

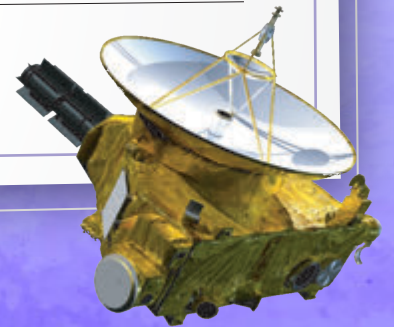


MARYLAND  
SciENCE CENTER

# OPPORTUNITIES

The Maryland Science Center's Field Trip and Traveling Science Program Guide

## 2018/2019



# Frequently Asked Questions

## General Questions About Visiting the Maryland Science Center

### What are the costs?

ALL MARYLAND STUDENTS AND CHAPERONES VISIT THE EXHIBIT HALLS FOR FREE.

IMAX, Planetarium, Kids Room, enrichment experiences, and other programs are available as add-ons. For a full listing of additional options and pricing, including pricing for non-Maryland schools, see pg. 6.

### Do you provide guided tours?

No. We encourage you to experience the museum through self-exploration. We offer structured educational programs.

### How long does it usually take to go through the general exhibits?

We recommend allotting approximately two hours to visit the general exhibits. More in-depth investigation will require additional time.

### What should I do upon arrival?

When you arrive, leave your students on the bus while you check in the group. You will be issued a sticker for every student, teacher, and chaperone. Once everyone is accounted for, you may enter the Maryland Science Center and enjoy your visit.

### Is a deposit required? What are the accepted payment methods?

#### Who should I make the check out to?

No deposits are needed. All payments are due on the date of arrival. Payments can be made in the form of cash, credit (Visa, MasterCard, American Express, or Discover), or a check made out to the Maryland Science Center.

Non-Maryland schools must bring payment on the day of their visit. Maryland schools who plan on using a purchase order or requesting an invoice must do so at the time of their reservation—not on the day of their visit.

### What happens if my numbers decrease or increase the day of visit?

You will only need to pay for the actual attendees. If you have optional programs that are limited by capacity, we will do our best to accommodate everyone.

### Can teachers preview the museum before their group visits?

Yes. All Maryland teachers are admitted to the exhibit halls free of charge, with a school ID or pay stub.

## Questions About the Traveling Science Program (TSP)

Our Traveling Science Program vans begin their educational journeys in Maryland and beyond for the 2018-2019 school year starting September 24, 2018.

### How do I arrange for TSP to visit my school?

Bookings are accepted on a first-come, first-served basis. Contact the TSP Reservations Department at 410-545-5968 or email outreach@marylandsciencecenter.org. A member of the TSP Reservations Department can answer questions, offer scheduling suggestions, review costs, and book the date you select for TSP to visit your school.

### When can I phone the TSP Reservations Department?

Staff are on hand Monday through Friday from 11am until 5pm. Certain months fill up quickly so phone early with your desired program, date, and time.

[TSP Pricing on pg. 6](#)  
[TSP Programs on pg. 25](#)



# Table of Contents

Trip Checklist _____	pg. 4
Pricing _____	pg. 6
Special Opportunities for School Groups _____	pg. 8
Earth & Nature Exhibits _____	pg. 9
Health & Human Body Exhibits _____	pg. 9
Early Childhood Exhibits _____	pg. 10
Physics & Phenomena Exhibits _____	pg. 10
Space & Aerospace Science Exhibits _____	pg. 11
Enrichment Experiences _____	pg. 13
Schedule by Time & Date _____	pg. 19
Traveling Science Program _____	pg. 25

## The Science Store

Our store offers a wide selection of items that complement our programs and exhibits. Kits, games, teaching aids, resource books, gifts, and souvenirs are all available for purchase.

The Science Store is open during regular Maryland Science Center hours of operation. We offer educators a 10% discount with proper ID.

For groups who don't have time to shop during a visit, pre-packaged science sacks are available for advance purchase. The sacks are \$3 each and can be customized according to the age of your group. Please order at least two weeks prior to your visit.

Call us at 410-545-5924.

# Stay Connected

## EMAIL

**Camp-In** [campin@marylandsciencecenter.org](mailto:campin@marylandsciencecenter.org)

**Family Science Night** [famscinight@marylandsciencecenter.org](mailto:famscinight@marylandsciencecenter.org)

**Traveling Science Programs** [outreach@marylandsciencecenter.org](mailto:outreach@marylandsciencecenter.org)


**Observatory** [observatory@marylandsciencecenter.org](mailto:observatory@marylandsciencecenter.org)

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## ONLINE


**Website** [www.marylandsciencecenter.org](http://www.marylandsciencecenter.org)

 [Facebook.com/MarylandScienceCenter](https://Facebook.com/MarylandScienceCenter)

 [Youtube.com/MDSscienceCenter](https://Youtube.com/MDSscienceCenter)

 [Twitter.com/MDSscienceCenter](https://Twitter.com/MDSscienceCenter)

 [Pinterest.com/MDSscienceCenter](https://Pinterest.com/MDSscienceCenter)

 [Instagram.com/MDSscienceCenter](https://Instagram.com/MDSscienceCenter)

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## PHONE

**Field Trip Reservations** 410-545-5929

**Camp-In Programs** 410-545-5955

**Family Science Night** 410-545-5968

**The Science Store** 410-545-5924

**Traveling Science Program** 410-545-5968

**24 Hour Information Line** 410-685-5225

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**Join the Maryland Science Center's E-Community** and receive information on new exhibits and special educator resources. To sign up visit [www.MarylandScienceCenter.org](http://www.MarylandScienceCenter.org) and click "Sign Up for Emails" in the top right corner of the screen.

# Trip Tips for Teachers

- Provide several challenges for students to meet during their visit
- Create questions that require students to read, manipulate, observe, and interact with exhibits
- Prepare your chaperones with trip information such as agendas and schedules, as well as copies of the Chaperone Guide found below
- Include all parents of students attending in your chaperone count even if they did not accompany you on the bus
- For the safety and benefit of all our visitors, school groups without the proper number of chaperones (one adult per ten students) will not be admitted to the Maryland Science Center
- Make sure your students are easily identifiable to your chaperones and our staff. There can be hundreds of students attending MSC on the day of your visit. If possible, have them wear the same color shirts or shirts with the school logo on them

## For Your Students

- Prepare a schedule of the day's activities, including when and where lunch is to be eaten, as well as any special programming that your students are scheduled to attend
- Remind your students that each is a representative of the school and needs to behave appropriately while visiting MSC
- Inform your students that each must stay with his or her chaperone at all times

## Important Information

If you must cancel your field trip, please call the MSC reservationist at least one full calendar week before your scheduled visit. Those who fail to provide a week's notice will be charged a late cancellation fee of \$75 or 25% of the total reservation, whichever is higher. There is no charge to reschedule due to a school closure or weather emergency.

In the event of severe weather, the Maryland Science Center may close. Watch WBAL-TV for weather-related closings. To verify we are open in case of inclement weather, please phone the 24-hour information line after 7am on the day of your visit: 410-685-5225. Following a weather emergency, call the MSC reservationist to reschedule.



## Scavenger Hunt

A scavenger hunt to use during your visit can be downloaded from MSC's website.

Visit [www.marylandsciencecenter.org](http://www.marylandsciencecenter.org) and navigate to Learn and then select Resources. The Scavenger Hunt can be found in the Educator Resources section, along with other activities to supplement your visit!

# MSC Chaperone Guide

## Chaperone Tips

- Know how many students are in your group and do a head count from time-to-time, especially when moving from one level to another
- Know the name of every student in your group
- Provide students with information on where they are going and what they will see
- Be aware of any goals the teacher set for the students' visit
- As you walk through exhibits, challenge your students to think about what they are seeing by asking thoughtful questions that explore the HOW, WHAT, WHEN, WHERE, and WHY of science

## Important Policies To Know

- Chaperones are required to remain with their students AT ALL TIMES
- Groups of students are not permitted to visit MSC without an adult chaperone
- Chaperones are responsible for APPROPRIATE BEHAVIOR of all students in their group
- Groups exhibiting inappropriate behavior will be asked to leave the Science Center without a refund

# Information to Have Before Calling to Book Your Reservation

Programs are scheduled on a first-come, first-served basis. Please call early to ensure your activities and visit dates are available.

## Tell Us About Yourself and Your School

Your Full Name (Mr/Mrs/Ms/Dr) \_\_\_\_\_

Name of Contact on Visit Date  
(if different from above) \_\_\_\_\_

School Name \_\_\_\_\_ Grade(s) \_\_\_\_\_

Type of School:  Public  Private

School Address \_\_\_\_\_

City/State/Zip Code \_\_\_\_\_

County (Maryland Only) \_\_\_\_\_

Contact Phone Number \_\_\_\_\_

Email \_\_\_\_\_

I would like to receive emails about upcoming teacher workshops and special educator resources

We recommend that you come to visit MSC prior to your field trip in order to familiarize yourself with the exhibits and plan challenges for your students. The Maryland Science Center offers FREE ADMISSION to the exhibit halls to Maryland teachers when visiting without a school group throughout the year. Upon arrival, present your educator identification (school ID, payroll receipt, etc.) to a ticket agent.

## Tell Us About Yourself and Your Group

Number of Students in Group \_\_\_\_\_

Number of Teachers \_\_\_\_\_

Number of Chaperones \_\_\_\_\_

Grade Level \_\_\_\_\_

Date of Visit \_\_\_\_\_

Time of Arrival \_\_\_\_\_

*\*Please have a second date in mind in the event that your first choice is not available.*

## Tell Us About What You Want To Do

Enrichment Experience (Title of Program) \_\_\_\_\_

St. John Properties IMAX (Title of Program) \_\_\_\_\_

Davis Planetarium (Title of Program) \_\_\_\_\_

*\*Please have alternate program choices in mind in the event that your first choice is not available.*

## Calculate the Cost of Your Trip

	Student	Teacher & Chaperone
Admission	_____	_____
Enrichment Experiences	_____	<b>FREE</b>
Planetarium	_____	_____
Kids Room	_____	<b>FREE</b>
IMAX	_____	_____
Total Fee for Students	_____	_____
Total Fee for Teachers/Chaperones	_____	_____

**Reminder: You need ONE CHAPERONE for every TEN STUDENTS**

## Booking Information

Phone the Maryland Science Center Reservationist  
Monday-Friday: 10am-4pm  
Field Trips: 410-545-5929

## Timeline

Reservations are accepted by phone only and must be made at least FOUR WEEKS before your visit. The Maryland Science Center does not admit groups without reservations.

Confirmation: A confirmation will be mailed to you prior to your scheduled visit.

## Payment

You will pay upon arrival with cash, check, or credit card. Checks should be made payable to the Maryland Science Center. We accept Visa, MasterCard, American Express, and Discover. We will not accept purchase orders from, nor will we invoice, out of state groups.

## Other Important Information

- Group rates are valid weekdays only, October 2nd-June 14th except major holidays
- Familiarize yourself with our program grade levels and capacities
- You must have 15 people or more per program
- Please inform us of anyone with special needs or disabilities

***DON'T FORGET LUNCH***  
**See page 5**

# Lunch

Date of Visit \_\_\_\_\_

Total Number of People in Your Group \_\_\_\_\_

Group Leader \_\_\_\_\_

Organization/School Name \_\_\_\_\_

Phone \_\_\_\_\_

Fax \_\_\_\_\_

Lunch times (80 max per seating, 30 min segments)  
\_\_\_\_\_

Outside food and beverage is not permitted in Elements Cafe.

Groups can utilize the Brown Bag Zone on a first-come, first-served basis. The Brown Bag Zone is located adjacent to the Key Highway entrance.

Allow 30 minutes per seating and keep your schedule to ensure everyone in your party eats on time.

All lunches must be pre-ordered and guaranteed 72 hours prior to your scheduled visit.

All lunch orders must be paid for upon arrival the day of your visit with cash, credit card, or certified check made out to Spectra Food Services.

Please contact our Executive Chef, Chris Parker, with any menu questions or food allergies at [chris\\_parker@comcastspectacor.com](mailto:chris_parker@comcastspectacor.com) or [darrick\\_terry@comcastspectacor.com](mailto:darrick_terry@comcastspectacor.com)

To place your order, please scan and email this page to [boxlunch@marylandsciencecenter.org](mailto:boxlunch@marylandsciencecenter.org) or mail to Chris Parker, Executive Chef, Maryland Science Center, 601 Light Street Baltimore, MD 21230

**Meals are \$7.00/per person. All meals come with a beverage.**

## Hot Meals

	Quantity	Cost
Classic Cheeseburger with French Fries	_____	_____
Classic Burger with French Fries	_____	_____
Chicken Fingers (2 ea.) with French Fries	_____	_____
Hot Dog with French Fries	_____	_____
Personal Cheese Pizza	_____	_____

## Cold Meals

Ham & Cheese Sandwich with House Made Chips	_____	_____
Turkey & Cheese Sandwich with House Made Chips	_____	_____
Chicken Caesar Wrap with House Made Chips	_____	_____
Peanut Butter & Jelly with House Made Chips	_____	_____
Garden Salad	_____	_____

## Beverages

Fountain Soda 16oz.	_____	_____
Milk	_____	_____
Hot Chocolate	_____	_____
Juice Box	_____	_____
Bottled Water 20oz.	_____	_____
Coffee (Adults Only)	_____	_____

## Add On

Fruit Cup +\$1.00	_____	_____
Granola Bar +\$1.00	_____	_____

Total Cost \_\_\_\_\_

Tax Exempt Number \_\_\_\_\_

Print Name \_\_\_\_\_

Sign \_\_\_\_\_

# Activity Pricing

The Maryland Science Center welcomes all MARYLAND students and chaperones reserving as a group to its exhibit halls FREE of charge. Plan your visit early and make your reservation today.

## Maryland School Groups Only Prices Valid Weekdays Only, October 2 - June 14 (excluding major holidays)

	Basic Admission Exhibits Only	Enrichment Experiences and Observatory	Davis Planetarium	St. John Properties IMAX Theater	Kids Room
<b>All MARYLAND Students, Teachers &amp; Chaperones</b>	FREE!	Students: \$7.50 Teachers: FREE Chaperones: FREE	Students: \$7.50 Teachers: \$7.50 Chaperones: \$7.50	Students: \$7.50 Teachers: \$7.50 Chaperones: \$7.50	Students: \$2.00 Teachers: FREE Chaperones: FREE

## School Groups Outside of Maryland Prices Valid Weekdays Only, October 2 - June 14 (excluding major holidays)

	Basic Admission Exhibits Only	Enrichment Experiences and Observatory	Davis Planetarium	St. John Properties IMAX Theater	Kids Room
<b>All NON-MARYLAND Students, Teachers &amp; Chaperones</b>	Students: \$8.50 Teachers: FREE Chaperones: \$5.00	Students: \$7.50 Teachers: FREE Chaperones: FREE	Students: \$7.50 Teachers: \$7.50 Chaperones: \$7.50	Students: \$7.50 Teachers: \$7.50 Chaperones: \$7.50	Students: \$2.00 Teachers: FREE Chaperones: FREE

## Traveling Science Program The first day of TSP programming will be September 24, 2018

<b>Assembly Programs</b> 50 minutes each Maximum: 2 per day	Up to 250 participants \$575 1 presentation	251 to 500 participants \$1050 2 presentations, same title	251 to 500 participants \$1150 2 presentations, different titles
<b>DINOSAUR or Mixing Up Science Assembly Program</b> 30 minutes each Maximum: 3 per day	Up to 100 participants \$525 1 presentation	101 to 200 participants \$675 2 presentations, same title	201 to 300 participants \$825 3 presentations, same title
<b>Classroom Programs</b> 50 minutes each Maximum: 5 per day	Up to 90 participants \$435 1-3 presentations, same title	91 to 120 participants \$535 4 presentations, same title	121 to 150 participants \$635 5 presentations, same title
<b>STARLAB Programs</b> 50 minutes each Maximum: 8 per day	Up to 120 participants \$575 1-4 presentations	121 to 240 participants \$1050 5-8 presentations	

All pricing is based on reservations booked for weekdays during normal operating hours. An additional \$70 fee is required for weekend or night programs.

A \$180 overnight fee may be charged for travel to a location more than 2.5 hours away.

# Educator Workshops and Resources



## Free Admission For Teachers

The Maryland Science Center offers FREE ADMISSION to our exhibit halls to all credentialed Maryland teachers, when not visiting with a school group throughout the year.

Upon arrival, present your educator identification (school ID, payroll receipt, etc.) to a ticket agent.

## Online Resources

A scavenger hunt to use during your visit, pre- and post-visit classroom activities, and a wide range of step by step science experiments are all available for download from the MSC website.

Visit [www.marylandsciencecenter.org](http://www.marylandsciencecenter.org) and navigate to Learn and select Resources. Links to the materials can be found in the Educator Resources section.



## Educator Professional Development 2018-2019

### Live From The Sun Saturday, March 2, 2019

- Discover the latest news about our nearest star
- See up-to-the-minute images of the Sun with sunspots, solar flares, and prominences
- Find out how the Sun's huge explosions can endanger the technologies we all rely upon
- Find out how to operate a Sunspotter, a portable solar telescope, and how you can borrow one for your classroom
- This workshop is a repetition of workshops conducted in 2016-2018. If you attended one of these previous workshops, please share this opportunity with your colleagues.



### Workshop includes:

- Demonstrations of activities for the classroom
- Presentations in the Davis Planetarium and Science on a Sphere
- Morning snacks and lunch
- \$125 stipend for each participating teacher

### To Register

Watch our website for registration information.  
<https://www.mdsci.org/learn/resources/educator-workshops/>

Registration opens approximately one month before the workshop.



*Workshop made possible  
by a grant from NASA*





# Special Opportunities for School Groups

## Camp-In

Sleepover For School Groups

**Grades:** 3<sup>rd</sup>-5<sup>th</sup>

**Capacity:** 90 children per night, plus adult chaperones **Time:** Friday, February 1

**Campers will:**

- Participate in hands-on engineering workshops
- View a planetarium show
- View an IMAX movie
- Visit three floors of interactive exhibits
- Spend a night at the museum

**Also includes:**

- Snack and Breakfast
- Participation patch

Phone 410-545-5955 or email [campin@marylandsciencecenter.org](mailto:campin@marylandsciencecenter.org) for more information.

## Family Science Night

## Family Engineering Night

Bring the Maryland Science Center to your school for an evening devoted to family fun, community-building, and learning. Family Science Night is a two-hour program designed to engage students and their families in STEM related activities.

An additional offering of Family Engineering Night is available for an evening focused exclusively on design challenges and engineering concepts.

**Your reservation includes:**

- 8 hands-on science or engineering activities
- 8 Maryland Science Center staff members, one for each activity
- Promotional flyer
- Activity passport for students
- 8 Maryland Science Center visitor vouchers for prizes

The fee for either science or engineering night is \$1500. Pricing is based on schools within an hour of Baltimore City. Additional fees may apply for schools at a greater distance. This program may be eligible for Title I Parent Involvement funding.

Call 410-545-5968 or email [famscinight@marylandsciencecenter.org](mailto:famscinight@marylandsciencecenter.org) for more information and to begin your reservation.

# Core Exhibits

*Core Exhibits are the centerpiece of our educational initiatives and form the foundation for our school programs.*

## EARTH AND NATURE

### Dinosaur Mysteries

Follow the trail of dinosaurs from dig site to field laboratory and beyond. Work together to unearth dinosaur bones at the dig site. Examine a 70 million-year-old dinosaur embryo. Get up close and personal with T. rex and over a dozen other full size dinosaurs throughout 10,000 square feet of soaring exhibit space, all in a hands-on environment.

### Follow The Blue Crab

Follow the path of the blue crab in its life journey through the Chesapeake Bay. Learn about crab mating, molting, and anatomy. Stop by to meet our giant mechanical blue crab in its watery home.

### TerraLink

Get up-to-the-minute information from around the world about Earth science events like earthquakes, tornadoes, and hurricanes. Learn how air, water, and land affect each other and how global events are affecting the Chesapeake Bay.

## HEALTH AND THE HUMAN BODY

### SciLab

Scientists in 3rd grade and up get to work in a real laboratory. Use genuine lab tools and protocols to investigate chemical and biological phenomena.



SciLab is presented by BD  
Diagnostic Systems



## Cells: The Universe Inside Us

Walk through a giant maze to find out how proteins are made. Zoom into a projected image of yourself to see brain, heart, and muscle cells. Participate in a special MSC version of Dance, Dance Revolution to find out how exercise helps your bones, brain, and heart.

## Your Body: The Inside Story

Discover the extraordinarily cool (and sometimes gross) things your body does every day. Find out what's happening inside as you digest food, exercise, and fight off germs. Lie down on a bed of nails. Walk into a giant, human heart. Squeeze a large intestine and hear some interesting digestive sounds. Test your balance, chart your reaction to stress, and calculate your body's health age.

## EARLY CHILDHOOD

### The Kids Room

The Kids Room is a sensory adventure for our early childhood visitors, from birth to eight years of age. Dive into water-play, where hand pumps, fountains, dams, river channels, and nozzles keep hands and minds in motion. Send a message racing across the room in a pneumatic tube or create a building to withstand our earthquake table. Our youngest visitors from birth-24 months of age can explore Room to Grow, a special sensory-rich zone where the pace and activity level is scaled appropriately to infant and toddler development. In the Kids Room, children can experiment with cause and effect relationships, discover the forces of gravity and magnetism, explore the natural world, and exercise their imaginations.

The Kids Room is designed as a child-led discovery space. Adult chaperones must accompany and remain in the room with children at all times. School groups are encouraged to divide into age groups as follows, so that a safe and age appropriate experience takes place: birth to five years (Pre-K and K) and six to eight years (1st, 2nd, and 3rd grades).

*“Our students loved all of it. We could have easily stayed several more hours. For some that hadn't been there, when they heard the words ‘science center’ they thought it would be boring and were pleasantly surprised. Favorites were the tornado booth and the dinosaur exhibit.”*

School Groups must have a reservation to visit the Kids Room. Please note there is an additional charge for this exhibit. See pg. 6.

**Capacity: 50 students | Time: 50 minutes**

## PHYSICS AND PHENOMENA

### Demonstration Stage

Science is an explosive, chilling, electrifying, bubbling experience on the Maryland Science Center's Demonstration Stage. Get in on the action with hands-on audience participation. Presentations are offered daily on a variety of topics.

### Newton's Alley

Explore sight, sound, transfer of energy, magnetism, light, and simple machines in this hands-on physics exhibit. Pull yourself to the stars in a pulley chair, play beautiful music on a stringless laser harp, and learn about physical forces by competing in a giant lever tug-of-war.

### Power Up—It's Electrifying!

From fuel to power generation to delivery—it takes a lot to make sure the light goes on when you throw that switch. Power Up looks at the people and power that make the electricity we use every



day. You are the energy behind the human-powered generator and you take on the role of city planner as you try to figure out the power distribution grid to electrify a city without overloading the system. Power Up is the Science Center's first permanent bilingual, Spanish-English exhibit.

### Science & Main

Science meets Main Street at the intersection of hands-on learning. Explore how gears work at the bike shop. Learn about sound in the music store. Discover the properties of flight at the airport and lots more in this streetscape exhibit that will have you strolling through science.

### Science Aglow

Science Aglow, a brand new exhibit, introduces the electromagnetic spectrum, with an emphasis on visible light and its interactions with mirrors, motion, and time. Glimpse the illusion of infinity as light bounces back and forth between mirrored surfaces. See your shadow like never before as it is temporarily captured on our glow-in-the-dark wall. Make a work of “light” art by sculpting light with prisms, mirrors, and lenses. Discover the concept of radiation as information, while exploring and experimenting with optics and the physics of light.



## The Shed

The informal activities in this gallery use the design process so visitors can learn new DIY skills or new applications for old ones. Hands-on encounters with tools and materials inspire interest in STEM and related careers as you engineer solutions to a physical challenge, construct circuits, or prototype gadgets that blend art and STEM. Creativity, innovation, and collaboration are all developed through physical and digital projects.



*The Shed is presented  
by Chesapeake Employers Insurance Company*

## SPACE AND AEROSPACE SCIENCE

### Davis Planetarium

Under the dome, the fully digital star theater turns daytime to night. Planetarium programs immerse audiences into the night and through an adventure in space. Program-related educational resources are provided to teachers on the day of your visit. Planetarium programs for school groups are by advance reservation only. Programs are offered at 10:30, 11:30, and 1:30. Please note there is an additional charge. See pg. 6.

### Life Beyond Earth

Are we alone in the universe? Is there other life on distant planets or moons? Explore new discoveries of extreme life on Earth and how they suggest where life might exist on planets and moons in our solar system. Follow the hunt for planets outside our solar system, including Earth-like worlds. Take part in surface touch table activities to find out how scientists detect distant exoplanets. Special tactile components provide accessibility to visitors with vision limitations, and Braille guides and large type guides are available for use in the exhibit.

### Science On a Sphere

Science On a Sphere is a large visualization system that uses computers and video projectors to display scientific images and animations onto the outside of a sphere. The globe appears as if suspended in air and shows dynamic images of the atmosphere, oceans, and land of a planet.

### SpaceLink

Witness the latest and greatest in space science explorations and findings in SpaceLink, a multimedia update center. Try on a flight suit. Learn about the latest news from NASA, human space travel, and planetary exploration.

# Programs and Descriptions

*Enrichment Experiences*

*IMAX Films*

*Planetarium Programs*





## Enrichment Experiences

Enrichment Experiences are small group, classroom-style programs designed to enhance our core exhibits by offering in-depth content and more hands-on examples of learning by doing.

*Advance reservation is required.*

### Circuit Solutions

Grades: 3-7

Capacity: 30 students

Length: 45 minutes



Students will:

- Assemble a working simple circuit
- Test insulators and conductors
- Add switches to turn on electrical components

### DNA Discovery

Grades: 4-8

Capacity: 30 students

Length: 45 minutes



Students will:

- Observe and analyze their personal genetic traits
- Translate genetic code into traits to make a unique creature
- Extract plant DNA to see what it looks like up close and in person

### Engineered by Design

Grades: 3-8

Capacity: 30 students

Length: 45 minutes



Students will:

- Explore the engineering design process (imagine, plan, create, test, improve)
- Be challenged to follow the design process in order to design a solution for a given task

## Radical Reactions

Grades: 1-2

Capacity: 30 students

Length: 45 minutes



Students will:

- Use real science tools to run experiments
- Learn the science behind various chemical reactions
- Explore simple chemistry

## Sensory Mystery

Grades: PK4-1

Capacity: 30 students

Length: 45 minutes



Students will:

- Use senses to solve a mystery
- Discover how the brain is connected to other parts of the body by nerves
- Experiment to see how eyes, ears, skin, and noses function

## Soap Bubble Math

Grades: 2-3

Capacity: 30 students

Length: 45 minutes



Students will:

- Participate in a mathematical problem-based learning experience
- Gather and share data through group participation
- Design a question and procedure, guided by standards, to determine measurable information about soap bubbles

*“The hands on activities were great. All of my students were fully engaged with the activities and they absolutely loved the enrichment activities in the classroom.”*

## Stats Lab

Grades: 6-8

Capacity: 30 students

Length: 45 minutes



Students will:

- Collect and analyze statistical data generated by toys and games
- Calculate frequencies and probabilities
- Compare predicted and observed outcomes

## Sudsy Science

Grades: PK4-1

Capacity: 30 students

Length: 45 minutes



Students will:

- Experiment with various bubble wands and predict bubble shapes
- Combine materials to make a better bubble solution

## Synthetic Biology

Grades: 9-12

Capacity: 30 students

Length: 45 minutes



Students will:

- Survey ways that humans alter DNA to benefit themselves
- Explore the intersection of technology and society
- Discuss ethical issues related to engineered organisms

## Wind Works

Grades: 2-5, 6-8

Capacity: 30 students

Length: 45 minutes



Students will:

- Build a wind powered machine using a variety of materials
- Create a cost effective wind-powered generator (grades 6–8) or an effective wind-powered lifting machine (grades 2–5)
- Measure using tools such as anemometers and multi-meters

## Ziplock Chemistry

Grades: 3-8

Capacity: 30 students

Length: 45 minutes



Students will:

- Conduct chemical reaction experiments inside plastic bags
- Uncover how matter and energy are transformed



Earth & Nature



Health & Human Body



Early Childhood



Physics & Phenomena



Space & Aerospace

# IMAX Theater

IMAX films offer an immersive, larger-than-life exploration of key topics directly related to our core programs. Advance reservation is required.

## Backyard Wilderness

Grades: PreK-12

Capacity: 390

Length: 45 minutes



NEW  
THIS YEAR

- View close-up footage of animals and discover a picture of life in the woodlands around your home
- Follow the cycle of the seasons as animals find food and raise their young
- Be inspired to get out and explore the world for all the life that surrounds you

## Dream Big 3D

Grades: 3-12

Capacity: 390

Length: 40 minutes



- See engineering in a new light, as an exciting, creative, heroic field
- Watch today's young engineers as they create life-saving, world-altering marvels to make the world safer, more connected and more awe-inspiring
- Inspire students of all backgrounds to become the innovators of the 21st century

## Extreme Weather

Grades: 3-12

Capacity: 390

Length: 40 minutes



NEW  
THIS YEAR

- Explore the interconnected system of weather that causes tornadoes, collapsing glaciers, and drought-driven wildfires
- Discover some of the ways the dynamic forces of weather are shaping planet Earth
- Follow researchers as they uncover information to help us adapt to our ever-changing weather

## Flight of the Butterflies

Grades: 2-12

Capacity: 390

Length: 45 minutes



- Follow the migration of the monarch butterfly from Mexico to Canada and a determined scientist's decades-long search to find their hidden overwintering sites
- Watch the amazing transformation from pupa to adult monarch
- See hundreds of millions of migrating monarchs in the remote mountains of central Mexico



## Island of Lemurs: Madagascar

Grades: K-12

Capacity: 390

Length: 40 minutes



- Travel to the remote and lush land of Madagascar
- Lemurs arrived here millions of years ago as castaways and have evolved into hundreds of various and beautiful forms
- Follow the adventure of these playful explorers, now highly endangered

## Journey To Space 3D

Grades: 3-12

Capacity: 390

Length: 40 minutes



- Examine the challenges of sending humans into deep space, including a round-trip voyage to Mars brought to life on the IMAX screen
- Learn about the important role of the International Space Station
- Discover how NASA's shuttle program has led to an exciting new era of space exploration



Earth & Nature



Health & Human Body



Early Childhood



Physics & Phenomena



Space & Aerospace

# Planetarium

Digital Davis Planetarium programs immerse audiences into the night and through an adventure in space. Program-related education resources are provided to teachers on the day of your visit. Planetarium programs for school groups are by advance reservation only.

## Live Planetarium Programs

### Beyond Your Backyard Sky

Grades: 6-12

Capacity: 140

Length: 45 minutes



- Explore the current sky and compare observations of stars and planets
- Launch from a backyard view of the sky into space and through the solar system and Milky Way galaxy
- See how the stars and planets of the nighttime sky fit into the universe as a whole

### Exploring Planets

Grades: 3-5

Capacity: 140

Length: 45 minutes



- Fly through the solar system to investigate features of planets and dwarf planets
- Explore characteristics of a planet
- Learn about current space missions

### Seasons in the Sky

Grades: 5-7

Capacity: 140

Length: 45 minutes



- Tour seasonal constellations of the night sky
- Explore reasons for the seasons
- Learn how to use a starmap for backyard stargazing

### Shapes in the Sky

Grades: 1-2

Capacity: 140

Length: 35 minutes



- Look for familiar shapes among the stars in the sky
- Imagine and create personal star patterns
- Observe patterns of the motion of stars and the Moon

### The Sky Tonight

Grades: 3-5

Capacity: 140

Length: 45 minutes



- Observe current objects in the night sky
- Find and identify stars, planets, and phases of the Moon
- Learn how to use a starmap for backyard stargazing

## Recorded Planetarium Program

### Black Holes: Journey into the Unknown

Grades: 5-12

Capacity: 140

Length: 35 minutes



- Find out how a black hole is formed and where they can be found
- Discover what effect a black hole can have on celestial bodies in the universe
- Use a model to imagine what might happen if you got too close to a black hole

### One World One Sky: Big Bird's Adventure

Grades: PreK-2

Capacity: 140

Length: 35 minutes



- Follow Sesame Street's Big Bird and Elmo as they explore the night sky
- Meet Hu Hu Zhu, a Muppet from the Chinese co-production of Sesame Street
- Take an imaginary trip to the Moon with Elmo and Hu Hu Zhu

### Solar Superstorms

Grades: 5-12

Capacity: 140

Length: 35 minutes



- Discover the inner workings of the Sun
- Learn how changes in the magnetic fields that surround the Sun can result in solar flares and eruptions
- Understand how modern life technologies are vulnerable to the power of the Sun

### Solar System Odyssey

Grades: 3-7

Capacity: 140

Length: 35 minutes



- Go on a futuristic journey through the solar system
- Set out on a mission to discover a new home to colonize
- Learn what makes a world an ideal habitat for life and what it would take for humans to live there

*“Our students learned about space (the relationship between the sun, moon, and earth) prior to us coming to the science center—so it was really exciting for them to have more information as well as make connections to what they had learned about in class.”*

## Observatory

### See the Sun

Grades: 3-12

Capacity: 25 people

(includes students & chaperones)

Length: 45 minutes



- Observe the Sun through safe solar filters to reveal sunspots, flares, and prominences
- Learn the power of the Sun as a star by exploring its many wavelengths of light with special attention to ultra-violet (UV) light
- Solar viewing as weather permits - telescope views of ground-based objects substituted under cloudy conditions

### Night Under the Stars

Grades: 3-12

Capacity: 25 people

(includes students & chaperones)

Length: 2 evening hours



Contact Observatory Manager for availability:  
410-545-2985 or [observatory@marylandsciencecenter.org](mailto:observatory@marylandsciencecenter.org)

- View the Moon, planets, and stars according to the season
- Admission is \$10.00 per person (\$100 minimum)
- Program depends on the weather, so rain dates will be arranged



Earth & Nature



Health & Human Body



Early Childhood



Physics & Phenomena



Space & Aerospace

# Dates and Times

## October- December

### SCIZONE 1, 2, 3

	Monday	Tuesday	Wednesday	Thursday	Friday
10:30am					
11:30am					
12:30pm					
1:30pm					

**TEACHER'S CHOICE OF**  
Circuit Solutions, DNA Discovery, Engineered by Design, Radical Reactions, Sensory Mystery, Soap Bubble Math, Stats Lab, Sudsy Science, Wind Works, and Ziplock Chemistry

### SCIZONE 4

	Monday	Tuesday	Wednesday	Thursday	Friday
10:30am		Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology
11:30am		Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology
12:30pm		Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology

### KIDS ROOM

	Monday	Tuesday	Wednesday	Thursday	Friday
10:30am		Discovery Space	Discovery Space		Discovery Space
11:30am		Discovery Space	Discovery Space	Discovery Space	Discovery Space
12:30pm		Discovery Space	Discovery Space	Discovery Space	Discovery Space
1:30pm		Discovery Space	Discovery Space	Discovery Space	Discovery Space

# October- December

## IMAX

	Monday	Tuesday	Wednesday	Thursday	Friday
10:30am		Teacher's Choice	Beavers	Dream Big	Journey to Space
11:30am			Flight of the Butterflies	Forces of Nature	Dream Big
12:30pm			Humpback Whales	Journey to Space	Deep Sea
1:30pm			Forces of Nature	Deep Sea	Flight of the Butterflies

## PLANETARIUM

	Monday	Tuesday	Wednesday	Thursday	Friday
10:30am		<b>TEACHER'S CHOICE OF</b> Beyond Your Backyard Sky, Black Holes: Journey into the Unknown, Exploring Planets, One World One Sky: Big Bird's Adventure, Seasons in the Sky, Shapes in the Sky, The Sky Tonight, Solar Superstorms, Solar System Odyssey			
11:30am					
1:30pm					

## OBSERVATORY

	Monday	Tuesday	Wednesday	Thursday	Friday
10:30am			See the Sun	See the Sun	
11:30am			See the Sun	See the Sun	

# January-March

## SCIZONE 1, 2, 3

	Monday	Tuesday	Wednesday	Thursday	Friday
10:30am					
11:30am					
12:30pm					
1:30pm					

**TEACHER'S CHOICE OF**  
Circuit Solutions, DNA Discovery, Engineered by Design, Radical Reactions, Sensory Mystery,  
Soap Bubble Math, Stats Lab, Sudsy Science, Wind Works, and Ziplock Chemistry

## SCIZONE 4

	Monday	Tuesday	Wednesday	Thursday	Friday
10:30am		Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology
11:30am		Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology
12:30pm		Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology

## KIDS ROOM

	Monday	Tuesday	Wednesday	Thursday	Friday
10:30am		Discovery Space	Discovery Space		Discovery Space
11:30am		Discovery Space	Discovery Space	Discovery Space	Discovery Space
12:30pm		Discovery Space	Discovery Space	Discovery Space	Discovery Space
1:30pm		Discovery Space	Discovery Space	Discovery Space	Discovery Space

# January-March

## IMAX

The IMAX theater is closed for renovation until March 2019. Please call for information about IMAX shows in March.

	Monday	Tuesday	Wednesday	Thursday	Friday
10:30am		Teacher's Choice		Dream Big	Journey to Space
11:30am				Forces of Nature	Dream Big
12:30pm				Journey to Space	Deep Sea
1:30pm			Forces of Nature	Deep Sea	Flight of the Butterflies

## PLANETARIUM

	Monday	Tuesday	Wednesday	Thursday	Friday
10:30am			<b>TEACHER'S CHOICE OF</b>		
11:30am			Beyond Your Backyard Sky, Black Holes: Journey into the Unknown, Exploring Planets,		
1:30pm			One World One Sky: Big Bird's Adventure, Seasons in the Sky, Shapes in the Sky, The Sky Tonight, Solar Superstorms, Solar System Odyssey		

## OBSERVATORY

	Monday	Tuesday	Wednesday	Thursday	Friday
10:30am			See the Sun	See the Sun	
11:30am			See the Sun	See the Sun	

# April - June

## SCIZONE 1, 2, 3

	Monday	Tuesday	Wednesday	Thursday	Friday
<b>10:30am</b>	<b>TEACHER'S CHOICE OF</b> Circuit Solutions, DNA Discovery, Engineered by Design, Radical Reactions, Sensory Mystery, Soap Bubble Math, Stats Lab, Sudsy Science, Wind Works, and Ziplock Chemistry				
<b>11:30am</b>					
<b>12:30pm</b>					
<b>1:30pm</b>					

## SCIZONE 4

	Monday	Tuesday	Wednesday	Thursday	Friday
<b>10:30am</b>	Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology
<b>11:30am</b>	Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology
<b>12:30pm</b>	Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology

## KIDS ROOM

	Monday	Tuesday	Wednesday	Thursday	Friday
<b>10:30am</b>	Discovery Space	Discovery Space	Discovery Space		Discovery Space
<b>11:30am</b>	Discovery Space	Discovery Space	Discovery Space	Discovery Space	Discovery Space
<b>12:30pm</b>	Discovery Space	Discovery Space	Discovery Space	Discovery Space	Discovery Space
<b>1:30pm</b>	Discovery Space	Discovery Space	Discovery Space	Discovery Space	Discovery Space



# April - June

## IMAX

	Monday	Tuesday	Wednesday	Thursday	Friday
<b>10:30am</b>		Teacher's Choice	Journey to Space	Dream Big 3D	Journey to Space
<b>11:30am</b>			Backyard Wilderness 3D	Extreme Weather	Dream Big 3D
<b>12:30pm</b>			Flight of the Butterflies 3D	Journey to Space	Extreme Weather
<b>1:30pm</b>			Extreme Weather	Island of Lemurs	Flight of the Butterflies 3D

## PLANETARIUM

	Monday	Tuesday	Wednesday	Thursday	Friday
<b>10:30am</b>	<b>TEACHER'S CHOICE OF</b>				
<b>11:30am</b>	Beyond Your Backyard Sky, Black Holes: Journey into the Unknown, Exploring Planets, One World One Sky: Big Bird's Adventure, Seasons in the Sky, Shapes in the Sky, The Sky Tonight, Solar Superstorms, Solar System Odyssey				
<b>1:30pm</b>					

## OBSERVATORY

	Monday	Tuesday	Wednesday	Thursday	Friday
<b>10:30am</b>			See the Sun	See the Sun	
<b>11:30am</b>			See the Sun	See the Sun	



# Traveling Science Program

## ***Questions About the Traveling Science Program (TSP)***

Our Traveling Science Program vans begin their educational journeys in Maryland and beyond for the 2018-2019 school year starting September 24, 2018.

### **How do I arrange for TSP to visit my school?**

Bookings are accepted on a first-come, first-served basis. Contact the TSP Reservations Department at 410-545-5968 or email [outreach@marylandsciencecenter.org](mailto:outreach@marylandsciencecenter.org).

A member of the TSP Reservations Department can answer questions, offer scheduling suggestions, review costs, and book the date you selected for TSP to visit your school.

### **Can I bring TSP to my local library, community center, or other non-school setting?**

Yes, an additional program model is available for libraries, community centers, and non-school settings. Please contact the TSP Reservations Line at 410-545-5968 for more information.

### **When can I phone the TSP Reservations Department?**

Staff are available Monday through Friday from 11am until 5pm. Certain months fill up quickly so phone early with your desired program, date, and time.

## Assembly Programs

### Dinosaur

**Grades:** PreK-1

**Capacity:** 100 students

**Length:** 35 minutes

- Piece together the story of the dinosaurs
- Uncover a baby Maiosaur and learn what it needs to survive
- Explore fossils as a paleontologist

### Let's Get Physical

**Grades:** 2-5

**Capacity:** 250 students

**Length:** 50 minutes

*Requires a ceiling height of twenty feet or greater*

- Observe demonstrations of physical science in everyday life
- Learn the relationship between force and motion
- Explore Newton's laws of motion through interactive demonstrations and models

### Mixing Up Science

**Grades:** PreK-1

**Capacity:** 100 students

**Length:** 30 minutes

- Exploring basic concepts of chemistry
- Learn and use vocabulary relating to chemistry and experimentation
- Experience chemical reactions with visible results

### Science Unscripted

**Grades:** K-5

**Capacity:** 250 students

**Length:** 50 minutes

- Compose a unique science show by selecting experiments from our science topic cards
- Partake in a range of demonstrations including liquid nitrogen, chemical mixing, and combustion reactions

### What's the Matter?

**Grades:** K-5

**Capacity:** 250 students

**Length:** 50 minutes

- Study the states of matter through demonstrations and experiments
- Define matter and energy
- Explore the difference between chemical and physical changes

### Who Invented Electricity?

**Grades:** 3-8

**Capacity:** 250 students

**Length:** 50 minutes

- Discover the basic science behind electricity and magnetism
- Witness the intriguing discoveries of famous scientists
- Experience classic demonstrations of static electricity

## Classroom Programs

### Beyond Building

**Grades:** 3-5

**Capacity:** 30 students

**Length:** 50 minutes

- Participate in four engineering activities inspired by real-world careers
- Be introduced to engineering skills beyond building, such as sound and light manipulation
- Utilize the engineering design process

### Circuit Masters

**Grades:** 2-3, 4-6

**Capacity:** 30 students

**Length:** 50 minutes

- Explore the basics of electricity
- Incorporate different types of switches
- Test and compare insulators and conductors

### Fairy Tale Engineering

**Grades:** K-2

**Capacity:** 30 students

**Length:** 50 minutes

- Participate in three engineering activities inspired by fairy tale classics
- Act as heroes of a story by overcoming problems using engineering
- Be introduced to the engineering design process

### It's Cool in Your School

**Grades:** 5-8

**Capacity:** 30 students

**Length:** 50 minutes

- Learn about the science of cryogenics using liquid nitrogen
- Find out how different materials react to extreme cold
- Witness the relationship between pressure, volume, and temperature

### Solid, Liquid, Slime

**Grades:** K-2

**Capacity:** 30 students

**Length:** 45 minutes

- Discuss the differences between solids and liquids
- Prepare samples of chemical slime
- Conduct an investigation on slime's state of matter

## Starlab Programs

### Seasonal Stars of the Mid-Atlantic

**Grades:** 3-6

**Capacity:** 30 students

**Length:** 50 minutes

- Explore why constellations appear at different times of the year
- Locate seasonal constellations and learn when they can be seen
- Discover the location of the Moon, stars and planets in the current night sky

### Sunny Day, Starry Night

**Grades:** K-2

**Capacity:** 30 students

**Length:** 50 minutes

- Learn the basics of astronomy
- Identify what makes a constellation
- Observe constellations in the current night sky

