

LESSON PLAN: MANGROVE ESTUARY

This activity is designed to engage middle school students at all academic achievement levels and to facilitate learning among the diverse population of our local community. Instruction on the structure and function of the mangrove estuary and the adaptations of the living organisms located within it will help educate students about the importance of protecting and maintaining the health of the mangrove estuary at DeSoto National Memorial.

Common Core State Standards Addressed

CCSS.ELA-Literacy.RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

CCSS.ELA-Literacy.RST.6-8.2 Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

Sunshine State Standards Addressed

SC.7.L.17.1: Explain and illustrate the roles of and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.

SC.7.L.17.3: Describe and investigate various limiting factors in the local ecosystem and their impact on native populations, including food, shelter, water, space, disease, parasitism, predation, and nesting sites.

Prior to the lesson, students will be expected to read the following Florida Fish and Wildlife Conservation Commission brochures available free online

“Florida’s Mangrove”

http://research.myfwc.com/products/product_info.asp?id=2139

“The Cradle of the Ocean: Estuaries”

http://research.myfwc.com/products/product_info.asp?id=2122

Key Vocabulary

Red Mangrove	Estuary	Brackish
White Mangrove	Detritus	Sediment
Black Mangrove	Habitat	Biodiversity
Estuary	Food Web	

PROCEDURES

1. In a small group setting, students will define the key vocabulary and review the information presented in the brochures, creating a list of at least 10 living organisms. If students have prior experience with the mangrove estuary at DeSoto National Memorial, they are encouraged to add living organisms not mentioned in the brochures.
2. Using the Internet, students will research the specific habitat (intertidal zone, mangrove roots, costal hammock, etc) in which each organism is located and the type of nutrition (shrimp, detritus, photosynthesis, etc) it relies upon for survival.
3. Each group will share the list of organisms, the habitats occupied and the sources of nutrition. The teacher will then begin a discussion about how the food web in a mangrove estuary is completely based on the habitat created by different mangroves.
4. In small groups, students will then create a food web on poster paper using drawings or pictures printed out from the Internet. This web should include the organisms with lines connecting each one to different sources of nutrition.
5. As a culminating activity, students will write a paragraph explaining how mangroves create a unique habitat and how their protection can help sustain biodiversity at DeSoto National Memorial.