

Mangrove Ecology Program

Grade Level: All

Summary: The mangrove ecology is a component of our core program and allows the staff to truly use the outdoors as a classroom. Mangrove forests make up the majority of the natural coastal habitat in the Florida Keys. Mangroves provide an important habitat and play a vital role in the ecological functioning of other associated habitats in the keys. Students will learn about mangrove ecology during a discussion on the boat on the way to the mangrove snorkel site. Boat will stop at various locations en route so instructors can point out any animals to identify (birds!), examples of mangrove adaptations, the identifying characteristics of the three species of mangroves and unique habitats created by the mangroves. Students will snorkel and get a hands on lesson with marine invertebrates collected by the instructor.

**** service learning option available ** (all ages; marine debris removal)**

**** advanced option available** (high school or above; sediment core field techniques and analysis lab)**

Program Objectives:

- students will be able to identify 3 local mangrove species as well as their identifying characteristics
- students will understand the role of the mangroves habitat in the overall Florida Keys marine ecosystem
- students will snorkel mangrove habitat and experience hands-on introductions to mangrove-dwelling organisms
- students will see the biogenous limestone of Key Largo firsthand

Concepts Covered:

- Three species of mangroves in the FL Keys and their identifying characteristics
- Mangrove adaptations
- Bird identification
- Interconnectedness of mangrove habitat within the overall Florida Keys subtropical marine ecosystem
- biogenic and abiogenic limestone making up the Florida Keys
- detritus based food web
- abiotic factors controlling geographical distribution and zonation of mangroves

Vocabulary: detritus, prop root, propagule, pneumatophore, lenticels, tannin, facultative halophyte, adaptation, aerial root, zonation, vivipary, salt exclusion/excretion, biogenous, terrigenous, exotic species, mutualism

Procedures: The entire program is run from the water. The students will board the boat for a mangrove ecology lesson, using adjacent trees as examples. Students will snorkel to view prop root community. The program includes collection, identification and discussion of representative organisms from mangrove root habitat.

Extensions: if interested mangrove restoration, talk to the staff! We have a long term restoration effort adjacent to MarineLab's campus we would be happy to discuss. <https://www.cbd.int/doc/case-studies/ttcc/ttcc-00159-en.pdf>

Resources: <http://floridakeys.noaa.gov/plants/mangroves.html>, <http://mangroveactionproject.org/>, <https://marinelabresearch.wordpress.com/2012/10/15/mangrove-restoration-update/>



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