



MISSOURI
BOTANICAL
GARDEN

2024-2025

**CENTER FOR
NATURE-INSPIRED LEARNING**
SCHOOL PROGRAMS



YOUR *Love* FOR PLANTS
CAN CHANGE THE *World*

Whether you're honing your gardening skills, flexing your creativity, or embracing your inner ecologist, our classes equip you to transform landscapes and lives.

How will YOU discover and share?

2024-2025
**CENTER FOR
NATURE-INSPIRED LEARNING**
SCHOOL PROGRAMS

Transformative experiences for Pre-K-12 students,
teachers, and schools



MISSOURI
BOTANICAL
GARDEN



Sophia M. Sachs
BUTTERFLY
HOUSE



SHAW
NATURE
RESERVE

LITZINGER
ROAD
ECOLOGY
CENTER

OUR PROGRAMS

Why We Do What We Do.....	1	Programs for Schools and Teachers.....	32
Our Sites.....	2	Teacher Professional Development.....	32
Who We Are.....	4	Summer Workshops and Summits.....	33
Programs for Students.....	5	Missouri Botanical Garden	
At-a-Glance Program Grids by Grade Level.....	6	Education E-Scoop.....	33
Programs at the Missouri Botanical Garden.....	8	Pre-Service Teacher	
EarthWays Center Sustainability Programs.....	13	Internship and Practicums.....	33
Programs at the Sophia M. Sachs		EarthWays Center	
Butterfly House.....	14	Professional Development Outreach.....	34
Programs at Shaw Nature Reserve.....	16	School Partnership Opportunities.....	36
Programs for Grades Pre-K-3.....	17	The Saigh Foundation Environmental	
Programs for Grades 4-12 and Overnights.....	19	Leadership Program (Eco-Act).....	36
Virtual Content.....	24	Litzsinger Road Ecology Center.....	37
Outreach Programs.....	26	Scout Programs.....	38
EarthWays Center Outreach Programs.....	26	Notes.....	39
Sophia M. Sachs Butterfly House			
Outreach Programs.....	28		
Missouri Botanical Garden			
Outreach Programs.....	29		
Family and Community Engagement.....	30		
School Community Engagement Events.....	30		
Dig-In Events at Your School.....	30		
Project Pollinator.....	30		
Teen Network.....	31		

Your class fees help the Missouri Botanical Garden discover new plant species, restore and protect at-risk plants and places, and connect more people with nature and the great outdoors.

WHY WE DO WHAT WE DO

We love plants

In fact, we're obsessed with them. This obsession runs deep, spans the globe, and is unparalleled. The Missouri Botanical Garden is one of just a handful of entities on the planet working on the front lines to discover, document, restore, and conserve plant life on Earth, before it's too late.

We share this love with you and millions more every year

The Garden's sites in St. Louis and around the world share the extraordinary world of plants with millions of people each year through immersive, meaningful experiences designed to engage, educate, and inspire.

We need you

We—us, **YOU**, your students, your friends and family, your neighbor down the street—need to make a big transition towards a better, more sustainable world for all. To make this transition, masses of people must start changing their lifestyles, habits, priorities, roles, and responsibilities as citizens of the world—and quickly.

As teachers, you are uniquely positioned to shape our current and future citizenry. It is in this broader realm that the Garden builds upon its core commitment to plant science and conservation. We are here to work with your students, and citizens of all ages, backgrounds, and abilities to inform and motivate decisions and actions that enable plants, people, and the planet to survive and thrive for generations to come.



Everyone is or can be a community steward. Together, we can transform landscapes and lives.

OUR SITES



MISSOURI BOTANICAL GARDEN

St. Louis, Missouri

- Leader in horticultural display, botanical research, conservation efforts, education, sustainability, and public engagement for nearly 160 years
- World-renowned plant collection and science-driven conservation that spans 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



Sophia M. Sachs BUTTERFLY HOUSE

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 first dedicated all-insect facility in the United States accredited by the Association of Zoos and Aquariums
- Partners with a sustainable butterfly farming operation, El Bosque Nuevo in Costa Rica



SHAW NATURE RESERVE

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 Nature Reserve's natural diversity provides an exceptional outdoor classroom for learners of all ages
- Designated National Environmental Education Landmark in 1972



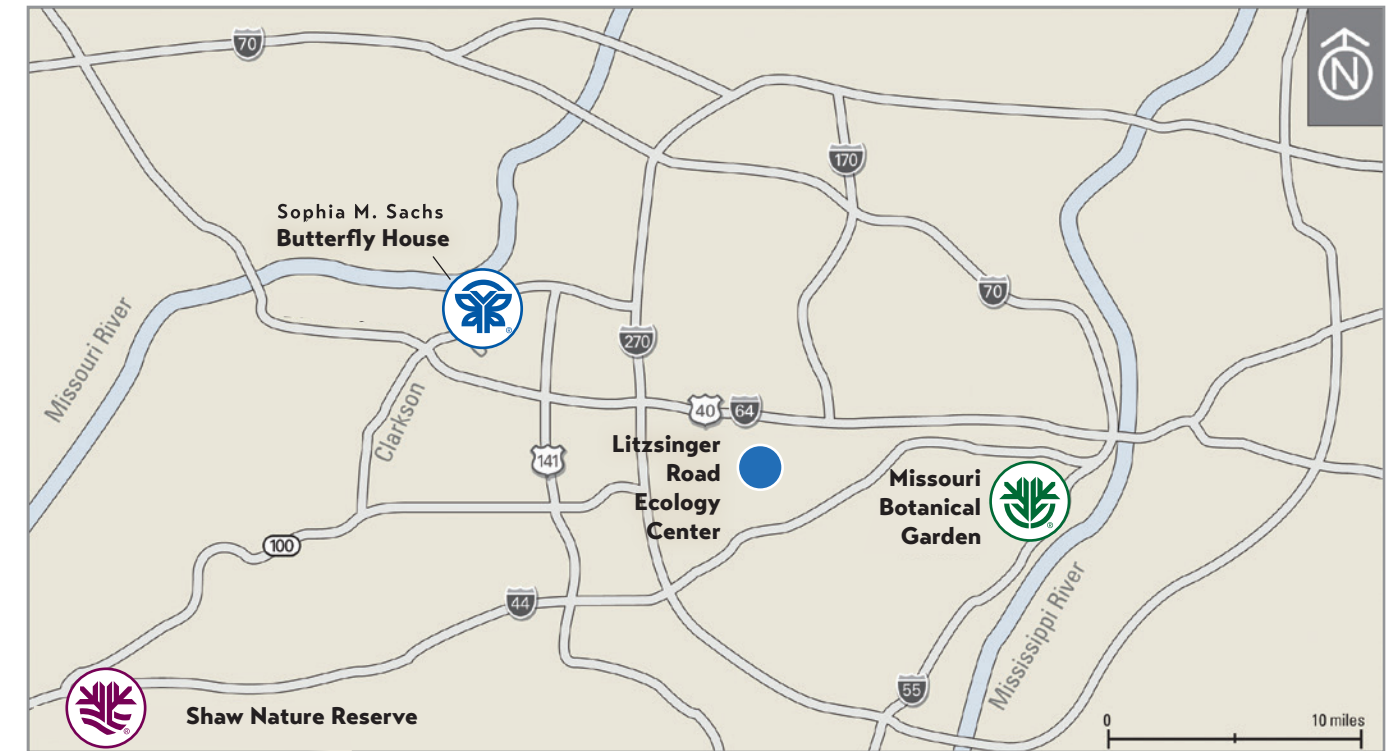
LITZINGER ROAD ECOLOGY CENTER

Ladue, Missouri

- Provides extended partnerships in place-based education, linking professional development with field experiences for students
- Coordinates a vibrant regional network of teachers, volunteers, and community partners
- Models ecological restoration and research on 38 acres of woodland, prairie, and creek ecosystems

Due to Ladue use permit restrictions, Litzinger Road Ecology Center is open only for programs with partner teachers. It is not open to the public.

HOW TO FIND US



Become a **volunteer** at the Garden, Butterfly House, Shaw Nature Reserve, and Litzinger Road Ecology Center!

Take action to bring more significance to your daily life. Become a part of a vital volunteer community.

Interested? Please visit mobot.org/volunteer to view opportunities and fill out an application.

Call (314) 577-5187 or email volunteer@mobot.org to learn more!

WHO WE ARE

"To discover and share knowledge about plants and their environment in order to preserve and enrich life."
—mission of the Missouri Botanical Garden

Learning is at the heart of the Missouri Botanical Garden's mission. We consistently work to deepen students' connections to plants and the natural world through relevant experiences. The programs we have for schools were developed with intentionality—fostering discovery, engagement, and understanding. We want learners to enhance their knowledge and feel empowered to lead change for our world. Our programming allows students to better know their environment and deepen their appreciation of plants, conservation, and ecology.

This catalog is filled with opportunities to strengthen content knowledge with students through substantive real-world learning experiences. I encourage you to familiarize yourself with our robust offerings. You will find that each of our sites provides unique and personalized programming for students, educators, and families. A through-line of our programming is inquiry, hands-on learning, and enjoyment.

We believe in the importance of education focusing on plants and the natural world and how critical it is to continually grow understanding with learners. Come be part of meaningful learning experiences and opportunities that have impact in so many ways. We are ready for you—learners of varied ages and backgrounds.

Sean Doherty, PhD
Vice President, Education
sdoherty@mobot.org

Missouri Botanical Garden

Matthew Magoc
Manager of School Programs and Partnerships
mmagoc@mobot.org

Carmen Buchanan
Coordinator of Onsite School Programs
cbuchanan@mobot.org

John Lawler
Instructor, School Programs
jlawler@mobot.org

Jessica Griffard
Early Childhood Instructor, School Programs
jgriffard@mobot.org

Johanna Hill
Coordinator Teen Programs
jhill@mobot.org

Jude Ornburn
Instructor, Teen Programs
jornburn@mobot.org

EarthWays Center

Katherine Golden
Sr. Manager, Sustainability Initiatives
kgolden@mobot.org

Fletcher
Supervisor, Community Programs
mfletcher@mobot.org

Olivia Dove
Instructor, Outdoor Youth Corps
odove@mobot.org

Maggie McCoy
Climate Change Education Coordinator
mmccoy@mobot.org

Kassie Knight
Instructor, Sustainability Education
kknight@mobot.org

Shaw Nature Reserve

Jessica Kester
Sr. Manager of Education and Visitor Experiences
jkester@mobot.org

Karen Bryan
Coordinator of School Programs (Pre-K–3)
kbryan@mobot.org

Jessie Dockins
Coordinator of School Programs (4–12 and Overnight Programs)
jdockins@mobot.org

Beth Adams
Outdoor Educator
badams@mobot.org

Sophia M. Sachs Butterfly House

Chris Hartley
Senior Manager, Collections, Education, and Operations
chartley@mobot.org

Maggie Farrell
Science Education Coordinator
mfarrell@mobot.org

Olivia Phillips
Instructor
ophilips@mobot.org

Litzsinger Road Ecology Center

Dr. Bob Coulter
Director
bcoulter@mobot.org

Leslie Memula
School Partnership Coordinator
leslie@lrec.net

Julie Radin
School Partnership Coordinator
julie@lrec.net

PROGRAMS FOR STUDENTS

The Garden's work with students spans the early childhood years through graduate fellowships and post-doctoral studies. It takes place in the greater St. Louis area as well as in regions around the world where the Garden's plant conservation mission is active. Along this trajectory and within each community, our multidisciplinary team of early childhood specialists, environmental educators, teen instructors, teacher professional development facilitators, botanists, ecologists, and community conservation leaders are all working with common purpose to:

- Engage and educate others.
- Inspire and prompt new ideas and questions.
- Motivate action.
- Build capacity for conservation and environmental stewardship.

Within the following pages, we focus on the Pre-K–12 experiences available for students, teachers, schools, and districts available at our St. Louis-area sites.



MISSOURI BOTANICAL GARDEN

	Pre-K	Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	Middle School	High School
Guided Experiences	Seasonal Snapshot, 9								
		Tops and Bottoms, 9							
		Heaps of Seeds*, 9							
				Foodology, 9					
				Rainforest Rendezvous, 9					
				Botanical Engineering, 9					
								By Request, 11	
PLSS Field Investigations								Investigation and Application, 10	
								Sustainability and Services, 10	
					Botany and Biodiversity, 10				
					Ecology and Engineering, 11				
Garden Nature Knapsack	In the Garden, 12								
					Tree Trek, 12				
Teen Network								SAGE, 32	
								Eco Act, 36	
EarthWays Center Programs		Green is Here for Good, 13							
					Connecting to Climate, 13				
		Personalized Sustainability Experience, 13							
		Waste, Recycling, and Composting, 26							
		MSD Project Clear Clean Water Stormwater Education, 27							
	Personalized Sustainability Outreach, 27								

Sophia M. Sachs BUTTERFLY HOUSE

	Pre-K	Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	Middle School	High School
Programs	Story of a Butterfly, 15								
		Adventures in a Butterfly Garden, 15							
		Wings of Wonder, 15							
				Bugs Alive: Ecosystem Challenge, 15					
Outreach				Bug Lab, 15					
	Story of a Butterfly, 28								
		Wings of Wonder, 28							
		Adventures in a Butterfly Garden, 28							
Teen Network					Bug Lab, 28				
					Bugs Alive: Ecosystem Challenge, 28				
								MANTIS, 31	

* These programs are offered during specific months of the school year. See program description for details.

SHAW NATURE RESERVE

	Pre-K	Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	Middle School	High School
Missouri Outdoor Experiences	Earthwalks, 17								
			Little House on the Prairie, 17						
			Water's Edge*, 18						
			Our Forest Neighbors*, 18						
			Nature Walkabout*, 18						
			Animal Adaptations*, 18						
				Wows of Wetlands, 18			The Sticky Science of Maple Syrup*, 18		
Youth Programs							Habitat Helpers, 30		
								H ₂ O _s , 30	
DANA BROWN OVERNIGHT CENTER									SIFT, 31
	Ecology Classes						Aquatic Ecology, 22		
							Forest Ecology, 21		
							Wetland Ecology, 21		
							Tallgrass Prairie Ecology*, 21		
							Bird Ecology, 22		
	Navigation Class						Invertebrate Ecology, 22		
						Intro to Compass, 23			
Nature Art Class						Global Positioning System (GPS), 23			
						Art in Nature, 22			

* These programs are offered during specific months of the school year. See program description for details.



Educator Memberships

Join the Garden and help realize the mission to discover and share knowledge about plants and their environment in order to preserve and enrich life.

Members receive great benefits including:

- Free admission to all of our public sites.
- Retail discounts.
- Access to special members-only events and much more!

Educators who become Missouri Botanical Garden members also receive:

- Discounted rates on professional development workshops and public programs classes.
- Priority booking for field trips and special school group events.

Visit mobot.org/membership to learn more.

PROGRAMS FOR STUDENTS

at the Missouri Botanical Garden (MBG)

The Garden offers onsite programs for school groups from September through December and February through May. The Garden is also available for self-guided visits throughout the year. Our programs introduce students to the Garden's historic and scientific significance using inquiry-based activities aligned to national standards. For the most up-to-date information about our programs, upcoming events, and policies, please visit our website at mobot.org/schoolprograms or call our office at (314) 577-5185.

Zoo-Museum District Schools (ZMD)

Thanks to the support of the Metropolitan Zoo-Museum District, schools located **within St. Louis City and St. Louis County** are eligible to receive a 50% discount on Garden Experiences and PlantLab Investigation program fees, as well as other considerations as described below.

Onsite Visit Options

- **Self-Guided Visits:** Design your own experience. Resources can be found at mobot.org/schoolprograms. Admission is free for all ZMD students, and non-ZMD students in grades Pre-K–8. Non-ZMD students in grades 9 and above are admitted at \$10/student. Must be paid prior to arrival and booked through the School Programs onsite visit options.
- **Guided Experiences:** Designed for groups seeking an in-depth experience around specific topics. Our experiences couple age-appropriate, outdoor learning experiences led by trained instructors with a theme-appropriate guided tour of the Garden. Programs vary in length from 75 minutes to 2 hours and includes a Pot-A-Plant session. Fees: Standard (up to 30 students): \$180. Large (up to 60 students): \$360.
- **PlantLab Student Scientist (PLSS) Field Investigations:** Dig deeper into plant science in the PLSS Field Investigations designed for grades 3 and up. This program offers students an

opportunity to explore more rigorous botany and STEM topics with our trained instructors. Program sessions serve up to 30 students, last 45–60 minutes, and includes a take-home planting activity or project for each student. Fee: \$120

- **Grow Your Experience:** Make your students' experience even more memorable by including one of the following in your visit. See page 14 for more information.
 - **Pot-a-Plant:** Sessions accommodate up to 30 students. Fee: \$70. Self-Guided Visits only.
 - **Garden Nature Knapsack:** \$5/satchel (fee waived for ZMD school groups.) Each satchel is designed for use by up to 10 students. Multiple satchels can be requested per educator.
 - **Doris I. Schnuck Children's Garden:** Open April through October. Capacity is limited. Fee: \$3/student, must be paid prior to arrival.

How to Register

- Registration for Fall 2024 program opens on July 1, 2024. Spring 2025 programs will be available beginning November 1, 2024. All registrations are accepted on a first-come, first-served basis.
- For fastest service, submit your requests for all onsite visit options online at mobot.org/schoolprograms. We will reply to all requests within 5 business days. Requests should be submitted at least 2 weeks prior to your requested date. Please call (314) 577-5185 for questions concerning program registration.
- Program fees for guided experiences and PlantLab Investigations include admission for up to 6 adults with a standard program and 12 adults for a large program. One required adult chaperone is admitted at no cost for every 5 students attending a self-guided visit. Additional chaperones are admitted at standard admission rates; **teachers may pay for all additional chaperones in one transaction prior to arrival, or elect to have an invoice sent to the school after their visit.**
- Please plan to pay program fees within 2 weeks of receiving your confirmation.



Guided Experiences

All of our Guided Experiences occur in various areas of our 79-acre outdoor learning environment! We have converted all of our former indoor classes to take place outdoors on Missouri Botanical Garden grounds. In preparation for the day of your Guided Experience, follow the local weather forecasts, dress accordingly, and email us at schoolprograms@mobot.org or call (314) 577-5185 for questions about your visit.

Seasonal Snapshot (MBG)

Grades Pre-K–1; September–December and February–May

What season is it? How do you know? How do the changing seasons affect plants, animals and human beings? Out in the Garden, students will practice their observation skills as they compare and contrast the current season with other times of year. Each student will plant seeds to take with them after the program. Capacity: 60 students; length of program: 90 minutes

Tops and Bottoms (MBG)

Grades K–2; September–December and February–May

What do we grow in the Garden? Tops, bottoms, and middles! In this class, inspired by Janet Stevens' book *Tops & Bottoms*, students identify and compare the physical structures of edible plants. Students will learn about the variety of edible plant parts during their visit through the Kemper Center for Home Gardening. They will have an opportunity to view the various fruits and vegetables growing there as well as explore other parts of the Garden while on their tour. Each student will also plant seeds from an edible plant to take home. Capacity: 60 students; length of program: 90 minutes

Heaps of Seeds (MBG)

Grades K–2; September–October

From acorns to zinnia seeds, the beginnings of a plant are found in an amazingly diverse shapes and sizes. Students will investigate the various ways seeds travel in a series of interactive activities as they explore the Garden. Capacity: 60 students; length of program: 90 minutes

Foodology (MBG)

Grades 3–5; September–December and February–May

All of our food can be traced to plants! In this experience, students will explore the history and science of agriculture and food production. Tour the William T. Kemper Center for Home Gardening to learn about the cultural/geographic origins of our familiar food plants, observe modern-day agricultural practices, appraise contributions made by agricultural pioneers like George Washington Carver, and conceptualize a food garden of their own. Capacity: 60 students; length of program: 90 minutes

Rainforest Rendezvous (MBG)

Grades 3–5; September–December and February–May

Escape to the Climatron® conservatory to investigate the strategies plants use to survive in this wet, competitive environment and the resulting diversity of structures and behaviors that can be observed. In a replicated lowland tropical rainforest featuring waterfalls and a diversity of 1,500 plants, learn why this productive biome is so unique and important. Capacity: 60 students; length of program: 90 minutes

Botanical Engineering (MBG)

Grades 3–8; September–December and February–May

Survival for plants often means finding innovative ways to overcome challenges in the environment! In this tour, we will first explore the adaptations that plants have devised that enable them to survive in some of our planet's most extreme environments. Next we will look at the solutions humans have devised to replicate these environments so that these plants can survive in St. Louis. Capacity: 60 students; length of program: 90 minutes

Interested in an internship?

See page 33 for more information!



PROGRAMS FOR STUDENTS

at the Missouri Botanical Garden (MBG)

PLSS Field Investigations

Investigations and Applications

Grades 6–8; September–December and February–May

Faced with 21st-century issues, science and engineering disciplines are increasingly turning to nature for solutions. By coupling investigations in plant science with the engineering cycle, this STEM-focused class exposes students to methods of applying data and evidence from observations of nature to produce enriching policy actions and/or technical solutions to daunting challenges. *Capacity: 60 students; length of program: 90 minutes*

Sustainability and Services

Grades 6–8; September–December and February–May

The Garden’s stated mission is to discover and share knowledge about plants and their environment in order to preserve and enrich life. The fields of ecology and ethnobotany offer ideal opportunities for students to explore the stewardship, management, and restoration of natural resources that sustain our quality of life. In this class we will explore case studies of indigenous management techniques to inform restoration of natural services. *Capacity: 60 students; length of program: 90 minutes*



Botany and Biodiversity (MBG)

Grades 3–5; September–December and February–May

Carl Linnaeus, the father of modern taxonomy, once said, “If the names are unknown, knowledge...also perishes.” Since 1859, the Missouri Botanical Garden has served as a world leader in the fundamental science of discovering, classifying, and naming plant species from all around the world. This hands-on session will provide students with a taste of the real-world work our researchers do, from collection and classification to identification and nomenclature. *Capacity: 30 students; length of program: 60 minutes*



Ecology and Engineering (MBG)

Grades 3–5; September–December and February–May

An understanding of the interconnectedness of the natural world is vital if we are going to tackle big challenges like climate change and conservation. In this class, students will explore the interdependence between flowering plants and their pollinators, underscoring how this simple relationship affects not just the organisms involved, but the ecology of their local habitats and human quality of life. *Capacity: 30 students; length of program: 60 minutes*

Plants and People (MBG)

Grades 3–5; September–December and February–May

Plants provide humankind with our most crucial resources: food, medicines, fiber, building materials, and a range of other economically valuable products and essential services. This hands-on program gives students an opportunity to explore the traditional uses of plants as well as give a glimpse of the ways in which plants can be used in the future to address environmental and economic concerns. *Capacity: 30 students; length of program: 60 minutes*

By Request (MBG)

Grades 6–12; September–December and February–May

Interested in discussing a topic that isn’t covered by one of our tours? We can work with you to design a tour that suits your group’s needs. Visit mobot.org/schoolprograms and complete the request form for a guided tour to let us know what you have in mind!

PLSS Field Investigations are connected to our PLSS curriculum to help classroom educators continue the conversation back in their classrooms. To download related curriculum for PLSS, contact Matthew Magoc at mmagoc@mobot.org or visit mobot.org/schoolprograms.





PROGRAMS FOR STUDENTS at the Missouri Botanical Garden (MBG)

Garden Nature Knapsacks

Lead your own self-guided program while visiting the Missouri Botanical Garden grounds using our handy activity Nature Knapsacks. Each knapsack contains shareable materials to accommodate up to ten students including a “Seek and Search” board for the current season as well as a Sculpture Seek and Search spotlighting sculptures within the Garden. Up to 10 knapsacks can be requested via our online registration link and will be presented upon your arrival to the Garden. All knapsacks can be conveniently returned to Visitor Services when departing.

In the Garden

Pre-K-1; Available year-round

Guide your students through the Garden grounds and discover how shapes and colors are essential to the design of all gardens. Our horticulturists carefully blend colors of plants and use design patterns to make those areas “pop!” The “In the Garden” Knapsack is a way to take your students on a color and shape adventure while exploring our beautifully designed gardens.

Tree Trek Knapsacks

Grades 3-5; Available year-round

With the Garden Tree Trek Knapsack, you and your students will have an opportunity to discover the Garden's many interesting trees and learn about how they grow. Designed for students between in grades 3-5, students will learn how scientists look at the different parts of a tree to determine their plant family. They will have the opportunity to make leaf rubbings of ginkgo tree leaves—a living fossil. And they will learn what tree features that arborists look at when determining the health of a tree.

Grow Your Experience!

Whether your itinerary for your class's visit includes a program or you're planning to guide your students on your own, consider adding one of the following experiences to your day!

- **Pot-a-Plant:** These 15-minute sessions accommodate up to 30 students, and include a brief lesson for students and a guided planting experience. Every student will receive a potted seed or cutting to take back with them. Visit mobot.org/schoolprograms for a list of planting options.
- **Doris I. Schnuck Children's Garden:** This 2-acre garden provides a wonderful backdrop for nature exploration and educational play for students between the ages of 3-12. Visit mobot.org/childrensgarden for more information.
- **Digital Photo Memories:** Each group of 30 students will have the use of 3 digital cameras throughout the tour. After your visit, we will download all photos taken and send them to you to use in your classroom! *Fee: \$15 + tour fee.*



PROGRAMS FOR STUDENTS with the EarthWays Center (EWC)

The EarthWays Center is the Sustainability Division of Missouri Botanical Garden. Their programs enrich lives, protecting plants and our environment by educating and connecting people to practical sustainable solutions where they live, learn, work, and play.

The EarthWays Center's work with schools ranges from kindergarten through grade 12 and provides opportunities for learners of all ages to build awareness and personal understanding of their role in the conservation of energy and other natural resources for the future. Programs include onsite programming, guided tours, outreach classes, and school partnership projects.

How to Register

- Registration for EarthWays Center programs must be made at least 6 weeks in advance of your intended visit date. All registrations are accepted on a first-come, first-served basis, so early registration is encouraged.
- To register, email earthways.edu@mobot.org or call (314) 577-0281.
- Please plan to bring 1 adult for every 5 students. Program fees include admission for required adults. Additional adults are welcome but will be admitted at standard admission prices.
- Thanks to the support of the Metropolitan Zoo-Museum District, schools located within St. Louis City and St. Louis County are eligible to receive a 50% discount on EarthWays Center onsite student programs.

Connecting to Climate (MBG-EWC)

Grades 4-12

Explore how changes in our climate affect the people and plants in our community. Learn how the Missouri Botanical Garden is researching climate change around the world and taking action at the Garden through this walking tour that includes the Climatron and the Kemper Center for Home Gardening. *Cost: \$90; length of program: 60-90 minutes; each tour accommodates up to 30 students; multiple tours can be booked to accommodate larger groups for additional fees.*

Green Is Here for Good (MBG-EWC)

Grades K-12

Sustainability-themed visits to the Garden integrate an interpretive tour that illustrates the importance of waste minimization, energy, energy-efficiency and conservation, and resource conservation. Students will discover simple things they can do to use resources more efficiently and live more sustainably. Tours can be customized to focus on specific topics. *Cost: \$90; length of program: 60-90 minutes; each tour accommodates up to 30 students; multiple tours can be booked to accommodate larger groups for additional fees.*

Personalized Sustainability Experience

Grades K-12

Schedule a special hands-on, interactive class with the EarthWays Center to dive deeper into green living topics such as waste, energy efficiency and conservation, stormwater management, and more. Each 60-minute class features a hands-on activity or experiment to get students thinking, learning, and exploring green. *Sessions serve up to 30 students. \$180*

For more information on school outreach programs (p.26) from the EarthWays Center and sustainability at the Garden, visit mobot.org/sustainability.





PROGRAMS FOR STUDENTS at the Sophia M. Sachs Butterfly House (BH)

The Sophia M. Sachs Butterfly House offers unique, inquiry-based experiences for students that align with Missouri and Illinois Learning Standards for Science. We incorporate living animals and real specimens, and each class includes an unforgettable trip through our Tropical Conservatory of living butterflies. We encourage teachers to book as early as possible, given limited capacity on high-demand dates.

Onsite Visit Options

- **Programs:** Classes run 45 minutes and include hands-on activities and animal encounters, followed by a self-guided walk through the Tropical Conservatory. *Classes are offered Tuesdays through Fridays, with sessions beginning at 9:30, 10:30, 11:30 a.m., and 12:30 p.m. Program sessions are \$125. They include 25 students and 5 adults. If a school group is more than 25 students, students will be split into multiple sessions. Each additional session is \$125. If each session has more than 5 adults, then each extra adult will be charged an \$8 admission ticket.*
- **Self-Guided Visits:** Lead your group through the Butterfly House animal exhibits, Tropical Conservatory, and Native Garden. *Please plan to bring 1 adult for each 5 students. Cost: \$4 per student, \$7 per adult. Teachers and paraprofessionals admitted free. Resources to compliment your visit can be found on our website: butterflyhouse.org/schoolprograms.*

How to Register

- Registration is ongoing, but programs are booked on a first-come, first-served basis. Early registration is encouraged to ensure your desired date and time are available.
- Register online at butterflyhouse.org/schoolprograms or email butterflyhouseeducation@mobot.org. You can also call (314) 577-0888 | ext. 2.



Story of a Butterfly (BH)

Grades Pre-K-K; Year-round

Students will witness the life cycle of a butterfly using our innovative caterpillar puppet, and assemble a butterfly to learn about its important body parts. They will compare and contrast the survival needs of plants and animals as they enjoy a tour of the Tropical Conservatory, where they will search for the resources butterflies and plants need to live and grow.

Capacity: 25 students; length of program: 45 minutes

Adventures in a Butterfly Garden (BH)

Grades K-2; Year-round

Discover pollination as we explore and compare the life cycles of butterflies, honeybees, and plants. Students will learn that fruits and seeds can only come from plants that have been pollinated, and we will discuss different ways that insects, birds, and other animals spread pollen and disperse seeds. In the Conservatory, students will be able to look for seeds and pollen as well as butterfly chrysalides, and they can apply what they have learned to discuss how butterflies pollinate our plants. *Capacity: 25 students; length of program: 45 minutes*

Wings of Wonder (BH)

Grades K-2; Year-round

Students experience hands-on observations with real samples of butterfly eggs, caterpillars, pupae, and wings. Learn how butterflies meet their survival needs and what adaptations they have to survive in their environment. In the Tropical Conservatory, we will look for butterfly adaptations that help them find food, avoid danger, and live the butterfly life. *Capacity: 25 students; length of program: 45 minutes*

Bugs Alive: Ecosystem Challenge (BH)

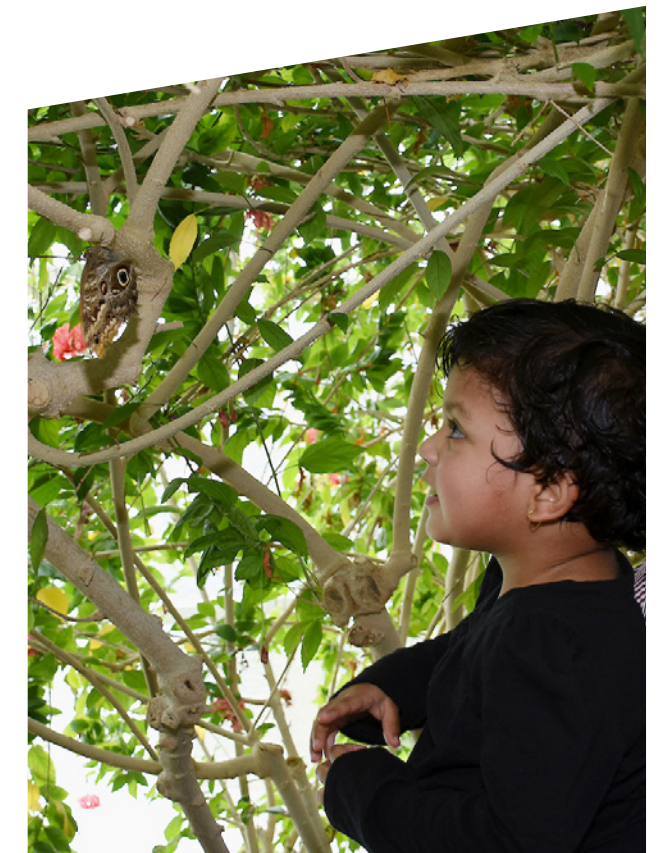
Grades 3-5; Year-round

Through a series of live animal encounters, students will explore an animal's place in an ecosystem by examining the adaptations, senses, and genetic variation of each. Students will be exposed to a variety of ecosystems and the challenges organisms face for survival in each. At the end of the lesson, students will be challenged to design an insect that has adaptations necessary for survival in an assigned ecosystem. *Capacity: 25 students; length of program: 45 minutes*

Bug Lab (BH)

Grades 3-5; Year-round

Learn the exciting and valuable jobs insects have while interacting with living animals. This program uses both mounted and living insects to give your students insights into the roles insects play in our world. This program features our largest variety of living animals, and each animal reveals the stories of how insects find food, escape danger, benefit other living things, and more! *Capacity: 25 students; length of program: 45 minutes*



PROGRAMS FOR STUDENTS

at Shaw Nature Reserve (SNR)

Shaw Nature Reserve programs are designed to immerse students in inquiry, exploration, and problem solving while experiencing the Missouri landscape. For up-to-date information about our programs, upcoming events, and policies, please visit our website at shawnature.org.

Day Programs at the Nature Reserve

- **Grades Pre-K-3:** Shaw Nature Reserve classes vary in duration from 1-2 hours, but all include hands-on learning and active discovery of nature and the great outdoors. We encourage you to schedule 2 classes with a lunch in between to make the most of your Shaw Nature Reserve experience. *Class fees are \$3 per student. Scheduling availability and maximum class sizes vary; see class descriptions for more information.*
- **Grades 4-12:** Shaw Nature Reserve classes for grades 4-12 vary in duration from 2-3 hours. Day programs for this age group are based out of the Dana Brown Education Overnight Center. Please see page 21 for more information and class descriptions.

Overnight Programs at the Nature Reserve

- **Grades 4-12:** Extend the experience with an overnight stay at the Dana Brown Overnight Education Center (DBOC). For class descriptions, fees, and more information, please see page 19-20.

Registration Information

- **Grades Pre-K-3:** Please call or email Karen Bryan at (314) 577-9523 or kbryan@mobot.org.
 - Registration for fall programs begins on May 1 of each year. Registration for spring and summer programs begins on November 1 of each year.
 - Required chaperones will be admitted at no extra charge. Admission fees for additional adults (\$5 each) will be added to the school invoice.
- **Grades 4-12:** Please call or email Jessie Dockins at (314) 577-9539 or jdockins@mobot.org.
 - Please refer to page 20 for registration and program information.
- **Self-guided Groups:** Reservations are required.
 - Please call the coordinator for your grade level.
 - Please note that memberships do not apply to groups.



Earthwalks (SNR)

Grades Pre-K-3; September-November, March-May

Students will explore the wonders of the natural world by using their five senses. Instructors will lead your students on a walk through diverse ecosystems, and they will use their sense of touch to identify natural objects, sense of hearing to identify birds, and sense of sight to simulate how animals see. This light and comfortable approach to nature can be adapted for different ages. *Capacity: 40 students; length of program: 60 minutes; fee: \$3 per student*

Little House on the Prairie (SNR)

Grades 1-3; October

Experience what life was like for early prairie settlers through activities based on *Little House on the Prairie* by Laura Ingalls Wilder. Excerpts from the book will be matched with hands-on activities, so that students get a glimpse into the lives of early Missouri residents. *Capacity: 40 students; length of program: 120 minutes; fee: \$3 per student*



Water's Edge (SNR)

Grades 1–3; September

Explore aquatic and terrestrial communities through hands-on activities based on *Around the Pond: Who's Been Here* by Lindsay Barrett George. Students will compare and contrast aquatic and terrestrial turtles, birds, and insects. *Capacity: 40 students; length of program: 120 minutes; fee: \$3 per student*

Our Forest Neighbors (SNR)

Grades 1–3; April

Who lives in Missouri's forests? Explore the forest ecosystem and learn about the native residents. Students will learn about the unique adaptations of forest animals and how they survive in this special habitat. *Capacity: 40 students; length of program: 120 minutes; fee: \$3 per student*

Animal Adaptations (SNR)

Grades 1–3; November, March

How does camouflaging with their environment help some animals? Why do birds have different types of beaks? Why do animals have different eye placements? Students will discover how different adaptations help animals to survive. *Capacity: 40 students; length of program: 120 minutes; fee: \$3 per student*

Nature Walkabout (SNR)

Grades 1–3; September–November and March–May

Join us as we explore and discover what the season at Shaw Nature Reserve has to offer. We might discover what lives under a log, frost flowers, tadpoles in a pond, or find some interesting tracks out in the prairie. Different seasons bring about so many different possibilities. *Capacity: 40 students; length of program: 60 minutes; fee: \$3 per student*

Wows of Wetlands (SNR)

Grades 1–3; May

May is American Wetlands Month and a perfect time to explore the wetlands at Shaw Nature Reserve! Did you know wetlands are an important resting spot for migratory birds? What animals use the wetlands as a nursery? You never know what you might see during a walk in the along the wetlands! *Capacity: 40 students; length of Program: 120 minutes; fee: \$3 per student*

The Sticky Science of Maple Syrup (SNR)

Grades 3–8; January and early February

Celebrate the coming of spring! Learn about maple syrup by exploring the 2 processes that make it all possible: photosynthesis and the water cycle. Students will investigate the annual cycle of sap movement and the importance of sap to trees. Winter Tree ID is included in this class. Students will help with sap collection and observe the evaporation process. *Capacity: 40 students; Length of program: 120 minutes; fee: \$3 per student*



Programs at the Dana Brown Overnight Education Center

Are you looking for an immersive and transformative experience in nature for your students? Come spend a day or more at Shaw Nature Reserve's environmental learning campus, the DBOC. Programs provide schools with unique opportunities to extend classroom learning while fostering awe, wonder, and curiosity for the natural world.

The DBOC campus consists of six historic log buildings dating back to the 1800s. Originally located within 100 miles of Shaw Nature Reserve, in 2003 these historic structures were carefully dismantled, transported, and reconstructed to create the DBOC campus. With modern updates, the buildings were transformed into comfortable and unique learning and living spaces for visiting groups.

The DBOC is able to accommodate students grades 4–12 for day programs and overnight experiences.

Dana Brown Overnight Center Overnight Sample Schedule

Day 1

9–10 a.m.	Arrive; DBOC staff-led orientation, cabin tour, and fire drill; unpack
10 a.m.–noon	Morning Class*
noon–1 p.m.	Lunch
1–3 p.m.	Afternoon Class*
3–5 p.m.	Free Time or Teacher Time
5–6 p.m.	Dinner
6–9 p.m.	Free Time or Teacher Time
9 p.m.	Get ready for bed and lights out

Day 2

7–8 a.m.	Wake up and shower; pack luggage; clean cabins/shower house
8–9 a.m.	Breakfast
9–11 a.m.	Morning Class*
11 a.m.–noon	Free Time or Teacher Time
noon–1 p.m.	Lunch; clean meeting building
1–2 p.m.	Reflection Activity*
2 p.m.	Depart

**Your DBOC school programs coordinator will work with you to determine the schedule and classes that best fit your group's unique needs.*



Facilities

Groups attending Dana Brown Overnight Center programs have full use of a meeting building, complete with a kitchen, restrooms, and ample seating.

- Overnight guests are housed in four historic lodges on the Dana Brown Overnight Center campus. Each lodge accommodates between 14–19 students for a maximum of 64 students and adult chaperones.
- Lodges are climate-controlled with restrooms and separate adult sleeping quarters.
- Building photos and descriptions may be found on our website at shawnature.org/danabrown.

Registration

Groups may schedule their visit up to one year in advance. Availability is limited and programs are scheduled on a first-come, first-served basis. To register and/or for more information, contact Jessie Dockins, the Dana Brown Overnight Center school programs coordinator, at (314) 577-9539 or jdockins@mobot.org.

- Overnight trips may be scheduled Tuesday–Wednesday or Thursday–Friday.
- Day-use only classes may be scheduled Tuesday–Friday.



Pricing

- Class fees are \$5/student with a \$50 minimum.
- Lodging fees for overnight groups are \$20/student for a 1-night stay with a \$200 minimum. For longer stays, please contact your Dana Brown Overnight Center school programs coordinator for pricing information.
- Overnight and class fees are waived for one lead teacher as well as for 1 adult chaperone per 10 students. Additional adults are charged the same overnight rate as students or Shaw Nature Reserve's daily admission fee (if day use only).
- Full scholarships (including transportation) are available for Title-1 and Title-1 qualifying schools.

Class Information

- Classes are available on a day-use basis or as part of an overnight experience for grades 4–12.
- All Dana Brown Overnight Center classes are hands-on, inquiry-based, and focus on students' direct engagement with nature.
- Classes are grade-level appropriate and support many Missouri State Standards and Next Generation Science Standards
- Depending on grade level, group size, weather, and other factors, specific activities may vary for each class offering.
- The Dana Brown Overnight Center requires a 10:1 student/chaperone ratio for all classes.

Ecology Classes

Ecosystem Explorations

These exploration-centered classes focus on investigating Missouri's ecosystems while building inquiry and other 21st-century skills. As students explore the forest, wetland, and/or prairie, they will identify plants and animals, investigate habitats and adaptations, consider the importance and interdependence of biotic and abiotic factors, and learn about what makes these ecosystems unique.



Teachers may choose to focus on one ecosystem or investigate all three ecosystems in our Ecosystem Sampler.

Forest Ecosystem Exploration

Grades 4–12; Year-round
Capacity: 40 students
Length of Program: 120 minutes
Fee: \$5 per student

Wetland Ecosystem Exploration

Grades 4–12; Year-round
Capacity: 40 students
Length of Program: 120 minutes
Fee: \$5 per student

Prairie Ecosystem Exploration

Grades 4–12; July–December
Capacity: 40 students
Length of Program: 120 minutes
Fee: \$5 per student

Ecosystem Sampler (Forest, Wetland, and Prairie Ecosystem Exploration)

Grades 4–12; Year-round
Capacity: 40 students
Length of Program: 120 minutes
Fee: \$5 per student

Focused Investigations

Aquatic Ecology (SNR-DBOC)

Grades 4–12; March–November

Students will explore an aquatic ecosystem and investigate the unique communities living beneath the water's surface. Like scientists, students will practice observing, asking questions, researching the organisms they discover, and sharing their findings with peers. This class includes a 30–60 minute walk to a pond, lake, stream, or river. Your Dana Brown Overnight Center school programs coordinator will work with you to determine which aquatic ecosystem is the best fit for your group. *Capacity: 40 students; Length of program: 180 minutes; Fee: \$5 per student*

Bird Ecology (SNR-DBOC)

Grades: 4–12; Year-round

From ID to behavior, students will explore birds from many perspectives in this popular class. Along a ½ mile bird walk, students will search for birds and the signs they leave behind while learning the basics of bird watching. Students will then dive into bird behavior, investigating the main types of bird calls and how to interpret them. Finally, students will apply their bird language skills by recording, analyzing, and interpreting the behavior of birds around the Dana Brown Overnight Center. *Capacity: 40 students; Length of program: 120 minutes; Fee: \$5 per student*



Invertebrate Ecology (SNR-DBOC)

Grades: 4–12; March–November

Using scientific tools and methods, students will search for insects and other invertebrates in both forest and/or prairie ecosystems. Like scientists, students will practice observing, asking questions, and researching the organisms they discover. This class concludes with a “critter convention,” in which students share their discoveries, observations, and research with their peers. *Capacity: 40 students; Length of program: 120 minutes; Fee: \$5 per student*

Nature Art Classes

Art in Nature (SNR-DBOC)

Grades 4–12; Year-round

Inspired by Andy Goldsworthy, a renowned nature artist, this class encourages students to create art from the natural world. After viewing and discussing examples of nature art, students will use natural objects to create ephemeral art that represents their relationship with the natural world. Class concludes with a “gallery walk” of students’ artistic creations! *Capacity: 40 students; Length of program: 90 minutes; Fee: \$5 per student*

Navigation Classes

Introduction to Compass (SNR-DBOC)

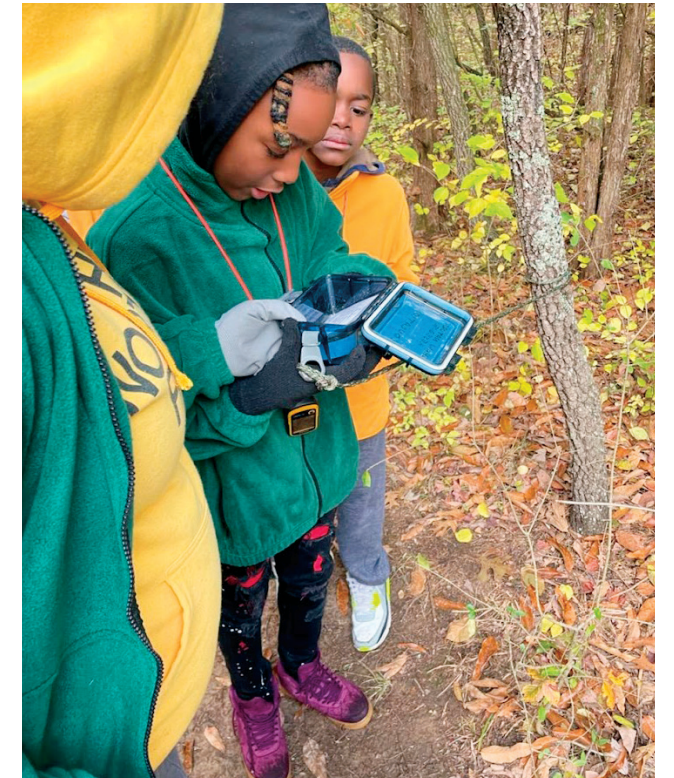
Grades 4–12; Year-round

In this popular class, students will learn about cardinal directions, how to orient using landmarks, and how to use a compass to navigate. After an indoor introduction, students will head outside to navigate Shaw Nature Reserve’s compass course while completing group challenges! *Capacity: 25 students; Length of program: 90 minutes; Fee: \$5 per student*

Global Positioning System (GPS)(SNR-DBOC)

Grades 4–12; Year-round

Challenge your students to a GPS scavenger hunt! After learning how to use GPS, students will put their skills to the test, navigating Shaw Nature Reserve while hunting for hidden GPS boxes. Working together, student groups will use clues found in the boxes to solve nature mysteries. A 5:1 student to chaperone ratio is recommended for this class. *Capacity: 40 students; Length of program: 120 minutes; Fee: \$5 per student*



Self-Guided Option

Dana Brown Overnight Center Outdoor Classroom

Grades 4–12; Year-round

School groups registered to attend the Dana Brown Overnight Center Outdoor Classroom receive one day (9 a.m.–3 p.m.) of exclusive access to the outdoor space, with picnic tables, individual seating, rain shelters, secure storage, a private restroom facility, and parking. Forests, prairies, wetlands, glades, and other native Missouri ecosystems are all within easy walking distance. *Capacity: 30 students; Fee: \$2 per participant with a \$50 minimum (fee is waived for lead teacher and 1 adult chaperone per 10 students; \$5/adult for additional adults).*



VIRTUAL CONTENT

To make our programming more accessible and inclusive in a dynamic and changing environment, the Missouri Botanical Garden is modifying existing programming to a virtual format. By providing options for programming, we hope that we will be able to meet a variety of community needs.

Pricing for Missouri Botanical Garden virtual content:

- \$100 for live virtual instruction
- \$75 for pre-recorded program with live follow-up access to instructor
- \$50 for pre-recorded virtual programming with no instructor.



School Programs

The following education programs are available by request. Please call (314) 577-5185 or email SPEducators@mobot.org for an electronic version of the following programs and/or to request a live instructor to accompany the programs.

Seasonal Snapshot (Pre-K-1): Students are introduced to a story of the changes plants go through during the changing seasons. Educators will receive PowerPoint slides designed to allow student/educator manipulation of the seasonal changes of a schoolyard landscape. *30 minutes*

Heaps of Seeds (K-2): Students are introduced to seed dispersal by looking at seed adaptations found at the Missouri Botanical Garden. Educators will receive materials for students to follow along with the lesson in their classroom and on their school grounds. *30 minutes*

Botanical Engineering (3-5): Students are introduced to how the Missouri Botanical Garden creates environments that mimic the natural environments of the plants being grown on the grounds. Instructors will discuss plant adaptations found in the rainforest, desert, Asia, and temperate areas. *30 minutes*

EarthWays Center

EarthWays Center classes help learners discover sustainable solutions to address complex sustainability issues in our region. Current topics include energy efficiency, solar power, sustainability 101, recycling, waste, and other requests. Class offerings can be modified to fit your needs and taught in your classroom or virtually.

Garbology 101: Use a 3D tabletop model to explore the engineering and design of modern landfills in order to better understand where our garbage goes when we throw things away and the importance of 3Rs practices.

Living the 3Rs: The 3Rs are a great way to conceptualize actions that help the environment. In this lesson, students will discuss what can and cannot be recycled, as well as ways to reduce and reuse these items.

Decomposer Detectives: Students investigate and observe a working vermicompost (worm) bin to explore how composting can be a sustainable solution for food waste.

EnviroScape® Presentation: Learn how everyone plays a role in keeping water clean. See how pollution enters our streams and rivers and what you can do in your own neighborhood to help using the popular EnviroScape® Watershed model.

Sophia M. Sachs Butterfly House

The following programs can be modified to be taught virtually. We are happy to consider requests for other topics and create virtual programming for them if possible. *The cost for a live virtual program is \$100.*

Story of a Butterfly (Pre-K-K): Students will witness the life cycle of a butterfly using our innovative caterpillar puppet, and learn about its important body parts by watching a butterfly puzzle be assembled.

Wings of Wonder (K-2): Students learn the metamorphosis, anatomy, and behaviors of a butterfly, while engaging in an interactive video presentation with the instructor.

Bug Lab (3-5): Learn the exciting and valuable jobs insects have while seeing fascinating living animals. This program features our largest variety of living animals, which can be shown up close and personal on video.

Bugs Alive: Ecosystem Challenge (3-5): Through a series of live animal encounters, students will explore an animal's place in an ecosystem by examining the adaptations, senses, and genetic variation of each. Students will be exposed to a variety of ecosystems and the challenges organisms face for survival in each. At the end of the lesson, students will be challenged to design an insect that has adaptations necessary for survival in an assigned ecosystem.



OUTREACH PROGRAMS

delivered by the EarthWays Center (EWC)

Bring sustainability topics to life where they stand to impact you and your students most: in your own classroom! From recycling to energy conservation, waste management, and a host of other topics, the EarthWays Center's education team will engage your students in learning sustainable solutions to protect plants and our environment. Outreach classes are sure to help your students better understand how they make a positive difference in their school, home, and community!

Registration Information

- Program fees vary by offering. See descriptions below for more information.
- All programs are available year-round.
- Registration for programs is ongoing, but programs are booked on a first-come, first-served basis.
- Call (314) 577-0281 or e-mail earthways.edu@mobot.org to book your program.
- Activities are hands-on and can be customized by topic and grade level.
- Classes are 45–60 minutes.
- 30 student maximum per class.

Waste, Recycling, and Composting

The Waste, Recycling, and Composting programs are funded with support from the St. Louis–Jefferson Solid Waste Management District and the Missouri Department of Natural Resources and are FREE for schools within the St. Louis City, St. Louis County, St. Charles County, and Jefferson County area. Fees apply for schools outside this region.

Classroom Presentations

Grades K–12; Year-round

Topics include recycling, reducing waste, composting, household hazardous waste, making recycled paper, and many others.

Our Most Popular Programs

Garbology 101: Students use a 3D tabletop model to explore the engineering and design of modern landfills in order to better understand where our garbage goes when we throw things away and the importance of 3Rs practices.

Living the 3Rs: The 3Rs are a great way to conceptualize actions that help the environment. In this lesson, students will discuss what can and cannot be recycled, as well as ways to reduce and reuse these items.

Decomposer Detectives: Students investigate and observe a working vermicompost (worm) bin to explore how composting can be a sustainable solution for food waste.

Making Recycled Paper: Students work through the process of making paper from scrap paper. This exercise helps students better understand the recycling process of turning waste into new products for the market.

Leadership in Environmental Action Projects

August–May

Leadership in Environmental Action Projects (LEAP) is a K–12 program that reduces, reuses, and recycles trash from schools and communities and informs people about local solid waste and resource issues.



EarthWays Center will select six Student Action Projects each school year.

- Includes informative, engaging, and hands-on presentations related to waste reduction and recycling topics.
- Ongoing support and mentorship to meet project goals.
- Support for optional schoolwide waste audit.
- Access to resources such as field trip experiences to Missouri Botanical Garden, recycling centers, and local landfills as scheduled.

For more information regarding participation in the LEAP Student Action Projects, contact the Sustainability Education team at earthways.edu@mobot.org.

Water Quality and Stormwater Pollution

MSD Clean Water: A Stormwater Education Program

Grades K–12; Year-round

The Metropolitan St. Louis Sewer District Project Clear (MSDPC) Clean Water Education program provides educators throughout the MSD service area with free educational resources to help bring stormwater education to life in the classroom through hands-on demonstrations, action projects, and more.

- **EnviroScape®:** Reserve an EnviroScape® Watershed model that can be brought directly to your school. This model is a visual, hands-on tool that demonstrates how water pollution results from everyday activities. EarthWays Center staff can provide training to teachers on use of the model.
- **Storm Drain Marking:** Participate in a storm drain marking project. These markers help show the community that storm drains can carry pollution to area rivers and streams.
- **Water Quality Testing:** Add a water testing kit to your reservation of an EnviroScape® model to extend learning.

For more information on the Metropolitan St. Louis Sewer District Project Clear (MSDPC) Clean Water Education program, contact MSDCleanwater@mobot.org or call (314) 577-0281.

Other Sustainability Topics

Personalized Sustainable Classroom Presentation

Grades K–12; Year-round

EarthWays Center offers personalized presentations on a variety of topics including (but not limited to) energy efficiency, renewable energy, waste reduction, recycling, composting, air quality, and household hazardous waste. Sample lessons could include:

- *Climate Change*
- *Careers in Sustainability*
- *Design a Blade for a Windmill*
- *Solar Energy*
- *School Energy Audit*
- *Energy Sources and Forms*
- *Sustainability 101*

Each class accommodates up to 30 students; multiple classes can be booked to accommodate larger groups for additional fees. Pricing varies depending on the length of program and topic.

For more information, contact the Sustainability Education team at earthways.edu@mobot.org or call (314) 577-0281.

Green Schools Quest

Engage your students in advancing sustainability efforts Engage your students in sustainability efforts by participating in the Green Schools Quest, a project-based challenge! The Green Schools Quest challenges Pre-K–12 schools to implement a no- or low-cost sustainability project over the course of six months. Participating schools allow students to form a “green team” led by a staff member and supported by a Green Mentor from the community who helps with project ideas and resources. Teams engage in their chosen sustainability project from October through mid-March, documenting their work along the way, and submitting their project for judging by an impartial panel. Cash awards and trophies are presented in Elementary, Middle, and High School divisions along with specialty Spotlight Awards across the age divisions. Registration is open through September 15 for schools and August 31 for mentors for the upcoming school year.

For more information regarding participation in the Green Schools Quest program, visit showmegreenschools.org or contact the Green Schools Coordinator, Deborah Rogers Curtis, at drogers@mobot.org or (314) 577-0225.

Butterfly House outreach programs are available year-round to school groups, libraries, and summer camp programs. Standard programs run 45 minutes each and can accommodate up to 30 students. Flexible timing is available with advance notice. Please contact us for details. Up to three programs may be scheduled during a single visit. Please plan to provide a 10-minute break between program sessions. A dedicated program space is preferred. Outreach program fees run \$150 for the first session and \$50 for additional sessions of the same program held on the same day at the same site. (Please note that an additional mileage fee may apply for schools located more than 20 miles from the Butterfly House.)

Registration Information

- Registration is ongoing, but programs are booked on a first-come, first-served basis. Early registration is encouraged to ensure your desired date and time are available.
- Outreach sessions must be booked at least two weeks in advance of your intended program date. Dates and times are subject to availability, so registering early is strongly advised.

To book your outreach program online visit butterflyhouse.org/outreach, email butterflyhouseeducation@mobot.org, or by calling (314) 577-0888 ext.2 to book your program.

Story of a Butterfly (BH)

Grades Pre-K-K; Year-round

Young children will learn about metamorphosis and the butterfly life cycle, the parts of a butterfly's body, and how its survival needs are similar to and different from those of plants and other animals. *Capacity: 30 students; length of program: 45 minutes*

Wings of Wonder (BH)

Grades K-2; Year-round

Students experience the life cycle of a butterfly with hands-on observations using real samples of butterfly eggs, caterpillars, pupae, and wings. We also explore



insect body parts using living insects in viewing containers. *Capacity: 30 students; length of program: 45 minutes*

Adventures in a Butterfly Garden (BH)

Grades K-2; Year-round

Discover pollination as we explore and compare the life cycles of butterflies, honeybees, and plants. Students will learn that fruits and seeds can only come from plants that have been pollinated, and we will discuss different ways that insects, birds, and other animals spread pollen and disperse seeds. *Capacity: 30 students; length of program: 45 minutes*

Bug Lab (BH)

Grades 3-5; Year-round

Learn the exciting and valuable jobs insects have while interacting with living animals. This program uses both mounted and living insects to give your students insights into the roles insects play in our world. This program features our largest variety of living animals, and each animal reveals the stories of how insects find food, escape danger, benefit other living things, and more! *Capacity: 30 students; length of program: 45 minutes*

Bugs Alive: Ecosystem Challenge (BH)

Grades 3-5; Year-round

Through a series of live animal encounters, students will explore an animal's place in an ecosystem by examining the adaptations, senses, and genetic variation of each. Students will be exposed to a variety of ecosystems and the challenges organisms face for survival in each. At the end of the lesson, students will be challenged to design an insect that has adaptations necessary for survival in an assigned ecosystem. *Capacity: 30 students; length of program: 45 minutes*

The Missouri Botanical Garden offers outreach programming to take the Garden out into the community. While visiting at your site, students will have an opportunity to immerse themselves in botanical and ecological experiences through the nature in your neighborhood. Our educational programs provide your students with an opportunity to explore plants, local biodiversity, global ecology, and sustainability within the familiar surroundings of your classroom and school.

Registration Information

- Missouri Botanical Garden outreach programs are available year-round for educators. Each of our program sessions lasts between 45 minutes and 1 hour and facilitates up to 25 students. Educators may request multiple sessions of the same program during a single visit, up to three sessions in one day.
- Outreach program fees run \$150 for the first session and \$50 for additional sessions of the same program held on the same day at the same site.
- All registrations are accepted on a first come, first-served basis. Outreach sessions must be booked four weeks in advance of your intended program date. Please email schoolprograms@mobot.org for more information or to request a program.

Seasonal Schoolyard Explorations

Grades Pre-K; Year-round

Young children will learn about metamorphosis and the Discover the Nature in your Neighborhood! This series of seasonally-appropriate outreach programs will get your students outdoors and exploring your schoolyard in a whole new way.

During fall, we'll explore leaves and how they provide food not just for plants, but for animals and insects as well. In the winter, we'll make a simple bird feeder and look at the ways plants and animals in our area respond to cold weather. In spring, we'll look at the life that thrives in the dirt under our feet. In Summer, we will follow the journey of a monarch butterfly and look at ways that plants and insects interact. Schedule one outreach, or even all four, for a year-long outdoor adventure! *Capacity: 25 students per session; length of program 45 minutes*

A Garden Sensory Adventure

Grades Pre-K-K; Year-round

Explore the five senses with the Missouri Botanical Garden! Using literature and sensory 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 to take home and share with their families. *Capacity: 25 students per session; length of program 45 minutes*

Honeybees Abuzz

Grades Pre-K-K; Year-round

Explore the important, natural process of pollination. Have you stopped and watched honeybees in action? Has it made you wonder about what the bees were doing and why? Honeybees help plants and people in many ways.

We will read a story about the hard-working honeybee, learn the bee waggle dance, see how pollination happens and, if allowed, share a snack made with honey. *Capacity: 25 students per session; length of program 45 minutes*

Plant Part Palooza

Grade K-2; Year-round

Did you know that humans eat roots? And stems? And flowers? Learn about different parts of plants and their important functions that help a plant survive. And also, how we, as humans, rely on different parts of plants as a food source. Enjoy tasting some healthy plant parts after studying them like scientists. And enjoy planting radish seeds to take home and share with families. *Capacity: 25 students per session; length of program 45 minutes*

Flower Physiology

Grade 6-12; Year-round

Explore the diverse and fascinating world of plant life cycles with this one-hour outreach presentation. Students will dissect a flower and observe flowers of various types to explore the relationship between flowers and their pollinators. *Capacity: 25 students per session; length of program 60 minutes*

FAMILY AND COMMUNITY ENGAGEMENT

School Community Engagement Events

The Center for Nature-Inspired Learning teams are happy to help with school-based events that engage your student families and school communities! Whether your plans call for speakers, tabled demonstrations, make-and-take activities, or formal presentations, we will work with you to create an engaging experience around plants, local ecology, and sustainability! Consider inviting us to be a part of your next STEM fair, Math and Science Night, Career Day, or school assembly!

Visit mobot.org/schoolprograms to learn more and submit your request! Requests are honored on a first-come, first-served basis, and are subject to staff and resource availability.

Dig-In Events at Your School (MBG)

You value your school's grounds—help your students' families and local community do the same by hosting a "Dig-In" event at your school during spring and fall.

Dig-Ins are designed to bring together a school community around maintaining and improving the school's grounds, through basic maintenance, planting, or even construction of enhancements for teacher and student use. In addition, these events can be a great opportunity to provide training for community members who might be interested in learning tips and tricks for maintaining their own green spaces.

The Missouri Botanical Garden is happy to partner with you to organize your Dig-In event! Our education staff can provide training, equipment, and gloves, as well as guidelines for event planning and suggested materials sources. Call (314) 577-5185 for more information.

Project Pollinator (BH)

The Project Pollinator program exists to educate communities about the importance of pollinators and to help create pollinator gardens in our neighborhoods. Interested schools can apply for the chance to win a kit of native pollinator plants to use in their schoolyards. Kit applications are available starting January 1st each year, and applications are due by March 31st.

Contact the Butterfly House at (314) 577-0888 ext. 2 or visit the Project Pollinator website at butterflyhouse.org/projectpollinator for more information. Together, we can work to restore habitats and improve the health of native pollinators.



PROGRAMS FOR TEENS

Missouri Botanical Garden Teen Network



The Garden's Teen Programs engage teens in a network of opportunities through foundational programming based in several core areas: environmental education, field research, service learning, gardening, and connecting with nature. We engage and equip teens with the knowledge, understanding, skills, and passion to make environmentally informed, sustainable decisions. For more information on these programs, visit mobot.org/teenprograms.

Field Science Opportunities

Shaw Nature Reserve Ecology Club for Upper Elementary and Middle School

Habitat Helpers

Beginning in grades 4–5, the Shaw Nature Reserve Ecology Club teams experience a series of outdoor-focused programs to engage student curiosity, grow connections to nature, and develop leadership skills and self-confidence. They begin learning about Missouri's diverse habitats as Habitat Helpers. They can then graduate to the H2Os program (grades 6–8), in which they will learn about conservation efforts. Registration begins June and the program begins in September of each year. Contact the Shaw Nature Reserve team at (314) 577-9523 for more information.

Outdoor Youth Corps

Outdoor Youth Corps is a paid education and workforce development program of the Missouri Botanical Garden.

Youth ages 16–20 work alongside Missouri Botanical Garden staff, industry professionals, and fellow citizens to care for gardens and natural habitats, lead community clean-ups and action projects, and gain new knowledge and skills necessary for future green careers in horticulture, sustainability, conservation, and community engagement.

Outdoor Youth Corps has four annual program components: Summer Crew, Weekend Work Series (spring and fall), and Alternative Spring Break. Contact the Outdoor Youth Corps program team at (314) 242-9991 to learn more about the program.



The Teen Network also includes student participants in our Eco-Act program. Please see page 36 for more information!

Teen Service Opportunities

MISSOURI BOTANICAL GARDEN

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, Brookings Exploration Center, and Tower Grove House during the summer. Students earn service hours while developing public speaking and teaching skills and help families learn about topics like habitats, pollination, or plants we eat. Contact the Missouri Botanical Garden at (314) 577-0869 for more information.

SOPHIA M. SACHS BUTTERFLY HOUSE

The MANTIS (Making Advocates of Nature Loving Teens in Service) program was created to invite students ages 14–18 to gain knowledge about plants and animals through environmental stewardship, and to develop leadership skills while assisting with visitor engagement at the Butterfly House. MANTIS volunteers teach visitors about plants, butterflies, and other invertebrates, as well as the ecosystems they live in. Contact the Butterfly House at (314) 577-0888 for more information.

SHAW NATURE RESERVE

SIFT (Shaw Institute for Field Training) is an introductory ecological field-skills training program for high school students who apply during the spring of their freshman, sophomore year. SIFT focuses on ecological knowledge gain, field skills training, and collaboration to prepare students to work on real-world work projects throughout the summer and school year. Students earn a stipend for their work. Contact Shaw Nature Reserve at (314) 577-9517 for more information.



PROGRAMS FOR SCHOOLS AND TEACHERS

Teacher Professional Development Workshops

As fellow educators, the Garden’s team of environmental instructors, naturalists, early childhood specialists, teen program coordinators, and other professionals consider our relationships with local teachers among the most important, powerful, and gratifying elements of our work. Throughout our efforts, we strive to complement, support,

and celebrate the work of classroom teachers in ways that enable life-shaping learning experiences while deepening connections with plants and the natural world. In this spirit, we consider our ever-evolving work with teachers, schools, and entire districts among our most important partnerships, and invite all educators to do the same.

Educator Memberships

Join the Garden and help realize the mission to discover and share knowledge about plants and their environment in order to preserve and enrich life.

Members receive great benefits including:

- Free admission to all of our public sites.
- Retail discounts.
- Access to special members-only events and much more!

Educators who become Missouri Botanical Garden members also receive:

- Discounted rates on professional development workshops and public programs classes
- Priority booking for field trips and special school group events

Visit mobot.org/membership to learn more.



Summer Workshops and Summits

Each summer, we offer a series of workshops and summits that reflect input from teachers, previous programs, and timely events. As such, our offerings refresh each summer. To check out the newest “crop” of summer programming for educators, visit us online at mobot.org/schoolprograms.

Internships and Practicums

The Missouri Botanical Garden’s sites offer a variety of professional experience opportunities that provide on-the-job learning, networking prospects, and mentorship across a variety of fields. Students will have opportunities to be mentored by leaders in their field, to experience strategies and best practices firsthand, and to make professional connections. Opportunities include the following positions.

Missouri Botanical Garden

- School Programs
 - MBG Youth Fellowship
- School Programs
 - Eco-Act Environmental Leadership Program
- Horticulture
- Communications -
 - Graphic Design and Photography
- Sustainability Education -
 - EarthWays Center-Outdoor Youth Corps Summer Crew

Sophia M. Sachs Butterfly House

- Education
- Entomology
- Horticulture

Shaw Nature Reserve

- Education

Litzinger Road Ecology Center

- Place-Based Education

Interns receive free admission to the Garden, as well as discounts at our retail shops and restaurant during the internship period. While most internship opportunities are unpaid, paid opportunities are sometimes available as well.

Visit mobot.org/jobs to see a complete list of current internship opportunities and to apply online.

SUSTAINABILITY PROFESSIONAL DEVELOPMENT PROGRAMS

from the EarthWays Center

EarthWays Center offers professional development opportunities for educators in all roles and environments. Workshops often involve field trips, hands-on lessons and activities, and meaningful discussions. Educators walk away with a deeper understanding of sustainability and practical ways to integrate topics into their curriculum. Visit mobot.org/sustainability for more information and registration.

Thinking Beyond the 3Rs

Summer 2025 | Recommended for teachers of all grade levels

The “Thinking Beyond the 3R’s” workshop was developed to assist educators in curriculum support, implementing special projects, and creating behavioral changes that promote wise resource use in schools throughout the greater St. Louis region. This free workshop will provide you with the resources, tools, and knowledge you need to bring solid-waste related topics like recycling, composting, and household hazardous waste, into your classroom and empower students to make change in their community. Contact the Sustainability Education team at earthways.edu@mobot.org or call (314) 577-0281 for more information.

MSD Project Clear Clean Water Educator Workshops

Recommended for teachers of all grade levels

Get started in building your knowledge and understanding of stormwater issues in our area at an MSD Project Clear (MSDPC) Clean Water Educator workshop. These free workshops are designed to help facilitate teachers’ desire to learn more about stormwater management and water quality while discovering new ways to bring this topic back to their classroom. Recommended for formal and informal educators of all grade levels.

During the workshop we will:

- Discuss issues related to stormwater management and water quality such as non-point versus point source pollution, pollution impact, and best management practices for our community



- Review curriculum ideas that tie to state standards while still providing meaningful, engaging, and hands-on learning opportunities you can do with your students!
- Train you on how to use the popular EnviroScape® watershed model; models are available for loan FREE from the MSDPC Clean Water Education program. Work with staff to learn how to present and use this model in your classroom.

Workshops are hosted two times per year. For more information on the MSDPC Clean Water Educator Workshops, contact MSDCleanwater@mobot.org or call (314) 577-0281.

Energy Efficiency Educator Workshops

Summer 2025 | Recommended for teachers of all grade levels

EarthWays Center hosts energy efficiency teacher workshops across Missouri to help educators explore the science behind energy and sustainability through hands-on, interactive activities and classroom lessons.

All workshops include:

- Background information about energy topics including forms and sources
- Discussion of energy efficiency and conservation

- Connections between energy, electricity, and natural gas
- Renewable energy sources and solutions

Contact the Sustainability Education team at earthways.edu@mobot.org or call (314) 577-0281 for more information.

Missouri Green Schools

Recommended for teachers of all grade levels

Missouri Green Schools is a statewide recognition program which focuses on supporting schools in taking a systems-based approach to identify and advance practices throughout their campuses, educational programming, and school culture that reduce environmental impact, improve health and wellness, and provide place-based education. Additional support is provided for schools that have 60% or more of their students qualifying for free or reduced-priced lunch, including one-on-one support to set goals and track progress and small grant opportunities. In the state of Missouri, Missouri Green Schools serves as the conduit for the U.S Department of Education Green Ribbon Schools award. Missouri Green Schools is a joint program of the Missouri Gateway Green Building Council and Missouri Environmental Education Association.

For more information regarding participation in the Missouri Green Schools, visit showmegreenschools.org or contact Missouri Gateway Green Building Council's Green Schools Manager at drogers@mobot.org or (314) 577-0225.

Sustainability Institute for Educators

Recommended for teachers of all grade levels

The 2025 Sustainability Institute for Educators will focus on connections to water in education, daily life, and our communities.

The Sustainability Institute for Educators challenges participants to help learners build awareness, recognize responsibility, and take action as global citizens working to build a sustainable world. Held annually in June, the institute is designed for K-12 and informal educators from all roles and environments.

Learning Outcomes:

The 2025 Sustainability Institute for Educators will focus on connections to water in education, daily life, and our communities. Recommended for teachers of all grade levels.

- Understand the interconnectedness of sustainability issues and the intersection with education
- Recognize local resources that can support curriculum and changes for sustainability
- Collaborate with others to empower sustainably-minded citizens
- Create a community of advocates for sustainable schools, institutions, and communities
- Setting a foundation for adaption and resilience in sustainability education

The annual institute will take place June 16-18, 2025. The Sustainability Institute for Educators is produced in partnership by Missouri Botanical Garden, Missouri Gateway Green Building Council, Saint Louis Zoo, and Webster University. Graduate credit and scholarships available.

Personalized Sustainability Professional Development

Recommended for teachers of all grade levels

EarthWays Center can work with teaching teams, schools, or school districts to build connections to sustainability in curriculum, campus operations, and school culture. Learning opportunities help educators and school administrators build knowledge and understanding of sustainability and education for sustainability concepts through hands-on activities, discussion, and group reflection exercises. Workshops featured on pages 34 and 35 can also be brought to your group as a custom experience to help educators learn more about specific sustainability topics including waste, recycling, composting, stormwater pollution, energy efficiency, and sustainability 101.

Pricing varies depending on the size of the group and length of professional development experience. For more information regarding participation in a Personalized Sustainability Professional Development experience please contact the Sustainability Education team at earthways.edu@mobot.org or call (314) 577-0207.

PROGRAMS FOR SCHOOLS AND TEACHERS

School Partnership Opportunities

The Saigh Foundation Environmental Leadership Program (Eco-Act)

Overview

Eco-Act is an environmental leadership program for juniors and seniors in high school, operated by the Missouri Botanical Garden in partnership with St. Louis area schools and districts that has been around since 1981. Students enroll for a full year and receive course credit from their schools. During the program participants:

- Teach 3rd or 4th grade classes ecology lessons through hands-on activities during the school year.
- Research and present on local environmental issues.
- Attend outdoor adventure activities to increase ecology knowledge, to build communication and teamwork skills, and to gain confidence.

Program Components

- Participants complete summer training lead by Garden staff exploring environmental issues, the outdoors, and education.
- Participants have a class period scheduled into their school course load for Eco-Act for teaching and completing group projects.
- Participants attend a monthly after-school workshop at the Garden.
- Participants attend a weekend outing once a semester.

Get Involved

Discussions begin with new high schools for the 2025–2026 school year this fall.

For more information, contact the Eco-Act Teen Programs Coordinator at (314) 577-9466 or eco-act@mobot.org.



LITZSINGER ROAD ECOLOGY CENTER

PROGRAMS FOR SCHOOLS AND TEACHERS

Teacher Partnerships in Place-Based Education

Learn how to engage your students in the community and improve the environment as you achieve your curriculum goals. You'll also be joining a regional network of place-based educators committed to engaging students in the community.

Litzsinger Road Ecology Center currently offers different models for year-long collaboration. All partnerships begin with a summer workshop—Nature-Based Learning for Pre-K teachers or Effective Outdoor Learning for K-12 teachers. Sustainable Schoolyards, an advanced program is available for NBL and EOL graduates. *Programs through Litzsinger Road Ecology Center are offered at no cost, including bus transportation.*

All partnerships begin with Effective Outdoor Learning

This program for K–12 teachers consists of a summer workshop, school year expectations, class visits to Litzsinger Road Ecology Center, and a staff mentor. In this entry-level program, teachers are introduced to techniques for using the schoolyard and community as a rich learning environment.

Nature-Based Learning

This program for Pre-K teachers includes a summer workshop, school year expectations, visits to Litzsinger Road Ecology Center and a staff mentor. This entry level program gives teachers the tools to make the most of outdoor learning on their schoolyards.

Effective Outdoor and Nature-Based Learning graduates may participate in

Sustainable Schoolyards

In this advanced program, teachers develop plans to guide students as they create and maintain a schoolyard natural habitat while addressing learning standards across the curriculum. Participating teachers will receive native plants for their project through LREC Plant Grant.



Contact one of our School Partnership Coordinators

Contact Leslie Memula at leslie@lrec.net, Julie Radin at julie@lrec.net, or visit litzsinger.org for more information.



CONNECTING SCOUTS TO NATURE

Explore the world of insects, go for a hike, or get your hands dirty planting a seed!

Scouts enjoy a variety of hands-on, nature- and STEM-based programming at all three of our sites: Missouri Botanical Garden, Shaw Nature Reserve, and the Sophia M. Sachs Butterfly House.

- Programs are aligned with badge and award requirements
- Programs for Troops and Dens
- Scouting Award Workshops
- Merit Badge Skill Centers for Boy Scouts

Find the perfect fit for your group at mobot.org/scouts.

NOTES

TREAT YOURSELF!



Enjoy some well-deserved time away from your hectic life. Indulge in garden therapy or learn a new craft for gifting or home decorating. No matter what you pick, it will be a relaxing, fun experience you'll never forget!

Registration Begins August 1
mobot.org/classes



To *discover* and *share* knowledge about
plants and their environment in order to
preserve and *enrich* life.

—mission of the Missouri Botanical Garden

MISSOURI BOTANICAL GARDEN CENTER FOR NATURE-INSPIRED LEARNING

Education Division | 4344 Shaw Blvd., St. Louis, MO 63110 | mobot.org

The Garden's education programs, serving local students, teachers, and schools,
are made possible with the generous support of:

ZOOMUSEUMDISTRICT

Metropolitan Zoological Park and Museum District



MISSOURI
BOTANICAL
GARDEN



Sophia M. Sachs
BUTTERFLY
HOUSE



SHAW
NATURE
RESERVE

LITZSINGER
ROAD
ECOLOGY
CENTER