the water to the flooded compartments so that the ship does not sink.

**lateen sails** — Triangular sails permitting ships to take on wind from either direction, giving the ship great maneuverability and making the ship particularly effective for coastal sailing. The brigantine, the galleon and the Arab dhow are three vessels that traditionally used such sails.

**outrigger canoes** — Polynesian canoes that were very large and able to navigate in open seas with the aid of two large balancing attachments on the sides of the canoe.

**latitude** — Imaginary lines around the Earth that run in an east-west direction. In addition to lines of longitude, these lines are used to determine the location of places on the Earth.

**astrolabe** — A navigational tool that was invented by Arab scientists and was used at sea by the 16th century. The astrolabe was used to determine latitude.

**backstaff** — A navigational tool that was used to determine latitude. The backstaff was an improvement upon the astrolabe because the navigator could use the tool with his back to the sun, preserving his eyesight.

**quadrant** — A navigational tool that was used to determine latitude and was widely used in the 15th century. The quadrant tended to be less accurate than the astrolabe.

**longitude** — Imaginary lines around the Earth that run in a north-south direction. In addition to lines of latitude, these lines are used to determine the location of places on the Earth.

**chronometer** — A navigational tool that was used to keep accurate time at sea. John Harrison, an English carpenter, developed a chronometer usable on seafaring voyages in 1761.

**caravel** — A durable ocean-going cargo ship that the Portuguese and other Europeans used to navigate the world during the Golden Age of European Exploration.

## Pre-viewing Discussion

- Ask students to define the term “exploration.”
- Discuss whether or not exploration continues today. How does modern-day exploration differ from the Golden Age of European Exploration?
- Encourage students to brainstorm a list of the most famous explorers throughout history. What characteristics and accomplishments made these explorers so effective?
- Students can discuss the positive and negative effects of exploration. Do students believe that exploration has been beneficial for mankind? Why or why not?

## Focus Questions

1. Who were the Egyptians and where did they explore? *(Continued)*

2. What was the primary motivating factor for Phoenician exploration?
3. Where did the Phoenicians trade?
4. What were the accomplishments of the Greek explorer Pytheas?
5. Why did early explorers tend to follow the coastlines?
6. Which navigational developments are credited to the Chinese?
7. Why is Admiral Zheng He famous in the history of exploration?
8. Why were Arabs considered the middlemen in trade between the East and West?
9. How did the Arabs keep their ships together if they did not use nails?
10. What were some of the accomplishments of the Polynesians?
11. What methods did the Polynesians use to sail far beyond the sight of land?
12. What are longitude and latitude? How do they aid in navigation?
13. What does an astrolabe allow a navigator to determine?
14. Why was the chronometer an important development for exploration?
15. What contributions did Ptolemy make to our understanding of place in the world?
16. Why did Europe explore so vigorously after the 15th century?
17. How did Prince Henry serve as a catalyst for European exploration?

## Discussion Questions

- Throughout the history of exploration, many societies that had been isolated from one another came into contact. The results were usually not beneficial to one or both of the societies. Have students discuss whether or not the brutality, violence and hardships that resulted from much exploration and conquest were a natural result of human societies coming into contact. Students can brainstorm ways that societies could have interacted peacefully.
- Have students discuss how inventions and ideas made modern European exploration a possibility.
- Students can discuss possible areas of exploration that at present remain unknown to us. Students should make predictions as to how these areas will finally be explored and what results might occur.
- Discuss motives for exploration throughout history. Which reasons do you think were the most significant? Why?

## Follow-up Activities

- Encourage students to research different groups of explorers such as the Egyptians, Phoenicians, Greeks, Arabs, Polynesians, Portuguese and Spanish. Students can develop class presentations that address the methods of exploration and accomplishments of each of these groups. Students can also create a class chart that compares these exploring peoples. *(Continued)*