The Portuguese Explorers
from the Exploring the World Series

Teacher's Guide
Portuguese Explorers
from the
Exploring the World Series

catalog # 3396
THE PORTUGUESE EXPLORERS:
Viewing Time: 10:00
Grades 2-5

INTRODUCTION AND SUMMARY

This ten-minute program is designed to introduce students in grades 2–5 to the period of history when the first European explorers set out from Portugal to find a sea route to Asia.

In this program, students visit the site of the school of navigation in Portugal established by Prince Henry the Navigator in the early 1400s. Live-action video and animated maps are used to trace the routes and accomplishments of the great Portuguese explorers Bartolomeu Dias and Vasco da Gama.

CURRICULUM STANDARDS

The design for this program was guided by the curriculum standards of the states of Texas, California, and Illinois, as well as the National Center for History in Schools (U.C.L.A). In accordance with these guidelines we have attempted to help students...

• Identify the roles of important Portuguese explorers who sought new trade routes, economic gain, adventure, national glory, and the glory of God.

• Describe the routes of the explorers.

• Describe how technological developments, such as new ship designs and new navigational tools, made Portuguese exploration possible.

• Identify a sense of what the early explorers must have felt as they left charted seas.

• Describe what happened to the native peoples as a result of European colonization.
• Develop improved concepts of time and chronology as well as a vocabulary appropriate to these subjects.

• Describe the relationship between the physical environment and world exploration.

INSTRUCTIONAL NOTES

Before presenting this lesson to your students, we suggest that you review history textbooks on the subject of early European world exploration. We also advise you to preview the video and review the guide and accompanying blackline master activities in order to familiarize yourself with their content.

As you review the materials presented in this guide, you may find it necessary to make some changes, additions, or deletions to meet the specific needs of your class. We encourage you to do so, for only by tailoring this program to your class will they obtain the maximum instructional benefits afforded by the materials.

It is also suggested that the video presentation take place before the entire group under your supervision. The lesson activities grow out of the context of the video; therefore, the presentation should be a common experience for all students.

You should also duplicate selected hand-out materials from the blackline masters included with this guide.

STUDENT OBJECTIVES

After viewing the video and participating in the follow-up activities, students should be able to...

• Describe the contributions to the history of world exploration made by Prince Henry the Navigator, Bartolomeu Dias, and Vasco da Gama.
• Identify the reasons the Portuguese began exploring the world in the fifteenth century.

• Describe some of the things the Portuguese explorers did as they sought to find a new trade route to Asia.

• Trace the routes followed by Vasco da Gama and Bartolomeu Dias.

**TEACHER PREPARATION**

Set up a “Learning Center” or table display on the Portuguese explorers using some of the following things as well as anything else you feel might be helpful: a telescope; compass; hourglass; photos of Portugal; cork; photos of the African coast; African artwork (masks, statues etc.); photos of India; Indian artwork; spices, such as peppercorns, cinnamon, cloves, and nutmeg; and silk cloth.

**STUDENT PREPARATION**

Before viewing The Portuguese Explorers…

1. Introduce to or review with your students the meaning of the following vocabulary words and terms. These are also found on Activity Sheet 2, Vocabulary List.

   **15th century:** The period of time from 1400–1500. The fifteenth century after the birth of Christ.

   **astronomer:** A person who studies the stars and planets.

   **caravan:** A group of travelers or traders who travel together for safety. Camel caravans carried trade goods over the Silk Road from Asia to the Mediterranean Sea.

   **caravel:** A small, fast type of sailing ship used by Spanish and Portuguese explorers that sat high in the water and had triangular sails.

   **cape:** A piece of land that sticks out into the water beyond the rest of the shoreline; a headland or promontory.

   **charts:** Special maps made by navigators that give distances and directions, and show how deep the water is, where dangerous rocks are, and which way the current flows.
**compass**: An instrument used in navigation that tells the direction in which the ship is heading.

**equator**: The imaginary line that runs around the middle of the earth and divides the earth into two equal sections.

**Far East**: The parts of Asia that lie far to the east of Europe; places such as India, China, and Japan. The term “Near East” means the parts of Asia closest to Europe.

**geographer**: A person who studies the surface of the earth, its continents, countries, oceans, and natural resources.

**hourglass**: An old instrument for telling time. It takes one hour for the sand in the top of the hourglass to fill up the bottom.

**latitude**: Imaginary lines created by geographers that divide the earth into sections north and south of equator.

**longitude**: Imaginary lines running between the poles created by geographers that divide the earth into equal sections east and west.

**mariner**: Seaman or sailor.

**navigation**: The science of locating where ships are at sea.

**navigational instruments**: Tools used by sailors to figure out where they are.

**navigator**: A person whose job it is to make sure the ship doesn’t get lost.

**peninsula**: A piece of land that is surrounded on three sides by water. For example, Spain and Portugal make up what is called the “Iberian peninsula.”

**settlement**: A small community or village built in a new land.

- The following are vocabulary words or terms also relevant to or are used in the program and are not included in the vocabulary Activity Sheet 2. You may want to review some of these as well.

**Age of Exploration**: In the 1400s, sailors from Europe started to look for new trade routes to the Far East, hoping to get rich. Over the next 300 years, most of the world was visited and mapped by European explorers. This time in history is called the “Age of Exploration.”

**Arab**: A person who comes from Arabia.
Arabia: A peninsula in southwest Asia that has the Red Sea to its west and the Persian Gulf and Arabian Sea to the east.

Arabic: The language of the Arabs; the official Moslem language, the language of the Koran.

Arabian Sea: The part of the Indian Ocean between India and Arabia.

Astrolabe: A navigational instrument used to figure out latitude by measuring the height of the sun and stars.

Colony: A group of people who settle in a distant land, but who are controlled by the government of their native land.

Continents: The earth’s seven large areas of land: Africa, Asia, Australia, Antarctica, Europe, North America, and South America.

Crusades (1096–1270): Wars by Christians against the Muslims to get back the Holy Land. After the Crusades, the Moslems wouldn’t let Christians travel in their lands.

Exploration: To explore; traveling to learn and to discover.

Explorer: A person who travels to learn and to discover.

Instrument: A tool used to do something.

Islam: The Muslim religion.

Ivory: A hard, white material composing the tusks of elephants and walruses. It can be carved to make things such as jewelry and statues. It is very valuable.

Kilometer: Approximately five-eighths of a mile.

Koran: The holy book of the Muslims.

Lord: A person having great power; a ruler or rich landowner.

Mariner: Seaman or sailor.

Muslim (Moslem, Muhammedan, Muslem): A person whose religious beliefs come from the writings and example of the prophet Muhammad.

Oceans: Large bodies of water that covers two-thirds of the earth.

Porcelain: Very fine thin pottery used for plates, cups, bowls, and decorations; made in China.

Quadrant: A navigational instrument of the 1400s used to find the height of a star so that the ship’s latitude could be figured out.
Red Sea: The body of water between Egypt and the Arabian Peninsula.
route: A roadway that is traveled on in going from one place to another.
silk: The fine, soft, shiny fiber spun by silkworms to form their cocoons; it can be woven into beautiful cloth.
Silk Road (The Silk Route): The old trade routes between China and the Mediterranean Sea.
spices: Plant products, such as leaves, seeds, and bark, that have strong flavors that are used to season food.
trader: A person whose business it is to trade things. For example, silk cloth was often traded by traders for gold.
trade goods: Valuable things that can be traded for other things.
trade route: A route used by trading ships or caravans.

2. Using a map of the world or a globe, point out lines of latitude, longitude, the equator, Tropic of Cancer, and the Tropic of Capricorn.

Point out the boundaries of Portugal, Africa, India, and the Indian Ocean. Locate Mozambique and Malindi.

3. Have students explore the “Learning Center” on the Portuguese Explorers (see page 3).

INTRODUCING THE VIDEO

• Using a map of the world, point out the boundaries of Europe, Asia, and Africa. Locate Portugal, Spain, the Mediterranean Sea, the Straits of Gibraltar, the Cape Verde Islands, Madeira, the Canary Islands, Lisbon, Lagos (Portugal), the Cape of Good Hope, Arabia, the Arabian Sea, the Indian Ocean, China, India, Japan, the Red Sea, the Congo River, Malindi, Mozambique, and Madagascar. Point out areas where the Muslim and Christian faiths predominated in the 15th century.

• Review some of the features of European life in the 15th century.
• Describe the country of Portugal, its land and people.

• An optional Pre-Test is provided on Activity Sheet 1. This test will help you determine the level of student comprehension prior to participating in this lesson. An Answer Key begins on page 9 of this Teachers Guide.

• If you choose to do so, distribute Activity Sheet 5, Video Quiz, which contains the questions found at the end of the video program. The quiz may be taken immediately following the video presentation or at a later date after students have participated in other related activities.

• Present the video. The viewing time is 10:00. The program is followed by a short optional video quiz.

FOLLOW-UP DISCUSSION

It is recommended you involve students in a brief discussion after viewing the video and before beginning the Follow–Up Activities. To help the students who are visual learners, distribute Activity Sheet 6, Discussion Questions. Introduce the following questions and help the students identify the reasons why the Portuguese began exploring the world.

1. What was the main reason the Portuguese began exploring the world? What things had prevented them from exploring in earlier times?

2. Why was the school founded by Prince Henry the Navigator so important in making the Portuguese the world leaders in exploration in the 15th century?

3. What role did the religious beliefs of the Portuguese have on the way they treated the people they met?

4. How did the country of Portugal benefit from the work of their explorers?
FOLLOW-UP ACTIVITIES

There are 11 blackline master activity sheets provided for this program’s lesson. In addition to the Pre-Test, the other activity sheets may be used during the program’s presentation, immediately following the program’s presentation, during other class time, or as homework assignments. An Answer Key begins on page 9.

Materials needed for Blackline Master Activities
• Pen and pencil
• File folder or portfolio
• Activity Sheets 7 and 8: colored pencils or markers; an atlas; scissors; glue or tape
• Activity Sheets 9 and 10: scissors; tape or glue
• Activity Sheet 11: a compass

Activity Sheet 3, Crossword Puzzle, challenges students to use some of the words from the vocabulary worksheet presented in this program.

Activity Sheet 4, Fact Sheet, is simply intended to provide interesting bits of information.

Activity Sheets 7 and 8, World Map Exercise, directs students to identify the cardinal directions on a compass, major land masses, oceans, countries, and rivers.

Activity Sheets 9 and 10, Time Line, provides students with pictured information presented in the video which should be placed in chronological order on the time line.

Activity Sheet 11, Using the Compass, allows students, working in pairs, to become familiar with and use a compass while they navigate an equilateral triangle on a playing field.
EXTENDED LEARNING ACTIVITIES

Written or oral reports could be prepared on the following subjects:

• Biographical sketches of Prince Henry the Navigator, Bartolomeu Dias, Vasco da Gama.

• Spices: How they are raised and how they were used 500 years ago.

ANSWER KEY

Activity Sheet 1, Pre-Test
1. True
2. True
3. False, the Portuguese were first
4. False the Portuguese beat both of them.
5. True

Activity Sheet 2, Vocabulary Worksheet
1. longitude, latitude, equator
2. astrolabe, compass, quadrant
3. cape, peninsula

Activity Sheet 3, Crossword Puzzle,

C O N G O
A
H E N R Y
A D
V I N D I A N
E A
S L A V E S
P
I G
C H R I S T I A N
G O O D H O P E M
S A
Activity Sheet 6, Video Quiz
1. T
2. T
3. F
4. F
5. T

Activity Sheets 7 and 8, World Map Exercise
Use an atlas for the geographic locations.

Activity Sheets 9 and 10, Time Line
Teacher makes sure the dates are matching the time line’s dates. Extra Credit: Christopher Columbus discovers the New World in 1492.

Activity Sheet 11, Using the Compass
Students should return to the same point where he or she began the activity.

SCRIPT OF VIDEO NARRATION

The great Age of Exploration began nearly 600 years ago in Europe. It lasted for three centuries, and during this time, most of the world was explored by sailing ships and new European settlements went up all over the world.

And, as a result, Europeans brought their way of life and their religion to much of the rest of the world. There is no doubt that the Age of Exploration was one of the most amazing times in history, but have you ever wondered how it all began?

To find the beginnings of the Age of Exploration, we must go to Portugal, which is one of the smallest countries in Europe.

A country that stretches along the Atlantic Ocean on the western edge of Europe, Portugal is a land where most of the people live in small villages and worship in Catholic
churches. Portugal is a place where cork trees, like this one, are a common sight and where many people make their living from the sea.

Six hundred years ago, when the Age of Exploration was just beginning, most of the Portuguese people would probably have lived within sight of castles, like this one, which were the fortress homes of powerful noblemen, such as their great ruler, the king.

Around the year 1420, the king of Portugal’s third son, Prince Henry, wanted to do something that would help his country become richer and more powerful. He wanted Portuguese explorers to be the first people to find a sea route from Europe, around Africa, to the far eastern parts of Asia, places such as China, India, and Japan.

He believed that if the Portuguese could be the first to sail to Asia, then they could take the rich trade in Asian spices, porcelains, silks, and jewels away from their Muslim enemies, followers of the Islamic faith, who had been controlling that trade for hundreds of years.

Back then, one of the main reasons no one had ever sailed around Africa to reach Asia was that sailors were afraid of what they might run into. They had heard stories that, about one week’s journey down the coast, lay a “Sea of Darkness” filled with terrifying sea monsters, while other tales told of lands where strange creatures lived that were half human and half animal.

Prince Henry decided that the best way to find out if these stories were true or not was to send a ship there; but before doing that, he knew his sailors would have to be very well prepared.

That was why, around the year 1420, Prince Henry built a school of navigation on this rocky peninsula in southern Portugal.

And here, at the school, he brought together map makers,
sea captains, geographers, astronomers, and experts of all sorts to learn everything they could about the sea, about sailing, and about shipbuilding.

Prince Henry even built a house for himself not far from the school—high on a cliff above the sea—and he also founded shipyards nearby to build the excellent, newly invented, ships called caravels.

Caravels were very different from the ships that had come before them, for they had triangular sails that let them sail into the wind. They also were easier to steer and could carry a lot of food and water for long sea voyages.

But just having good ships was not enough because it was still quite easy to get lost at sea, and to solve this problem, they needed better navigational instruments.

One such instrument was the quadrant, pictured here. It let sailors find out what latitude they were at.

Latitudes are imaginary lines created by geographers that circle the earth from east to west, while longitudes divide the earth from north to south. And by knowing their latitude and then using a compass to learn in which direction they were going, Portuguese ships could be far out at sea and still have a pretty good idea of where they were.

About 13 years after Prince Henry opened his school, his sailors were finally ready to start exploring the coast of Africa and to enter the “Sea of Darkness.”

And although the sailors were afraid at first, they soon found out that the “Sea of Darkness” and its monsters were nothing more than stories, for all they found when they got there was just the long coast of Africa stretching out as far as they could see.

The Portuguese explorers kept moving down the coast for almost 30 years, until, in 1460, Prince Henry died, and at
the time of his death, the explorers still hadn't reached the tip of Africa. As the years went by, the ships from Portugal went further and further south.

After crossing the equator, they discovered a beautiful river flowing out of the jungle called the Congo. They even explored up the Congo river until they could go no further.

But finally, in 1488, over 50 years after they had started, a Portuguese ship under the command of captain Bartolomeu Dias reached the southern tip of the African continent—a place now known as the Cape of Good Hope.

During the long years it took to reach Africa's tip, the Portuguese explorers recorded what they had seen, such as the many beautiful birds, the strange animals, and the unusual tribes of people. They wrote down descriptions of the native villages they had visited, made excellent maps, and always put up stone markers, like this one, to claim the lands they discovered for Portugal.

Their ships also carried priests who worked at converting the native people to Christianity.

And the explorers built outposts, where they traded cheap cloth and things made from iron, for gold, ivory, and furs.

The Portuguese grew wealthy from African gold, but they also got rich by taking African people back to Europe to be sold as slaves.

In spite of the money that they were making in Africa, the Portuguese still had their sights set on the even richer treasures of Asia, and knowing that it was now possible to sail around Africa, the Portuguese king gave one of his best captains, a man named Vasco Da Gama, four ships and 170 men with which to sail to India.

And, in July of 1497, they left behind the familiar shores of Portugal and headed south.
It took many months before they rounded the Cape of Good Hope and began to sail north. On the east coast of Africa, they stopped off in the port of Mozambique, and it was here that they first saw Muslim ships filled with trade goods from India.

The sailors were thrilled by this sight; however, many of the Muslim traders didn't want the Portuguese interfering with their business. But after escaping north to the port of Malindi, Vasco da Gama paid a friendly Arab seaman to guide his ships across the Indian Ocean.

The Portuguese ships finally reached India in May of 1498, and da Gama and his sailors were overjoyed. After awhile, Vasco da Gama was able to make a deal and he loaded up his ships with a small amount of cinnamon and with 80 tons of peppercorns, before sailing back to Portugal.

The trip back home took almost a year and by then, out of the 170 sailors who had started the voyage, only 55 were left alive. But despite such a heavy loss of life, the great voyage of Vasco da Gama had been a tremendous success, for the dream of Prince Henry the Navigator had finally come true because a Portuguese explorer had become the first person to discover a sea route from Europe to the eastern parts of Asia.

And it was because of this amazing voyage that the tiny country of Portugal grew to become one of the richest and most powerful nations on earth.

VIDEO QUIZ

1. True or False? The school founded by Prince Henry helped the Portuguese gain the knowledge they needed to reach India by sea.

2. True or False? 600 years ago no European had ever seen the southern tip of Africa.
3. True or False? Portuguese explorers had no interest in converting native people to Christianity.

4. True or False? On the west coast of Africa Portuguese explorers discovered the delta of the Nile River.

5. True or False? Bartolomeu Dias was the first European to reach the Cape of Good Hope.
THE PORTUGUESE EXPLORERS
Pre-Test

Directions: Answer each question either TRUE or FALSE.

_____ 1. Portugal is a very small country in Europe.

_____ 2. The Age of Exploration began in Portugal.

_____ 3. The Spanish were the first people to explore far down the coast of Africa.

_____ 4. Both the Spanish and English reached India before the Portuguese.

_____ 5. Vasco da Gama and Bartolomeu Dias both sailed around the Cape of Good Hope over 500 years ago.
astronomer: A person who studies the stars and planets.

caravan: A group of travelers or traders who travel together for safety. Camel caravans carried trade goods over the Silk Road from Asia to the Mediterranean Sea.

caravel: A small, fast type of sailing ship used by Spanish and Portuguese explorers that sat high in the water and had triangular sails.

cape: A piece of land that sticks out into the water beyond the rest of the shoreline; a headland or promontory.

charts: Special maps made by navigators that give distances and directions, and show how deep the water is, where dangerous rocks are, and which way the current flows.

compass: An instrument used in navigation that tells the direction in which the ship is heading.

equator: The imaginary line that runs around the middle of the earth and divides the earth into two equal sections.

Far East: The parts of Asia that lie far to the east of Europe; places such as India, China, and Japan. The term “Near East” means the parts of Asia closest to Europe.

fifteenth century: The period of time from 1400–1500. The fifteenth century after the birth of Christ.

geographer: A person who studies the surface of the earth, its continents, countries, oceans, and natural resources.

hourglass: An old instrument for telling time. It takes one hour for the sand in the top of the hourglass to fill up the bottom.

latitude: Imaginary lines created by geographers that divide the earth into sections north and south of equator.

longitude: Imaginary lines running between the poles created by geographers that divide the earth into equal sections east and west.

mariner: Seaman or sailor.

navigation: The science of locating where ships are at sea.

navigational instruments: Tools used by sailors to figure out where they are.

navigator: A person good at navigation whose job it is to make sure the ship doesn’t get lost.

peninsula: A piece of land that is surrounded by water on three sides. For example Spain and Portugal make up what is called the “Iberian peninsula.”

settlement: A small community or village built in a new land.

Vocabulary Activity…

Directions: Answer the following questions. Use the back of this sheet is necessary.

1. From the vocabulary list, find the names of three different imaginary lines used by geographers to divide up the earth into different sections.

2. From the vocabulary list, find the names of three different kinds of navigational instruments.

3. From the vocabulary list, find two words that describe the shape of the land.
THE PORTUGUESE EXPLORERS

Crossword Puzzle

ACROSS
1. While searching for a new route to Asia, the Portuguese sailed far up a big African River called the ________River.
2. Prince ________ the Navigator founded a school of navigation and seafaring in southern Portugal.
3. The Portuguese explorer who reached India in 1498 had to get an Arab pilot to help him sail across the ________Ocean.
4. Besides making a lot of money trading in African gold, furs and ivory, the Portuguese also got rich trading in African ________.
5. One of the main goals of the Portuguese explorers was to convert the native people they met to the___________religion.
6. The southern tip of Africa is called the Cape of ________.

DOWN
1. The Portuguese explorers used a type of ship called a ________.
2. The first Portuguese explorer to reach the southern tip of Africa was named Bartolomeu ________.
3. The Portuguese wanted to find a sea route to Asia because they wanted to trade in jewels, silks, porcelains, and especially the ________ they used for flavoring food and making medicines.
4. The first European to find a sea route to Asia was a Portuguese explorer named Vasco da ________.

If you have trouble with this puzzle, you can look for answers in the vocabulary list or in your textbook.
1. Before the first Portuguese explorers crossed the equator, sailors had been afraid that the water would just get hotter and hotter until the oceans boiled.

2. Between 1405 and 1433, China did a lot of exploring and even reached Africa. Their largest fleet was made up of 63 ships of different sizes, 28,500 sailors, soldiers and officers were aboard the ships making it the largest fleet of exploration every seen in history.

3. It took Vasco da Gama 10 months to travel the 7000 miles (12,200 km) between Portugal and India and it was because of him that the Portuguese, not the Spanish, ended up controlling the trade in Asian spices.

4. European traders liked the idea of buying and selling things that were very valuable in Europe but were inexpensive in Asia. They also liked trade goods that didn’t take up a lot of room on their ships. That was why they got rich selling things like spices, silk, ivory, gold, pearls, jewels, jade, and coral.

5. Pepper was very much in demand in Europe during the late 1400s. It was used both as a flavoring and as a preservative.

6. In India, pepper that cost only one or two pieces of silver ended up being sold in the markets of Europe for 20 to 30 pieces of silver.
Directions: Answer the following questions.

1. True or False? The school founded by Prince Henry helped the Portuguese gain the knowledge they needed to reach India by sea.
   Answer: ________

2. True or False? 600 years ago, no European had ever seen the southern tip of Africa.
   Answer: ________

3. True or False? Portuguese explorers had no interest in converting native people to Christianity.
   Answer: ________

4. True or False? On the west coast of Africa, Portuguese explorers discovered the delta of the Nile River.
   Answer: ________

5. True or False? Bartolomeu Dias was the first European to reach the Cape of Good Hope.
   Answer: ________
THE PORTUGUESE EXPLORERS
Discussion Questions

Directions: Answer the following questions as directed by your teacher.

1. What was the main reason the Portuguese began exploring the world? What things had always prevented them from exploring in earlier times?

2. Why was the school founded by Prince Henry the Navigator so important in making the Portuguese the world leaders in exploration in the 15th century?

3. What role did the religious beliefs of the Portuguese have on the way they treated the people they met?

4. How did the country of Portugal benefit from the work of their explorers?
Directions: Cut out the labeled boxes below, then follow the directions below which will tell you where to paste or tape these labels on the World Map, found on Activity Sheet 8.

1. Identify and label the following directions on the compass: north, south, east, and west.

2. Identify and label the following six continents: Asia, Europe, Africa, North America, South America, and Australia.

3. Identify and label the following three oceans: Pacific Ocean, Atlantic Ocean, and the Indian Ocean.

4. Identify and label the these countries: Portugal and India.

5. Identify and label the Congo River and the Cape of Good Hope.

6. Color your map.

[World Map Exercise with labeled boxes for North America, South America, Africa, Europe, Asia, Australia, Cape of Good Hope, Pacific Ocean, Atlantic Ocean, Indian Ocean, north, south, east, west, Congo River, India, Portugal]
THE PORTUGUESE EXPLORERS

World Map Exercise
**THE PORTUGUESE EXPLORERS**

**Time Line**

**Directions:** Cut out the labeled boxes of the Portuguese explorers found below. Cut out the time line found on Activity Sheet 10. Cut the sheet in half on the dotted line and also trim off the side margins. Paste or tape the time lines together to make one long time line. Make sure the years are in proper sequence. Then place the events of the Portuguese explorers in the proper chronological order on the time line.

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**Prince Henry**
- Started school of navigation 1420.
- Wanted to help find sea route from Europe to Asia.
- Died 1460

**Bartolomeu Diaz**
- Reaches Cape of Good Hope 1488

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**Vasco da Gama**
- Given four ships and 170 men to sail to India 1497
- Reaches India 1498
- Returns to Portugal with only 55 men 1499

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**Extra Credit:** Cut out an extra box and draw your own picture and write down some information about what happened in 1492. Place this box on your time line.
Introduction
The mariner’s, or magnetic, compass was a very important invention. A compass is a magnetized needle which is balanced on a pin point and is free to swing around. As the needle comes to rest, it points north to the magnetic pole of the earth, which is hundreds of miles from the true north pole.

When you know where north is from looking at the compass needle, then you know that the other end of the needle points to south. If you face north, then east is on your right and west is on your left. Halfway between north and east is northeast. Halfway between east and south is southeast. Halfway between south and west is southwest. Halfway between north and west is northwest. As you view your surroundings clockwise starting with north, you would see the directions of north (n), northeast (ne), east (e), southeast (se), south (s), southwest (sw), west (w), and northwest (nw), and back to north (n) again. To read the points all around the compass, face or follow them until you have made a complete circle; this is called “boxing the compass.”

Also, the compass can be divided into 360 degrees of a regular circle. By using this method, you can take your directions or “bearings” by degree as well as by name. For example, if your needle points to north or 0 degrees, then the direction 50 degrees is northeast, 180 degrees is south, 310 degrees is northwest.

Directions
By using a compass, navigate yourself around a sea of grass.

1. You and a classmate should stand together near the center of a large playing field. Have your friend now stay at this point and not move from his or her position on the field.

2. Orientate your compass’s needle to north, 0 degrees. Face north. Now take 30 even steps forward bearing 0 degrees, north. Stop.

3. Keeping your needle at north, face the bearing 120 degrees, southeast. Walk another 30 even steps in this direction. Stop.

4. Keeping your needle at north, face the bearing 240 degrees, southwest. Walk another 30 even steps in this direction. Stop.

5. If you are back with your classmate, your navigation was successful. If not, return to your friend and start over again. Next, repeat this activity by switching places with your classmate. Remember, have fun!!!