

2024-2025

GREAT LAKES SCIENCE CENTER

Educator Guide



Book
your field trip,
workshop or
school outreach
experience
today!

Our 2023 Corporate and Foundation Supporters

2Million+

SHERWIN-WILLIAMS®

250K+

THE *Reinberger*
FOUNDATION

TRANSDIGM
GROUP INC.

100K+


cuyahoga
arts & culture

SIM NS
FOUNDATION

TIMKEN

50K+

 **ARGOSY**
FOUNDATION

THE
NORD
Family Foundation

 **PNC**

 **Rockwell
Automation**

25K+

Anonymous

Bruening

 **CLIFFS**

 **MARTHA HOLDEN
JENNINGS FOUNDATION**

 **MEDICAL MUTUAL**

**The David & Inez
Myers Foundation of
the Jewish Federation**

 **Northeast
Ohio Regional
Sewer District**

 **OH!
LOTTERY**

 **Parker**

**The Thomas
F. Peterson
Charitable Trust**

 **PPG**

15K+

NiSource
CHARITABLE FOUNDATION
Columbia Gas
A Natural Company

 **CORINNE L. DODERER
Foundation
for the Arts**

EATON

SIF
THE SAM J. FRANKINO FOUNDATION

LINCOLN
ELECTRIC

**MILIPORE
SIGMA**

 **Swagelok**

*The Joan P. Wenk
Charitable Fund*

THE THOMAS H. WHITE FOUNDATION

10K+

ABARTA Coca-Cola Beverages, LLC • The Abington Foundation • Anonymous (3) • M.E. & F.J. Callahan Foundation • The Chaffee Family Foundation • The Cleveland Foundation • The George W. Codrington Charitable Foundation • Connor Foundation • Data Genomix • Dorn Family Foundation • The Jochum-Moll Foundation • Lakeside Foundation • The Lozick Family Foundation • NOPEC • nVent Foundation • The Pentair Foundation • Saint-Gobain North America

5K+

The Nancy Andrews Family Foundation • AT&F • Bank of America • BWX Technologies, Inc. • The Harry K. Fox and Emma R. Fox Charitable Foundation • The Hankins Foundation • The Kaulig Foundation • The Labcorp Charitable Foundation • The Lubrizol Corporation • Jack, Joseph, and Morton Mandel Foundation • The Murch Foundation • Nordson Corporation • Olympic Steel, Inc. • O'Neill Brothers Foundation • Plastic Pipe and Fittings Association • PVC Pipe Association • The Sisler McFawn Foundation • S. Livingston Mather Charitable Trust • Synthomer Foundation • Target Corporation • Vinyl Institute

Welcome Back, Educators!

Dear Educators,

We hope this message finds you in high spirits and eagerly anticipating the upcoming academic year! At Great Lakes Science Center, one of our most important functions is to ignite a passion for STEM through engaging experiences tailored for students of all ages. By making STEM education accessible, engaging, and enjoyable, our goal is to inspire the next generation of scientists, engineers, and innovators. We are thrilled about the opportunity to offer these enriching experiences to you and your students this year!

As you plan your upcoming field trips, we wanted to remind you of the STEM workshops we offer here at the Science Center. Our workshops are designed to complement and enhance the science curriculum you're teaching in the classroom, providing hands-on activities and real-world applications that engage students in STEM subjects in a meaningful way. Our workshops cover a range of topics, from robotics and engineering to biology and environmental science. Each workshop is led by experienced educators and designed to meet educational standards while sparking curiosity and creativity among your students.

If visiting us isn't feasible this school year, we also offer an outreach program where we bring our STEM experiences directly to your learning space. This includes live science shows and hands-on workshops conveniently set up at your location! And, of course, we welcome students onsite to explore the Cleveland Creates Gallery, the NASA Glenn Visitor Center, and so much more.

Please reach out with any questions or to discuss customized programs tailored to your specific needs. Thank you for your dedication to educating and inspiring young minds. We look forward to welcoming you and your students to the Science Center soon!

Stay Curious,
Gabrielle Davis
School Programs Coordinator
Great Lakes Science Center



Hands-On Workshops

for Field Trips or Outreach

Content Standards

Standards				Inquiry	Earth & Space Science	Physical Science	Life Science	Technology/Engineering Design Process	Math	English/Language Arts	Social Studies
Program Type	Grade Band	Outreach Available?	Program								
Hands-On Workshops	PreK-K	Yes	Engineering Challenge: Three Little Pigs	✗		✗		✗	✗	✗	✗
	1-2	Yes	States of Matter: Ice Cream Science	✗		✗					
		Yes	Engineering Challenge: Skyscrapers	✗		✗		✗	✗		✗
	3-5	Yes	Engineering Challenge: Rescue Mission	✗		✗		✗	✗	✗	✗
		Yes	DNA Investigation Lab	✗			✗				
		Yes	Jumping Jitterbugs	✗		✗		✗			
		Yes	Dissection: Cow Eye	✗			✗				
		Yes	Survival Scales	✗			✗				
	6-12	Yes	Electricity Investigators	✗		✗		✗			
		In-house only	Coding & Robotics	✗		✗		✗	✗		
		Yes	Heart Dissection	✗			✗				
		Yes	CryptoQuest	✗				✗			
Big Science Shows	All-Recommended PreK-2	Only Outreach	Bubblemania	✗		✗			✗		
	PreK-12		Fire and Ice	✗		✗					
			Magic of Matter	✗		✗					
			Math in Space	✗	✗	✗			✗		

All of the following inquiry-based workshops are available to be booked as a field trip or outreach to your school (unless otherwise noted).

Pre-K/Kindergarten

20 minimum/30 maximum. Additional sessions will be scheduled for groups larger than 30. Duration: approximately 30 minutes.

Engineering Challenge: The Three Little Pigs

Field Trip - \$6 per student

Outreach - \$8 per student

Students will listen to this classic story and become engineers as they perform hands-on experiments exploring which materials can withstand the big, bad wolf.

Grades 1-2

20 minimum/30 maximum. Additional sessions will be scheduled for groups larger than 30. Duration: approximately 45 minutes to 1 hour.

States of Matter: Ice Cream Science

Field Trip - \$9 per student

Outreach - \$11 per student

Can we turn hot chocolate into ice cream? Explore the properties of solids, liquids and gases in this tasty experience. (Students with dairy/chocolate allergies will be offered an alternative treat.)

Engineering Challenge: Skyscrapers

Field Trip - \$7 per student

Outreach - \$9 per student

Students will transform into engineers when they are challenged to build a tower out of simple paper that can hold weight.



Hands-On Workshops for Field Trips or Outreach

Descriptions

Grades 3-5

20 minimum/30 maximum. Additional sessions will be scheduled for groups larger than 30. Duration: approximately 45 minutes to 1 hour.

Engineering Challenge: Rescue Mission

Field Trip - \$7 per student

Outreach - \$9 per student

Students use the engineering and design process to construct a solution in small groups to complete their mission.

DNA Investigations Lab

Field Trip - \$9 per student

Outreach - \$11 per student

Students explore how traits express themselves and extract their own DNA.

Jumping Jitterbugs

In Person - \$10 per student

Outreach - \$12 per student

Students explore how circuits and electricity work together while designing and creating their own Jumping Jitterbug "bot" to take home.

Dissection: Cow Eye

Field Trip - \$10 per student

Outreach - \$12 per student

Students will examine the complex structure of an eye and how it functions by cutting into and dissecting a cow eye. (Must be reserved at least four weeks in advance).

Survival Scales

Field Trip - \$7 per student

Outreach - \$9 per student

Become a NASA engineer and study reptile adaptations to solve engineering challenges for astronauts in space!

Grades 6-12

20 minimum/30 maximum. Additional sessions will be scheduled for groups larger than 30. Duration: approximately 1 hour.

Electricity Investigators

Field Trip - \$9 per student

Outreach - \$11 per student

Students investigate circuits and electricity as they use the engineering design process to design and create their own working flashlights from common items.

Coding & Robotics

Field Trip - \$9 per student

Not available as Outreach

Students will learn how to code and debug their bots as they learn how to navigate them through a series of challenges.

Dissection: Pig Heart

Field Trip - \$11 per student

Outreach - \$13 per student

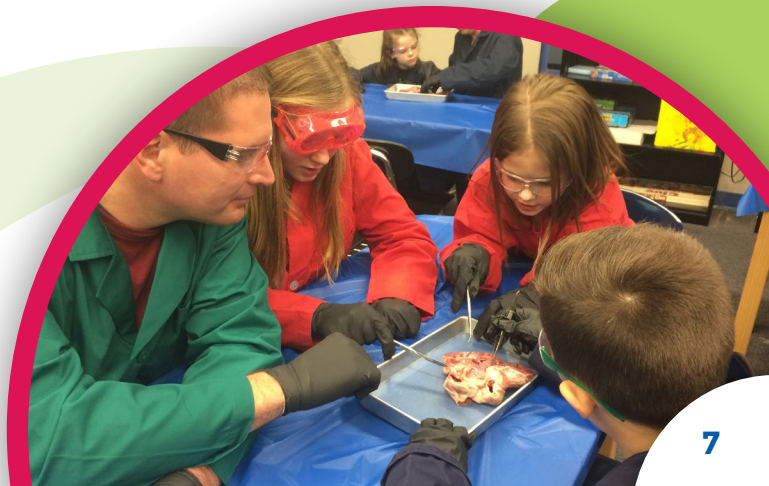
Students will get a tour of the body's pump with this dissection of a pig heart. They will cut into the heart to reveal the four chambers, peer into the aorta, and inspect blood vessels up close. (Must be reserved at least four weeks in advance.)

CryptoQuest

Field Trip - \$7 per student

Outreach - \$9 per student

Students will learn how different encryption techniques can keep information safe by racing to solve a series of puzzles to reveal a hidden message.



Outreach to Your School

In addition to the hands-on outreach workshops that we can bring to your school, we are excited to continue offering our Big Science Shows!

Outreach Big Science Shows

We bring these larger than life science experiments to your school! Choose from the following themes. Each show ends with time for questions and answers.

Please note that a space of at least 20 x 20 feet is required along with a high ceiling. Auditoriums, cafeterias and gymnasiums are usually great spaces.

\$400 per show. Duration: approximately 30-45 minutes.

Bubblemania - Step into the world of Bubblemania and learn everything there is to know about these soapy spheres! Why are they shaped the way they are, and why do they look the way they do? Bubbles come alive while we become "Bubbleologists" and investigate molecules, shapes, and colors.

Fire & Ice - Experimentation with temperature is taken to the extreme when we battle fire and liquid nitrogen in an explosive demonstration of physics and chemistry.

Magic of Matter - How can matter change from one state into the other? We experiment with chemistry and liquid nitrogen to uncover the "magic" behind why some materials behave in unexpected ways!

Math in Space - 3-2-1 blast off! Explore the stages of human flight outside Earth's orbit and the mathematics that make it possible.

Outreach Extended Mileage Fee

Up to 40 miles from the Science Center is included in the program fee.

A fee of \$2 per mile will be charged for any distance beyond 40 miles from the Science Center. The maximum distance we can serve is 120 miles.

Educator Resources

FREE Admission Every Day for Teachers

Who says kids should have all the fun? The Science Center offers free general admission to Ohio teachers every day. Just bring a copy of your teaching certificate, OEA card, union card, or school ID listing teacher/educator and preview the exhibits before your next field trip.

Discounted Family Memberships for Teachers

Discounted memberships are available for teachers. You and your family can enjoy free general admission to the Science Center, NASA Glenn Visitor Center, Steamship Mather and most traveling exhibitions all year long. Get discounts on our camp programs and free general admission to 360+ reciprocal science centers and museums around the country. Call 216-696-4576 for details.



Stay Curious!

COMING
NOV. 8, 2024 TO
MARCH 30, 2025



dogs! A SCIENCE TAIL

Dogs! A Science Tail is an immersive traveling exhibition that explores the bond between humans and dogs — one of the most successful interspecies partnerships of all time. Exhibits reveal where dogs came from, how dogs experience the world, what makes our bond with dogs so special, and how to care for our canine best friends.

Guests discover the amazing origin story of dogs by digging up fossilized bones and analyzing DNA patterns to learn how scientists study this first domesticated animal. Visceral experiences invite guests to see, hear, smell, and think like a dog! Guests have opportunities to see real dogs, pretend to be dogs, and share their favorite dog photos and videos. Elsewhere, guests can play with a virtual dog, test their canine pop-culture knowledge, and share their favorite dog photos and videos. Finally, participants explore the ethics and responsibilities that come with dog ownership: role-play as a trainer; brush and groom model dogs; learn tips about responsible dog care; share opinions on controversial dog issues; and consider what's next for the future of dogs.

DEVELOPED WITH SUPPORT FROM



NATIONAL TOUR SPONSOR





Cleveland Creates Gallery

The Cleveland Creates Gallery presented by The Sherwin-Williams Company, is a new addition to the museum's permanent exhibits inspired by the innovative spirit of Cleveland.

Inside the gallery, guests engage with interactive exhibits that dive into the realms of technology, sensors, data and remote robotics, and give them an opportunity to explore the tools and skills that are driving manufacturing advances in Northeast Ohio.

Stationed throughout the gallery are real-life representations of STEM professionals from across the community, covering industries such as aeronautics, automation, remote robotics, steel and chemistry. These authentic and representational members of the community are embedded into the exhibits that will inspire guests to see themselves confidently in the STEM-rich workforce of tomorrow.



SHERWIN-WILLIAMS.

Historic Steamship William G. Mather

Celebrate the historic Steamship William G. Mather's 100th birthday this spring with a group tour field trip! Opening for tours in May, visit GreatScience.com for more info!

Celebrating a Century 1925-2025



What to See and Do

NASA Glenn Visitor Center

Great Lakes Science Center is home to one of only 11 NASA Visitor Centers in the nation. Reinforce your curriculum as students take a look at the past, present and future of space travel, see a real space command module, learn how astronauts live and work on the International Space Station, and explore propulsion, power, materials science and much more!

Mission to STEM

Field trips are moving into the realm of augmented reality at the Science Center! The state-of-the-art Mission to STEM app brings our NASA Glenn Visitor Center to life with virtual and augmented reality. In this interactive digital mission, students will virtually climb into the Apollo command module, fire up a rocket, conduct International Space Station experiments and more. Your class will be provided with iPad minis or download the app and bring your own set of devices.





Science Phenomena

Get hands-on with science! Our Science Phenomena Gallery encourages students to observe, investigate, predict and test the principles behind light, sound, motion, weather, electricity and magnetism.

BioMedTech: Engineering for Your Health

Enter the world of biomedical technology and engineering. Students explore interactive exhibits, videos and educational displays focusing on genomics, stem cells, prosthetics, functional electrical stimulation (FES) and medical imaging as they learn about the work being done by local researchers to develop innovative medical technologies. The BioMedTech's nano exhibit engages guests through a series of interactive experiences that make a world we cannot see come alive through real-life applications and small-scale, but powerful technologies.

Daily Science Demonstrations

Science comes to life in our spectacular demonstrations. Daily science demonstrations are free with paid general admission. Seating may be limited as all demonstrations cannot be reserved and are open to the public. You will be notified of the current day's times and themes at check-in.

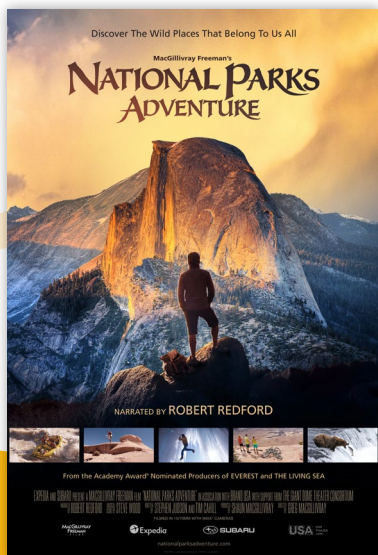


Cleveland Clinic DOME Theater

Add a movie to your field trip!

Giant-screen films can inspire STEM careers by bridging the gap between entertainment and science learning.

Enhance your students' educational experience by adding a film shown in our six-story high domed theater to your visit! Educator guides that include information on national content standards as well as pre- and post-visit activities are available for our films. Please visit GreatScience.com and click on "Educators" for more details. Pricing is also available for movie-only field trip experiences.



Or choose from one of these recent favorites!

Pandas: The Journey Home, Journey to Space, Tornado Alley, Titans of the Ice Age, Dream Big, Amazon Adventure, Superpower Dogs, or Great Barrier Reef



Important Information

Pricing and Reservations

1 Field trip pricing

Rates apply to school (public, private, charter or home school) visits of 10 or more people on weekdays during the school year. Advanced reservations and payment are required.

- General admission:
\$8 per student
- Admission & DOME Theater:
\$11 per student
- DOME Theater only:
\$8 per student

**A 6 percent City of Cleveland admissions fee will be added to your visit.*

2 Add a hands-on workshop

Enhance your field trip with a hands-on workshop starting at just \$6 per student. All workshops are specifically designed to support Ohio's Learning Standards in science, math, literacy and social studies. See page 4 for more information.

Book Your Experience

Save time by registering via email or through our website! Email us at edhelp@glsc.org, or register at GreatScience.com and click Educators>Plan a Field Trip.

Please have the following information when registering:

- Full contact information
- School name and grade level
- Preferred visit date
- Arrival and departure times
- Number of students and chaperones
- If you need a time to eat lunch

Title I School Admission

Ohio schools who receive federal Title I services are entitled to **free general admission** to the Science Center as part of a field trip. Status is subject to confirmation.

Payment and Cancellation

Payment is due 14 days prior to the visit or program date. Payments are non-refundable and payments made toward a canceled visit will be held as a credit toward a future visit.

Chaperones

One adult chaperone for every five students is required. Chaperones within the one-to-five ratio will receive free admission. Additional adults must pay the posted student rates.

Lunch Options

A space to eat lunch is available on a first-come, first-served basis. Schools can bring brown-bag lunches or pre-order boxed lunches. All pre-ordered lunches must be confirmed and paid for at least seven business days before your visit.

Bus Parking

Complimentary bus parking is available on a first-come, first-served basis. Buses will receive instructions on where and how to park upon arrival.



Visit our website for
detailed field trip
policies



Great Lakes Museum of Science, Environment, and Technology
601 Erieside Ave Cleveland, OH 44114
GreatScience.com



Non-Profit
Organization
U.S. Postage
PAID
Cleveland, OH
Permit No. 2260