



MBG CENTER FOR NATURE-INSPIRED LEARNING

School Programs 2021–2022



MISSOURI
BOTANICAL
GARDEN



SOPHIA M. SACHS
BUTTERFLY
HOUSE



SHAW
NATURE
RESERVE

LITZINGER
ROAD
ECOLOGY
CENTER



Earth
Ways
Center
sustainable
solutions

mobot.org/schoolprograms



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 + share?





MBG CENTER FOR NATURE-INSPIRED LEARNING

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

School Programs 2021–2022

“To discover and share knowledge
about plants and their environment
in order to preserve and enrich life”

– mission of the Missouri Botanical Garden



mobot.org/schoolprograms

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 virtual content is as follows: \$100 for live instruction, \$75 for pre-recorded program with live follow up access to instructor, and \$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 (preK–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. Topics such as energy efficiency, solar power, sustainability 101, and other requests. Current class offerings that can be modified to fit your needs and taught in your classroom or virtually include:

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.

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.

Story of a Butterfly (PreK–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–3): Students learn the metamorphosis, anatomy, and behaviors of a butterfly, while engaging in an interactive video presentation with the instructor.

Insect Lab (K–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.

Shaw Nature Reserve

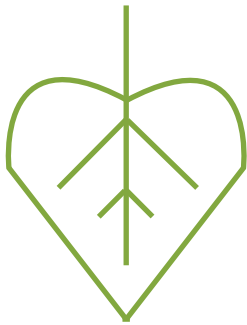
Virtual Ecosystem Explorations: These FREE 1-hour live interactive experiences focus on investigating Missouri's native ecosystems while building 21st-century skills. Students directly engage with nature as they observe, discuss and reflect on nature in and around their home, school, and virtually at Shaw Nature Reserve. Available virtual programs include wetland, forest, glade, and prairie ecosystem explorations. For more information or to register, email Jessie Dockins at jdockins@mobot.org or (314) 577-9539.

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100% of your class fees help us 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

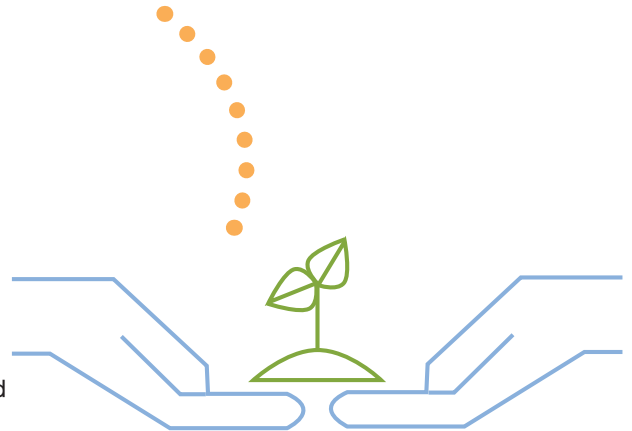


We love plants

In fact, we're obsessed with them. This obsession runs deep, spans the globe, and is unparalleled. In fact, 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 life on Earth, specifically plants, before it's too late.

We share this love with you and millions more every year

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



But this work on its own isn't enough

We—us, **YOU**, your students, your friends and family, your random neighbor down the street—need to make a big transition towards a better, more sustainable world for all. The status quo just isn't cutting it. To make this transition, masses and masses of people must start changing their choices, decisions, 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 to work with you, 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.



Every single one of us is—or can be—a citizen steward. Together, we can transform landscapes and lives.

Who We Are

Welcome to the school programs catalog—this is an incredible collection of opportunities for transformative experiences that will share our collective love for plants. Our goal is to connect students with nature-inspired learning. We are committed to working with you to make this happen! Even with the challenges of Covid-19, we are here to help you make a difference in your student's lives with environmental and plant based education that can lead to young people better prepared to change the world.

Collectively, our programs for students and teachers will plant seeds of wonder and curiosity, cultivate deep understanding and appreciation, and grow ecologically minded problem-solvers and stewards. And not for some far-distant future. The world needs such stewards now—all ages, all backgrounds, all abilities. There is no such thing as too many informed, enthusiastic, and active ambassadors for the living world.

On behalf of the entire Education crew at Missouri Botanical Garden and its St. Louis area sites, we look forward to another year of collaboration with you, your students, and the communities you serve. It is our hope that you see us as an extended team of fellow nature ambassadors working with you, ready to open the door to discovery and sharing of the natural world.

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Our Sites



Missouri Botanical Garden (MBG)

- St. Louis, Missouri
- Leader in horticultural display, botanical research and conservation efforts, education, sustainability, and public engagement for nearly 160 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

Programming provided by the Missouri Botanical Garden and EarthWays Center.



Sophia M. Sachs Butterfly House (BH)

- 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 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 (SNR)

- 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

Programs available through the Shaw Nature Reserve and Dana Brown Overnight Center.



Litzsinger Road Ecology Center (LREC)

- 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 34 acres of woodland, prairie, and creek ecosystems

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



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 at work. 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 PreK–12 experiences available for students, teachers, schools, and districts available at our St. Louis-area sites.



		PreK	Kindergarten	1st Grade	2nd Grade	3rd Grade
MISSOURI BOTANICAL GARDEN	Guided Experiences	A Seasonal Snapshot, 11				
			Tops and Bottoms, 11			
			Heaps of Seeds*, 11			
						Foodology, 11 Rainforest Rendezvous, 11 Botanical Engineering, 11
	PlantLab Investigations					
						Botany and Biodiversity, 12 Ecology and Engineering, 12 Plants and People, 12
	Garden Nature Knapsack	In the Garden, 13				
			Build a Plant, 13			
						How Does Your Garden Grow, 13
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	EarthWays Center Programs		Green is Here for Good, 14			
			Personalized Sustainability Experience (on-site), 14			
			Waste, Recycling, and Composting, 24			
			MSD Clean Water Stormwater Education, 25			
			Personalized Sustainability Outreach, 25			
SOPHIA M. SACHS BUTTERFLY HOUSE	Programs	Story of a Butterfly, 16				
			Adventures in a Butterfly Garden, 16			
			Wings of Wonder, 16			
						Bugs Alive, 16 Insect Lab, 16
	Guided Tours		Guided Tour, 15			
	Outreach	Story of a Butterfly, 26				
			Wings of Wonder, 26			
						Insect Lab, 26 Bugs Alive, 26
	Teen Network					

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

4th Grade	5th Grade	Middle School	High School
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Rainforest Rendezvous, 11			
Botanical Engineering, 11			
		By Request, 12	
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		Sustainability and Services, 12	
Botany and Biodiversity, 12			
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Guided Tour, 15			
Insect Lab, 26			
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			MANTIS, 28

Looking for help with your Family Engagement event or STEM Night? See page 27 for more information.



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 attraction 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!

			PreK	Kindergarten	1st Grade	2nd Grade	3rd Grade
SHAW NATURE RESERVE	Missouri Outdoor Experiences		Earthwalks, 18				
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				Our Forest Neighbors*, 19			
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				Nature Walkabout*, 19			
				Animal Adaptations*, 19			
	Teen Programs						
	DANA BROWN OVERNIGHT CENTER	Ecology Classes					
		Navigation Class					
		Nature Art Class					
		Night Class					

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

4th Grade	5th Grade	Middle School	High School
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		H ₂ O's, 28	
			SIFT, 28
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Forest Ecology, 22			
Wetland Ecology, 22			
Tallgrass Prairie Ecology*, 22			
Bird Ecology, 22			
Insect Ecology, 22			
Intro to Compass, 23			
Global Positioning System (GPS), 23			
Art in Nature, 23			
Frog Ecology, 23			
Night Hike, 23			

**Interested in an internship?
See page 30 for more information!**



There are so many ways to **volunteer** at the Garden, Butterfly House, Shaw Nature Reserve, and Litzsinger 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!

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, and is 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 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 PreK–8th. Non-ZMD students in grades 9 and above are admitted at \$10/student.*
- **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. *Fees: Standard (up to 30 students): \$180. Large (up to 60 students): \$360.*
- **PlantLab Investigations:** Dig deeper into plant science in the PlantLab Investigations designed for grades 3 and up. This program offer students an opportunity to explore more rigorous botany and STEM topics with our trained instructors. PlantLab sessions serve up to 30 students, last 45–60 minutes, and include a take-home planting for each student. *Fee: \$120*
- **Add-on Experiences:** Make your students' experience even more memorable by including one of the following in your visit (See pg. 13 for more information):
 - **Pot-a-Plant:** Sessions accommodate up to 30 students. *Fee: \$70.*
 - **Garden Nature Knapsack:** \$5/satchel (*This fee is waived for ZMD school groups.*) Each satchel is designed for use by up to 10 students. Multiple satchels can be requested per educator.
 - **The Doris I. Schnuck Children's Garden** is open April through October. Capacity is limited. *Fee: \$3/student, payable upon arrival.*

How to Register:

- Registration for Fall 2021 programs will open on July 1, 2021. Spring 2022 programs will be available beginning November 1, 2021. All registrations are accepted on a first-come, first-served basis.
- For fastest service, submit your registration request online at mobot.org/schoolprograms. You can also book by calling (314) 577-5185.
- 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. For every 5 students attending a self-guided visit, 1 adult is also admitted free of charge. Additional chaperones are admitted at standard admission rates; **teachers may pay for all additional chaperones in one transaction upon 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

Seasonal Snapshot (MBG)

Grades PreK–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: 120 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, 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 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: 120 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 in which seeds travel in a series of hands-on stations as they explore the Garden in search of seeds to collect to take back to your classroom. *Capacity: 60 students; length of program: 120 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 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: 120 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 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: 120 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'll first explore the adaptations that plants have devised that enable them to survive in some of our planet's most extreme environments. Then we'll 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: 120 minutes*



Programs for Students at the Missouri Botanical Garden *continued*

PlantLab 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: 120 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: 120 minutes*

Botany and Biodiversity (MBG)

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

Carl Linneaus 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: 50 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: 50 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 glimpse some of the ways in which plants can be used in the future to address environmental and economic concerns. *Capacity: 30 students; length of program: 50 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!

*Download related curriculum for PlantLab Investigation grades 3–5 and grades 6–8 for your classroom at no charge. Contact Matthew Magoc at mmagoc@mobot.org or visit **mobot.org/schoolprograms***

Garden Nature Knapsacks

Lead your own self-guided program while visiting the Missouri Botanical Gardens using our handy activity satchels. Each satchel contains the materials necessary to accommodate up to 10 students. Multiple satchels can be requested and will be waiting at the entry gate when you arrive. Satchels can be returned as you depart the Missouri Botanical Gardens.

In the Garden

PreK–K; Available year-round

Lead your own program using our pre-assembled activity satchels. Help your students discover how shapes and colors are essential to how the various areas here at the Missouri Botanical Garden are designed. Horticulturists carefully blend colors of plants and use design patterns to make those areas “pop!” With this satchel, you’ll take your students on a color and shape hunt all while seeing our beautifully designed gardens. Each satchel is designed to accommodate up to 10 students.

Build a Plant

Grades K–2; Available year-round

Lead your own program using our pre-assembled activity satchels. This satchel guides you through discovering the various parts of a plant as you explore the Missouri Botanical Garden. Each satchel is designed to accommodate up to 10 students.

How Does Your Garden Grow

Grades 3–5; Available year-round

Lead your own program using our pre-assembled activity satchels. Plants require different conditions to grow and thrive. Use this satchel to explore the plant labels in the Kemper Center for Home Gardening to better understand what each plant needs and think through how they may design their own dream garden. Each satchel is designed to accommodate up to 10 students.

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:** Take your learning back to school with you! 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.
- **The Doris I Schnuck Children’s Garden:** Provides a wonderful backdrop for nature exploration and educational play for students between the ages of 3 and 12. Visit mobot.org/childrensgarden for more information.
- **Take your tour experience with you with digital photography!:** 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)*

Located at the Missouri Botanical Garden



EarthWays Center is a division of the Garden devoted to conservation of energy and other natural resources for the future, otherwise known as “sustainability.” EarthWays enriches lives and protects 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 the 12th grade 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: on-site programming, guided tours, outreach classes, and school partnership projects.

For more information on the EarthWays Center and sustainability at the Garden, visit **mobot.org/ewc**.



How to register:

- Registration for EarthWays programs must be made at least 2 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.

Green Is Here for Good (MBG–EWC)

Grades K–12

How “green” are you? 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 the specific topics relevant to teachers and students. *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. EarthWays Center offers these unique personalized presentations to meet the goals of your specific field trip experience. Each 60-minute class features a hands-on activity or experiment to get students thinking, learning, and exploring green. Activities are designed to be grade-level appropriate and vary for each class offering. *Sessions serve up to 30 students. \$180 (ZMD schools receive a 50 percent discount). Email **earthways.edu@mobot.org** or call (314) 577-0281 to discuss options and pricing.*

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 Science standards. We use 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. Teachers and paraprofessionals are admitted free to all programs.

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 and 11:30 a.m., and 12:30 p.m. Minimum 15 students and maximum 30 students per program. Cost: \$5 per student, 1 adult per 5 students allowed at no cost, \$8 per additional adult*
- **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. Resources to compliment your visit can be found on our website: butterflyhouse.org/schoolprograms*
- **Guided Tours:** Have our staff lead you through our facility and gardens, and hear the story of our butterflies. *Fee: \$6 per student, \$9 per adult*

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.
- For fastest service, register online at butterflyhouse.org/schoolprograms or email butterflyhouseeducation@mobot.org. You can also call (314) 577-0888 ext. 2.

Programs for Students at the Butterfly House *continued*

Story of a Butterfly (BH)

Grades PreK–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 Conservatory, where they will search for the resources butterflies and plants need to live and grow. *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. 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: 30 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: 30 students; length of program: 45 minutes*

Bugs Alive: Ecosystem Challenge

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*

Insect 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*



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 PreK–3:** Shaw Nature Reserve classes vary in duration from 1 to 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 \$2 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 Overnight Center.

Overnight Programs at the Nature Reserve

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

Registration Information

Grades PreK–3: Please call or email Karen Bryan (314) 577-9523 or kbryan@mobot.org

- Registration for fall programs begins on May 1st of each year. Registration for spring and summer programs begins on November 1st of each year.
- One chaperone per every 8 students is required. Required chaperones are admitted at no extra charge, but additional adults are admitted at standard Nature Reserve admission.

Grades 4–12: Please call or email Jessie Dockins (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.

	PreK–3	PreK–K	1–3
September	Earthwalks	Missouri Critters	Nature Connections Waters Edge Nature Walkabout On the Creek Banks
October	Earthwalks		Little Houses on the Prairie Nature Walkabout
November	Earthwalks		Animal Adaptations Nature Walkabout
December	NO CLASSES		
January	NO CLASSES		
February	NO CLASSES		
March	Earthwalks		Animal Adaptations Nature Walkabout
April	Earthwalks	Missouri Critters	Nature Connections Our First Neighbors Nature Walkabout
May	Earthwalks	Missouri Critters	Water's Edge Nature Walkabout

Programs for PreK to 3rd Grade at Shaw Nature Reserve



Earthwalks (SNR)

Grades PreK–3; September–November, March–May

Students will explore the wonders of the natural world by using their 5 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: 50 students; length of program: 60–120 minutes; fee: \$2 per student*

Missouri Critters (SNR)

Grades PreK–K; September, April–May

Learn about the animals that live at Shaw Nature Reserve and their habitat on a nature walk. Students will learn about diverse animals and what makes them special through hands-on activities. *Capacity: 24 students; length of program: 60 minutes; fee: \$2 per student*

Plant Connections (SNR)

Grades 1–3; September, April

Learn about how plants rely on animals for pollination and seed dispersal. Students will also learn about the plants that animals depend on for their survival. *Capacity: 50 students; length of program: 120 minutes; fee: \$2 per student*

Little Houses 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: 50 students; length of program: 120 minutes; fee: \$2 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: 50 students; length of program: 120 minutes; fee: \$2 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: 60 students; length of program: 120 minutes; fee: \$2 per student*

On the Creek Banks (SNR)

Grades 1–3; September

This class is based *On the Banks of Plum Creek* by Laura Ingalls Wilder and focuses on creek exploration. Students will learn about what lives in and around Brush Creek at the Nature Reserve. *Capacity: 60 students; length of program: 20 minutes; fee: \$2 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: 50 students; length of program: 120 minutes; fee: \$2 per student*

NEW! 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: 50 students; length of program: 60–120 minutes; fee: \$2 per student*



Programs for Grades 4–12 and Overnight Experiences

Located at Shaw Nature Reserve's Dana Brown Overnight Center (DBOC)



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 Dana Brown Overnight Center. Programs provide schools with unique opportunities to extend classroom learning while fostering awe, wonder, and curiosity for the natural world.

The Dana Brown Overnight Center campus consists of 6 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 Dana Brown Overnight Center campus. With modern updates, the buildings were transformed into comfortable and unique learning and living spaces for visiting groups.

The Dana Brown Overnight Center 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; Dana Brown Overnight Center 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
6–7 p.m.	Free Time or Teacher Time
7–9 p.m.	Evening Class*
9–10 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 Dana Brown Overnight Center school programs coordinator will work with you to schedule classes during available time.*

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 4 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 1 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 DBOC school programs coordinator for pricing information.
- Overnight and class fees are waived for 1 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 DBOC classes are hands-on, inquiry-based, and focus on students' direct engagement with nature.
- Classes are grade-level appropriate and align with current Missouri State Standards.
- Depending on grade level, group size, weather, and other factors, specific activities may vary for each class offering.
- The DBOC requires a 10:1 student:chaperone ratio for all classes.

Programs for Grades 4–12 and Overnight Experiences continued

Ecology Classes

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*

Forest Ecology (SNR–DBOC)

Grades: 4–12; Year-round

As students explore Shaw Nature Reserve's forests, they will deepen their understanding of this habitat and the communities existing within it. During a ½-mile hike, students will identify forest plants and animals, consider the importance and interdependence of biotic and abiotic factors, and work together to create forest ecosystem models. Finally, students will be challenged to use their models to predict how natural and human-caused changes may affect the forest ecosystem. *Capacity: 40 students; Length of program: 120 minutes; Fee: \$5 per student*

Wetland Ecology (SNR–DBOC)

Grades: 4–12; Year-round

Students will explore Shaw Nature Reserve's wetland to discover what makes wetlands unique as well as the many ecosystem services wetlands provide. Using evidence to make explanations, students will investigate the adaptations that help plants and animals survive in a wetland. Students will also use models to explore wetland processes as well as learn how the Dana Brown Overnight Center uses wetland biomimicry to benefit their guests. *Capacity: 40 students; Length of program: 120 minutes; Fee: \$5 per student*

Tallgrass Prairie Ecology (SNR–DBOC)

Grades: 4–12; May–December

Explore the ecosystem that once covered 40 percent of Missouri! As students hike through the tallgrass prairie, they will investigate the complex relationships between the plants and animals that live in this ecosystem. Students will also learn how indigenous peoples used prairie plants as medicine and how Shaw Nature Reserve utilizes traditional ecological knowledge of fire to manage this ecosystem. *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 identification. 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*

Insect Ecology (SNR–DBOC)

Grades: 4–12; March–November

Join Dana Brown Overnight Center instructors on an insect safari! Using scientific tools and methods, students will search for insects and other invertebrates in both forest and 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*

The Sticky Science of Maple Syrup (SNR)

Grades 4–8; 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. After helping with sap collection and cooking, they will enjoy a sample of delicious syrup. *Capacity: 60 students; Length of program: 120 minutes; fee: \$2 per student*

Night Classes

Frog Ecology (SNR–DBOC)

Grades 4–12; March–August

Experience nature's spring symphony in this exciting evening class! Students will learn about the common frogs in our area, why they call, and how to identify them by call and sight. After a brief indoor presentation, we will take a short walk to the wetland to practice identifying frogs by sight and call. Students will also collect data on what frog species are present to contribute to a nation-wide citizen science project! Frog Ecology is only offered as part of an overnight experience. *Capacity: 30 students; Length of program: 60 or 120 minutes; Fee: \$5 per student*

Night Hike (SNR–DBOC)

Grades 4–12; Year-round

Shaw Nature Reserve instructors will lead your class on a 1–2 mile night hike through multiple ecosystems to experience the sights, sounds, and smells of Shaw Nature Reserve at night! Along the way, students will investigate nocturnal wildlife and the adaptations that help them survive. On clear nights, students may also have the opportunity to view stars, planets, and constellations in the night sky. This is a quiet educational hike with no flashlights allowed. Night Hikes are only offered as part of an overnight experience. *Capacity: 30 students; Length of program: 60 or 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 create masterpieces of their own, using natural objects discovered around the Dana Brown Overnight Center. 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 solving secret messages! *Capacity: 25 students; Length of program: 120 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 teacher ratio is recommended for this class. *Capacity: 40 students; Length of program: 180 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).*

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. Early registration is encouraged to ensure your desired date and time are available.
- 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 to 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 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 include:

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—Student Action Projects

August–May

Leadership in Environmental Action Projects (LEAP) is a K–12 student action program that reduces, reuses, and recycles trash from schools and communities and informs people about local solid waste and resource issues. This year-long or semester-long partnership between school and EarthWays Center engages students in waste reduction and minimization projects at their school. EarthWays Center will select two 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 EarthWays' Education Coordinator at earthways.edu@mobot.org or call (314) 577-0281.

MSD Clean Water: A Stormwater Education Program

Grades K–12; Year-round

The Metropolitan St. Louis Sewer District (MSD) 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.

- 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 staff can provide training to teachers on use of the model.
- Participate in a storm drain marking project. These markers help show the community that storm drains can carry pollution to area rivers and streams.
- Add a water testing kit to your reservation of an EnviroScape® model to extend learning.

For more information on the MSD Clean Water Education program, contact **MSDCleanwater@mobot.org** or call (314) 577-0281.

Personalized Sustainable Classroom Presentation

Grades K–12; Year-round

EarthWays 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:

- Design a Blade for a Windmill
- Solar Energy
- School Energy Audit
- Energy Sources and Forms
- Sustainability 101

Capacity: Each class accommodates up to 30 students; multiple classes can be booked to accommodate larger groups for additional fees; length of program: 1–3 hours. For more information regarding participation in the Personalized Sustainable Classroom Presentation Program, contact EarthWays' Education Coordinator at earthways.edu@mobot.org or call (314) 577-0281.

Green Schools Quest

Engage your students in advancing sustainability efforts at your school by participating in the Green Schools Quest project-based challenge! Issued annually by the U.S. Green Building Council—Missouri Gateway Chapter, the Green Schools Quest challenges PreK–12 schools to devise and implement the most creative, effective and no or low-cost sustainable practices for their schools—all with the help of a Green Mentor. Each school forms a Green Team, which may be a single classroom, grade level, entire school, or student club. Teams then engage in their project from October through mid-March, documenting their work along the way, and submitting their project's process and impact at the conclusion for judging by an impartial panel. Cash awards and trophies are presented in Elementary, Middle, and High School categories. The Green Schools Quest requires only one member of a school's faculty to serve as their team's facilitator. Registration for the 2021–22 school year is open through September 15, 2021 for schools and August 31, 2021 for mentors.

For more information regarding participation in the Green Schools Quest program, visit GreenSchoolsQuest.org or contact USGBC-MO Gateway Chapter's Education and Green Schools Manager at usgbc-mogateway@mobot.org or (314) 577-0225.



Outreach Programs

delivered by the Sophia M. Sachs Butterfly House (BH)

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 3 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.)



Story of a Butterfly (BH)

Grades PreK–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

Metamorphosis, anatomy, and butterfly behaviors are discussed with hands-on demonstrations. *Capacity: 30 students; length of program: 45 minutes*

Insect 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*

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 2 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** or call (314) 577-0888 ext.2 to book your program.

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*

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*

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 that are needed now more than ever. For more information on these programs, visit mobot.org/teenprograms.

Teen Service Opportunities



Missouri Botanical Garden



Butterfly House



Shaw Nature Reserve



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 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) 577-0864 for more information.



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.



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 Andy Klingensmith at (314) 577-9528 for more information.

Field Science Opportunities

Shaw Nature Reserve Ecology Club for Upper Elementary and Middle School

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 H₂O's program (grades 6–8), in which they will learn about conservation efforts. Contact the Shaw Nature Reserve team at (314) 577-9523 for more information.

The Teen Network also includes student participants in our Eco-Act program. Please see page 33 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 set forth by Henry Shaw 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 attraction sites
- Retail discounts
- Access to special members-only events and much more!

Educators who become 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!

Teacher Professional Development Workshops *continued*

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.

Missouri Botanical Garden Education E-Scoop

Teachers are encouraged to register at mobot.org/schoolprograms to receive our monthly e-newsletter, the Education E-Scoop. This resource features outdoor learning tips, science and literacy links, as well as news about upcoming programs for teachers, students, and families at the Missouri Botanical Garden.



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. Here are just a few of the opportunities currently available:

Missouri Botanical Garden

- School Programs—PreK–8th Grade
- School Programs—Teens
- Horticulture
- Communications (remote)
- Sustainability—US Green Building Council
- Sustainability Education—EarthWays Center

Sophia M. Sachs Butterfly House

- Education
- Entomology
- Project Pollinator

Litzsinger Road Ecology Center

- Place-Based Education

Shaw Nature Reserve

- Education

Interns receive free admission to the Garden, as well as discounts at our retail shops and Sassafras café 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 Sustainability Network

Recommended for teachers of all grade levels



The EarthWays Sustainability Network is a yearlong professional development opportunity designed

to help schools build effective Green Teams, and make organized, impactful changes. As part of the Network, a teacher from the school will be provided with background information, materials, lessons, and training on a range of strategies for helping students complete projects at the school that reduce the amount of solid waste generated and become more sustainable. With the help of EarthWays staff, the school will measure the success of their initiatives through waste audits, assessments, and surveys. Contact the EarthWays' Education Coordinator at earthways.edu@mobot.org or call (314) 577-0281 for more information.



MSD 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 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 MSD 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 MSD Clean Water Educator Workshops, contact MSDCleanwater@mobot.org or call (314) 577-0281.

Missouri Green Schools

Recommended for teachers of all grade levels

Missouri Green Schools is a free tracking and recognition program whose mission is to support all Missouri 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. Administered by the U.S. Green Building Council-Missouri Gateway Chapter and the Missouri Environmental Education Association, Missouri Green Schools engages partners across the state to support schools in their efforts. Schools with 60% or more free and reduced priced lunch programs have the opportunity for additional support, including access to one-on-one assistance in setting goals and tracking progress as well as financial support for staff professional development and through small grant opportunities.

For more information regarding participation in the Missouri Green Schools, visit MissouriGreenSchools.org or contact USGBC-MO Gateway Chapter's Education and Green Schools Manager at usgbc-mogateway@mobot.org or (314) 577-0225.



Sustainability Professional Development Programs from the EarthWays Center *continued*



Sustainability Institute for Educators

June, 2022

Recommended for teachers and administrators of all grade levels

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:

- 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, 2022 and is produced in partnership by Webster University, Missouri Botanical Garden, U.S. Green Building Council—Missouri Gateway, Madison County Planning and Development, St. Louis Zoo, and Mary Institute and Country Day School. Registration fee is \$150 for 3 days. Graduate credit and scholarships available. Learn more at webster.edu/sie.

Personalized Sustainability Professional Development

Recommended for teachers of all grade levels

EarthWays offers a variety of teacher professional development opportunities to help educators learn how to effectively integrate sustainability into the K–12 classroom. Topics can include energy, energy efficiency and conservation, waste reduction, recycling, human effects on the environment, green cleaning alternatives, stormwater management, green living, and more. The EarthWays Center team can facilitate workshops on any scale from a single school, group of schools, or for a team of teachers. Full or 1/2-day opportunities available.

Always check mobot.org/ewc for additional information about upcoming professional development opportunities. For more information regarding participation in EarthWays Center Sustainability Professional Development Programs, contact EarthWays' Education Manager at earthways.edu@mobot.org or call (314) 577-0207.

Programs for Schools and Teachers

School Partnership Opportunities

The Saigh Foundation

ECO ACT

Environmental Leadership Program

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 or community service credit from their schools. During the program participants:

- Teach 4th grade classes an ecology lesson once a week 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 3 weeks of summer training lead by Garden staff.
- Participants have a class period scheduled into their course load for Eco-Act to prepare for teaching, teach in the 4th grade classroom, and complete group projects.
- Participants attend a monthly afterschool workshop at the Garden.
- Participants attend a weekend outing once a semester.

Get Involved

Discussions begin with new high schools for the 2021–2022 school year this fall.

For more information, contact the Eco-Act Teen Programs Coordinator at (314) 577-9482 or eco-act@mobot.org.



Programs for Schools and Teachers *continued*

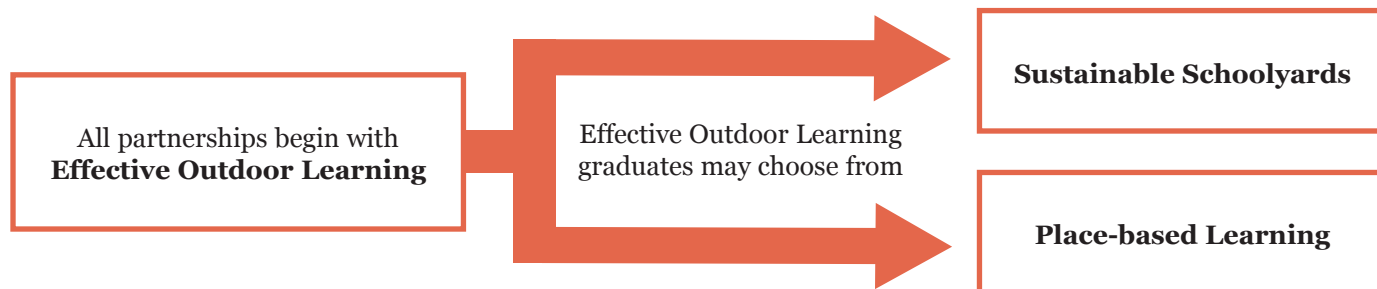
Litzsinger Road Ecology Center (LREC)

Teacher Partnerships in Place-Based Education

For teachers in grades 3 and above

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.

LREC currently offers 3 different models for year-long collaboration. All partnerships begin with **Effective Outdoor Learning (EOL)**. Advanced programs, **Sustainable Schoolyards (SS)** and **Place-based Learning (PBL)**, are available to EOL graduates. *Programs through LREC are offered at no cost, including bus transportation.*



Effective Outdoor Learning

This program 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.

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.

Place-based Learning

In this advanced program, teachers reflect on their practice and deepen their capacity to apply principles of experiential learning. Teachers work as a professional community to develop and offer feedback on curriculum designs that draw on the unique resources of each participant's community.

Contact Leslie Memula, School Partnership Coordinator,
at leslie@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
- Scout Night at the Missouri Botanical Garden (April)
- Scout Nights at the Butterfly House
- Scout Day at Shaw Nature Reserve (May and October)
- Merit Badge Skill Centers for Boy Scouts
- Overnights at the Missouri Botanical Garden and Shaw Nature Reserve

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



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!



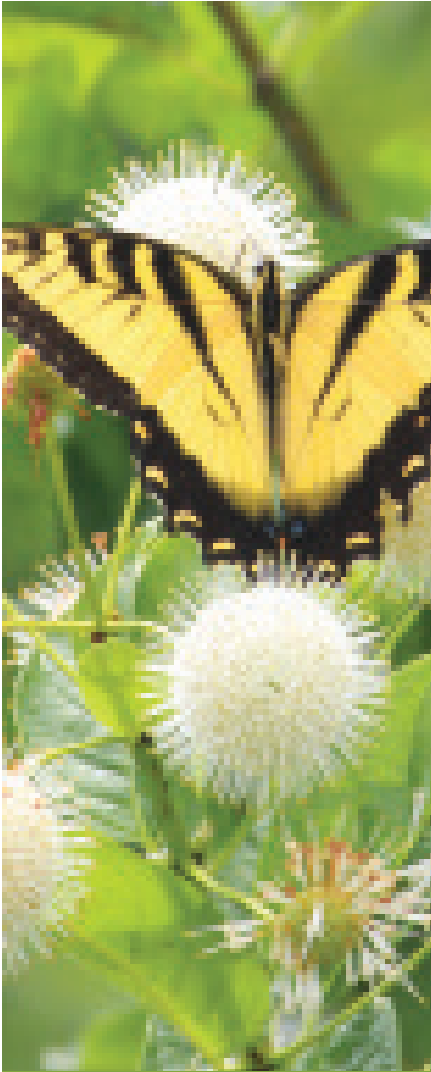
Registration Begins August 1

mobot.org/classes

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Did you know?

**Members always
receive discounted
prices on classes.**

Become a member today!

(314) 577-5118
membership@mobot.org
mobot.org/membership

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MBG CENTER FOR NATURE-INSPIRED LEARNING

Education Division • mobot.org
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and schools, are made possible with the generous support of:

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