

2022-2023 GREAT LAKES SCIENCE CENTER

# Educator Guide



In-Person Field Trips,  
Virtual Experiences and  
Outreach are Available!



GREAT LAKES  
Science Center  
Stay Curious.

GreatScience.com | 216-621-2400

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Great Lakes Science Center thanks its supporters from fiscal year 2021

# WELCOME BACK, EDUCATORS!

## We Make STEM Come Alive!

Dear Educator,

We are proud to offer quality STEM programming to meet your classroom needs. We understand your desire for flexible options and continue to offer a diverse selection of in-person, virtual and outreach STEM programs. We look forward to challenging and entertaining your students through hands-on workshops, larger-than-life science shows and learning through play in our exhibit areas. Thank you for choosing Great Lakes Science Center.

## Book your experience

Reserve your trip by phone or email.

Book early as many of our program dates and times fill quickly.

## Pricing and Reservations

### 1 Field Trip Pricing

We offer multiple field trip options for groups of 10 or more people. Rates apply to schools (public, private, charter or home school) visiting during the school year. Advance reservations 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 on a hands-on workshop

Enhance your field trip or outreach experience with a hands-on workshop starting at just \$5 per student. All workshops are specifically designed to support Ohio's Learning Standards in science, math, literacy and social studies.

- **By phone:** Call our dedicated reservation agents at 216-621-2400 (Monday through Friday, 9 a.m. to 5 p.m.)
- **By email** at [edhelp@glsc.org](mailto:edhelp@glsc.org). Please be sure to include your school, grade level and full contact information.
- **Pre-register online:** save time and pre-register online. Our reservations team will collect your information and confirm your field trip by phone. Go to [GreatScience.com](http://GreatScience.com) and click on Educators>Plan a Field Trip

**Hint!** Book earlier in the year to avoid crowds and to ensure you are able to receive the programming you want.



# Hands-On Workshops

## for Field Trips or Outreach

All of the following 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 - \$5 per student*

*Outreach - \$7 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 - \$6 per student*

*Outreach - \$8 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.)

#### Dissection: Owl Pellets

*Field trip - \$7 per student*

*Outreach - \$9 per student*

Students will dissect an owl pellet with plastic tweezers. They will compare their findings with an identification chart to explore that creature's habitat and discover what was in their diet!

### 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 - \$6 per student*

*Outreach - \$8 per student*

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

#### Introduction to Coding & Robotics

*Field trip - \$7 per student*

*Not available as Outreach*

Students will be introduced to a basic coding challenge learning block coding, binary code and the physical components of the robots.

#### Jumping Jitterbugs

*Field trip - \$8 per student*

*Outreach - \$10 per student*

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



## 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 - \$7 per student*

*Outreach - \$9 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 - \$8 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 - \$9 per student*

*Outreach - \$11 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.)



# Virtual Experiences

## Virtual Platforms

We plan to use Zoom for all virtual interactions and will email a link to the contact on the registration. This can be emailed out to your families with students at home. The recommended class size for all virtual programs is 30 students or fewer. The Zoom call will start at the registered start time of the program. If you are unable to use Zoom, please let us know at time of registration and we will try to accommodate by using a different service.

## Virtual Science Shows

*\$100 per classroom. Duration: approximately 30-45 minutes.*

Science becomes larger than life as we perform spectacular demonstrations just for your class! Choose from the following themes. Each show ends with time for questions and answers.

- **Bubblemania** - Bubbles come alive while we become "Bubbleologists" and investigate molecules, shapes and colors.
- **Energize It** - We transform energy with explosive results using thermal, chemical, potential and kinetic energy.
- **Magic of Matter** - We experiment with chemistry and liquid nitrogen to uncover the "magic" behind why some materials behave in unexpected ways.
- **Math in Space** - Explore the stages of human flight outside Earth's orbit and the mathematics that make it possible.
- **Seeing Sound** - Can fire dance to music? Observe sound vibrations as we demonstrate how our senses help us hear, feel, and even see sound.

## Virtual Exhibit Experience - Life in Space

*\$150 per classroom. Duration: approximately 60 minutes.*

How is life in space similar to life on a submarine? Explore exhibits from the NASA Glenn Visitor Center at Great Lakes Science Center and the USS Requin (SS 481) submarine from the Carnegie Science Center that demonstrate the challenges and solutions of living below or far above the earth's surface.

Developed in partnership with the Carnegie Science Center.





# Outreach to Your School!

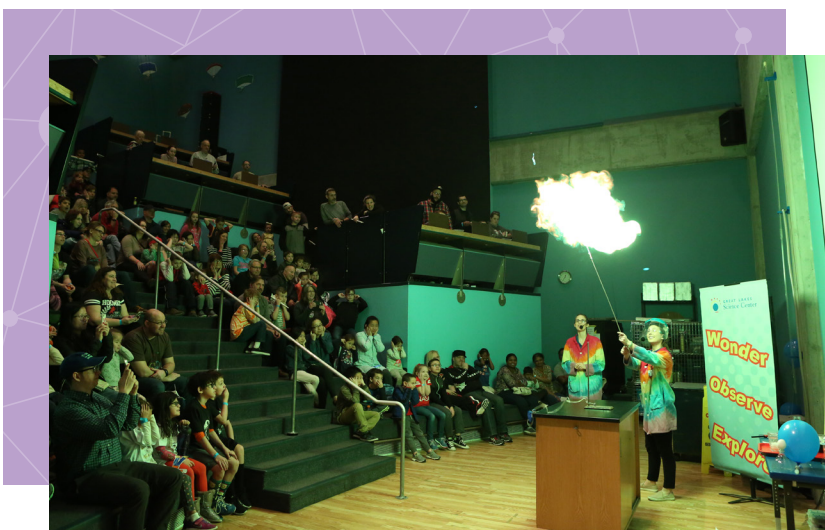
## Outreach Big Science Shows

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.

*\$375 per show. Duration: approximately 30-45 minutes.*

- **Bubblemania** - Bubbles come alive while we become "Bubbleologists" and investigate molecules, shapes and colors.
- **Cryoblast** - Just how cold is liquid nitrogen? We highlight the amazing effects of extreme cold temperatures and what happens when materials change states.
- **Fire and 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** - We experiment with chemistry and liquid nitrogen to uncover the "magic" behind why some materials behave in unexpected ways.
- **Math in Space** - Explore the stages of human flight outside Earth's orbit and the mathematics that make it possible.



## All-School STEM Activity!

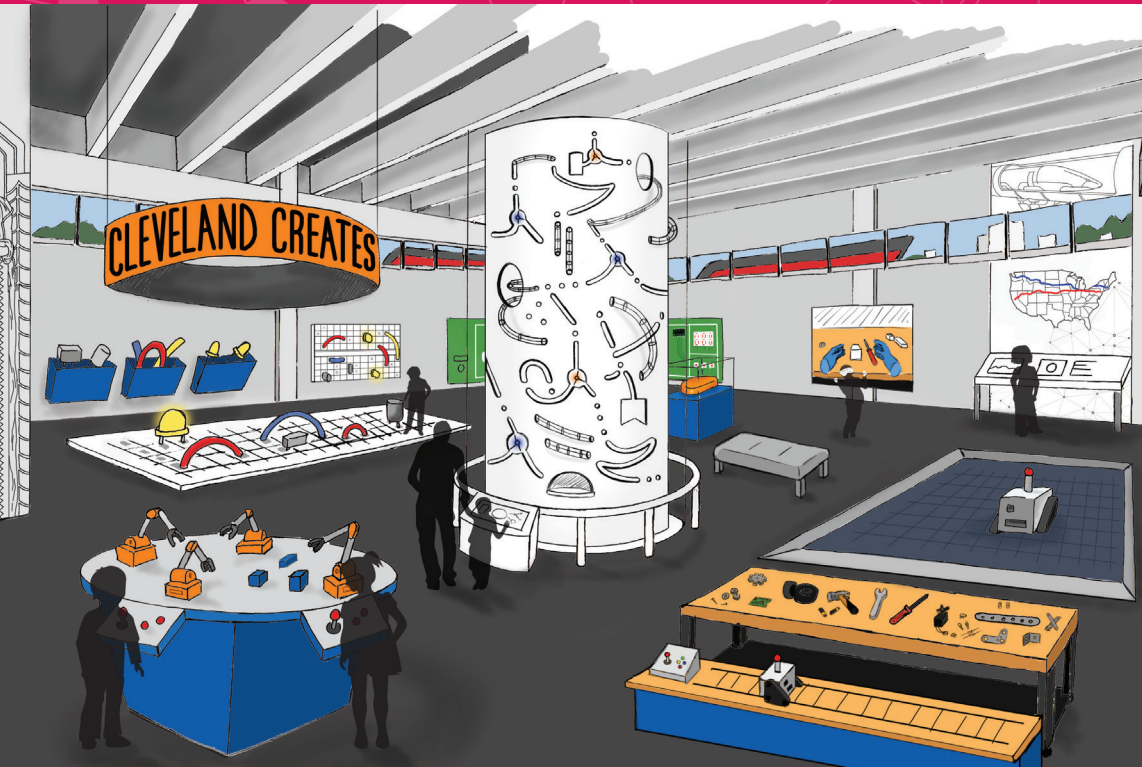
*Perfect for a Hands-On Assembly or STEM Night!  
\$500 for three hours (\$150 per additional hour)*

- **Soaring Stomp Rockets** - Students will design, construct and test paper rockets as they learn about the components of a rocket and the physics of flight.

## Outreach Extended Mileage Fee

Up to 40 miles from the Science Center is included in the program fee. A mileage fee of \$2 per mile will be charged for any additional mileage beyond the initial 40 miles. Max distance we can serve is 120 miles from the Science Center.

# Coming Soon



A major transformation will be under way this fall at the Science Center. The former maker space known as the Cleveland Creates Zone will be reimagined as the Cleveland Creates Gallery to generate pride in the thinkers, makers, and creative problem-solvers of our region. This exciting new exhibit area will provide field trip groups, families, and guests with all levels of ability opportunities and hands-on activities that highlight industries and emerging technologies that are shaping the future of Northeast Ohio.

- It will inspire our guests to envision themselves as capable innovators and creative problem-solvers by learning new skills and building confidence.
- Demonstrate career possibilities in emerging technologies and advanced manufacturing
- Offer hands-on experiences that can't be downloaded or done at home!

**Follow us on social media for the latest updates.**

   #StayCuriousCLE

# Educator Resources

## 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 *William G. 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.

## 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.

## Educator Resource Fair

The Science Center is planning an on-site Educators Resource Fair for fall of 2022! Please check our website for up to date information on upcoming events like this one.





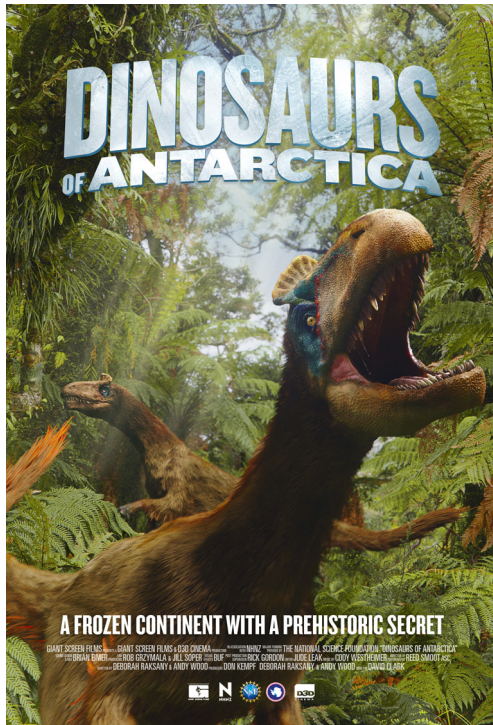
# Cleveland Clinic DOME Theater

## 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](http://GreatScience.com) and click on "Educators" for more details. Pricing is also available for movie-only field trip experiences. Please see page 2 for details.

### NOW SHOWING



### Or choose from one of these recent favorites!

Journey to Space, Tornado Alley, Titans of the Ice Age, National Parks Adventure, Dream Big, Amazon Adventure, Superpower Dogs, Incredible Predators or Great Barrier Reef

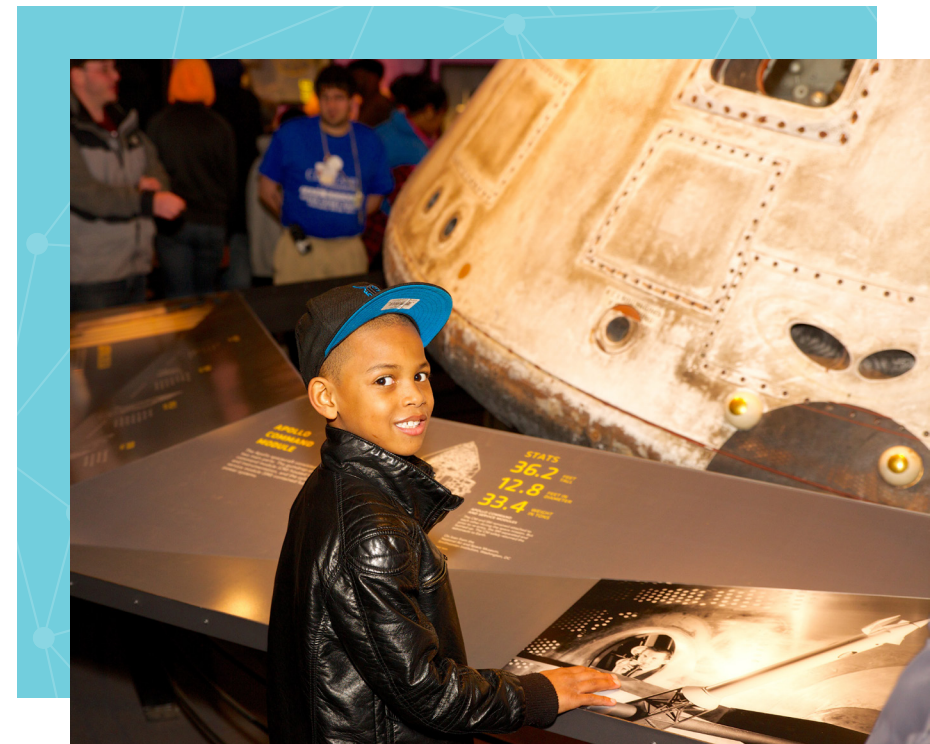
# What to See and Do

## 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.





# What to See and Do

## 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.



# Important Information

## 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 on any school day. DOME Theater films, workshops, virtual experiences, outreach and the Steamship *William G. Mather* are not included. Status is subject to confirmation. Please call 216-621-2400 for details.

## Payment and Confirmation

A confirmation packet will be emailed to you following the completion of your reservation. Please review the packet thoroughly to ensure you have everything you need. Payment for all field trips is due 14 days prior to your visit date. Acceptable forms of payment include credit card, check, purchase orders and cash (cash payments must be made in person at the Science Center).

## Admissions Fee

Please note that a 6 percent City of Cleveland admissions fee is applicable to all field trips and will be added to the cost of the visit.

## Cancellation Policy

Please let us know in writing at least 48 hours in advance if you need to cancel. Payments are non-refundable and payments made toward a canceled visit will be held as a credit toward a future visit.

## Chaperones

Great Lakes Science Center recommends one adult chaperone for every five students. Chaperones within the one-to-five ratio will receive free admission. Additional adults must pay the posted student rates.

## Educator Resources

We want to make it easy to prepare for your day at the Science Center. Visit [GreatScience.com](http://GreatScience.com) and click on Educators>Educator Resources>Online Resources where you'll find a wide range of materials to help prepare you and your classroom for your visit.

## Lunch Options

Please let us know at the time of reservation if you plan to eat lunch at the Science Center. A reserved lunch space is included with all field trip reservations. Schools are welcome to bring brown-bag lunches to be enjoyed in our group lunch space or outdoors along the harbor (weather permitting). Pre-ordered boxed lunches are also available through the Science Center's Café. Please be sure to let our reservation specialist know if you plan to order lunch. A menu and ordering information is included in your confirmation packet. All pre-ordered lunches must be confirmed and paid for at least 72 hours before your visit.

## The Science Store

The Science Store carries a large selection of educational items that complement our exhibits and films. Advanced orders can be placed using the Grab Bag order form included in your confirmation packet. Please call the Science Store at 216-696-5575 for more details.

## 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.





Great Lakes Museum of Science, Environment, and Technology  
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