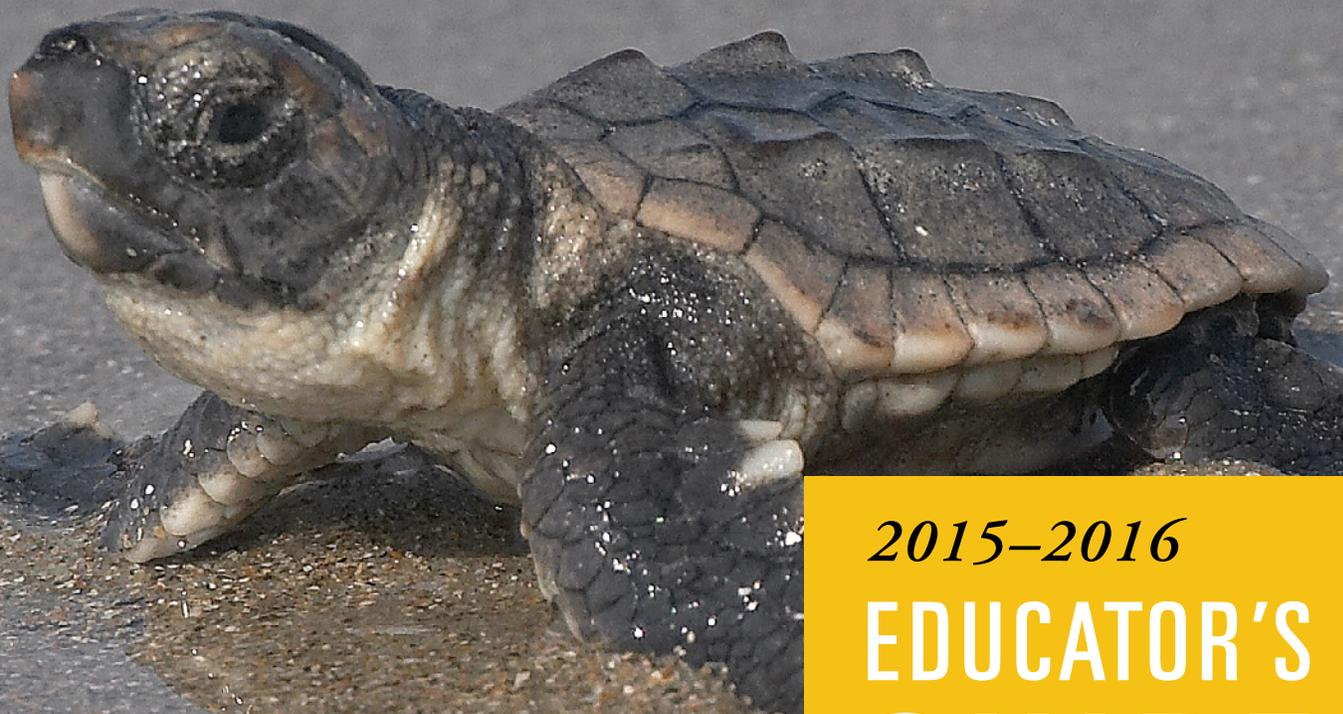


**STUDENT
PROGRAMS
AT YOUR
SCHOOL**



2015–2016

**EDUCATOR'S
GUIDE**

to Museum Services

NORTH CAROLINA Museum of Natural Sciences
Downtown Raleigh • corner of Jones & Salisbury Streets • naturalsciences.org

VIRTUAL EDUCATION PROGRAMS

Grades K–12

Visit the Museum without leaving your site through interactive distance learning. Delivered using videoconferencing technology, students from kindergarten through high school can enjoy a variety of interactive programs designed to cover core curriculum requirements.

Registration: Participants must have some form of videoconferencing equipment or software to participate. A test with your site is required prior to scheduling. **Programs must be scheduled six weeks in advance.**

VIRTUAL CLASSES GRADES K–5

Virtual Classes are kit based hands-on, learning sessions for elementary students. Students work in groups with Museum specimens sent to your site prior to program. Programs are 50 minutes long and correlate to the North Carolina Science Essential Standards. Minimum 8, maximum 30 students. For more information contact Kaytee Smith, coordinator of virtual education at 919.707.9899 or katherine.smith@naturalsciences.org.

Programs are free with the exception of the return shipping on teaching materials used in the class. Out-of-state schools pay a \$65 fee per program plus return shipping charges on materials.

DISCOVERING DINOSAURS

Grades K–5

What is a fossil? How do we use fossils to develop an understanding of what the life was like millions of years ago? What other animals lived long ago? Students will learn how to interpret fossils and what they teach us about the lives of dinosaurs.

BUTTERFLY BASICS

Grades 1–3

Explore what butterflies are, what they look like, what they eat and why they are important to us. Students will become butterfly scientists and learn about the body parts and life cycle of butterflies.

COASTAL CAROLINA

Grades 4–5

Form meets function as students investigate how our coastal animals adapt and interact with their marine environment. Using specimens and replicas students will learn about the main habitats of the coastal marine environment.

VIRTUAL LABS GRADES 6–12

A Museum educator will guide your class through a lab-based program. Lab materials will be mailed to your site prior to the program. Program length is 60 minutes. Minimum 8, maximum 30 students. For more information contact Tamara Poles, coordinator of virtual education, at 919.707.9277 or tamara.poles@naturalsciences.org.

Programs are free with the exception of the return shipping on teaching materials used in the class. Out-of-state schools pay a \$65 fee per program plus return shipping charges on materials.

CELL SERVICE

Grades 3–8

September 1, 2015 – June 1, 2016

Let's use cells to solve a mystery! In this program students will learn the difference between plant and animal cells and be able to identify their parts.

JURASSIC PORK! DINOSAURS: THE OTHER WHITE MEAT

Grades 6–12

September 1, 2015 – June 1, 2016

What did the *T. rex* taste like? In this program, students will learn how to extract DNA, analyze DNA results, and compare structures to determine the *T. rex's* closest relative. Minimum 8, maximum 30 students.

VIRTUAL SCIENCE SESSIONS GRADES K–5

A live 45–60 minute session connects participants with a Museum educator to learn about animals or scientific research at the Museum. For more information contact Kaytee Smith, coordinator of virtual education, at 919.707.9899 or katherine.smith@naturalsciences.org.

STORY TIME: IN THE WOODS – WHO’S BEEN HERE?

Preschool – Grade 1

Cammy and William don’t see any wildlife as they walk through the woods, yet there are signs everywhere that animals have been around. Learn how to identify tracks, scat and other animal signs —and join in guessing “Who’s been here?”

DISCOVERING DINOSAURS

Grades K–5

What is a fossil? How do we use fossils to develop an understanding of what life was like millions of years ago? What other animals lived long ago? Students will learn how to interpret fossils and what they teach us about the lives of dinosaurs.

A ZOO IN THE SKY

Grades K–5

Take a journey into the sky to learn about the stars. We will explore some of the myths behind certain constellations, and meet some of the live animals that the legends are based on.

MEET THE UNHUGGABLES

Grades K–5

Learn about some of nature’s most misunderstood and feared animals. Meet animal ambassadors from the Museum’s live animal collection, and learn about the important roles these critters play in their habitat and ecosystem.

SMARTS PROGRAM GRADES 3–12

(Scientists Making Answers Relevant for Teachers and Students)

The SMARTS program allows students to interact with a scientist and learn about their exciting research. The programs are 30 minutes long and support the North Carolina curriculum. Programs must be scheduled at least 6 weeks ahead of time. For more information contact Tamara Poles, coordinator of virtual education, at 919.707.9277 or tamara.poles@naturalsciences.org.

ARMPIT AND BELLY BUTTON BIODIVERSITY

Grades 3–8

*Genomics and Microbiology Research Lab Program
Thursdays between 8:30 and 10:30 a.m.*

Learn about research on the “wildlife” living on our bodies. Swab a teacher’s or principal’s armpit and belly button and see what is living inside! Send us the swabs and we will culture them prior to the program so students can learn about the microbial critters that call our bodies “home.”

DIRT IS ALIVE!

Grades 3–8

*Genomics and Microbiology Research Lab Program
Wednesdays between 8:30 and 10:30 a.m.*

Did you know the dirt in your schoolyard is alive? Send us a sample of dirt from your school and we will tell you what’s living in it and how organisms such as people depend on soils for survival.

RODENT ROBBERS: HOW THIEVING RODENTS CONTRIBUTE TO SEED DISPERSAL

Grades 3–8

*Earth Observation & Biodiversity Research Lab Program
Mondays between 8:30 and 10:30 a.m.*

Dr. Roland Kays will share his surprising research on rodents like squirrels and agoutis. Rodents can cause harm to trees by eating their seeds, but may also help by burying seeds in scattered locations. New research has shown that seeds may be moved after they are buried. Activity: Prior to this program, we will send you materials so your class can observe the behavior of the wildlife at your school. Please notify Tamara Poles if a student in your class has a peanut allergy.

FIELD BIOLOGY IS AN ADVENTURE

Grades 3–8

*Earth Observation & Biodiversity Research Lab Program
Monday between 8:30 and 10:30 a.m.*

Meet Dr. Roland Kays an expert on kinkajous and learn how he went from being a kid playing in the woods to a scientist climbing rainforest trees and filming for National Geographic. In the process he discovered more about one of the world’s cutest animals.

DIRT IS ALIVE! – EXPLORING DIRT WITH DNA & RNA SEQUENCING

Grades 9–10

Wednesdays

Genomics and Microbiology Research Lab Program

Wednesdays between 8:30 and 10:30 a.m.

Did you know the dirt in your schoolyard is alive? Send us a sample of dirt from your school and we will tell you what's living in it and how organisms such as people depend on soil for survival. Students will also learn how scientists traditionally studied these microbes by culturing, but also, how and why they are currently using DNA and RNA sequencing to explore the diversity of environmental microbes.

EXPLORE ARMPIT AND BELLY BUTTON MICROBES WITH DNA SEQUENCING

Grades 9–10

Genomics and Microbiology Research Lab Program

Thursdays between 8:30 and 10:30 a.m.

Learn how scientists use DNA sequencing to identify the “wildlife” living on our bodies. Swab your teacher's or principal's armpit and/or belly button and we will grow the bacteria in the lab so students can see the microbial critters that call our bodies “home.” Students will learn how and why DNA sequencing is used for explorations of bacterial diversity.

FREE GOLD IN NORTH CAROLINA!

Grades 3–12

Geology Research Lab Program

Fridays between 8:30 and 10:30 a.m.

How can you tell the difference between gold and other minerals? Join geologist Dr. Christopher Tacker as he explains the fundamentals of mineral identification, such as the Mohs Hardness scale, as your students take part in a fun rock identification game!

GEOCHEMISTRY: COMPUTERS, LASERS AND ELECTRON BEAMS

Grades 3–12

Geology Research Lab Program

Fridays between 8:30 and 10:30 a.m.

Geochemists have the coolest tools in their lab. Explore the lab of geologist Dr. Christopher Tacker as he shows your class what a geochemist does and the awesome equipment they use for their research.

WHEN THE GROUND SHAKES... WILL NORTH CAROLINA?

Grades 3–12

Geology Research Lab Program

Fridays between 8:30 and 10:30 a.m.

What makes the world shake? Does North Carolina have earthquakes? Join geologist Dr. Christopher Tacker as he takes you on a journey through North Carolina's geologic history.

COMMUNITY OUTREACH PROGRAMS

Preschool–Grade 5

Museum outreach programs incorporate natural objects and live animals to teach participants about the natural world. Presentations highlight different portions of the science curriculum standards for grades K – 12 including ecosystems, life cycles, body systems, earth history, and classification of living organisms. These programs can be tailored for special populations such as Spanish speakers, persons with mental or physical disabilities, at risk youth, and pediatric patients and their families.

Dates can be reserved up to one year in advance and require at least six weeks notice prior to program date. For more information about outreach programs, contact Martha Fisk, curator of community outreach, at 919.707.9883 or martha.fisk@naturalsciences.org. For information about outreach programs tailored for special populations, contact Liani Yirka, curator of special populations, at 919.707.9887 or liani.yirka@naturalsciences.org.

Mondays–Saturdays

Maximum Group Size: 30

Fee: Please visit website for current fee.

Program Length: 60 minutes

naturalsciences.org/programs-events/outreach

PROGRAMS FOR PRESCHOOL – GRADE 5

STORYTIME

Ages 4–9

Learning is fun when you combine children’s literature with the natural sciences. Each program features two books along with live animals and other specimens.

ARTHROPODS ARE EVERYWHERE

Meet a variety of live “bugs” and learn about the amazing adaptations of this group of animals without backbones.

GROWING UP IN THE ANIMAL WORLD

Learn about different lifecycles in the animal kingdom while meeting a variety of live creatures.

DINOSAUR DISCOVERY

Learn about the science of paleontology and explore the world of dinosaurs.

BIRDS OF A FEATHER*

Discover the diversity of lifestyles in the bird world by investigating the characteristics and adaptations of these animals.

MARVELOUS MAMMALS

Explore the fascinating characteristics of the animal group to which humans belong.

ANIMAL TRACKS AND SIGNS

Learn how to use your senses to uncover the different clues left behind by animals.

**Please note that programs marked with an asterisk do not include live animals.*

PROGRAMS FOR GRADES K-8

ARTHROPODS ARE EVERYWHERE

Meet a variety of live “bugs” and learn about the amazing adaptations of this group of animals without backbones.

REPTILES AND AMPHIBIANS

Check out the distinguishing characteristics of these two fascinating animal groups.

WADING THROUGH WETLANDS

Few places are as important to our ecological health as wetlands. Discover why these fragile areas need our protection, and meet the animals that live there.

TERRIFIC TURTLES

Explore the diversity of turtle lifestyles and characteristics.

SNAKES

Learn all about these slithery sensations up close.

ROCKS AND MINERALS*

Discover the amazing properties and characteristics of rocks and minerals through hands-on activities and investigation of specimens.

FOSSILS AND PREHISTORIC LIFE

Examine ancient artifacts and modern-day animals to learn about fossil formation and how life has changed over time.

TROPICAL CONNECTIONS

Compare North Carolina’s habitat to the tropics and learn how our state is connected to these regions. Meet some of the animals found in tropical regions around the world.

ANIMALS OF THE CONSTELLATIONS

Discover some common animal constellations and learn about the names and legends of the stars.

NORTH CAROLINA TREASURES

Discover unique North Carolina habitats and meet the plants and animals that call them home.

VENOMOUS SNAKES AND SPIDERS OF NORTH CAROLINA

Discover the differences between dangerous and harmless species of snakes and spiders. Examine live, non-venomous snakes as well as various types of spiders in a safe, non-threatening environment.

**Please note that programs marked with an asterisk do not include live animals.*