Globe Skills Lesson 3
Voyage to the New World - Grade 6+

Skills used   Latitude & Longitude
Using scale to measure distance
Using directions
Critical thinking
Solving problems
Using Map legends

Vocabulary   caravels

Materials Needed   Globe in Horizon Ring Mounting

Lesson

In the following activity you will use your Cram Horizon Ring globe to learn more about one of the most significant events in the shaping of the modern world.

Place the globe ball of your Cram globe in its cradle so that the equator is even with the top of the mounting ring. Look at the mileage scale on ring. How many miles is it around the earth? (1.) _____

Now look at the outer scale on the ring. The scale is divided into one-hour segments. In the upper right-hand corner of each one-hour segment you will find a number that shows degrees. The number at the end of the first one-hour segment after the red line is "15°". Starting at the red line and moving your finger to the right you will find that the degrees increase as you move around the ring. Continue moving your finger along the mounting until you end up back at the red line. How many degrees are in the complete circle? 2. _____

If there are 25,000 miles in 360 degrees around the earth, how many miles would there be in one degree? Round off your answer. (3.) _____ Since the earth is divided into 360 degrees of longitude, would it be accurate to say that, at the equator, one degree of longitude equals 69 miles?(4.) _____

When Christopher Columbus landed in North America on October 12, 1492, he thought that he was in Asia. (Note: All the dates used in this activity are the ones used in Spain during the time of Columbus. To bring them in line with our modern calendar, advance the dates nine days.) By using the information above and your globe, you will gain a better understanding of how Columbus made this mistake and why he believed that he had been successful in finding a shorter route to the riches of the East.

Columbus, like many others of his time, thought that there were only 56 miles in a degree of longitude at the equator. If he had been correct, and one degree of longitude at the equator really had equaled 56 miles, what would have been the distance around the earth? (5.) _____ _____ This distance of approximately 20,000 miles is what Columbus believed to be the distance around the earth. To get an idea of how big this is, start at the red line and move your finger around the mounting ring to the 20,000 mile mark.

This mistake, along with Columbus's over estimation of the land distance across the land mass of

Eurasia, led him to believe that Japan was only 3000 miles west of Portugal and the East Indies were only slightly further.

Now, lets trace his voyage and see just why he was so convinced that he was right when he landed in the New World. On your globe place a small "X" on the European coast at 37°N/7°W. In what country is this location? (6.) _____ To the right of this location write the date "8/3/1492". This is the date that Columbus, along with a crew of 90 men, set sail in three small **caravels** (a type of ship) on a voyage that forever altered the course of history.

From the "X", draw a line in a southwesterly direction to a group of islands at 28°N/16°W. What are these islands called? (7.) _____ To the left of these islands write the date 9/9/1492. This is the date that Columbus and his men last saw land on the outbound leg of their voyage.

From the Canary Islands, extend your line westward to another group of islands at 23°N/75°W. Next to this location write the date 10/12/1492. This was the date land was first sighted after 33 days at sea. These islands are part of what island group?(8) _____
What two large islands are located just south of this location? (9) _____
What sea is located south of these islands? (10) _____

Study the route that you have traced on the globe. Can you find a reason that might have caused Columbus to first sail south before turning west to seek Asia? Why do you think he followed this route? (11.) _____
_____
What is the name of the current that Columbus used to help him sail west from the Canary Islands? (12.) _____ Was it a warm current or a cold current? (13.) _____

Use the mounting ring to measure the distance between the Canary Islands and the West Indies. How far is it? (14.)_____ Is this about the distance where Columbus had predicted that he would find the East Indies? (15.) _____ If it took 33 days for Columbus to sail between these two locations, what was the average distance covered each day? (16.) _____

Columbus was probably the finest sailor of his time, and he understood well the patterns of winds and currents in the North Atlantic Ocean. On January 16, 1493, he departed from the northeastern shore of the island of Hispaniola near 19°N/68°W for the return trip to Spain. Draw a route on your globe that you think he may have followed. Justify your choice. (17.) _____
_____
_____
_____

Though he was mistaken about his location when he landed in the Americas, Columbus's route and sailing techniques for getting his ships there and back could not have been better planned and executed. Sailing vessels traveling between Western Europe and North America were to use Columbus's route for the next four hundred years. Even with today's detailed geographical knowledge and sophisticated navigational aids, a modern sailor can do no better.