School Programs
2013–2014

Transformative experiences for PreK–12 students, teachers, and schools

www.mobot.org/schoolprograms
Dear Educator,

First, thank you. In many ways, I am who I am because of talented teachers who shaped my interests, challenged me, supported me, and inspired me. Yours is among life’s most noble and worthy vocations.

Second, the Missouri Botanical Garden would like to support you. Recently, our Education team has re-envisioned how best to do this: the MBG Center for Nature-Inspired Learning, the newest chapter in the Garden’s long-standing commitment to preK-12 students, teachers, and schools. Driven by a professional, passionate staff of educators at Missouri Botanical Garden, Shaw Nature Reserve, and Butterfly House, the St. Louis-based Center is dedicating itself to serve as the region’s trusted resource for deepening learners’ affinity for, understanding of, and stewardship of the plants, ecosystems, and biodiversity upon which we all depend.

This rededication of focus is prompted by well-documented trends—the growing disconnection between children and nature, the waning student interest and achievement in science, and the need to prepare U.S. students to compete in and lead a global workforce—that concern us. Most notable among them is the absence of nature and natural systems in our national, regional, and local priorities and decision-making, resulting in the daily loss of biodiversity close to home and around the world. Put simply, loss of biodiversity equates to a poorer quality of life for all, threatening our food, water, air, and soil as well as our economies, our communities, and our personal health and well-being.

This complex problem and its remedies have roots in our early learning years. Before we can even hold a pencil, our interests are influenced by caring adults modeling curiosity about nature. As we navigate grade school, we dig for worms, plant trees, grow our own food, explore a local stream, and clean up our neighborhood. And as we consider colleges and careers, we endeavor to put our passions to work in ways that better our environment. Ensuring such life-shaping experiences and learning moments along the preK-12 trajectory won’t happen by accident. It will happen with intent and sustained support. It is in this spirit that the MBG Center for Nature-Inspired Learning has shaped its priorities and programs.

Whether you have experienced the Garden’s education programs previously or not, I invite you to join us on this newest adventure in learning. Together, we can help shape minds, hearts, and actions in ways that help protect the natural world we all share.

Respectfully,

Dr. Peter Wyse Jackson
President, Missouri Botanical Garden
Our priorities

Our community is a forest of learners...

**Teachers**
*Priority:* Inspire, equip, and support teachers to use their local communities as extended classrooms for real-world environmental exploration, discovery, and problem-solving.

**Teens**
*Priority:* In the formative teenage years, ignite interest in plants, the natural world, and sustainability in ways that influence academic, professional, and personal pursuits.

**Young children**
*Priority:* For the youngest among us, enable positive, memorable, frequent experiences with nature and the great outdoors. Model how natural sciences can be integrated into core curriculum objectives in ways that deepen understanding and spark lifelong curiosity.

Our places

**Missouri Botanical Garden**
- Located in St. Louis, Missouri.
- Leader in horticultural display, botanical research and conservation efforts, education, sustainability, and public engagement for more than 150 years.
- World-renowned plant collection and science-driven conservation that span the globe.
- Invites students and visitors to experience a rainforest; learn about other cultures; delve into history; and celebrate, connect with, and care for plants.
- **Butterfly House**
  - Located in Chesterfield, Missouri.
  - Celebrates the role that butterflies and other insects play in our everyday lives and global world.
  - Offers unique opportunity to observe butterflies in two distinct habitats: native and tropical.
  - The only dedicated all-insect facility in the U.S. accredited by the Association of Zoos and Aquariums.
  - Partners with a sustainable butterfly farming operation, El Bosque Nuevo in Costa Rica.
- **Shaw Nature Reserve**
  - Located in Gray Summit, Missouri.
  - More than 2,400 acres that serve as a vibrant, biodiverse, living laboratory of Missouri ecosystems, including prairie, woodlands, glades, and wetlands.
  - Leader in native plant horticulture and ecological restoration.
  - The Reserve’s natural diversity provides an exceptional outdoor classroom for learners of all ages.
We acknowledge the multiple, concurrent waves of change aimed at reforming PreK–12 education that affect your daily lives, as they have for generations of educators before you:

- Today, the Common Core State Standards initiative, primarily aimed at English/Language Arts and Math, sets its sights on ensuring U.S. students are college- and career-ready.

- As part of the growing focus on STEM learning (Science, Technology, Engineering, and Math), the Next Generation Science Standards (NGSS) emphasize that science is learned as science is done, thus focusing on science practices as a way to discover and understand the content. Like Common Core, NGSS is about establishing fewer, clearer, and higher standards.

- Add to this the expectations of cultivating 21st century skills—creativity, critical thinking, and collaboration.

Together, these new standards may lead to different ways to measure competence, different forms of learning, and a different type of student. We stand ready to help you navigate these waters, asking and exploring to what extent, and with what support systems in place, can these new standards produce more curious students? More investigators? More lifelong learners?

While complex, the challenges and opportunities manifesting in our nation’s classrooms are nested within a significantly more complex set of challenges and opportunities facing every living being on the planet. In the 21st century, we need citizens in all professions who, as David Orr stresses, “think ecologically, understand the connectedness of human and natural systems, and have the will, ability, and courage to act” because they will be called upon to solve complex environmental issues—biodiversity loss, climate change, over-consumption, food security, and urban sustainability—that are considered by many as the defining challenges of our time.

Simply thinking about these complex challenges can be overwhelming. Tackling them can be intimidating, difficult, messy, and inconvenient. We acknowledge the enormity of it all. For so many reasons, now more than ever open minds, optimism, collaboration, hope, and hard work are needed. As an institution founded on discovering and sharing scientific knowledge of plants and the role they play in our lives, we are obligated to act. The MBG Center for Nature-Inspired Learning strives to fulfill this obligation and help achieve a worthy vision: A world of curious, creative, informed citizens and communities who are ready, willing, and able to live in more sustainable ways.
“For the child. . . it is not half so important to know as to feel. If facts are the seeds that later produce knowledge and wisdom, then the emotions and the impressions of the senses are the fertile soil in which the seeds must grow.”

–Rachel Carson, scientist and environmentalist

As teachers of the youngest among us, you have the extraordinary ability to transform curious kids into knee-high naturalists and lay the foundation for a lifelong love of nature. And by enabling fun, positive experiences with the natural world, you’re also making a huge difference in your students’ health, well-being, and capacity to learn.

Dig deeper with us…
Across all sites, you’ll find a diversity of classes, tours, and outreach programs designed for these critical developmental years. While the grid on page 7 gives you an at-a-glance perspective on these programs, our expert educators can help you dig deeper and design engaging, sustained learning experiences that are relevant to your students’ lives.

To get you started, here are a few themes worth exploring in the coming year:

What is living around me? How aware are we of the plants and other living organisms that share our space? What are they? How many are there? Why are they important? Why should I care?

Where does our food come from? How and where is it grown? What do my favorite foods look like in plant-form? What makes fruits and vegetables nutritious? What are pollinators and how much do we depend on them?

Can we turn our own schoolyard into a thriving wildlife habitat and outdoor classroom? What happens when our schoolyard’s turf-grass lawn is replaced with a diversity of native plants? What seasonal changes can we observe? How can learning outdoors help learning overall?

For more information, including suggestions and tips on how best to explore the topics above as well as site-specific registration information, fees, and scholarships, visit www.mobot.org/schoolprograms
<table>
<thead>
<tr>
<th>Pre-K</th>
<th>K</th>
<th>1st Grade</th>
<th>2nd Grade</th>
<th>3rd Grade</th>
<th>4th Grade</th>
<th>5th Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Missouri Botanical Garden (MBG)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Garden Classes</strong></td>
<td>Heaps of Seeds</td>
<td>pg. 8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A Seasonal Snapshot</td>
<td>pg. 8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tops &amp; Bottoms</td>
<td>pg. 8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dr. Carver: Soil Scientist</td>
<td>pg. 8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rainforest Rendezvous</td>
<td>pg. 8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Today's Special: Food Chains</td>
<td>pg. 8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Guided Tours</strong></td>
<td>Discover the Missouri Botanical Garden</td>
<td>pg. 8</td>
<td>Tropical Rain Forest</td>
<td>pg. 8</td>
<td>Sensational Seed Hunt</td>
<td>pg. 8</td>
</tr>
<tr>
<td></td>
<td>Plants from Top to Bottom</td>
<td>pg. 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Self-Guided Visits</strong></td>
<td>In the Garden</td>
<td>pg. 9</td>
<td>Fabulous Food Chains</td>
<td>pg. 9</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Outreaches</strong></td>
<td>A Garden Sensory Adventure</td>
<td>pg. 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Honeybees Abuzz</td>
<td>pg. 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plant Part Palooza</td>
<td>pg. 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Survivor MBG: Plant Adaptations</strong></td>
<td>pg. 10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Shaw Nature Reserve (SNR)</strong></td>
<td>Bug Buddies</td>
<td>pg. 10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trees and Me; SNR Critters</td>
<td>pg. 10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Earthwalks</td>
<td>pg. 10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Our Forest Neighbors</td>
<td>pg. 10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Little Houses on the Prairie</td>
<td>pg. 11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>In Plain Sight: On the Water's Edge</td>
<td>pg. 11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maple Syrup Making</td>
<td>pg. 11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Forest Ecology</td>
<td>pg. 11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bugs, Beaks, and Beasties: Animal adaptations</td>
<td>pg. 12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Introduction to Compass</td>
<td>pg. 12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tallgrass Prairie</td>
<td>pg. 12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wet and Wild</td>
<td>pg. 11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wonders of Wetlands</td>
<td>pg. 11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Canopy Climb</td>
<td>pg. 11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>GPS</td>
<td>pg. 12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Butterfly House (BH)</strong></td>
<td>Story of a Butterfly</td>
<td>pg. 12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adventures in a Butterfly Garden</td>
<td>pg. 12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wings of Wonder</td>
<td>pg. 12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Take a Walk with Butterflies</td>
<td>pg. 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Living the Butterfly Life</td>
<td>pg. 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Outreaches</strong></td>
<td>Story of a Butterfly</td>
<td>pg. 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ladybugs</td>
<td>pg. 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ant Homes Under the Ground</td>
<td>pg. 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hide a Butterfly</td>
<td>pg. 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Buzzing a Hive</td>
<td>pg. 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anansi: The Original Spider Man</td>
<td>pg. 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The World According to Insects</td>
<td>pg. 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Butterfly Biology</td>
<td>pg. 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A-MAZE-ing Cockroaches</td>
<td>pg. 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Missouri Botanical Garden Classes

Garden Classes represent our signature field trip programming. Classes vary in duration from 2 to 2 ½ hours, but all include indoor, hands-on learning opportunities, a guided tour of the Garden, and a planting for each student to take home!

Heaps of Seeds (MBG)
Grades: K–2
September–December

From acorns to zinnia seeds, the beginnings of a plant are found in an amazing diversity of shapes and sizes. Students will discover that stored inside every seed are all the parts of a plant. They will explore the Garden in search of seeds that travel by wind, water, and wildlife.

A Seasonal Snapshot (MBG)
Grades: K–2
September–December and February–May

What season is it? How do you know? Through seasonal storyboards, students will observe the life cycle of an apple tree. Out in the Garden, students will practice their observation skills as they compare and contrast the current season with other times of year.

Tops & Bottoms (MBG)
Grades: K–2
September–December and February–May

What do we grow in the Garden? Tops, bottoms, and middles! In this class, based on Janet Stevens’ book Tops & Bottoms, students identify and compare the physical structures of edible plants. Students will learn about the variety of plant parts we eat during their visit through the Center for Home Gardening, where they will observe how familiar fruits and vegetables grow.

Dr. Carver: Soil Scientist (MBG)
Grades: 2–5
September–December and February–May

It has been said that “anyone can have dirt, but gardens have soil.” Why is soil important to plant and food production? Dr. George Washington Carver discovered why, and so will your students as they conduct hands-on soil experiments. As we tour the Carver Garden, students learn about both scientific and humanitarian contributions made by Dr. Carver.

Rainforest Rendezvous (MBG)
Grades: 3–5
September–December and February–May

Escape to the Climatron® to learn how plants cope with over 80 inches of rain each year and compete for light in a dense forest. Giant leaves, climbing vines, and epiphytes are just a few of the features of the rainforest your students will observe as they research the ways in which this productive biome is unique and important.

Today’s Special: Food Chains (MBG)
Grades: 3–5
September–December and February–May

What’s on today’s menu? Seeds, leaves, and worms! The Garden abounds with the makings of a great meal for birds, squirrels, and other native animals. Students will observe and study producers, consumers, and decomposers, and explore the Garden in search of evidence of plant and animal interdependence.

Missouri Botanical Garden Guided Tours

Sign your class up for a content-themed tour of our gardens, ranging from 1 to 1 ½ hours. Each tour is led by one of our trained, knowledgeable, and passionate volunteers.

Discover the Missouri Botanical Garden (MBG)
Grades: K–5
September–December and February–May

The Garden is always beautiful, no matter the season. Discover the diversity of plants, get a glimpse of St. Louis history, and explore gardens that reflect a variety of cultures, styles, and traditions.
Tropical Rain Forest (MBG)
Grades: K–5
September–December and February–May
This tour of the Climatron® transports students to a lush lowland rain forest complete with waterfalls, tropical birds, and some 1,500 plants. Students will see first-hand the structure of the rain forest, plant adaptation, and the diversity of tropical plants.

Sensational Seed Hunt (MBG)
Grades: K–4
September–December
What is inside a seed? What do seeds need to grow? How are seeds dispersed? Join us as we find out the answers to these questions while going on a seed hunt through the Missouri Botanical Garden!

Plants from Top to Bottom (MBG)
Grades: K–4
February–May
Come and enjoy a tour through the Center for Home Gardening that spreads out over 8.5 acres and includes 23 demonstration gardens! During the tour, students will learn about the six major parts of a plant and how each part plays a vital role in the plant’s survival.

Fabulous Food Chains (MBG)
Grades: 3–5
September–December and February–May
What is a producer? What is a consumer? What is a decomposer? Come explore the garden with us to find actual food chains in action right before your eyes!

Missouri Botanical Garden
Self-Guided Visits & Shaw’s Satchels
For those wishing to explore the Garden on their own, Shaw’s Satchels provide activity suggestions and all of the equipment necessary to meet the needs of up to 10 students each.

In the Garden (MBG)
Grades: K–2
Explore the Garden’s shapes, colors, and textures using this pack of activities.

Horticulture Walk (MBG)
Grades: 3–5
Explore the Center for Home Gardening and keep a nature journal.

Tree Trek (MBG)
Grades: 3–5
Learn how trees grow, identify different trees, and explore tree bark.

Missouri Botanical Garden Outreach Programs
If you can’t come to us, we’ll bring the world of plants to you!

Early Childhood Outreach Programs:
For early childhood, we offer one-time visits to your school. The following programs are available year-round:

A Garden Sensory Adventure (MBG)
Grade: PreK
Explore the five senses with the Missouri Botanical Garden! Using songs, literature, and plant-smelling stations, your students will learn which part of the body is responsible for each sense and discover the wonderful world of plants. Each student will plant basil seeds and receive a special five senses journal to take home and share with their parents. Capacity: 25 students per session.

Honeybees Abuzz (MBG)
Grades: PreK–1
Explore the simple, natural process of pollination! Have you ever stopped and watched honeybees in action? Has it made you think about what the bees were doing and why? Read a vibrantly illustrated story, observe a honey hive found in an old log, become pollinating bees, dance like the bees, and put your fun facts about bees into song. An informational booklet will go home with students so they can share what they learned with others at home! Capacity: 25 students per session.
Grades K–5 Outreach Programs:
For grades K–5, we offer both one-time and multi-session outreach programs throughout the school year, during which we engage your students in ways that complement and energize your curriculum. Programs available:

**Plant Part Palooza (MBG)**
*Grades: K–2*

What do apples and tomatoes have in common? How are white potatoes and sweet potatoes different? Students will love learning about plant parts and their functions through this hands-on exploration in their classroom. Capacity: 30 students per session.

**Survivor MBG: Plant Adaptations (MBG)**
*Grades: 3–5*

Why are leaves scented? Why do some plants eat insects? Why do some trees lose their leaves in the winter? Learn about these and other ways plant structures aid a plant species’ survival.
Capacity: 30 students per session.

Early Childhood & Elementary

## Multi-Session Outreach Programs

You can choose to have your program presented as either a one-time or a multi-session outreach. Multi-session outreach programs include:

**Initial Outreach (at your school)**
Select one K–5 outreach for your first experience.

**Photography Tour (MBG)**
Your outreach content will be reinforced during a 1-hour guided tour at the Missouri Botanical Garden led by one of our knowledgeable instructors. During the tour, students will take part in a “photography scavenger hunt” that will enable them to focus on those plants at the Garden that exemplify the concepts covered in the outreach.

**Follow-up Outreach (at your school)**
Your Garden instructor will return to your classroom with a customized presentation using your students’ photographs! During this 45-minute session, students will plant their own plants to take home. Note: The presentation and all student photographs taken during the visit will be e-mailed to the teacher following the tour as well.

**Shaw Nature Reserve Classes**
Shaw Nature Reserve Classes represent the Reserve’s signature field trip programming. Classes vary in duration from 1 to 2 hours, but all include hands-on learning and active discovery of nature and the great outdoors.

**Bug Buddies (SNR)**
*Grades: PreK–K*
*Tuesdays in September and May*

Through hands-on activities, students will have the opportunity to explore the world of insects up-close! Discover where they live and how they survive. Capacity: 24 students.

**Trees and Me (SNR)**
*Grades: PreK–K*
*Tuesdays in September, October, March, and April*

In this fun, hands-on class, students will learn about the different parts of a tree through observation and discovery. Class is held in the woodlands of the Reserve where something interesting is always happening! Capacity: 24 students.

**SNR Critters (SNR)**
*Grades: PreK–K; Tuesdays in October*

Who lives at the Reserve and where can they be found? What do they do when winter is approaching? Do they migrate south, hibernate, or just stay put? Join us in the fun, hands-on class to discover some of their strategies for survival. Capacity: 24 students.

**Earthwalks (SNR)**
*(class will be grade appropriate)*
*Grades: PreK–K; Grades: 1–3; Grades: 4–5; September–November and March–May*

Join us for this introductory exploration into the natural world. Your students will be led through special activities focusing on the five senses. Students might use their sense of touch to identify a natural object or use a mirror to simulate how animals see. The five senses will be awakened during this light and comfortable approach to nature. Capacity: 60 students.

**Our Forest Neighbors (SNR)**
*Grades: 1–3; April*

Join us for this fun, hands-on class as we explore the forest ecosystem and learn about some of the residents who live there and how their unique adaptations help them survive in this special community.
Capacity: 40 students.
Little Houses on the Prairie (SNR)
Grades: 1–3; October
This class is based on the book *Little House on the Prairie* by Laura Ingalls Wilder. Excerpts from the book are paired with hands-on activities. While learning about the prairie ecosystem and the plants and animals that live there, students will also have the opportunity to discover what it might have been like to be a pioneer on the prairie. A visit to a sod house and tipi are part of the class. Capacity: 60 students.

In Plain Sight (SNR)
Grades: 1–3; November and March
Through fun activities and games, students will learn about a variety of animals and how camouflage helps them survive. Predator/prey relationships are covered with an emphasis on the importance of camouflage to both. Students will also learn about mimicry and how some animals use it to fool potential predators. Capacity: 40 students.

On the Water’s Edge (SNR)
Grades: 1–3; September and May
This class is based on the book *Around the Pond: Who's Been Here?* by Lindsay Barrett George. Engaging hands-on activities help students discover the differences between terrestrial and aquatic communities. Predator/prey relationships and adaptations are also covered in this class. Capacity: 60 students.

Maple Syrup Making (SNR)
Grades: 4–5; Late January–early February
Celebrate the coming of spring! Learn about maple syrup by exploring the two processes that make it all possible: photosynthesis and the water cycle. Explore the fields and woodlands as your students discover these processes. The annual cycle of sap movement and the importance of the sap to the trees will be investigated. Help with the collection and cooking down of the sap and enjoy a sample of this delicious natural food! Capacity: 60 students.

Forest Ecology (SNR)
Grades: 4–5; April
How are trees like apartment buildings? Why do many wildflowers bloom in the early spring? Who lives in the forest ecosystem? Discover the answers as your students explore the upland forest. Through investigations of decomposing logs, comparing and contrasting different areas of the forest, and other engaging activities, students develop a better understanding of this diverse and fascinating ecosystem. Capacity: 60 students.

Wonders of Wetlands (SNR)
Grades: 4–5; May
Like any other ecosystem, the wetland is a complex and active place! A wide variety of plants and animals live in this special natural community. Observe some of the inhabitants up close and discover some of the distinguishing characteristics that enable them to survive in this watery environment. Using microscopes, your students will discover the structural differences of terrestrial and aquatic plants. A wetland model will demonstrate how wetlands function and why they are so valuable to their inhabitants and humans alike. Capacity: 60 students.

Wet and Wild (SNR)
Grades: 4–5; September
A whole tiny world lives in the pond community. Using nets, students sample the pond and discover the diversity of organisms living there. They will observe some of the distinguishing characteristics that allow organisms to live in this watery environment. Using various magnification tools and identification guides, students will identify these organisms and focus on adaptations for breathing, eating, and moving through the water. Capacity: 60 students.

Canopy Climb for Schools (SNR)
Grades: 4–5; September–November and March–May
This all-day program is designed to immerse your students in the world of trees and forests like never before. Students will learn the basics of tree climbing mechanics, including climbing techniques, balance, and safety from a certified tree climbing instructor, and also experience a guided forest ecology hike. At the culmination of the program, students will reconvene to learn about local and global canopy/forest research and real-world conservation careers. Capacity: 24 students.
Tallgrass Prairie (SNR)
Grades: 4–5; October
Explore the fascinating ecosystem that once covered 40 percent of Missouri. Learn about the history of this unique grassland community and investigate some of the inhabitants that live there. Discover how these plants and animals have adaptations allowing them to survive on the hot, wind-swept prairie. Find plants that were used by Native Americans and pioneers for medicine. Visit our sod house to go back in time to see how pioneers once lived on the prairie. Learn how the Reserve uses fire to manage the prairies.
Capacity: 60 students.

Bugs, Beaks, and Beasties: Animal Adaptations (SNR)
Grades: 4–5; March and November
Through engaging activities, students discover some of the fascinating adaptations animals have for surviving in their environment. How are different bird beaks adapted to eating certain foods? Learn about camouflage on the “Un-Nature Trail” and see examples of organisms that depend on this adaptation for protection.
Capacity: 60 students.

Global Positioning System (SNR)
Grade: 5; Year-round
In this class, students learn how to use a GPS unit to explore the Reserve. Once they are comfortable using the unit, they will be divided into small groups of four to five with one adult from the school required for each group. Students will be given a key with coordinates that will help them complete the course with specific destinations around the Reserve.
Capacity: 60 students.

Introduction to Compass (SNR)
Grades: 3–5; September–May;
Dana Brown Overnight Center
After a lesson on true north vs. magnetic north, parts of a compass, and the ever-important rhyme “put red in the shed and follow Fred,” students will use the skills just learned in a variety of fun activities and games.
Capacity: 20 students.

Butterfly House Classes
The Butterfly House offers classes on butterflies, life cycles, plants, gardens, and other topics. Preschool classes are 1-hour programs while all others are 90 minutes. Students learn through hands-on, student-driven investigations that connect them with the world of butterflies and other insects. We use living animals and real specimens, not easily obtained for classroom use, and each class includes an unforgettable trip through our Tropical Conservatory of living butterflies.

Story of a Butterfly (BH)
Grades: PreK–K
Preschoolers become involved in the butterfly life cycle. Puppet-model caterpillars present metamorphosis. Students “grow” a butterfly of puzzle pieces. A 5-minute video will lead the students to the conservatory to find examples of the living and non-living, the five senses, and colors on the butterflies.
Capacity: 45 students.

Adventures in a Butterfly Garden (BH)
Grades: K–3
Learn about pollination as we explore the life cycles of butterflies, honeybees, and the plants they care for. Then, apply your newfound knowledge to create a unique pollinator of your own design. Each student will create their own pollinator to take home with them.
Capacity: 60 students.

Wings of Wonder (BH)
Grades: K–3
Observation skills are put to the test with real samples of butterfly eggs, larvae, pupae, and adults. Complete a scientific experiment with us as we look at butterfly behaviors, collect data, and graph our results.
Capacity: 60 students
Take a Walk with Butterflies (BH)
Grades: 2–3
Learn what butterfly eyes can see and discover the butterfly’s body parts and life cycle with the aid of microscopes and real specimens. We will watch the film The Butterfly Effect, which introduces students to butterfly behavior and anatomy, and then journey to the tropical conservatory for observations and a scavenger hunt. Capacity: 45 students.

Living the Butterfly Life (BH)
Grades: 3–5
Students use living insects to compare and contrast complete and incomplete metamorphosis. Our film The Butterfly Effect introduces students to life cycles, protective behaviors, and coloration of butterflies. Students will then identify specific butterflies with a dichotomous key and collect data on butterfly biology. Capacity: 60 students.

Butterfly House Outreach Programs
Let us come to your school and bring the wonders of the Butterfly House to your class. Many program topics are available for preschool through middle school students. We can tailor programs to your specific needs and add to topics you are already studying at school.

Story of a Butterfly (BH)
Grades: PreK–1
Watch our butterfly puppet grow from an egg. Then puzzle together a butterfly and finish with a caterpillar craft.

Ladybugs (BH)
Grades: PreK–1
Children learn about ladybugs and their structure, life cycle, behavior, and foods they eat. Discover how these fascinating insects help us and protect our crops.

Ant Homes under the Ground (BH)
Grades: PreK–1
Introduce young children to ant behavior using role-play and cooperative exercises. Note: Live ants are not a part of this unit.

Hide a Butterfly (BH)
Grades: PreK–1
Learn to identify parts of a flower, create a nature-scene mural, and learn about camouflage of butterflies.

Buzzing a Hive (BH)
Grades: 1–3
Explore the complex social behavior, communication, and hive environment of the honeybee. Note: Live bees are not a part of this unit.

Anansi: The Original Spider Man (BH)
Grades: K–5
Explore spider behaviors and adaptations through the tales of Anansi the Spider, an African folk character. These tales lead to learning about real spiders.

The World According to Insects (BH)
Grades: K–5
Learn how insects are unique—from the tip of their antennae to the scales on their wings. This class includes the widest variety we offer of living insects and their relatives.

Butterfly Biology (BH)
Grades: K–5
Metamorphosis, anatomy, and butterfly behaviors are discussed with hands-on demonstrations. Preserved specimens of caterpillars, chrysalids, and butterfly wings are provided for students to examine.

A-MAZE-ing Cockroaches (BH)
Grades: K–5
Can cockroaches learn or will they stay lost? Replicate a famous study by prominent zoologist Charles Henry Turner. Students will work in teams to build a maze and run living cockroaches through them.
“Find your place on the planet. Dig in, and take responsibility from there.”

–Gary Synder, poet

Considering the most pressing global challenges of our time, we recognize that teens are our future problem-solvers. With low rates of environmental and ecological literacy among teens, a lack of interest in STEM learning and careers, and a growing disconnection with the natural world, programs that equip teens with the knowledge, understanding, skills, and desire to make ecologically informed, sustainable decisions are needed now more than ever. With focused intent and effort, we can engage, inspire, and empower teens to live their best life via environmental education and leadership programs, capacity-building and STEM career-sampling, and community-focused service and action projects.

Dig deeper with us...

Across all sites, our expert educators stand at the ready to enable engaging, sustained learning experiences for your teen students that can help deepen engagement, strengthen community connections, and cultivate career interests. While the grid on page 15 gives you an at-a-glance perspective on these programs, here are a few dig-deep questions and topics of interest worth considering this year:

How exactly does becoming more knowledgeable about plants help me strengthen my own community?

How much of my life—what I eat, what I wear, how I get places, and what I buy—comes from sustainable sources?

What real-world career options are out there for those with a passion for nature, environmental stewardship, and conservation?

For more information, including suggestions and tips on how best to explore the topics above as well as site-specific registration information, fees, and scholarships, visit www.mobot.org/schoolprograms
<table>
<thead>
<tr>
<th></th>
<th>6th Grade</th>
<th>7th Grade</th>
<th>8th Grade</th>
<th>9th Grade</th>
<th>10th Grade</th>
<th>11th Grade</th>
<th>12th Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Missouri Botanical Garden (MBG)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garden Classes</td>
<td>Asian Gardens: Science and Culture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guided Tours</td>
<td>Asian Gardens Tour</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outreaches</td>
<td>Survivor MBG: Plant Adaptations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Flower Physiology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Programs</td>
<td></td>
<td>SAGE Service Program</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Shaw Nature Reserve (SNR)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shaw Nature Reserve Classes</td>
<td>Living off the Land</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Forest Ecology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wonders of Wetlands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wet and Wild</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tallgrass Prairie</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>GPS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Canopy Climb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overnights</td>
<td>Astronomy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Night Hike</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Programs</td>
<td></td>
<td>Shaw Institute for Field Training (SIFT)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Butterfly House (BH)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outreaches</td>
<td>The World According to Insects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Butterfly Biology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A-MAZE-ing Cockroaches</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>What the World Eats</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anthropod Anatomy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Missouri Botanical Garden Classes

Asian Gardens: Science and Culture (MBG)
Grades: 6–8
September–December and February–May
Explore Far East Asia in this integrated curriculum course! Students will discuss similarities and differences between the Chinese and Japanese cultures. As they visit the Margaret Grigg Nanjing Friendship Garden (Chinese Garden) and Seiwa-en (Japanese Garden), they will grasp the underlying philosophies that influenced each Garden’s design and the traditions surrounding them. Connections to ecology surface as they stop by the koi or moss garden. They will try their hand at an abacus and make additional connections across Social Studies, Fine Arts, and Literacy. Students will assemble a Zen “Dry Garden” to take home.

Missouri Botanical Garden Guided Tours

Asian Gardens Tour (MBG)
Grades: 6–12
September–December and February–May
Come explore the culture, art, and science of our Asian gardens! Students will explore the Margaret Grigg Nanjing Friendship Garden (Chinese Garden) and learn how Chinese philosophies influenced the garden’s arrangement and plants. From there they will enter Seiwa-en, our 14-acre Japanese “wet strolling garden,” to discover how Japanese traditions are reflected in that garden’s design.

Missouri Botanical Garden Self-Guided Visits
Teachers wishing to lead their own group tour of the Garden are encouraged to visit the Garden’s School Programs website, www.mobot.org/schoolprograms, and explore our current list under Self-Guided Visits. These tours are updated seasonally and include pre- and post-visit classroom activities, suggested activities during your visit, important guidelines, and up-to-date information about the plants currently on display. For more information or questions, please call (314) 577-5185.

Missouri Botanical Garden Outreach and Multi-Session Classes (see page 10 for more information)

Survivor MBG: Plant Adaptations (MBG)
Grades: 6–8
Why are leaves scented? Why do some plants eat insects? Why do some trees lose their leaves in the winter? Learn about these and other ways plant structures aid a plant species’ survival.

Flower Physiology (MBG)
Grades: 6–8
Explore the diverse and fascinating world of plant life cycles with this one-hour outreach presentation. Students will dissect a flower and a fruit to observe the progression from one structure to the next, and will compare reproductive structures from a variety of plant types.

Shaw Nature Reserve Classes

Living off the Land (SNR)
Grades: 6–8; Year-round
Dana Brown Overnight Center
Students will discover how the early pioneers of westward expansion used their natural resources for survival. Activities may include making hand-dipped candles, natural dyeing, and medicinal plants. Students will also use period tools such as a cross-cut saw, drawknife and shaving mule, a froe and mallet, and an auger. They will gain an understanding of the past, be able to appreciate the present, and look forward to the discoveries of the future! They will be divided into two groups with one adult from the school required for each group. Capacity: 25 students.
Forest Ecology (SNR)
Grades: 6–8; Year-round
How are trees like apartment buildings? Why do many wildflowers bloom in the early spring? Who lives in the forest ecosystem? Answers to these and other questions will be discovered as your students explore the upland forest. Through investigations of decomposing logs, comparing and contrasting different areas of the forest using simple equipment, and a variety of activities, students develop a better understanding of this diverse and fascinating ecosystem. Capacity: 60 students.

Wonders of Wetlands (SNR)
Grades: 6–8
September–November and March–May
Like any other ecosystem, the wetland is a complex and active place! Observe some of the inhabitants up close and discover some of the distinguishing characteristics that enable them to survive in this watery environment. Using microscopes, students will discover the structural differences of terrestrial and aquatic plants. A wetland model will demonstrate how wetlands function and why they are so valuable to their inhabitants and humans alike. Capacity: 60 students.

Wet and Wild (SNR)
Grades: 6–8
September–November and March–May
A whole tiny world lives in the pond community. Using nets, students will sample the pond, discover the diversity of organisms living there, and observe some of the distinguishing characteristics that allow organisms to live in this watery environment. Using various tools and guides, students will identify these organisms and focus on adaptations for breathing, eating, and moving through the water. Capacity: 60 students.

Tallgrass Prairie (SNR)
Grades: 6–8
September–November and March–May
Explore the fascinating ecosystem that once covered 40 percent of Missouri. Learn about the history of this unique grassland community and investigate some of the inhabitants that live there. Discover how these plants and animals adapt to survive on the hot, wind-swept prairie. Find plants that were used by Native Americans and pioneers for medicine. Visit our sod house to go back in time to see how pioneers once lived on the prairie. Learn how the Reserve uses fire to manage the prairies. Capacity: 60 students.

Astronomy (SNR)
(offerred only with overnight)
Grades: 6–8; Year-round
Dana Brown Overnight Center
There are few things more mysterious than gazing up into a limitless night sky filled with stars, planets, moons, nebulas, and more! Our astronomy class begins to unravel some of the mysteries surrounding our solar system, our galaxy, and the universe. On clear evenings, participants will be able to look through a telescope to get an up-close look at the many wondrous sites of our night sky! Weather-permitting. Capacity: 20 students.

Night Hike (SNR)
(offerred only with overnight)
Grades: 6–8; Year-round
Dana Brown Overnight Center
Evenings are a great time to appreciate the beauty of nature as the sun drops below the horizon. The class is from 7 to 9 p.m. (unless special arrangements have been made in advance). This gives participants the opportunity to be out during the transition of day to night. Activities focus on the five senses with emphasis on night vision. Diurnal, crepuscular, and nocturnal animals are discussed, heard, and sometimes seen! This is a quiet, educational hike with no flashlights allowed. Capacity: 40 students

Global Positioning System (SNR)
Grades: 6–8; Year-round
Dana Brown Overnight Center
In this class, students learn how to use a GPS unit to explore the Reserve. Once they are comfortable using the unit, they will be divided into small groups of four to five with one adult from the school required for each group. Students will be given a key with coordinates that will help them complete the course with specific destinations around the Reserve. Capacity: 45 students.

Canopy Climb for Schools (SNR)
Grades 6–12; September–November and March–May
This all-day program is designed to immerse your students in the world of trees and forests like never before. Students will learn the basics of tree climbing mechanics, including climbing techniques, balance, and safety from a certified tree climbing instructor, and also experience a guided forest ecology hike. At the culmination of the program, students will reconvene to learn about local and global canopy/forest research and real-world conservation careers. Capacity: 24 students.
**Middle & High School**

**Butterfly House Outreach Programs**

**The World According to Insects (BH)**  
*Grade: 6–7*

Learn how insects are unique—from the tip of their antennae to the scales on their wings. This class includes the widest variety we offer of living insects and their relatives.

**Butterfly Biology (BH)**  
*Grade: 6–7*

Metamorphosis, anatomy, and butterfly behaviors are discussed with hands-on demonstrations. Preserved specimens of caterpillars, chrysalids, and butterfly wings are provided for students to examine.

**A-MAZE-ing Cockroaches (BH)**  
*Grade: 6–7*

Can cockroaches learn or will they stay lost? Replicate a famous study by prominent zoologist Charles Henry Turner. Students will work in teams to build a maze and run living cockroaches through them.

**What the World Eats (BH)**  
*Grades: 8–12*

Explore actual insect foods from around the world through artifacts, pictures, and a PowerPoint presentation. A cooking demonstration of actual crickets can be included for an additional $25.

**Arthropod Anatomy (BH)**  
*Grade 8–12*

We bring living insects, spiders, scorpions, millipedes, and other animals to your classroom to demonstrate the diversity and adaptations of the arthropods. This class is a wonderful supplement to any biology unit as students will be able to see arthropod behaviors and body parts in action.

---

**High School Programs**

**What is it?** The Students as Garden Educators (SAGE) program provides students ages 14–18 with an opportunity to lead fun activities about plants and nature in the Children’s Garden. Do you love plants and nature? Do you enjoy interacting with children? Are you looking for a fun way to spend your summer? Do you need to complete service hours or gain positive experiences to put on your college application? The SAGE Service Program might be for you. SAGE volunteers help families learn about topics like habitats, pollination, or plants we eat. Through fun and educational activities these students plant seeds of knowledge and inspire our youngest visitors to enjoy nature. Applicants to the program should be out-going, willing to work outside during summer months, eager to learn new material and share their knowledge with others.

**What are the benefits?** Earn service hours and improve your public speaking and teaching skills. Garden staff will work with you one-on-one as you learn about plants and nature. You also meet students from other schools and enhance future college and job applications!

**What are the expectations?** Students are required to attend one 4-hour orientation session and volunteer at least 50 hours between May and October. For each shift, students are expected to arrive on-time, be prepared, and act in a professional and respectful manner while on Garden grounds.

**When can I volunteer?** SAGE students can volunteer between May and October each year. Shifts are available seven days a week, 10 a.m. to 2:30 p.m. (lunch break included). Evening hours (2:30 to 7 p.m.) are available during the Whitaker Music Festival on Wednesday nights. Staff will work with you to accommodate other commitments.

**How do I apply?** Click on “Teen Programs” on our website [www.mobot.org/schoolprograms](http://www.mobot.org/schoolprograms) for more information and application instructions.
**SIFT (Shaw Institute for Field Training)**

**What is it?** SIFT is an informal field-based education program for high school students, who apply during the spring of their sophomore year. Current students attend schools in the following Missouri counties: Franklin, Jefferson, St. Charles, St. Louis, St. Louis City.

**How does the program work?**
The program begins with a 1-week summer field training experience at Shaw Nature Reserve during which participants are introduced to a variety of Missouri ecosystems and gain skills necessary to conduct field research. These skills include plant and animal identification, biotic sampling and census techniques, testing of abiotic factors, and GPS training. The program continues during the school year as the participants are involved in important research and restoration activities including invasive species management, prairie reconstruction, and wetland mitigation.

**How do I apply?** Eligible students can apply starting in January, and selections are made in early April. The SIFT application form is available for download from the Shaw Nature Reserve website, [www.shawnature.org](http://www.shawnature.org), from January through March.

---

**ECO ACT**

**The Saigh Foundation**

**Environmental Leadership Program**

**What is it?** ECO-ACT (Ecology in Action), an environmental leadership program, provides high school students opportunities to discover environmental and human ecology issues, recognizing the complexity and variety of opinions involved. ECO-ACT is a collaboration between the Missouri Botanical Garden and high schools, and students receive grades and course credit or community service hours. They gain knowledge and skills pertinent to their interest in making a difference in the community as well as awareness and respect for the natural world through first-hand experiences in nature and classroom teaching. They recognize and apply their own leadership skills and gain insight into the importance of teamwork, communication, and personal responsibility for group and individual effectiveness.

**How is this class different?**
ECO-ACT is interdisciplinary, combining aspects of sustainability studies (the social, economic, and environmental impacts of natural resource use) with the teaching and service aspects of learning about pedagogy and making a difference in an elementary student’s learning and life. High school students become educators as they teach basic ecology and environmental science topics in an elementary class about once a week during the school year.

**How does the program work?**
The program begins with a 1-week summer field training experience at Shaw Nature Reserve during which participants are introduced to a variety of Missouri ecosystems and gain skills necessary to conduct field research. These skills include plant and animal identification, biotic sampling and census techniques, testing of abiotic factors, and GPS training. The program continues during the school year as the participants are involved in important research and restoration activities including invasive species management, prairie reconstruction, and wetland mitigation.

**How do I become a partner?**
Discussions usually begin with new high schools in September. Recruiting presentations take place at schools January through April (two to three months before students choose their courses). Students must apply, gather reference forms from teachers, and interview with staff as part of the application process.

Please contact the ECO-ACT Program Supervisor at (314) 577-0241 or eco-act@mobot.org.

Click on “Teen Programs” on our website [www.mobot.org/schoolprograms](http://www.mobot.org/schoolprograms) for more information and application instructions.
“One looks back with appreciation to the brilliant teachers, but with gratitude to those who touched our human feelings. The curriculum is so much necessary raw material, but warmth is a vital element for the growing plant and for the soul of the child.”

–Carl Jung, psychiatrist

All teachers everywhere should feel like their community is there to help and support them. In this spirit, we aim to work with teachers in new ways to help them better utilize the Garden and other scientific/cultural institutions, as well as their local community, as seamless extensions of their classroom. We aim to collaborate with them to better integrate ecological learning across core curricula in ways that provide a real-world context for exploring important issues and ideas. We aspire to increase teacher confidence and comfort with effective outdoor learning while deepening their natural science content understanding. We aim to recognize and reward Teacher Leaders who exemplify and model the very best ways to enable students to make meaningful, emotional, personally relevant, lasting connections with the natural world.

Dig deeper with us…
Across all sites, we stand at the ready to help you grow, evolve, adapt, and thrive as an educator and community leader. Specifically, ask yourself:

Is ecological literacy and ethos integrated throughout your classroom curriculum? Throughout your school’s culture? Throughout your family and community engagement efforts?

To what extent are you and your students tapping into and benefitting from your community’s extraordinary resources, from science and cultural institutions to local businesses and government agencies?

For more information, including suggestions and tips on how best to explore the topics above as well as site-specific registration information, fees, and scholarships, visit www.mobot.org/schoolprograms
Teacher Professional Development Opportunities

Looking for unique, in-depth, personalized professional development opportunities? We will come to your school, or you can come to us. While we can develop customized programs for your specific needs, we regularly provide professional development on the following topics:

- Plants and Plant Science
- Inquiry-based Science Education
- Science and Literacy Links
- Ecology and Earth Science
- Effective Outdoor Learning
- Schoolyard Gardens
- Science of Sustainability

Program costs for professional development programs are:

- $125 for the first hour and $50 for each additional hour
- Mileage fees for outreach programs: $1 per mile over 20 miles from the Garden or Butterfly House.
- A materials fee may apply in some cases, depending on the activities desired. We will quote all anticipated costs to you prior to the program.

Please call (314) 577-5140 (prompt 2) to discuss your needs and schedule a program.

Pre-Service Practicum

Are you an aspiring teacher interested in gaining some experience with informal education and life science? As a practicum student working with the Garden’s School Programs team, you will have a unique opportunity to gain experience with:

- Program instruction and design
- Inquiry-based approaches for teaching Life and Earth Science concepts
- Hands-on teaching and interpretation
- Field Trip planning and execution

In addition, our semester-long Pre-Service Practicum experience will give you an opportunity to meet current teachers, observe their interactions with their students, and visit their classrooms during outreach programs. Fall practicums are offered from September through December and spring practicums are offered from February through May. We work directly with you and your university regarding degree alignment and course credit. Call (314) 577-0819 for more information and to apply.
Stupp Teacher Resource Center
DVDS and Classroom Kits
Stupp-sponsored teacher resource activity kits, models, and DVDs/videos are circulated to teachers for strengthening and enhancing their science instruction. See our FAQs about borrowing resources. For all other questions, please call the Resource Center Instructor at (314) 577-9501. Circulating items may be picked up at the Garden’s Commerce Bank Center for Science Education, located at the corner of Shaw and Kingshighway (4651 Shaw Blvd.), through the west entrance doors. At the Welcome Desk, use the desk phone to dial extension 125 for assistance.

Circulation fees (non-refundable):
• Schools pay $100 for all of their teachers to use kit check-out for a full year.
• Individual teachers pay the following amounts for circulating items:
  • GEMS or Discovery Unit Kits: $25
  • Suitcase Science or WONDERWISE Kits: $5
  • Models & Display Materials: $5
  • DVDs/Videos: $3

Fees are payable by cash or check. Borrowers will be expected to pay for any lost or damaged materials. If an item is not returned by the due date, the borrower will be charged a late fee.

Botany/Ecology DVD series
As a community resource center, the Garden maintains a diverse library of videos and DVDs for classroom use. Below are descriptions of two of our most popular DVD series. To access a complete list of DVD/video titles available, visit www.mobot.org, click on Learn and Discover, then click on Educational Resources.

The Biology of Plants
An educational DVD series about basic plant biology geared to grades K–3. Individual short-form productions, about 15 minutes each, focus on the following topics: how plants grow, how plants get food, what is pollination, how seeds get here and there, how plants live in different place, and plants and life on Earth.

What’s It Like Where You Live?/
Terrestrial Biomes
An educational DVD series covering six major terrestrial biomes geared to grades 4–8. Individual programs focus on temperate deciduous forests, grasslands, rainforests, deserts, tundra, and taiga.

Discovery Unit Kits
Produced by Missouri Botanical Garden, the Discovery Unit curriculum allows students to learn about plants and ecology through a 2-week, hands-on class that then connects their knowledge during an outdoor investigation. Each kit contains a set of comprehensive lesson plans and supporting supplies:

Discover Plants: From Top to Bottom
Grades: K–1
What is a plant? Are plants alive? This unit explores these questions and allows students to discover plants and their parts through fun activities like playing “Plant Twister,” germinating seeds, and “beating a leaf.” Students learn that not only are plants alive but also that they are a critical part of our ecosystem.

Plants and Me: Living Together
Grades: K–1
This unit gives young children experiences that enable them to link their food and clothing with the plants that are used to create them. Students gain an understanding of the basic needs that all plants have and put this understanding to work as they raise a variety of plants in the classroom.

Life Cycles of Plants: Growing Through Changes
Grades: 2–4
Students explore the pattern of change that occurs during the life cycle of a plant. Students plant Wisconsin Fast Plants® and peanuts to compare the length of their life cycles. They dissect flowers, fruits, and seeds, and make a sandwich bag garden.
Plant Growth: A Partnership of Parts  
*Grades: 2–4*  
Students observe root and stem systems up close with seeds they germinate, and design an experiment researching plant growth. Several hands-on activities allow students to learn about water movement in plants. Students “become a tree” to learn how plant parts must work together to obtain the resources each plant needs.

Diversity of Life: Plants Alike and Different  
*Grades: 2–4*  
This unit encourages exploration of North American biomes in a new way. Students follow Sasparillo, the “armadillo from Amarillo,” on a trek through deserts, prairies, woodlands, and temperate forests using plant specimens and travel brochures.

Interdependence: Links Between Plants and Animals  
*Grades: 2–4*  
Through an investigation that begins in the classroom and moves into the forest, students explore the interdependence of life in a deciduous forest community. They discover how animals use and depend on the plants as well as ways woodland plants depend on animals for survival.

Plants, People, and the Environment  
*Grades: 2–4*  
Students explore plant needs and methods of gardening. They sprout seeds to place in a garden of their own design and discover that a garden is a place to learn the ways plants are a part of our lives, how plants grow, and the actions we take to care for them.

Plant Reproduction: Saving Endangered Plants  
*Grades: 5–7*  
Students investigate the endangered Alula, a plant endemic to the Hawaiian Islands. This species has most likely stopped producing seeds because its native pollinator is extinct, so students grow and pollinate their own Wisconsin Fast Plants® as part of their investigation. They observe pollinators at work and investigate floral characteristics that attract pollinators.

Photosynthesis: A Lifeline for the World  
*Grades: 5–7*  
Through an introduction to the real-world problem of hunger, students learn about the process of photosynthesis—the unique ability of plants to produce their own food from the sun’s energy. They uncover some of the environmental reasons for hunger and look at current agricultural research that may help to increase food production. Student investigations and experiments develop their critical thinking skills.

Plant Adaptations: Key to Survival  
*Grades: 5–7*  
Students examine special features that allow plants to survive in dry or wet conditions, in poor soil, in shade, and through the winter. As they study these tough environments, they discover that every living organism must meet certain basic needs to live and that each has a unique set of adaptations that allow it to survive in its environment. Students investigate the real-world problems that city trees face, which include a special set of human-induced challenges.

Systems: Investigating the Delicate Balance  
*Grades: 5–7*  
Students explore ecosystems through a variety of hands-on activities while learning the value of producers (plants), consumers (animals), decomposers and abiotic elements (sun, water, and soil) within an environment. Students apply the knowledge they have gained to design and build a model of a space outpost to support life in a balanced, sustainable ecosystem.

Keeping our Heritage Alive  
*Grades: 5–7*  
Students explore the effects of large-scale natural disasters and human activities on the environment. They begin to understand that humans make choices every day that affect the Earth and explore vegetation native to their school area prior to human settlement. Other exercises involve examining pill bug behavior, exploring the seed bank, and classification activities.
Suitcase Science Kits
Produced by Missouri Botanical Garden, Suitcase Science Kits offer teachers lesson plans and supplies for hands-on science activities. Each kit provides the materials and information needed to engage students in the study of a variety of science topics:

Seeds
*Grades: PreK–2*
Investigate seed diversity. Sort, dissect, and plant seeds and look inside to see a baby plant. Note: Good introduction to the Heaps of Seeds Garden Class or Sensational Seed Hunt Guided Tour (page 8) at the Garden.

Mystery Boxes
*Grades: PreK–2*
Explore the five senses with these sensory awareness activities using scent jars, mystery boxes, and natural materials. Includes a new mystery sound activity.

The Tropical Rainforest
*Grades: K–12*
Activities, resources, and displays illustrate rainforest ecology, products, deforestation, and the importance of biodiversity. Note: The Tropical Rainforest teacher’s curriculum guide is available for download online at www.mobot.org. Click on Learn and Discover, then Educational Resources.

Sensational Seasons
*Grades: 1–4*
What causes seasons? Explore seasonal differences using three separate kits: fall, winter, and spring.

Missouri Mammals
*Grades: 5–12*
Using pelts, skulls, hands-on activities, and additional resources, students investigate the many interesting mammals that live in Missouri.

GEMS
Great Explorations in Math & Science (GEMS) is a series of activity-based science and math curriculum units developed by the Lawrence Hall of Science at the University of California at Berkeley. As a GEMS Network Site, the Garden maintains a collection of GEMS guides and circulates GEMS kits for over 30 different units. GEMS kits include a teacher’s guide and most of the materials needed to implement these engaging hands-on science and math units:

**GEMS Math Kits:**
- Frog Math: Predict, Ponder, Play
  *Grades K–3*
- Treasure Boxes
  *Grades K–3*
- Group Solutions: Cooperative Logic Activities
  *Grades K–4*
- Group Solutions, Too!—More Cooperative Logic Activities
  *Grades K–4*
- Build It! Festival
  *Grades K–6*
- Math on the Menu
  *Grades 3–5*
- In All Probability: Investigations in Probability and Statistics
  *Grades 3–6*
- QUADICE
  *Grades 4–8*
- Math Around the World
  *Grades 5–8*

**GEMS Life Science Kits:**
- Hide a Butterfly
  *Grades PreK–K*
- Ant Homes under the Ground
  *Grades: PreK–1*
- Eggs, Eggs Everywhere
  *Grades PreK–1*
- Elephants and Their Young
  *Grades PreK–1*
- Penguins and Their Young
  Grades PreK–1
- Tree Homes
  Grades PreK–1
- Buzzing a Hive
  Grades K–3

GEMS Earth Science Kits:
- Stories in Stone
  Grades 4–8

GEMS Environmental Science Kits:
- On Sandy Shores
  Grades 2–4
- Schoolyard Ecology
  Grades 3–6
- Environmental Detectives
  Grades 5–8

GEMS Forensic Science Kits:
- Mystery Festival: Mr. Bear Mystery
  Grades 2–3
- Crime Lab Chemistry
  Grades 4–8
- Fingerprinting
  Grades 4–8

GEMS Physical Science Kits:
- Sifting Through Science
  Grades K–2
- Bubble Festival
  Grades K–6
- Investigating Artifacts:
  Making Masks, Creating Myths, Exploring Middens
  Grades K–6
- Involving Dissolving
  Grades 1–3
- Liquid Explorations
  Grades 1–3
- Electric Circuits
  Grades 3–6
- Oobleck: What Do Scientists Do?
  Grades 4–8
- Microscopic Explorations
  Grades 4–8

- Invisible Universe:
  The Electromagnetic Spectrum
  Grades: 6–8
- More Than Magnifiers
  Grades: 6–8

WONDERWISE Kits
(Women in Science and Learning)

Bring women scientists into your classroom for the ultimate science field trip! This series of learning kits introduces you to women who have made science their career. The kits are designed for students in grades 4–9, and are produced by the University of Nebraska State Museum with support from the Informal Science Education Program of the Howard Hughes Medical Institute and the National Science Foundation.

- Pollen Detective
  Grades 4–9
- Urban Ecologist
  Grades 4–9
- Sea Otter Biologist
  Grades 4–9
- African Plant Explorer
  Grades 4–9
- Parasite Sleuth
  Grades 4–9
“We cannot seek achievement for ourselves and forget about progress and prosperity for our community... Our ambitions must be broad enough to include the aspirations and needs of others, for their sakes and for our own.”

–Cesar Chavez, civil rights activist

Schools and school districts play a critically important, central role in the health, prosperity, and well-being of a community. In many ways, they are the tallest and most influential trees in a community forest’s emergent layer, under which young seedlings sprout, grow, and thrive. We aim to encourage, equip, and motivate individual schools and entire districts to better utilize Garden people, places, and programs for maximum student/school benefit. We also aim to help schools, teachers, students, and families to think about and use their local communities as extended classrooms for real-world environmental learning and problem-solving.

For more information and site-specific registration information, fees, and scholarships, visit www.mobot.org/schoolprograms
Partner School Program—New!
No matter how students experience our St. Louis-area sites, we are constantly seeking new ways to engage our young visitors and their chaperones, and provide them with the richest and most enjoyable experiences possible, whether those experiences occur at our sites, in the classroom, or at home. To that end, we invite schools to become our partners in evaluating and improving our programming and operations by taking advantage of our offerings, providing us with constructive feedback, and suggesting ways in which we can serve our teachers and students better.

Opportunity
Schools participating in the Garden’s Partner School Program will receive:

• **Field Trip Opportunities**: Each classroom will have the opportunity to take part in:
  - One free Guided Tour field trip experience at the Missouri Botanical Garden for up to 30 students and six adults.
  - Discounted pricing on one Garden Class field trip experience at the Garden for up to 30 students and six adults, or one Outreach program in your classroom.
  - Advance registration on all field trips.

• **Access to the Stupp Teacher Resource Center (STRC)**: Teachers at participating schools will be permitted to check out any STRC materials they wish at no cost. STRC offerings can be viewed under Educational Resources on our website [www.mobot.org/schoolprograms](http://www.mobot.org/schoolprograms).

• **Family Science Night**: Students, teachers, and staff will be invited to bring their families to our annual Family Science Night. This after-hours event takes place during an evening in early May and includes free admission to the Garden and the Children’s Garden for all attendees.

• **Professional Development Opportunities**: Teachers will be given the opportunity to audit one evening or weekend Professional Development session of their choice during the school year.

Commitment
Teachers and administrators in the Partner School program are asked to:

• Make use of pre- and post-visit suggested activities connected with the Garden field trip programming appropriate to their visits with us.

• Participate in post-field trip surveys following visits to the Garden and outreach programs to provide constructive feedback on registration, programming, and collateral experiences such as pre- and post-visit suggested activities.

• Conduct one set of anonymous content pre- and post-tests with students attending a Garden field trip during the year and report the results to the Garden’s School Programs department to evaluate the effectiveness of our programs and delivery.

• Distribute the Garden’s Family Engagement newsletter to students and their families once per quarter.

• Facilitate transportation to and from the Garden.

To ensure quality of experience, a limited number of schools will be accepted each year into the program. For more information, contact the School Programs Supervisor at (314) 577-0819.
**LEAP Program**

Leadership in Environmental Action Projects (LEAP) is a student action program that reduces, reuses, and recycles trash from schools and communities and informs people about local solid waste and resource issues. LEAP uses student-community partnerships and cooperative learning to achieve these goals. Using landfill tipping fee surcharges, the St. Louis-Jefferson Solid Waste Management District has funded LEAP for more than 10 years.

One of the most important concepts that LEAP communicates to students and teachers is the difference between linear systems, which most man-made systems are, and cyclical systems, which all of nature’s systems are. Our goal is to help people begin to appreciate the integral role of energy—its use and conversion from one form to another—and start looking at products as resources rather than as trash. Through participation in field trips, activities, and projects, students begin to see the inefficiency and waste of a linear system versus the benefits and practicality of cyclical systems.

For more information regarding participation in the LEAP Program, contact EarthWays’ Education Coordinator at earthways.center@mobot.org or call (314) 577-0207.

**Investigate Green Schools**

A “green school” is a school building or facility that creates a healthy environment that is conducive to learning while saving energy, resources, and money. In the United States, nearly 20 percent of the population goes to school each day, and approximately one out of four schools is in need of upgrades to improve the overall performance of the building and ensure the well-being of the building’s occupants. Such upgrades assist the schools in becoming green learning environments. Not only do these green facilities reduce environmental impact by saving energy and resources but they save money for school districts that can be reallocated to support educational programs.

Investigate Green Schools is a program available to middle school teachers that will increase knowledge of what makes a “green school,” outline steps districts can take to “green” their buildings, and show how schools can lead community-wide sustainability efforts. Teachers and students will assume the roles of energy auditors, building designers, and community advocates as Green Building Ambassadors to present the benefits of going “green” through school board meetings, class projects, public service announcements, and more.

Components of Investigate Green Schools:

1. Interested educators will take part in logistical meetings to review the program, associated activities, and requirements.

2. EarthWays Center educators will present six classroom lessons that will include background on energy production and consumption, a student-friendly energy/environmental school audit, and a student-generated analysis cost/benefit of green school improvements.

3. As Green School Ambassadors, students will develop recommendations and presentations for school building improvements to school/district stakeholders, classmates, and the community to suggest potential changes that will reduce the school’s environmental impact.

For more information regarding participation in the Investigate Green Schools Program, contact EarthWays’ Education Manager at earthways.center@mobot.org or call (314) 577-0281.
Beyond the core Center for Nature-Inspired Learning programs based at Missouri Botanical Garden, Shaw Nature Reserve, and Butterfly House, we work closely with colleagues from the EarthWays Center (St. Louis) and Litzsinger Road Ecology Center (Ladue) in our efforts to best serve area students, teachers, and schools. These expert teams offer specific niche expertise and resources in the fields of sustainability science and schoolyard ecology, respectively:

**EarthWays Center**

The EarthWays Center (EWC), a division of the Missouri Botanical Garden, promotes sustainability through environmental education and improving the built environment. EWC programming primarily focuses on energy efficiency, recycling and solid waste reduction, air quality, and green building, all relating to resource use and how it affects the environment. EWC has delivered energy and recycling education in area K–12 schools since 1988. Staff and programs have been recognized regionally for educational leadership.

EarthWays Center staff work directly with the general public and other audiences, including kindergarten through 12th grade (K-12) educators and students, college and university students, instructors, staff, and community educators. They offer both classes and guided tours at the Garden’s main campus as well as one-time outreach programs and year-long school-based sustainability programs. For more information, please contact the EarthWays Education team at earthways.center@mobot.org or (314) 577-0207. Visit [www.mobot.org/sustainability](http://www.mobot.org/sustainability)

**Litzsinger Road Ecology Center**

The Litzsinger Road Ecology Center (LREC) is an established educational site with land and facilities dedicated to promoting science teaching and learning, environmental literacy, and stewardship of the Earth. While located in the heart of the St. Louis metropolitan area, just 10 miles west of downtown St. Louis, this unique 34-acre study center encompasses a rich variety of habitats including bottomland forest, restored prairie, and an urban creek. In addition, classrooms and an on-site computer laboratory offer research and instructional experiences that increase the scope of learning for students and teachers. LREC, under the management of the Missouri Botanical Garden, is available to educators and students for research and field science programs. Financial support is offered on a competitive basis to promote and support educational activities performed at the site. Grants may fund transportation costs, scientific supplies, and teacher release time. For more information about the Litzsinger Road Ecology Center contact the Ecology Center Assistant at (314)540-4068 or martha@litzsinger.org. Visit [www.litzsinger.org](http://www.litzsinger.org)

**Scout Programs**

Calling All Scout Leaders! Join us at the Missouri Botanical Garden, Shaw Nature Reserve, or Butterfly House for a variety of programs and overnights for scouts. Experience fun, challenging, and inspiring outdoor programs that align with badge and award requirements. Dig into soil, become a naturalist, or learn about flowers, trees, or water conservation; these are just a few of the topics offered. Find a program that is perfect for your group by visiting [www.mobot.org/schoolprograms](http://www.mobot.org/schoolprograms)

**MBGnet**

Discover the natural world at [www.MBGnet.net](http://www.MBGnet.net)!

Investigate biomes by looking at their climate, plants, and animals. Each biome section includes maps that help students place the biome in the world, a climate description, plant adaptation examples, information about selected animals of that biome, and links to other resources to extend study. A separate Biology of Plants portion of the website teaches younger students about plants using graphics, video clips, songs, and lesson plans.

**Education E-Scoop**

Check out our monthly e-newsletter featuring outdoor learning tips, science and literacy links, upcoming programs, and maybe even you! Throughout the year, we’ll spotlight teachers and students who are connecting with, caring for, and conserving the natural world. To sign up, visit [www.mobot.org/schoolprograms](http://www.mobot.org/schoolprograms)
Missouri Botanical Garden

How to register:
- All groups planning to visit the Missouri Botanical Garden are encouraged to register before they visit. Capacity within the Garden is limited, so please register to ensure your group will be admitted. Unregistered groups may be turned away on high-traffic days.
- For a complete list of available programs, booking information, including dates and times, and to register, visit www.mobot.org/schoolprograms
- Online registration is available for Garden Classes, Guided Tours, and Self-Guided Visits.
- To register for Multi-Part Classes and Outreach programs, you must register by phone by calling the School Programs department at (314) 577-5185.
- For any questions, please call (314) 577-5185.

When to register:
- Registration for Fall 2013 programming opens on July 15, 2013.
- Registration for Spring 2014 programming opens on October 15, 2013.
- Registration for Summer 2014 outreach programming opens on February 14, 2014.
- Garden Classes, Guided Tours, Outreach, Multi-Part Classes, and Canopy Climbs must be booked at least six weeks in advance.
- Self-Guided Visits should be booked at least two weeks in advance.
- Children’s Garden visits may be scheduled as a standalone experience or in addition to other programming such as Garden Classes, Guided Tours, or Self-Guided Visits. You may pay admission to the Children’s Garden at the gate, but due to capacity concerns, you must register your Children’s Garden visit at the time of program registration. Please be aware that only school groups who have pre-registered can be admitted to the Children’s Garden. As capacity is limited, registering early is recommended.
- Registrations for all programs are accepted on a first-come, first-served basis.

Pricing:
- All Garden Classes and Guided Tours may be booked as Standard (up to 30 students) or as Large (up to 60 students).
- Garden Class or Guided Tour—Standard:
  Up to 30 students and 6 adults  Garden Class: $100  Guided Tour: $60
- Garden Class or Guided Tour—Large:
  Up to 60 students and 12 adults  Garden Class: $200  Guided Tour: $120
Self-Guided Visits:
• Self-guided visits include free admission for one adult for every five students attending. Additional adults will be admitted at the normal admission rate.
• Shaw’s Satchels may be requested for $5 per satchel. Each satchel facilitates activities for up to 10 students. Supplies are limited, so early registration is recommended.
• You may download free Self-Guided activities at www.mobot.org/schoolprograms

Children’s Garden visits: $3 per student

Outreach Programs:
• $100 per class of up to 30 students, $50 for additional classes conducted on the same date in the same location. (Limit of 3 per date.)

Multi-part Outreach Packages:
• ZMD (see below): $150 for the first class of up to 30 students, $100 for each additional class up to three.
• Non-ZMD: $200 for the first class of up to 30 students, $100 for each additional class up to three.
• Outreach sites located more than 20 miles from the Garden will be asked to pay an additional fee of $1/mile over 20 miles.

ZMD Discount:
• Schools located within St. Louis City and St. Louis County receive reduced pricing on Garden Classes and Guided Tours thanks to the support of the Metropolitan Zoo-Museum District.
• Please call (314) 577-5185 for more information or to see if your school qualifies.

Chaperones:
• Please note that for the safety of all students, teachers should plan to bring at least one chaperone for every five students who attend. Chaperones are especially important if groups are planning on visiting the Children’s Garden.
• You may bring additional chaperones if you wish, but additional adults will be admitted at the normal admission price.
Registration Information

Sophia M. Sachs Butterfly House

How to register:
- For Field Trip Classes and Outreach Programs, all registration must be done through the Butterfly House by calling (636) 530-0076, ext. 13. Programs must be requested by name when scheduling.
- Prior to calling to book an Outreach Program, please check your school calendar and be aware of special programs, testing days, holidays, and fire/tornado drills that may conflict with scheduling an Outreach program.

When to register:
- Reservations for the 2013–2014 school year may be made on or after Monday, June 17, 2013.
- Field Trip Classes are available August to May.
- Field Trip Classes are offered on Tuesdays and Wednesdays at 9:30 and 11:30 a.m. and Thursdays and Fridays at 10 a.m. and noon.
- Outreach Programs are available year-round.
- For both Field Trip Classes and Outreach Programs, register at least two weeks in advance of your desired reservation date. We encourage you to book as early as possible, given limited capacity on high-demand dates.

Pricing:
- Field Trip Classes: $4.50 per student
- Free admission for required chaperones/teachers; $6 per each additional chaperone

Chaperones:
- For Field Trip Classes, chaperones are required at the following ratio: one adult per five students.

Outreach Programs:
- All programs are one hour and cost $125 for the first program and $40 for each additional program scheduled for the same day.
- A maximum of three 1-hour programs can be scheduled on each day. If more than one program is offered on the same day, a minimum 10-minute break is required between programs.
- Fees for all outreach programs are based on facilities within 20 miles of the Butterfly House. Outreach sites located more than 20 miles from the Butterfly House will be asked to pay an additional fee of $1/mile over 20 miles.
- Student participation is limited to 35 per program. Teachers/staff are required to stay in the room during the presentation.
Shaw Nature Reserve

How to register:
- For Day Programs, all groups, whether led by a Reserve instructor or self-guided, must make reservations for their visit. To schedule a day trip, please call (636) 451-3512.
- When calling to register, please have the following information ready:
  - School name, address, and phone number
  - Contact person’s name for confirmation
  - Program choice(s): make sure that the program is available the month you need it
  - Date and time (please have alternatives)
  - Grade and number of students
  - Teacher’s name and home phone number
  - Will you be eating lunch at one of our picnic areas?
- To schedule a program at the Dana Brown Overnight Center or for questions, please contact Aileen Abbott at (636) 451-3512, ext. 6081 or aileen.abbott@mobot.org.
- To schedule a Canopy Climb program, please call (636) 451-3512.

When to register:
- October 1 for January Maple Syrup classes
- November 1 for spring classes (March–May)
- May 1 for fall classes (September–November)
- Note: If the first of the month falls on a weekend, registration will begin the following Monday

Pricing:
- Day Classes, for grades PreK–8: $2 per student (except Maple Syrup Making: $3 per student.)
- Day Classes based at Dana Brown Overnight Center, for grades 3–8: $5 per student
- Overnight Programs at Dana Brown Overnight Center: Varies by program—call for pricing.
- Canopy Climbs are $40 per student. Minimum per program: 20 students (24 maximum).

Chaperones:
- Chaperones are required. Required chaperones receive free admission. Please recruit the required number of chaperones by grade level:
  - Grades PreK–3: one adult per eight students
  - Grades 4 and above: one adult per 10 students

Scholarships—All Sites

Scholarships for programming at all sites are available on a first-come, first-served basis for schools for which 50 percent or more of the student population receives free or reduced lunch. Request forms are available on our website, www.mobot.org/schoolprograms, and must be submitted for approval within two weeks of your registration.
From East via I-44
Take I-70 west across the Poplar Street Bridge. Merge onto I-55 south to I-44 west. Exit at Vandeventer/Kingshighway (Exit #287 B-A) and turn left. Then turn left on Shaw Blvd. The Garden will be on your right.

From West via I-64/40
Take I-64 east. Take the Kingshighway North & South exit (Exit #36 A-B) and turn right. Turn left at the stoplight for Southwest/Vandeventer. Turn right onto Shaw Blvd. The Garden will be on your right.

From East via I-44
Hwy. 100 & I-44, Exit #253
Gray Summit, MO 63039
(636) 451-3512
www.shawnature.org

From West via I-64/40
Take the Clarkson/Olive exit (Exit #19 B). Turn left at the stoplight and you will be on Olive Blvd. after crossing under I-64. The Butterfly House is about 1.2 miles on the left inside Faust Park.

From East via I-44
Take exit ramp #253, turn left, crossing over I-44. Turn right at the intersection (at the Phillips 66) and go 50 yards to the large iron gates on the left side of the road.

From West via I-44
Take exit ramp #253, turn right at the op of ramp and then another right at the intersection (at the Phillips 66) and go 50 yards to the large iron gates on the left side of the road.

From East via I-44
Faust Park, 15193 Olive Blvd.
Chesterfield, MO 63017
(636) 530-0076
www.butterflyhouse.org

4344 Shaw Boulevard
St. Louis, MO 63110
(314) 577-5100
www.mobot.org

Missouri Botanical Garden

Shaw Nature Reserve

Butterfly House

Registration Information