

CUMBERLAND ISLAND

Primary Learning Outcomes

To teach students about the geological formation and ecological importance of the Barrier Islands. To explain the major events in the history of Cumberland Island.

Assessed Standards

Grade: 7

Life Science

Standard: Students will examine the dependence of organisms on one another and their environments.

Indicator: Describe the characteristics of Earth's major terrestrial biomes (i.e., tropical rain forest, savannah, temperate, desert, taiga, tundra, and mountain) and aquatic communities (i.e., freshwater, estuaries, and marine).

Grade: 8

Social Studies

Standard: The student will evaluate the development of Native American cultures and the impact of European exploration and settlement on the Native American cultures in Georgia.

Indicator: Evaluate the impact of European contact on Native American cultures.

Indicator: Explain reasons for European exploration and settlement of North America, with emphasis on the interests of the French, Spanish, and British in the southeastern area.

Standard: The student will analyze the impact of the Civil War and Reconstruction on Georgia.

Indicator: Analyze the impact of Reconstruction on Georgia and other southern states, emphasizing Freedmen's Bureau; sharecropping; and tenant farming.

Standard: The student will describe Georgia with regard to physical features and location.

Indicator: Locate and evaluate the importance of key physical features on the development of Georgia; include the Fall Line, Okefenokee Swamp, Appalachian Mountains, Chattahoochee and Savannah Rivers, and barrier islands.

Procedures and Activities

Step: 1 Duration: 10 minutes

Introduce the students to the concept of a Barrier Island.

Attachments for Step 1

Background Information: Barrier Island

Step: 2 Duration: 20 minutes

Explain and discuss the different ecosystems present on Cumberland Island. Why do these ecosystems make the island an important natural place?

Attachments for Step 2

Background Information: Ecosystems of Cumberland Island.

Step: 3 Duration: 10 minutes

Pass out the Cumberland Island reading. This reading will summarize the ecological information about the island and introduce the students to the islands history.

Attachments for Step 3

Reading: Cumberland Island

Step: 4 Duration: 30 minutes

Explain and discuss the seven major stages in Cumberland Islands history.

Attachments for Step 4

Background Information: History of Cumberland Island.

Step: 5 Duration: 20 minutes

Pass out the Cumberland Island puzzle. Have students work on it in groups or alone.

Attachments for Step 5

Puzzle

Puzzle Answer Sheet

Step: 6 Duration: 10 minutes
Pass out the Cumberland Quiz.

Attachments for Step 6

Quiz
Quiz Answer Sheet

Materials and Equipment

Background information, reading, puzzle, quiz, and answer sheet.

Total Duration

1 hour, 40 minutes

Assessment

Students will be assessed on their participation in classroom activities and discussion. Their quizzes will be evaluated for accuracy.

Attachments for Step 1

Barrier Island

Along the Georgia Coast, clusters of small islands are separated from the mainland by a series of salt marshes. These islands are called *Barrier Islands* because they protect the mainland from oceanic storms. Cumberland Island is one of these islands. These islands retain much of their natural wilderness and many are protected as national parks and research reserves.

Cumberland Island is a *Pleistocene Island*. This means that Cumberland Island formed about 35,000 to 40,000 years ago, before the last ice age. During the ice age, Cumberland Island would have been part of the mainland. Enough water was frozen in ice caps during the ice age to lower the ocean by 300 feet and caused 50 to 60 more miles of land to be exposed. At the end of the ice age, the ice caps melted and the ocean rose, and Cumberland Island became an island once more.

Attachments for Step 2

Ecosystems of Cumberland Island

The *ecosystems* of Cumberland Island are so diverse and rare that the Island is now a national park. An *ecosystem* is a biological community that can only exist in a specific physical environment. Cumberland Island has four main *ecosystems*.

1. **Ocean Beach:** Ocean beach starts off-shore at the sand bar and runs to the edges of the maritime forest. This area is made up of several smaller zones; the intertidal, upper beach, dune, beach meadow, and shrub and forest. The **intertidal zone** is comprised of the area covered by the ocean at high tide and exposed during low tide revealing wet hard compacted sand. This area is home to burrowing organisms such as coquina clams, ghost shrimp, mole crabs, and polychaete worms. The **upper beach** consists of the dry sandy area between the intertidal zone and the dunes. The debris deposited in this area by retreating tides serves as the foundation for new dune formation. Dunes are large elevations of sand formed by wind. The **beach meadow** is located behind the dune ridge where soils have had the opportunity to pile up. Grasses, weeds, and woody plants such as wild bean, dune primrose, and pennywort can be found growing in this area. Overtime, as soils continue to build up, woody shrubs such as wax myrtle begin to take root, forming the **shrub and forest** zone.

2. **Salt Marsh:** Salt marshes occur in the shallow areas between the barrier islands and the mainland. The salt marsh has several distinct zones; the levee, low marsh, high marsh, marsh border, and the transitional zone. The **levee** is made up of the banks of tidal creeks. The **low marsh** is located behind the levee. The **high marsh** has a higher elevation and sandier soils than the low marsh and is covered by tidal waters for approximately one hour per day. The **marsh border** is the zone in which the uplands meet the marsh edge. This area does not receive exposure to seawater except during the event of storms or floods. The **transition zone** is located between the marsh border and the Maritime forest. In this area, small trees and woody shrubs such as red cedar, wax myrtle, and yaupon holly, take root and begin to prepare the soil for the large hardwoods of the maritime forest.

3. **Maritime Forest:** The Maritime forest is an ecosystem which continues to support and renew itself relatively unchanged over time. The large hardwoods, live oaks, magnolia, pines, and cabbage palms cover most of the uplands on barrier islands. These large trees create a forest canopy which shelters forest life and traps moisture. Ground cover is formed by woody shrubs and plants such as ferns, saw palmettos, holly, and laurel. Soils are continually replenished by the constant shower of fruits, nuts, and bark, which drops from the upper canopy, creating a rich environment for forest life.

4. **Freshwater Slough:** The final ecosystem of the barrier island is the freshwater slough. Sloughs occur where the surface of the ground is close to water stored underground. They can be temporary holes, large swamps, ponds, creeks that have lost water flow, and freshwater marshes. Sloughs are the only source of fresh water on an island.

Attachments for Step 3

Reading: Cumberland Island

Attachments for Step 4

History of Cumberland Island

There are seven major stages in the history of Cumberland Island:

- 1. Prehistory:** Cumberland Island was first settled approximately 4,000 years ago. Archaeologists refer to these early people as the Stallings culture based on the type of pottery they used. Archaeologists believe that Cumberland Island was used as a hunting and fishing ground. Many different cultures used the island throughout prehistory. They lived off of the salt marshes that surrounded the island. They depended on shellfish, fishing, and the hunting of small game animals. When the Spanish arrived on Cumberland Island in the 1550s, a group of American Indians called the Timucua were living there.
- 2. The Spanish and English Conflict:** In the 1550s Spain owned what is now the state of Florida. They wanted to expand and control Georgia as well. They began by settling the barrier islands. After arriving on Cumberland, they established missions and forts to defend the island. In 1684 they were attacked by pirates and abandoned the island. In 1736, English colonists arrived on the island from Savannah. They established two forts to defend the island from Spanish attacks, since Spain was trying to reclaim Cumberland. In 1742, the English defeated the Spanish in the Battle of Bloody Marsh and the English ownership of Cumberland Island was confirmed.
- 3. Early Wars:** During the Revolutionary War military action did not reach Cumberland Island. However, the island did serve an economic purpose during the war. Many of the early coastal Georgia settlers were Highland Scots. They had a tradition of allowing cattle to roam free. As a result, coastal Georgia and the barrier islands were home to enormous herds of wild cattle. This cattle supplied the American military forces with beef throughout the war. Cumberland Island played a role in the War of 1812. The War of 1812 began in 1812 and lasted until 1815. The United States declared war on England because English ships would capture American citizens and force them into servitude. After attacking St. Marys, the English landed on Cumberland Island in 1814. While there, the English leader, Admiral George Cockburn (pronounced Co'burn) declared that all slaves on Cumberland Island were free. Many slaves on the mainland ran away and used small boats to reach the island. Once peace was declared, 1,483 freed slaves sailed away with the English squadron.
- 4. Plantation Period:** After the Revolutionary War, plantations were built on Cumberland Island. These plantations grew and sold live oak and pine timber, produced corn, cotton, rice, and indigo. They also raised cattle, horses, and hogs that ran freely over the island. One of the largest plantations was called Dungeness, built by Phinneas Miller. Dungeness had four stories and sixteen fireplaces. The plantation system required a lot of labor. This labor was supplied by over 400 enslaved Africans that lived on Cumberland Island.

5. **The Civil War:** At the beginning of the Civil War in 1861, Cumberland Island plantations feared slave insurrection. At that time, there were only five white men and approximately 400 slaves on the island. In March of 1862, the Union Army took control of the Florida and Georgia coasts. Union forces moved all the slaves off the island and the white landowners fled the area. In 1865 General William Tecumseh Sherman issued a special order that gave the barrier islands to freed slaves for settlement. Four Freedman's settlements were established on Cumberland Island. These small towns did not have names and were made up primarily of family groups and slaves that knew each other before the war. The freed men farmed small plots of land for themselves or became tenant farmers for the few white landowners who returned to the island.

6. **Carnegie Era:** In the 1880s, the millionaire Thomas Carnegie bought the old Dungeness plantation. The Dungeness mansion had burned down immediately following the Civil War. In 1884 the Carnegie family rebuilt Dungeness. They turned it into a 59 room Scottish castle. They also built pools, a golf course, and 40 smaller buildings to house the 200 servants that worked at the mansion. The Carnegie's bought 90% of Cumberland Island and lived there until 1959 when Dungeness burned down once again. During the Carnegie era some of the richest people in the world visited the island.

7. **Protection:** In 1955 the National Park Service named Cumberland Island as one of the most significant natural areas in the United States. In 1969 a developer tried to turn Cumberland Island into a commercial area. This caused environmental activists and the Georgia Conservancy to band together and push a bill through the US Congress that established Cumberland Island as a national seashore. The bill was signed by President Richard Nixon in 1972. The Carnegie family then sold the island to the federal government and with donations from the Mellon Foundation, Cumberland Island became a national park and is currently one of the most undeveloped places in the United States.

Attachments for Step 5

Puzzle

Puzzle Instructions

Each of the nine words has had a letter added to it, and the resulting group of letters has been scrambled. First, unscramble the letters. Then find the extra letter in each word. The seven extra letters, taken in order, will spell out Clue #3. This word is the name of the mansion built on Cumberland Island by Phineas Miller

Puzzle Answer Sheet

Attachments for Step 6

Quiz

Quiz includes five types of questions:

Multiple Choice

True/False

Short Answer/Fill in the Blank

Sentence Correction (Rewrite the sentences to be correct)

Short Essay

Quiz Answer Sheet