Hands-on, experiential learning in an outdoor setting
Reservations Start August 1, 2008
Please go to our registration website at
http://www.web.virginia.edu/blandy/

2008-2009 School Programs
For Grades PreK through 12

We welcome public, private, and home school groups.

University of Virginia’s Historic
Blandy Experimental Farm
The State Arboretum of Virginia

For more information call (540) 837-1758 Ext. 242
or e-mail schprog@virginia.edu
NOTE TO EDUCATORS:
Blandy Experimental Farm Science programs are:
♦ Virginia Standards of Learning Correlated
♦ Grade Level Targeted and
♦ Emphasize Hands-On, Experiential Learning

A visit to the State Arboretum of Virginia is more than just a tour. This is a place to get a student excited about science! Our programs feature hands-on learning and investigations to provide children positive and meaningful experiences with the natural world. We are dedicated to teaching science by making it engaging and fun!

All of our programs are designed to meet Virginia Standards of Learning requirements. Programs offered to multiple grade levels are tailored to the specific grade level learning needs of your students. Many of our programs integrate science and math SOLs; others include social studies and language arts SOLs. The SOLs covered are listed for each program. Our programs are designed to help enrich what you are teaching in the classroom. Programs also can be used to introduce or review a unit you have already taught to your class. Near the end of the school year, you may wish to select a program that will introduce your students to concepts that they will cover in the next grade. There are many options for how these programs can be used to help you provide an optimal learning experience for your students. We look forward to participating with you in providing the best possible science learning experience for your students.

Our facilities include:
♦ 175-acre Arboretum collection featuring over 1000 species of trees, shrubs, and herbaceous plants
♦ Parking area designated for school buses
♦ Picnic area with tables and a water fountain
♦ Two classrooms: Parkfield Learning Center and Peetwood Pavilion for Environmental Education (seasonal, covered outdoor classroom)
♦ Wheelchair-accessible restrooms in the Quarters (our main office building), Parkfield Learning Center and the Peetwood Pavilion

Program Structure

For 3 to 5 classes visiting Blandy:
During the 2006-2007 school year, the Education team at Blandy Experimental Farm developed Rotation Schedules for many of the programs offered at Blandy. With these schedules, Blandy staff and teachers share the responsibility for leading students through the program activities. The rotation schedule is:
♦ Designed for schools bringing 3-5 classes in one day
♦ Arrival time is 9:40 a.m. for program briefing and restroom visits.
♦ Designed as a series of stations the classes move through using a predetermined schedule
♦ Designed so that students are engaged for the majority of the time they are at Blandy and intended to enhance the students’ learning experience
♦ Available for the following programs: Let’s Sprout, Flower Functions, Scoop on Soils, Rocks Talk, Virginia Natives, Water Wonders, It’s for the Birds, Snake Savvy, and Young Ecologists

For 1 to 2 classes visiting Blandy:
Programs are 90 minutes (which includes pre-program orientation and restroom break) unless otherwise stated in the program description. We can take up to two classes at one time— one in the Parkfield Learning Center and one in the outdoor classroom, the Peetwood Pavilion. There are three time slots available (10:00 a.m., 11:30 a.m. and 1:30 p.m.).

Table of Contents
Page 2 Overview of Blandy School Programs
Page 3 A Handy Guide to Blandy School Programs
Page 4-5 Programs that Emphasize Life Science and Biodiversity
Page 6 Programs that Emphasize Aspects of the Environment
Page 7 Programs the Emphasize the Process of Science
Page 8 Backpack Programs
Page 9 Registration Information
<table>
<thead>
<tr>
<th>Program</th>
<th>Focus</th>
<th>PreK</th>
<th>K</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preschool Explorers</td>
<td>Investigation and observational skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mammals</td>
<td>Mammal description &amp; behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Let’s Sprout!</td>
<td>Plant parts identification &amp; functions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snake Savvy</td>
<td>Snake identification &amp; behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It’s for the Birds</td>
<td>Bird adaptations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virginia Natives</td>
<td>Ecology of native ecosystems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flower Functions</td>
<td>Flower structure &amp; plant pollinator relationships</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scoop On Soils</td>
<td>Soil types &amp; functions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rocks Talk</td>
<td>Rock identification &amp; VA. geology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Wonders</td>
<td>Measuring &amp; analyzing water quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arbor Sleuth</td>
<td>Tree identification</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skulls!</td>
<td>Skull observations &amp; classification</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Young Ecologists</td>
<td>Measuring biodiversity; native vs. non-native organisms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Quality Technology</td>
<td>Analyzing water quality using probes &amp; graphing calculators</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science Explorations</td>
<td>Student-directed field ecology research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Mammals (preK-2)**
Children learn all about mammals! They touch different types of mammal fur, learn where mammals live, how to tell the difference between fox prints and bobcat prints, and mammals native to Virginia. Students explore Blandy looking for signs mammals leave behind. This program also focuses on the senses mammals use to find food, seek prey, and escape predators.

Science SOL: K.1, K.2, K.4, K.6, K.8, K.9; 1.1, 1.5, 1.7; 2.1, 2.4, 2.5, 2.7
Math SOL: K.1, K.2, K.8; 1.1; 2.1, 2.2, 2.9, 2.12, 2.21

Fee: $3 per student

---

**Snake Savvy (Grades 1-5)**
As long as you know about snakes, there is no reason to be afraid of them! In this program, students learn characteristics that differentiate Virginia’s venomous and non-venomous snakes. They also learn to identify some of Virginia’s most common snakes. Students have the opportunity to feel snake skin. We also talk about what to do when students encounter snakes in the wild and practice this behavior on a nature walk.

Science SOL: 1.1, 1.5, 1.7; 2.1, 2.4, 2.5, 2.7; 3.1, 3.4, 3.5, 3.6; 4.1, 4.5, 4.8; 5.1, 5.5
Math SOL: 2.12; 3.14

Fee: $3 per student

---

**It’s for the Birds (Grades 2-4)**
What adaptations allow birds to secure food and shelter? In the classroom, students learn about how different bird beaks are adapted to the food they eat. Outdoors, students use binoculars to observe birds in their natural habitats. This program is recommended for the winter as well as warmer times of the year.

Science SOL: 2.1, 2.4, 2.5, 2.7; 3.1, 3.4, 3.5, 3.6, 3.8, 3.10; 4.1, 4.5, 4.8
Math SOL: 3.8; 4.6

Fee: $3 per student

---

**Virginia Natives (Grades 2-4)**
Does our backyard look like your backyard? On the Native Plant Trail, students identify producers, consumers and decomposers in the woodland habitat. Through inquiry-based activities, students investigate how these plants and animals interact with one another and their physical environment.

Science SOL: 2.1, 2.5, 2.4, 2.7, 2.8; 3.1, 3.4, 3.5, 3.6, 3.8, 3.10; 4.1, 4.3, 4.8
Social Studies SOL: VS 2

Fee: $3 per student
**Arbor Sleuth (Grades 5-7)**
What are the important features that distinguish one tree from another? Student detectives hone their observation skills as they tour the Arboretum identifying mystery trees. They use hand lenses and dichotomous keys to locate characteristics that distinguish trees from one another. This program can be scheduled year round. In spring, the focus is on tree flowers; summer and fall, the focus is leaves and fruit; in winter, our focus is on buds and bark.

Science SOL: 5.1, 5.5; 6.1; LS.1, LS.5, LS.11, LS.12
Math SOL: 5.11; 6.10

Fee: $3 per student

**Skulls (Grade 7)**
Students will identify several skulls of native Virginia animals by examining skull characteristics and using a dichotomous key. They will develop hypotheses regarding skull and teeth adaptations for food preferences. They will also construct a food web based on evidence of animals found on a nature walk and on the skull investigations they performed. Join us for this exciting new program! This program is designed to take two hours.

Science SOL: LS.1, LS.4, LS.5, LS.7, LS.8, LS.9, LS.12
English SOL: 7.1

Fee: $5 per student

**Let’s Sprout (Grades K-2)**
Capture the imagination of budding young scientists as they explore the wonders of seed germination and plant growth. What do seeds do? How do plants grow? The concept of plant life cycles is reinforced on a nature walk and by planting seeds to take home. This is our most popular program!

Science SOL: K.1, K.4, K.6, K.8 K.9; 1.1, 1.4, 1.5, 1.7, 1.9; 2.1, 2.4, 2.7, 2.8

Fee: $3 per student

**Flower Functions (Grades 3-4)**
Learn about the mysterious world of flowers and their pollinators in this program! Students dissect flowers using hand lenses and dissecting scopes to identify and observe the parts of flowers. They explore flowers around Blandy on a nature walk as they learn about the fascinating relationships plants and their animal partners have developed with one another.

Science SOL: 3.1, 3.4, 3.5, 3.8, 3.10; 4.1, 4.4, 4.5
Math SOL: 3.21; 4.20

Fee: $3 per student
Get the Scoop on Soils (Grades 3-5)
With this investigation, students learn that soil is more than dirt! First, students learn about soil particle size by playing a game. Then, students experiment with different types of soil building on the concepts learned in the soil game. Data collection, measurement, observation, and use of scientific methods are reinforced. This program is recommended for winter as well as warmer times of year.

Science SOL: 3.1, 3.7, 3.10; 4.1, 4.8; 5.1, 5.7  
Math SOL: 3.14, 3.21, 3.22, 3.8; 4.10, 4.11, 4.12, 4.19, 4.20; 5.11, 5.18, 5.21, 5.3  
Fee: $3 per student

Rocks Talk (Grades 4-5)
What do the rocks at the Arboretum tell us about our geologic history? Students identify common Virginia rocks and the distinctions among igneous, metamorphic and sedimentary rocks. On the grounds they look for evidence of tectonic plate movement, weathering and erosion, and examples of human impact on the natural rock cycle. This program is recommended for winter as well as warmer times of the year.

Science SOL: 4.1, 4.8; 5.1, 5.7  
Fee: $3 per student

Water Wonders (Grades 4-6)
Students locate and learn about their watersheds using topographic maps. Students then collect, measure, record, and analyze water quality indicators such as temperature, dissolved oxygen, pH, and nitrates. They also learn how to identify macro invertebrates of Blandy’s wetlands.

Science SOL: 4.1, 4.5, 4.8; 5.1, 5.5; 6.1, 6.5, 6.7, 6.9  
Math SOL: 3.17, 3.5; 5.11; 6.1  
Social Studies SOL: VS 1, VS 2; USI.1, USI.2; CE.1  
Fee: $3 per student

Water Quality Technology (Grades 6-12)
This program focuses on measuring water quality indicators using technology. For the program, students use TI-83 graphing calculators and Vernier LabPros to measure temperature, pH, dissolved oxygen, ammonium and other indicators. Students use high-tech equipment for water quality monitoring! This program is recommended for attentive, motivated students. It is designed to take two hours and best accommodates groups of no more than 15.

Science SOL: 6.1, 6.5, 6.7, 6.9; LS 1, LS 7, LS 12; CH.1; BIO.1, BIO.3  
Social Studies SOL: USI.1, USI.2; CE.1; WG.1  
Fee: $5 per student
**Preschool Explorers (Grade: PreK)**
Choose from one of the following themes for your preschool students. In each, students explore the natural world using their senses and powers of observation in a variety of activities.

- Plants and Trees– Examine trees and plants up close and personal.
- Food Webs– Explore connections among animals.
- Weather– Observing clouds, wind, and how the weather affects animals and nature.

**VA Foundation Blocks for Early Learning**
Science Block 1, 3, 4, 6
Mathematics Block 3, 4, 5, 6 Literacy Block 1, 2
Personal & Social Development Block 1, 2, 3, 4
Physical & Motor Development Block 3, 4, 5

**Fee:** $3 per student

---

**Young Ecologists (Grades 6 & 7)**
What is a habitat? What types of plants and animals might be found there? What resources do organisms need to survive in their habitats? Blandy is your outdoor science and math laboratory as students become young ecologists by investigating the diversity of life in different habitats. They also explore some of the environmental factors that influence ecosystem diversity. This program is designed to take two hours.

Science SOL: 6.1, 6.7; LS 1, LS 4, LS 7, LS 8, LS 9, LS 10, LS 11, LS 12
Math SOL: 6.7, 6.8; 7.16, 7.19, 7.20, 7.21
Language Arts SOL: 6.1, 6.7, 6.8; 7.1, 7.8

**Fee:** $5 per student

---

**Science Explorations (Grades 6-12)**
A day-long investigation! From developing a hypothesis to presenting their results, students conduct a scientific experiment based on an inquiry they choose about the environment at the Arboretum. A sampling of numerous possibilities: investigate animal and plant adaptations; effect of abiotic factors on lichen; explore the biodiversity value of wetlands. Call (540) 837-1758 Ext. 242 to discuss possibilities. This program is scheduled from 9 a.m. to 2 p.m.

Science SOL: 6.1, LS 1, CH 1, Bio 1 and many others depending on the inquiry chosen
Math SOL: 6.7, 7.16, 7.19, 7.20, 7.21; 8.1, 8.3, 8.12, 8.13, 8.14, 8.18, A 5, A 18; PS 1, PS 2, PS 3, PS 8, PS 9, PS 10
Language Arts SOL: 6.1, 6.2, 6.6, 6.7, 7.1, 7.8, 7.9; 8.2, 8.7, 8.8, 9.2, 9.6, 9.7; 10.1, 10.7, 10.8; 11.1, 11.7, 11.8; 12.1, 12.7

**Fee:** $8 per student

---

**What teachers say about our school programs:**

“Excellent explanations and hands-on experiences.”

“The hands on activities are right on target!”

“The kids are still talking about the trip!”

“Beautiful setting- kid friendly staff!”

“The rotations were awesome and well organized, everything went smoothly.”
When students are not in a scheduled program, what can you do? Reserve a backpack full of fun activities! There are four backpacks to a set; each pack has supplies for 6 students. There is one set available for each of the three backpack programs. Instructions, equipment and all necessary materials are included in each pack. Use the on-line program reservation to reserve a set of backpacks for your class. For more information, contact schprog@virginia.edu

**USE SOME SENSE!**
Pre-School & Kindergarten
Did you hear that? What is that smell? Look at that color! Come visit Blandy and find out how we use our senses to observe the world around us. The backpack contains several hands-on activities for your students.

[Skills Used: Observation, investigations using the senses, communication]
Fee $15 per set

**WILD THINGS!**
All Grades
What birds make Blandy their home? Who lives in Lake Georgette? Are there creatures hiding in the rock walls? Observe the wildlife that make the Arbo-retum their home using Peterson Flash Guides, binoculars, and grade specific hands-on activities.

[Skills Used: Observation, communication and identification]
Fee: $15 per set

**GREEN AND GROWING**
All Grades
Where is the plant that smells like bubblegum? Did you know that leaves have veins? Have you ever had a “tree cookie?” Explore the plants, trees, and herbs at Blandy using Peterson Flash Guides, hand lenses, and grade specific hands-on activities.

[Skills Used: Investigations using the senses, observation and identification]
Fee: $15 per set
Reservations Start August 1, 2008
Please go to our registration website at
http://www.web.virginia.edu/blandy/

Program Registration

Registration for Blandy Education programs is online. To register for programs, use the link at the top of this page. A few important notes about registering:

♦ When registering for programs, please be sure to enter the most accurate number of children attending each program as well as the teachers’ names so that we are prepared for your school groups.
♦ Once you have registered online you should receive a confirmation email in 24 hours. If you do not receive such an email— you are not signed up for any programs. Call us at 540-837-1758 Ext. 242 for assistance.
♦ Please call us with any questions you have about program structure, content, etc.

Class size: Our programs comfortably accommodate a class of 28 students with about five chaperones. Minimum class size for a program is 10 students. For groups spanning several grade levels, we prefer to limit the group to three consecutive grades, e.g. grades 3, 4, & 5 or K, 1, & 2.

Cancellation Fee: If you cancel your program(s) within 3 weeks of your scheduled date, you will be charged the minimum fee of $30 per program canceled. We are unable to fill timeslots vacated within 3 weeks of a program date due to the lead time needed for schools to schedule field trips. Programs will be held rain or shine, except for severe weather.

Chaperones: One per 5-6 students; chaperones come for free!

Special Needs: Please advise us as soon as possible if you have students with special needs (i.e. peanut allergies, wheel chairs, special education, etc.). We will make every effort to accommodate them.

Be Prepared: Maximize your students’ experience at Blandy! Come to the Arboretum for a program preview. Call or email us to schedule a preview.

Restrooms: Allow 20 minutes for the whole class to visit the restroom. Restrooms are located in the Quarters Building and at the Peetwood Pavilion.

Picnic Grove: Seats about 60 people. First-come, first-serve basis; no reservations are taken.

Who is in charge? Teachers PLEASE remember: YOU are responsible for your own self-guided activities when your class is not participating in the program. Please abide by Arboretum rules and etiquette. During the staff led activities, we expect the teachers and chaperones to manage student behavior.
Education Program
BLANDY EXPERIMENTAL FARM
State Arboretum of Virginia
400 Blandy Farm Lane • Boyce VA 22620
(540) 837-1758 Ext. 242
schprog@virginia.edu
www.virginia.edu/blandy