

Backyard Biologist

1. **DESCRIPTION:** This event focuses on knowledge of living organisms that students may encounter in their own backyards, such as trees, plants, amphibians, and reptiles. Teams will be required to identify organisms from a provided list, know about the habitat and conditions required for growth of the organisms, and which ones are North Carolina state symbols.
2. **ESSENTIAL STANDARDS ALIGNMENT:** 2.L.1, 3.L.2, 6.L.1
3. **TEAM OF UP TO:** 2
4. **MAXIMUM TIME:** 60 min.
5. **TEAMS:** Must bring writing instruments. Teams may also bring up to 2 commercially produced field guides and/or 2 1-inch, 3-ring binders with pages in any form, from any source, contained in page protectors. (This means 2 guides, or 2 binders, or a guide and a binder). Teams may also bring up to two hand lenses.
6. **EVENT LEADERS:** Will provide a hands-on event with all necessary items, objects, materials, questions, and response sheets for participants to complete stations. Examples include but are not limited to: drawings, scenarios, questions, leaves, photographs, and specimens.
7. **SAFETY REQUIREMENTS:** None
8. **IMPOUND:** No
9. **THE COMPETITION:** This event will be run in a station format. Teams will rotate through stations that assess any or all of the following topics:
 - a. Know the structure and function of roots, stems, leaves, seeds, and flower parts.
 - b. Know the distinct stages of the life cycle of seed plants.
 - c. Describe how environmental conditions determine how well plants survive and grow in a particular environment.
 - d. Explain how basic properties (texture and capacity to hold water) and components (sand, clay, and humus) of soil determine the ability of soil to support the growth and survival of many plants.
 - e. Know the habitats, stages, and life cycle of reptiles and amphibians.
 - f. Be able to identify specimens by common name from the Official Specimen List. No more than 50% of the test will be from identification of specimens.
 - g. Know which specimens on the Official Specimen List are North Carolina official state symbols.
10. **SCORING:** Points will be awarded for the accuracy of responses. Ties will be broken by the accuracy or quality of responses to pre-selected questions chosen by the event leader.
11. **EVENT RESOURCES:**
 - <http://www.sciencenc.com/event-help/backyardbiologist.php>
 - <http://www.plt.org/environmental-education-activity-guide>
 - <http://www.mbgnet.net/bioplants/main.html>
 - <http://www.carolinanature.com/trees/>
 - <http://www.ncnatural.com/wildflwr/flowrpg.html>
 - The Magic School Bus Plants Seeds by Scholastic
 - Plants by Janice Van Cleave

Backyard Biologist – Official Specimen List

For identification students only need to know the common name and if it is an official NC State Symbol. Scientific names are given for reference purposes only.

Trees (Identify by leaves, bark, and seeds.):

Black walnut (*Juglans nigra*)
Eastern hemlock (*Tsuga canadensis*)
Flowering dogwood (*Cornus florida*) *NC State Flower
Long leaf pine (*Pinus palustris*)**
Pond pine (*Pinus serotina*)**
Post oak (*Quercus stellata*)
Red bud (*Cercis canadensis*)
Red maple (*Acer rubrum*)
River birch (*Betula nigra*)
Sassafras (*Sassafras albidum*)
Southern magnolia (*Magnolia grandiflora*)
Sweet gum (*Liquidambar styraciflua*)
Sycamore (*Platanus occidentalis*)
Tulip poplar (or yellow poplar) (*Liriodendron tulipifera*)
White oak (*Quercus alba*)
**Pine tree generic (no specific type) is the state tree of NC.

Bushes, Vines, and Flowers

Azalea (*Rhododendron obtusum*)
Blueberry (genus *vaccinium*) *NC State Blue Berry
Carolina Lily (*Lilium michauxii*) *NC State Wildflower
Catawba Rhododendron (*Rhododendron catawbiense*)
Eastern Poison Ivy (*Toxicodendron radicans*)
Japanese Honeysuckle (*Lonicera japonica*)
Kudzu (*Pueraria lobata*)
Oriental Bittersweet, (*Celastrus orbiculatus*)
Scuppernong Grape (*Vitis rotundifolia*) *NC State Fruit
Strawberry (genus *fragaria*) *NC State Red Berry
Sunflower (*Helianthus annuus*)
Sweet Pea (*Lathyrus odoratus*)
Venus Fly Trap (*Dionaea muscipula*) *NC State Carniverous Plant
Virginia Chainfern (*Woodwardia virginica*)
Virginia Creeper (*Parthenocissus quinquefolia*)

Amphibians and Reptiles:

American Alligator *Alligator mississippiensis*
American Toad *Bufo americanus*
Bullfrog *Rana catesbeiana*
Copperhead *Agkistrodon contortrix*
Corn snake *Elaphe guttata*
Eastern box turtle *Terrapene Carolina* *NC State Reptile
Eastern Hellbender *Cryptobranchus alleganiensis*
Green Anole *Anolis carolinensis*
Green Treefrog *Hyla cinerea*
Loggerhead *Caretta caretta*
Mudpuppy *Necturus maculosus*
Red-spotted Newt *Notophthalmus viridescens*
River Cooter *Pseudemys concinna*
Rough Green Snake *Opheodryx aestivus*
Southeastern Five-lined Skink *Eumeces inexpectatus*