



Purpose and Overall Learning Objectives:

Enclosed are seven lesson plans based on the Candid Critters citizen science project to complement ecology study objectives in NC and recommendations by the NGSS through:

- Engagement in experiential learning activities
- Connections with nature and wildlife to enhance environmental literacy
- Participation in an authentic scientific research and the co-creation of knowledge with wildlife professionals to advance the conservation and management of wildlife in NC.

Timing and Implementation: To participate, teachers must enroll in the [North Carolina Candid Critters \(NCCC\) citizen science project](#), a statewide citizen science camera trap survey run by the [North Carolina Museum of Natural Sciences \(NCMNS\)](#) and the [North Carolina Wildlife Resources Commission \(NCWRC\)](#) to study the distribution, abundance, and conservation of mammals. Teachers partake in virtual training (~45 min) and are asked to administer a survey to students. Camera traps are available to borrow from [participating libraries across the state](#). For an overview of the project, refer to this [flowchart](#).

There are seven lesson plans associated with this project. Each lesson will take approximately one class period. Four lessons are indoors and three are outdoors. Lesson plans will take place before, during and after a three week camera trap deployment and are designed to be used together, however lessons may be used alone based on teacher preferences. Worksheets are included after each lesson. An appendix of supplemental materials is provided to help you and go in more depth with lessons.

Target Audience: Grades: 5, 6 and 8, however, any teacher may enroll in Candid Critters.

Safety: Students should wear long pants and closed-toe shoes for outdoor lessons. Ticks and other biting insects, venomous snakes, and troublesome vegetation (e.g., thorns, poison ivy) may be encountered when outside. Please advise students to not touch wildlife (especially snakes) unless they have teacher permission and to check for ticks when returning to the classroom.

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Candid Critters Science Standards at a Glance

The lesson plans contained in this document are designed to address the following NC science standards. Check the Appendix for standards relevant to other subjects.

Grade	Essential Science Standard(s)
5th	<p>5.L.2 Understand the interdependence of plants and animals with their ecosystem.</p> <ul style="list-style-type: none"> • 5.L.2.2 Classify the organisms within an ecosystem according to the function they serve: producers, consumers, or decomposers (biotic factors) (Lesson 5). • 5.L.2.3 Infer the effects that may result from the interconnected relationship of plants and animals to their ecosystem (Lessons 1, 2, 5).
6th	<p>6.L.2 Understand the flow of energy through ecosystems and the responses of populations to the biotic and abiotic factors in their environment.</p> <ul style="list-style-type: none"> • 6.L.2.1 Summarize how energy derived from the sun is used by plants to produce sugars (photosynthesis) and is transferred within a food chain or food web (terrestrial and aquatic) from producers to consumers to decomposers (Lesson 5). • 6.L.2.3 Summarize how the abiotic factors (such as temperature, water, sunlight, and soil quality) of biomes (freshwater, marine, forest, grasslands, desert, Tundra) affect the ability of organisms to grow, survive and/or create their own food through photosynthesis (Lessons 1, 2, 5). <p>6.E.2 Understand the structure of the earth and how interactions of constructive and destructive forces have resulted in changes in the surface of the Earth over time and the effects of the lithosphere on humans</p> <ul style="list-style-type: none"> • 6.E.2.4 Conclude that the good health of humans requires: monitoring the lithosphere, maintaining soil quality and stewardship (Lesson 7).
8th	<p>8.E.1 Understand the hydrosphere and the impact of humans on local systems and the effects of the hydrosphere on humans.</p> <ul style="list-style-type: none"> • 8.E.1.4 Conclude that the good health of humans requires: <ul style="list-style-type: none"> • Monitoring of the hydrosphere • Water quality standards • Methods of water treatment • Maintaining safe water quality • Stewardship (Lesson 7) <p>8.L.3 Understand how organisms interact with and respond to the biotic and abiotic components of their environment.</p> <ul style="list-style-type: none"> • 8.L.3.1 Explain how factors such as food, water, shelter, and space affect populations in an ecosystem (Lessons 1, 2, 5). • 8.L.3.2 Summarize the relationships among producers, consumers, and decomposers including the positive and negative consequences of such interactions including:

- coexistence and cooperation
- competition (predator/prey)
- parasitism
- mutualism (Lesson 5)
- 8.L.3.3 Explain how the flow of energy within food webs is interconnected with the cycling of matter (including water, nitrogen, carbon dioxide, and oxygen). (Lesson 5)

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