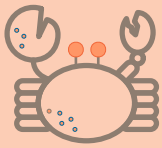
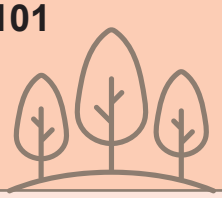
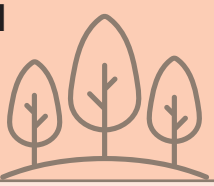
EASTERN 4-H CENTER

Environmental Classes for Grades 6-8

Microscope Mania (6-8) 	This take on wetland ecology allows students to explore the swamp from our boardwalk and collect organisms to be viewed under compound microscopes. An engaging program which outlines the important roles of wetlands while providing plenty of time for exploration!
Goals	• Explore, define, and understand the purposes of a wetland habitat • Collect samples of plants and organisms to be viewed under a microscope • Review the parts and proper use of a compound microscope
NC State Science Standards	6.L.2.3, 8.E.1.4, 8.L.3, Bio.2.2.1, Bio.2.2.2, EEn.2.1.3, EEn.2.2.1, EEn.2.4.2, EEn.2.7
Potential Activities	• Collection of various forest and wetland materials • Microscope tutorial and application
Setting	• Outdoors, boardwalk trail, microscope session is inside

Sound Study & Crabbing (6-8) 	This exciting lesson contains an overview of the Albemarle Sound with an emphasis on the biology of Blue Crabs! Participants will learn the best techniques for catching these popular shellfish and then put what they've learned to work by catching crabs in the Sound.
Goals	• Review the basics of Albemarle Sound ecology including location, water quality, habitat structure, and biodiversity • In depth look at Blue crab biology • Learn the popular techniques for successful crabbing
NC State Science Standards	K.L.1, 1.L.1, 1.L.2, 2.L.1, 3.E.2.1, 4.L.1, 5.L.2.1 , 5.L.2.2 , 6.L.2.3, 7.L.1, 8.E.1, 8.L.3, Bio.2.1, Bio.2.2, EEn.2.4.2, EEn.2.7.1, EEn.2.8.2
Potential Activities	• Albemarle Sound water quality testing • Catch and release crabbing
Setting	• Outdoors, soundside pier

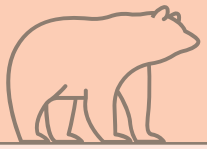
Forestry 101 (6) 	Take a closer look at our local forests by learning the differences between coniferous and deciduous trees, exploring the biodiversity of the forest floor, and looking at the different roles of Forestry as a career. After that, see what factors affect the growth of trees and how the size of tree rings can be an environmental health indicator.
Goals	• Explore, define, and understand forest ecology and structure • Locate examples of forest floor biodiversity • Take a closer look at factors affecting tree growth
NC State Science Standards	3.L.2, 4.E.2.3, 4.L.1, 5.L.2, 6.L.2, 6.E.2.4
Potential Activities	• Walking tour of a forest habitat • Forest floor dig to look for insects and other organisms • Tree ring growth simulation activity
Setting	• Outdoors, wooded areas and paths

Advanced Forestry (7-8) 	A review of basic forest characteristics with a more in depth look at how forestry tools are used and applied in real-life settings. Groups will use Biltmore sticks to measure the commercial potential of a tree and discover how this tool is used to conserve resources.
Goals	• Forest structure and succession • Identify common NC tree species • Strategies of forest management and the importance of controlled burns • Look at examples of forestry tools and how they are used
NC State Science Standards	8.P.2.2, 8.L.3, Bio.2.1, Bio 2.2, EEn.2.2.1, EEn.2.2.2, EEn.2.7, EEn.2.8
Potential Activities	• Using a biltmore stick to measure a tree’s commercial potential
Setting	• Outdoors, wooded areas and paths

Properties of Water (6-8) 	Learn about the importance of maintaining strict quality standards for water systems as well as potential side effects of agricultural runoff. Test the pH, salinity, phosphate levels, nitrate levels, and turbidity of the Albemarle Sound while learning how the river and ocean water interact. Finally, students will build a natural filter system to prove how wetlands successfully keep contaminants and sediment out of larger bodies of water.
Goals	• Explain the importance of water • Quality for aquatic habitats and how different parameters affect biodiversity • Understand the role of wetlands in maintaining water quality • Demonstrate how fresh, brackish, and saltwater systems interact
NC State Science Standards	3.P.2.2, 3.E.2.1, 4.L.1.1, 5.L.2.1, 6.L.2.3, 8.E.1, PSc.2.1.3, PSc.2.2.6, Bio.1.2.1, Bio.2.1.1, Bio.2.2, Chm.3.2.2, EEn.2.4.2, EEn.2.7.1
Potential Activities	• Soundside water quality testing • Density tube activity with fresh, brackish, and saltwater • Building a filter out of natural materials
Setting	• Outdoors, soundside pier

Adaptable Animals (6) 	One of the most fascinating aspects of ecology is the role adaptation plays within each system. Plants and animals alike are constantly changing to increase their chances of survival, even humans! This class defines physiological vs. behavioral adaptations and uses several hands-on activities to demonstrate the dramatic impact these changes can have on an organism.
Goals	• Physiological vs behavioral adaptations • Common biological adaptations specific to a wetland habitat
NC State Science Standards	K.L.1, 1.L.1, 1.L.2, 4.L.1, 6.L.2.3, 7.L.2.3, 8.L.4.2
Potential Activities	• Tour of a wetland habitat on the boardwalk • Bird beak adaptation activity • Camouflage game
Setting	• Combination of indoor and outdoor activities

Ecological Connections (6) 	Explore the interconnected world of food chains and species relationships. This program uses games and hands-on activities to demonstrate the importance of keeping the ecosystem in balance. Groups will learn about predator-prey and symbiotic relationships in an engaging way.
Goals	• Predator-Prey Relationships • Food chain connections • Producer vs Consumer vs Decomposer connections
NC State Science Standards	3.L.2.2, 4.L.1.2, 4.L.1.4, 5.L.2, 6.L.2.1, 8.L.3, 8.L.5.1
Potential Activities	• Food chain cup stackers • Deadly Links activity
Setting	• Combination of indoor and outdoor activities

Black Bear Biology (6-8) 	Tyrrell County boasts a healthy population of black bears and they are frequently seen grazing in local fields or traveling across roads. Often misunderstood, this program seeks to educate students of all ages about black bear physiology and behavior. After, participate in an activity defining the limiting factors of a habitat and how they affect carrying capacity.
Goals	• Black bear biology, habitat, life cycle, and population control • Define and understand the carrying capacity of a habitat
NC State Science Standards	K.L.1, 1.L.1, 1.L.2, 2.L.1.1, 4.L.1, 6.L.2.3, 8.L.3.1, Bio.2.1, EEn.2.8.3
Potential Activities	• Examination and discussion of black bear pelts, claws, skulls, etc. • Habitat matching activity • Carrying capacity game
Setting	• Combination of indoor and outdoor activities

Nocturnal Nature (6-8) 	Take an evening tour of our boardwalk through the wetlands to experience this habitat from a new perspective! We'll look at the differences between nocturnal and diurnal creatures while adapting our five senses to participate in a variety of fun activities.
Goals	• Nocturnal, diurnal, crepuscular definitions • Adaptations and characteristics of nocturnal animals • Common nocturnal species found in this area
NC State Science Standards	4.L.1, 6.L.2.3, Bio.2.1.2, Bio.2.1.3
Potential Activities	• Night hike on the boardwalk • Common bird and frog calls • Various games using the senses to simulate nocturnal adaptations
Setting	• Outdoors, boardwalk trail

NC STATE EXTENSION