OPPORTUNITIES 2019/2020

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

MARYLAND SCIENCE CENTER

FREQUENTLY ASKED QUESTIONS

General Questions About Visiting the Maryland Science Center (MSC)

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 our 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.

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.

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.

Questions About the Traveling Science Program (TSP)

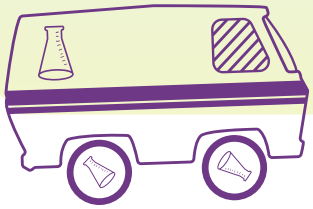
Our Traveling Science Program vans begin their educational journeys in Maryland and beyond for the 2019-2020 school year starting October 1, 2019.

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 2pm-9pm. Certain months fill up quickly so phone early with your desired program, date, and time.



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STAY CONNECTED

Email

Camp-In campin@marylandsciencecenter.org

Family Science Night famscinight@marylandsciencecenter.org

Traveling Science Programs outreach@marylandsciencecenter.org

Observatory observatory@marylandsciencecenter.org

Online

Website www.marylandsciencecenter.org

Facebook.com/MarylandScienceCenter

Twitter.com/MDScienceCenter

Instagram.com/MDScienceCenter

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.

Phone

Field Trip Reservations 410-545-5929

Camp-In Programs 410-545-5958

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

Join the Maryland Science Center's E-Community and receive information on new exhibits, events, and special educator resources. To sign up visit www.marylandsciencecenter.org and click "Sign Up for Emails" in the top right corner of the screen.

TRIP TIPS FOR SCHOOL GROUPS

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.

Scavenger Hunt

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

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.

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.

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 goals the teacher set for the students' visit.
- 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 visit prior to your field trip to familiarize yourself with the exhibits and plan challenges for your students. MSC 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	_____	***FREE***
Planetarium	_____	_____
Kids Room	_____	***FREE***
IMAX	_____	_____
Total Fee for Students	_____	
Total Fee for Teachers/Chaperones	_____	

Reminder: You need ONE CHAPERONE for every TEN STUDENTS

Booking Information

Phone the MSC 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 1-June 19 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 pg. 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 utlilize 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 christopher.parker@spectraxp.com or darrick.terry@spectraxp.com

To place your order, please scan and email this page to 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*			***School Groups Outside of Maryland****		
Basic Admission	**Students** FREE	**Teachers** FREE	**Chaperones** FREE	**Students** $8.50	**Teachers** FREE	**Chaperones** $5.00
Enrichment Experiences and Observatory	**Students** $7.50	**Teachers** FREE	**Chaperones** FREE	**Students** $7.50	**Teachers** FREE	**Chaperones** FREE
Davis Planetarium	**Students** $7.50	**Teachers** $7.50	**Chaperones** $7.50	**Students** $7.50	**Teachers** $7.50	**Chaperones** $7.50
St. John Properties IMAX Theater	**Students** $7.50	**Teachers** $7.50	**Chaperones** $7.50	**Students** $7.50	**Teachers** $7.50	**Chaperones** $7.50
Kids Room	**Students** $2.00	**Teachers** FREE	**Chaperones** FREE	**Students** $2.00	**Teachers** FREE	**Chaperones** FREE

** Prices valid weekdays only, October 1 - June 19 (excluding major holidays).*

Family Science Night (FSN) and/or Family Engineering Night (FEN)	
Family Science Night or Family Engineering Night (8 activities)	$1,500
FSN Activities PLUS 4 FEN Activities (12 activities total)	$2,250
FSN Activities AND FEN Activities (16 activities total)	$3,000

Traveling Science Program

The first day of TSP programming will be October 1, 2019.

Assembly Programs 50 minutes each Maximum 2 per day	**Up to 250 participants** $575 1 presentation	**250 to 500 participants** $1050 2 presentations, same title	**250 to 500 participants** $1150 2 presentations, different titles
Dinosaurs or Mixing Up Science Assembly Program 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
Classroom Programs 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
STARLAB Programs 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.

SPECIAL OPPORTUNITIES FOR SCHOOL GROUPS

Camp-In Sleepover For School Groups!

Grades: 3-6

Capacity: 90 children per night, plus adult chaperones

Time: Fridays and Saturdays, Winter-Spring

Campers will

- Participate in hands-on space science 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

Call 410-545-5958 or email campin@mdsci.org for more information and to begin your reservation.

Family Science Night (FSN) & Family Engineering Night (FEN)

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 FSN or FEN is $1500. See page 6 for additional programming options. 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@mdsci.org for more information and to begin your reservation.

EDUCATOR 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

Information identifying links between Next Generation Science Standards and MSC exhibits, enrichment experiences, and theater shows is available from the MSC website. This and other resources including a scavenger hunt for use during your visit and step-by-step science experiments are all available for download.

Visit www.marylandsciencecenter.org and navigate to "Learn" and select "Resources." Links and materials can be found within the "Educator Resources" section.

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

EARTH AND NATURE

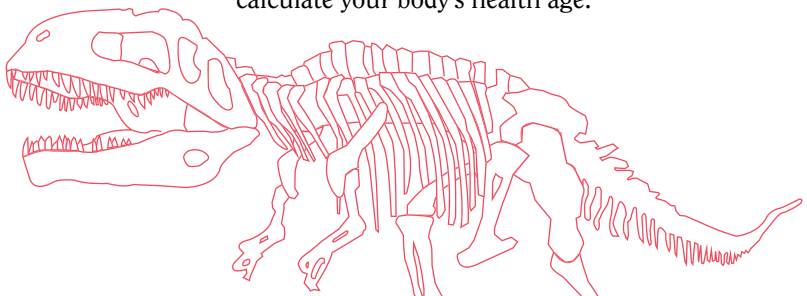
Dinosaur Mysteries

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.

"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."



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.

BD *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 and exercise. 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). School Groups must have a reservation to visit the Kids Room. Please note there is anadditional charge for this exhibit. See pg. 6.

Capacity: 50 students | Time: 50 minutes

PHYSICS AND PHENOMENA

Demonstration Stage

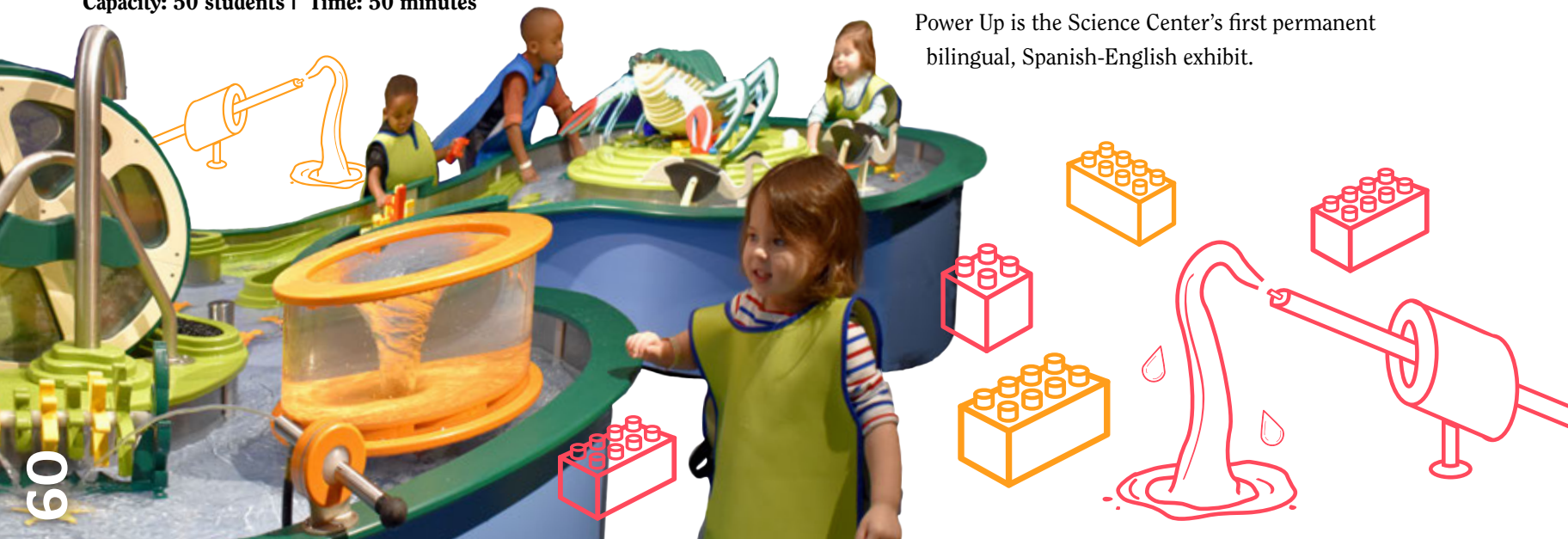
Science is an explosive, chilling, electrifying, bubbling experience on the Maryland Science Center's Demonstration Stage. Get in on the action with hands-on audience participation. Presentations are offered daily on a variety of topics.

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 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 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.

Chesapeake Employers Insurance

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. 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.

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: PreK-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:

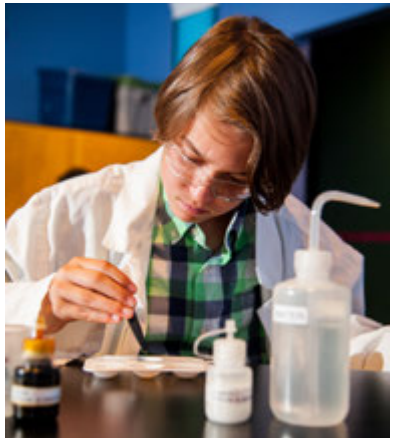
- Participate in a mathematical problem-based learning experience
- Gather and share data through group participation
- Design a question and procedure, guided by standards, to determine measurable information about soap bubbles

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



"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."

Sudsy Science

Grades: PreK-1
Capacity: 30 students
Length: 45 minutes

Students will:

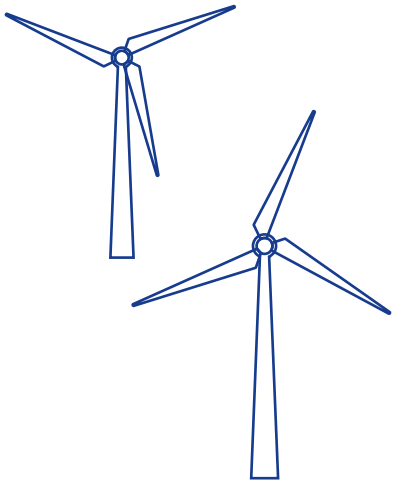
- Experiment with various bubble wands and predict bubble shapes
- Combine materials to make a better bubble solution

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 and Waves

NEW THIS YEAR

Grades: 2-5, 6-8
Capacity: 30 students
Length: 45 minutes

Students will:

- Determine what energy sources are derived from renewable and non-renewable resources and how their use affects the environment
- Create a model of an offshore wind and wave energy farm to maximize energy output then optimize your solution to tackle multiple challenges
- Create an efficient, cost effective design within a defined set of parameters (grades 6-8)

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

We want every group to have the best experience possible and recognize that the special needs of some student groups may require attendance in enrichment experiences outside their grade level.

Please ask the reservationist for advice about suggested accommodations.

ST. JOHN PROPERTIES IMAX THEATER

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

A Beautiful Planet 3D

Grades: 3-12
Capacity: 330
Length: 45 minutes
***April-June**

NEW THIS YEAR

- Gaze down on the wonders of Earth from the International Space Station for a breathtaking view of the planet
- Discover how humanity and natural powers have changed the world
- Explore life on the International Space Station, and how research done in space pushes the boundaries of human knowledge

Backyard Wilderness 3D

Grades: 1-12
Capacity: 330
Length: 45 minutes

- 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 of the life that surrounds you

Beavers

Grades: PreK–8
Capacity: 390
Length: 35 minutes

- Trek through the Canadian Rockies with a family of beavers, one of nature's greatest engineers
- Travel underwater and inside a beaver lodge for a rare look at these industrious creatures
- Watch them fell trees, construct their lodge, evade the forest's predators, and transform their environment

Dream Big 3D

Grades: 3-12
Capacity: 330
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

Expedition Chesapeake

Grades 3-12
Capacity: 390
Length: 45 minutes

- Meet scientists who study the diverse species in the Chesapeake Bay watershed
- Travel from the headwaters of the Susquehanna River to the southern end of the bay and explore the human impacts on the watershed
- Learn about how the ecosystem is changing and the efforts to protect its future health

Extreme Weather 3D

Grades: 3-12
Capacity: 330
Length: 40 minutes

- Explore the interconnected system of weather that causes tornadoes, collapsing glaciers, and draught-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 3D

Grades: 2-12
Capacity: 330
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: 330
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

FILM STILL FROM
A BEAUTIFUL PLANET

PLANETARIUM

Digital Davis Planetarium programs immerse audiences into the night and through an adventure in space.

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 Programs

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

Cosmic Colors

NEW THIS YEAR

Grades: 4-12
Capacity: 140
Length: 35 minutes

- View the human eye up close and discover what structures allow us to see the visible light spectrum
- Discover the many reasons for color to find out why the sky is blue and why Mars is red

- Explore the invisible side of the electromagnetic spectrum and see how different wavelengths can be used in everyday life

One World One Sky: Big Bird's Adventure

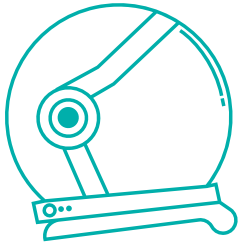
Grades: PreK-2
Capacity: 140
Length: 35 minutes

- 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

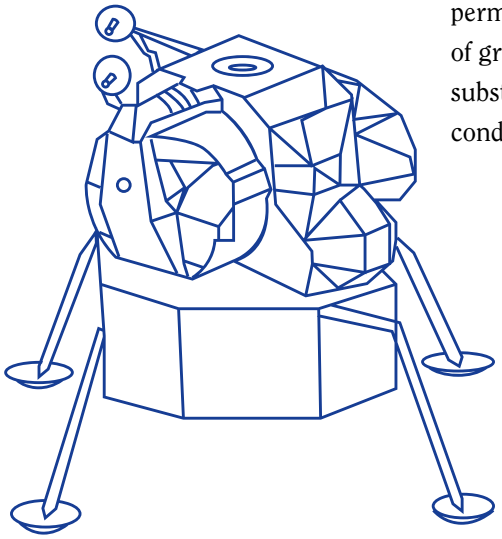
- Discover the inner workings of the Sun
- Learn how changes in the magnetic fields that surround the Sun can result in solar flares and eruptions
- Understand how modern life technologies are vulnerable to the power of the Sun



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



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@mdsci.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

"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."

DATES & TIMES *OCTOBER-DECEMBER*

SciZone 1, 2, & 3

	Mon	Tues	Wed	Thurs	Fri
10:30am		TEACHER'S CHOICE OF Circuit Solutions, DNA Discovery, Engineered by Design, Radical Reactions, Sensory Mystery, Soap Bubble Math, Stats Lab, Sudsy Science, Wind and Waves, and Ziplock Chemistry			
11:30am					
12:30pm					
1:30pm					

SciZone 4

	Mon	Tues	Wed	Thurs	Fri
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

	Mon	Tues	Wed	Thurs	Fri
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

Observatory

	Mon	Tues	Wed	Thurs	Fri
10:30am			See the Sun	See the Sun	
11:30am			See the Sun	See the Sun	

St. John Properties IMAX Theater

	Mon	Tues	Wed	Thurs	Fri
10:30am		Teacher's Choice	Journey to Space 3D	Dream Big 3D	Flight of the Butterflies 3D
11:30am		Teacher's Choice	Backyard Wilderness 3D	Extreme Weather 3D	Dream Big 3D
12:30pm		Teacher's Choice	Flight of the Butterflies 3D	Journey to Space 3D	Backyard Wilderness 3D
1:30pm		Teacher's Choice	Beavers	Flight of the Butterflies 3D	Extreme Weather 3D

Planetarium

	Mon	Tues	Wed	Thurs	Fri
10:30am		TEACHER'S CHOICE OF Beyond Your Backyard Sky, Black Holes: Journey into the Unknown, Cosmic Colors, 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					
(12:30pm not available					
1:30pm					

SciZone 1, 2, & 3

	Mon	Tues	Wed	Thurs	Fri
10:30am		TEACHER'S CHOICE OF Circuit Solutions, DNA Discovery, Engineered by Design, Radical Reactions, Sensory Mystery, Soap Bubble Math, Stats Lab, Sudsy Science, Wind and Waves, and Ziplock Chemistry			
11:30am					
12:30pm					
1:30pm					

SciZone 4

	Mon	Tues	Wed	Thurs	Fri
10:30am		Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology
11:30am		Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology
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Kids Room

	Mon	Tues	Wed	Thurs	Fri
10:30am		Discovery Space	Discovery Space		Discovery Space
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1:30pm		Discovery Space	Discovery Space	Discovery Space	Discovery Space

Observatory

	Mon	Tues	Wed	Thurs	Fri
10:30am			See the Sun	See the Sun	
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St. John Properties IMAX Theater

	Mon	Tues	Wed	Thurs	Fri
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12:30pm		Teacher's Choice	Flight of the Butterflies 3D	Journey to Space 3D	Backyard Wilderness 3D
1:30pm		Teacher's Choice	Beavers	Flight of the Butterflies 3D	Extreme Weather 3D

Planetarium

	Mon	Tues	Wed	Thurs	Fri
10:30am		TEACHER'S CHOICE OF Beyond Your Backyard Sky, Black Holes: Journey into the Unknown, Cosmic Colors, 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					
(12:30pm not available					
1:30pm					

DATES & TIMES *APRIL-JUNE*

SciZone 1, 2, & 3

	Mon	Tues	Wed	Thurs	Fri
10:30am	TEACHER'S CHOICE OF Circuit Solutions, DNA Discovery, Engineered by Design, Radical Reactions, Sensory Mystery, Soap Bubble Math, Stats Lab, Sudsy Science, Wind and Waves, and Ziplock Chemistry				
11:30am					
12:30pm					
1:30pm					

SciZone 4

	Mon	Tues	Wed	Thurs	Fri
10:30am	Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology
11:30am	Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology
12:30pm	Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology	Synthetic Biology

Kids Room

	Mon	Tues	Wed	Thurs	Fri
10:30am	Discovery Space	Discovery Space	Discovery Space		Discovery Space
11:30am	Discovery Space	Discovery Space	Discovery Space	Discovery Space	Discovery Space
12:30pm	Discovery Space	Discovery Space	Discovery Space	Discovery Space	Discovery Space
1:30pm	Discovery Space	Discovery Space	Discovery Space	Discovery Space	Discovery Space

Observatory

	Mon	Tues	Wed	Thurs	Fri
10:30am			See the Sun	See the Sun	
11:30am			See the Sun	See the Sun	

St. John Properties IMAX Theater

	Mon	Tues	Wed	Thurs	Fri
10:30am	Beavers	Backyard Wilderness 3D	Extreme Weather 3D	Dream Big 3D	Flight of the Butterflies 3D
11:30am	Backyard Wilderness 3D	Beavers	Journey to Space 3D	Extreme Weather 3D	Dream Big 3D
12:30pm	Flight of the Butterflies 3D	Dream Big 3D	Flight of the Butterflies 3D	A Beautiful Planet 3D	Backyard Wilderness 3D
1:30pm	A Beautiful Planet 3D	Extreme Weather 3D	Dream Big 3D	Flight of the Butterflies 3D	Extreme Weather 3D

**Schedule changes during Spring Break, April 6-17. Please ask a reservationist for showtimes.*

Planetarium

	Mon	Tues	Wed	Thurs	Fri
10:30am	TEACHER'S CHOICE OF Beyond Your Backyard Sky, Black Holes: Journey into the Unknown, Cosmic Colors, 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					
(12:30pm not available)					
1:30pm					

THE TRAVELING SCIENCE PROGRAM

Questions About the Traveling Science Program (TSP)

Our Traveling Science Program (TSP) vans begin their educational journeys in Maryland and beyond for the 2019-2020 school year starting October 1, 2019.

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@mdsci.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 2pm - 9pm. Certain months fill up quickly so phone early with your desired program, date, and time.

TRAVELING SCIENCE PROGRAM

Assembly Programs

Dinosaurs
Grades: PreK–1
Capacity: 100 students
Length: 30 minutes

- Apply prior knowledge of self and other animals to determine how dinosaurs are different
- Observe similar patterns within dinosaurs and humans and describe what all animals need to survive
- Discuss how parent dinosaurs were like their offspring and unlike other dinosaurs and other animals

Campfire Chemistry
Grades: 6-8
Capacity: 250 students
Length: 50 minutes

- Explore a model of matter that describes changes in particle motion, temperature, and state with the addition of energy
- Identify the natural and synthetic materials that can be created from a simple wood fire
- Witness the conservation of mass through multiple combustive demonstrations

Let's Science That
Grades 2-5
Capacity 250 students
Length 50 minutes

Requires the ability to turn the overhead lights off for part of the program

- Explore the process of science through physical and chemical demonstrations
- Investigate light reflection, absorption, and shadow making
- Observe the formation of new substances through chemical reactions

Mixing Up Science
Grades: PreK-1
Capacity: 100 students
Length: 30 minutes

- Practice describing observations during hands-on demonstrations
- Define properties of different materials and relate them to states of matter
- Experience some surprising chemical reactions

Science Unscripted
Grades: 1-5
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

- Describe different states of matter with models and demonstrations
- Observe properties of different materials and predict their use
- Witness results of chemical reactions as substances combine and change

Who Invented Electricity?
Grades: 3-8
Capacity: 250 students
Length: 50 minutes

- Determine the cause and effect relationships of electric and magnetic interactions between objects
- Observe evidence that electrical current can be transferred through conductive material
- Experience the commonality and global cooperation of American and world scientists in observations and discoveries of electromagnetic phenomena

Classroom Programs

Beyond Building
Grades: 3-5
Capacity: 30 students
Length: 50 minutes

- Participate in three engineering activities designed to engage in the engineering design processes
- Engage in engineering skills beyond building, including manipulating light with lenses and amplifying sound with different materials
- Explore various real-world careers that use engineering to get the job done

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 classic fairy tale stories
- 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: 6-12
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

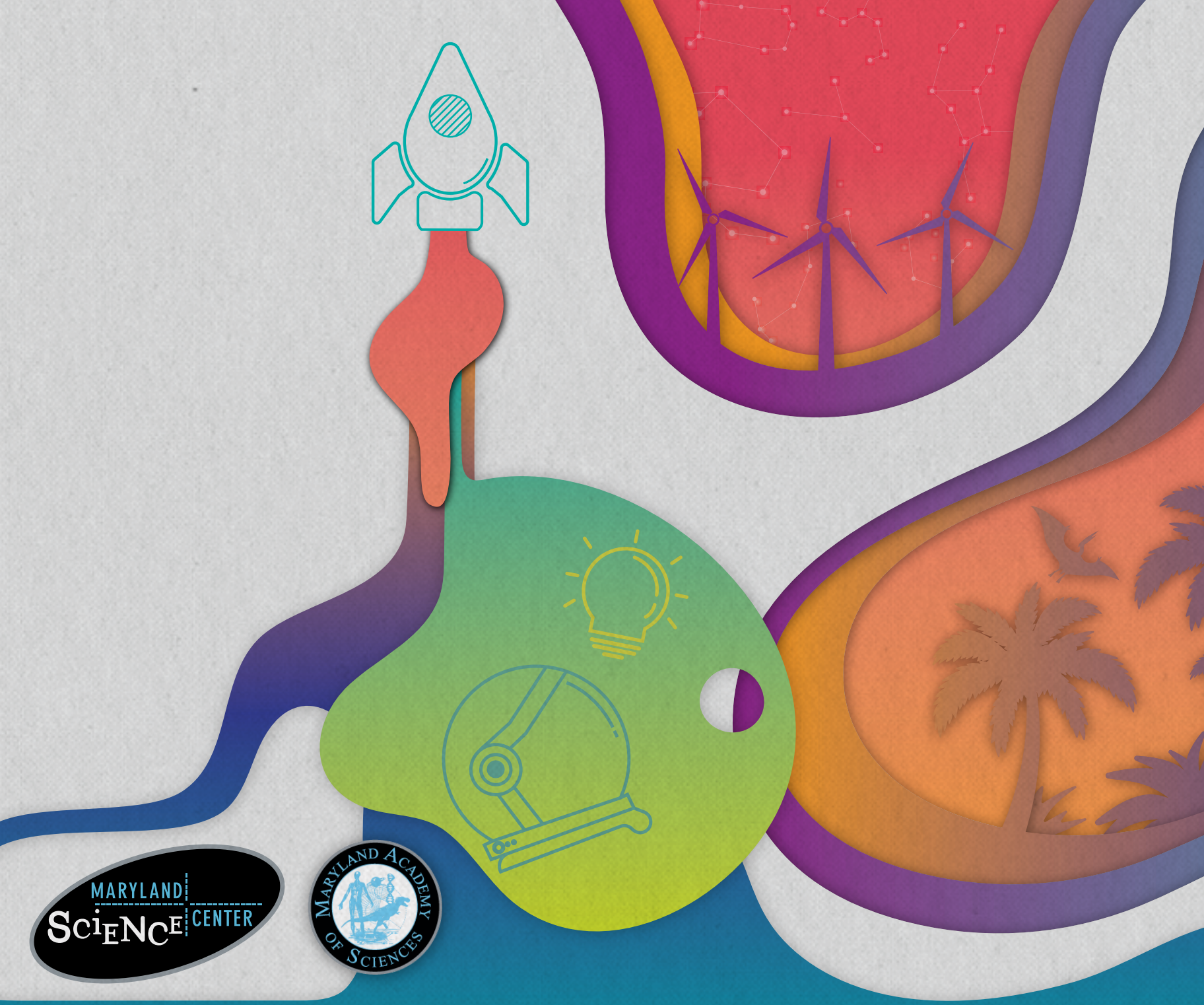
Starlab Programs

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



MARYLAND SCIENCE CENTER

MARYLAND ACADEMY OF SCIENCES

601 Light Street at Baltimore's Inner Harbor | www.marylandsciencecenter.org | A 501(c)(3) non-profit organization operating in the state of Maryland