

# EDUCATIONAL PROGRAMS FOR GROUP FIELD TRIPS

## DISCOVER A MOSI FIELD TRIP

MOSI offers educators content-driven field trips that are fun, interactive learning opportunities for students in STEAM education. Let MOSI be an extension of your classroom to help meet your standards in a hands-on, inquiry-based and engaging way. Add a program to your field trip to enrich your students' learning experiences.

### KINDERGARTEN - 2ND GRADE

#### Butterfly Boogie (Life Science)

Explore the life cycle of a butterfly from caterpillar to chrysalis to butterfly. Discover which plants attract butterflies and serve as food for caterpillars. See the butterflies up close and personal in our butterfly garden. SC.L. 14, SC.N.1, SC.N.3

#### Up, Up, and Away (Space)

Explore the world of space travel through the eyes of an astronaut. Learn the parts of a rocket and then blast rockets up in the air. Finish your journey with a taste of astronaut ice cream. MA.A.1, SC.E.5, SC.K.N, SC.2.N

#### Kids' Chemistry (Chemistry)

Examine the states of matter - solids, liquids, and gases. Mix common household items to explore physical and chemical changes. Play with mysterious ooze that you create. MA.B.1, SC.N.1, SC.N.2, SC.P.8

#### Android Inventors (Robotics and Coding)

Be the problem solvers of tomorrow! Build and code a dynamic science rover that follows your command. Explore different ways scientists and engineers reach remote places using robots. Investigate how sensors work with hands-on and "minds-on" experimentation. SC.P.13.1, SC.P.12.1, SC.P.13.4, MAFS.MD.2.3

### 3RD - 5TH GRADE

#### Cycle of Life (Life Science)

Take your students' learning on an adventure! Journey through the life cycles of plants and animals to discover the amazing transformations they go through. Learn the difference between complete and incomplete metamorphosis. End the class with an immersive visit to the MOSI Butterfly Garden. SC.L. 14, SC.N.1, SC.N.3

#### Mission: Moonbase (Space)

Prepare for liftoff as you journey to one of Earth's lunar colonies. Experience what it would be like to work and live in a lunar colony. Your students will work together in hands-on zones as they discover topics in multiple areas including lunar base operations, engineering, biosciences, and robotics. Journey out to the lunar surface to ensure that the solar flare shield is functioning properly. SC.N.1, SC.E.5



#### Totally Ooey Goey Science (Chemistry)

Take ordinary things and make slime that will ooze through your fingers. Experiment with physical and chemical properties of matter to create colorful acid/base reactions and reactions that heat up, cool down, or foam out of control. SC.P.8, SC.P.9, MA.A.5, MA.B.2

#### Scene of the Crime (Forensic Science)

A crime was committed and there's a mystery to solve! You and your team of detectives must analyze fingerprints, hair and other mysterious pieces of evidence in the lab to crack the case. Apply the tools and techniques of forensics to solve a simulated crime. SC.N.1, SC.N.2, SS.B.1, MA.A.4

#### Stormy Weather (Weather)

Be prepared for anything in this "low pressure" class that shows how and why weather patterns change. Learn about the tools used by meteorologists, see a cloud in a bottle and learn about the rain cycle. Find out about lightning safety, hurricane preparedness, and see how many drops your cloud can hold before it "rains" inside a plastic cup. SC.3.E.6.1, SC.4.E.6, SC.5.E.7.4

#### Kinetic Art (Engineering)

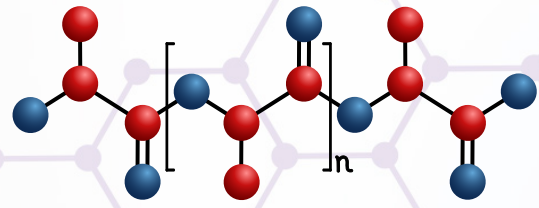
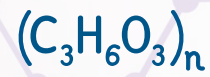
Experience the action of art in motion as students master the mechanics of movement by building a Rube Goldberg-style machine. Teams work together to build a complex machine using pulleys, gears, marbles, and other engineering contraptions. Combining fundamental forces with creative invention, students will experience the pride of building a wild, moving chain reaction. SC.E.5.4, SC.N.1.1, SC.P.10.2, SC.P.12.2, SC.P.13.1

#### Robot Engineers (Robotics and Coding)

Take on the role of a NASA engineer to build and design a Mars rover. Use your imagination and problem-solving skills to guide robots across various terrains to collect samples. Discover amazing places in our solar system while exploring the field of robotics. SC.N.1, SC.E.5, SC.P.10, SC.P.11, MA.G.5.2, SC.E.5.2, SC.N.2.1

#### MOSI Backwoods Walk (Environmental Science)

Join MOSI on the wild side of science. Take a walk in MOSI's Backwoods - an educational forest - filled to the brim with local flora and fauna, as well as some common invasive species in Florida. This class focuses on local plants, as well as human interaction with the local environment. Come take a walk in the shade and see the power of learning with your budding naturalists! Please note that this class takes place outside, so dress appropriately! SC.K.L.14.3, SC.1.L.16.1, SC.1.L.17.1, SC.2.L.17.1, SC.3.L.14.1, SC.3.L.17.2, SC.4.L.17.4, SC.4.L.17.2



## GRADES 6 - 8

### MOSI's Jr. Investigative Health Experience (Life Science)

#### Program Length - 1 hour

Expose students to important health topics concerning cardiovascular health. Dissect a sheep's pluck, which is the trachea, lungs and heart of the animal. Students will be able to observe not only the above-mentioned organs but also the tissues, valves and muscles that are vital to proper organ function. Students will also relate certain methods of dissecting this specimen to a prerecorded segment of an actual open-heart surgery that will be shown during the class. At the end of the program, students may ask questions about the latest information regarding heart and lung health. SC.L.14, SC.L.15

\*Additional lab fee applies

## GRADES 6 AND UP

### Ridiculous Reactions (Chemistry)

Become a chemist and experience what happens when the elements come into contact with each other. Create hot ice and learn how the reaction helps people that live in colder climates. Make colorful Elephant Toothpaste, then finish the class by creating a mini-firework and art sculpture from heating baking soda and powdered sugar. It promises to be a blast. SC.P.8, SC.P.9, SC.

### Materials Madness (Materials Science)

Use chemistry and physics to test the durability and structure of different substances. Stretch a garbage bag to see if it holds one gallon of water without breaking. Create PVA slime and learn about different polymers. Create a concoction that will disintegrate steel wool. This class will stretch your understanding of STEAM. SC.P.8, SC.P.9, SC., SC.N.1

### CSI Tampa (Forensics Science)

Challenge your students to solve a simulated crime by performing a variety of techniques used by forensic scientists in the DEA and FBI labs. Students will analyze evidence such as hair and blood samples and use chemistry to identify unknown substances to solve a simulated crime. Go behind the scenes of this fascinating application of science and technology. SC.N.1, SC.L.16

### The Code of Life (Life Science)

Explore why DNA is considered the "blueprint of life" in this introduction to its coded structure and the role that it plays in genetics. Extract DNA from human cheek cells and learn why each step of the procedure is important. Run gel electrophoresis to conduct a DNA fingerprint simulation in this exploration of biotechnology. SC.N.1, SC.L.16

### Vital Signs (Life Science)

Dissect a sheep's heart, lungs and trachea to understand how they work. Learn to measure blood pressure in this exploration of respiratory and circulatory physiology. SC.L.14, SC.L.15, HE.C, HE.B, HE.P

\*Additional lab fee applies



### Investigative Health (Life Science)

#### Program Length - 1.5 hours

Through hands-on stations (such as suturing, tools of the trade, and engineering) expose students to important health topics. Examine the heart, trachea and lungs of a mammal through dissection. Investigate how the heart and lungs work together to oxygenate and circulate blood throughout the body. Learn why interpreting an EKG graph is important for good health. SC.L.14, SC.L.15, HE.C, HE.B, HE.P

\*Additional lab fee applies

## PLANETARIUM PROGRAMS

### Moon Madness (Pre-K - First Grade) Capacity - 46

Follow the story of Larry, a cat who managed to follow his owner to a futuristic colony on the Moon's surface. Learn about our moon and its phases and take a journey to see other moons of the solar system. SC.N.1, SC.E.5

### Starry Night (Kindergarten - 2nd Grade) Capacity - 46

The night sky has been both a source of entertainment and a useful learning tool for humans. Listen to some of the ancient sky myths about Orion and why his shoulder is red, why Little Bear seems to never leave the sky, and how the Sun travels across our sky. SC.N.1, SC.E.5

### Planets (3rd Grade and Up) Capacity - 46

Take an exciting tour of the Solar System, complete with amazing views ranging from our planet to the denizens of the Kuiper Belt! Learn why Mercury is not the hottest planet in our Solar System, why the exploration of Mars is essential to the future of humans, and what planets are visible in the night sky. SC.N.1, SC.E.5

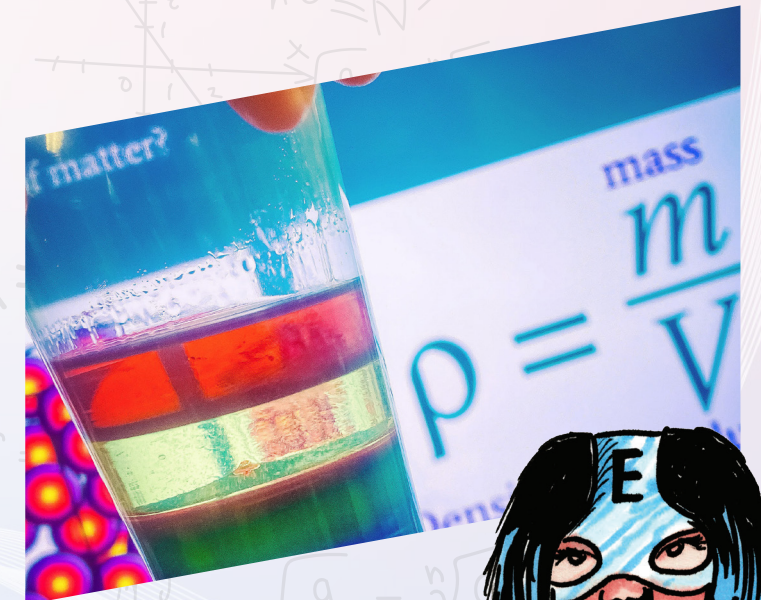
### Seasons in Space (6th Grade and Up) Capacity - 46

Our planet Earth is in constant motion and it is that motion that helps our planet create the seasons. From the flower blooms of spring and the hottest of summer days, to the dazzling colors of autumn and the chilliest of winter nights, all of which are caused by the intricate dance of the Earth and Sun. Learn which forces are at work to create these phenomena and how they affect the night sky. SC.N.1, SC.E.5

### Mapping the Universe (8th Grade and Up) Capacity - 46

Celestial navigation was a key part in how humans eventually explored the world around them and will become a key part in exploring the depths of outer space. Learn about the breakdown of the horizon into the cardinal directions, how we use light-years and parsecs, and how rapidly spinning pulsars are seen as "light-houses" to guide mankind to distant star systems! SC.N.1, SC.E.5

# HOW TO SCHEDULE A PROGRAM



## HOW TO SCHEDULE A MOSI FIELD TRIP

### Reservation

1. Review the educational offerings in the School Programs Guide and select the program(s), date(s) and time(s) for your MOSI experience.
2. Call the Reservations Office or fill out a form at <https://www.mosi.org/book-your-field-trip> at least two weeks or more prior to your program date and have the following information ready:

- School or organization name
- Complete address and telephone number
- Contact person/group leader
- Number of children and adults
- Grade/age level
- Arrival and departure time
- Program preferences

3. Please divide your classes into smaller groups to accommodate the capacity of the education program you have selected. Larger groups should plan a longer visit to MOSI to facilitate the rotation of students through the selected programs.
4. All minors are required to have a waiver completed and hand-signed by their parent or legal guardian in order to participate in the Sky Trail Ropes Course. Waivers may be downloaded from the MOSI website, completed in advance and presented to the Ropes Course Staff when checking-in. A PDF version will also be sent to you with your booking confirmation. Adults wishing to participate will be required to sign an adult waiver.

### Payment

- A \$50 deposit or Letter of Intent **must be received at least two weeks prior** to the group visit. Deposit can be made with cash, check, credit card, or purchase order payable to MOSI.
- Groups must consist of a minimum of 15 people to receive group admission rates.
- The balance is due upon arrival at MOSI. To receive group rates, one payment is required for the entire group, both students and adults.
- MOSI membership and special passes do not apply to student or chaperone group rates.
- Consult the program page for specific registration and alternate payment requirements.
- Rates in the School Program Guide apply to school and youth groups that consist primarily of students and children.

### Cancellation

- A refund of the deposit, minus a processing fee of \$15 will be issued to those groups cancelling up to one week prior to the visit. No-shows will forfeit the deposit.

### Confirmation

- A confirmation packet that includes an invoice, confirmation letter, map and information about parking, will be emailed within two weeks after receipt of your reservation.
- Mail your deposit to "Education Reservations." The deposit ensures that space is reserved for your group in the requested program(s) and time(s).

### Chaperone Requirements and Responsibilities

MOSI requires the following chaperone ratios\*

Preschool	1 adult per 5 students
Elementary/Middle	1 adult per 10 students
High School	1 adult per 15 students

\*Special needs groups - adult to student ratio as needed by group.

- All required chaperones receive free admission to MOSI and all programs except the Sky Trail Ropes Course. Adults accompanying the group beyond the required number of chaperones pay adult rates.
- **Chaperones and adults are responsible for the behavior of the group and are required to supervise and stay with students at all times during the visit to MOSI.**

