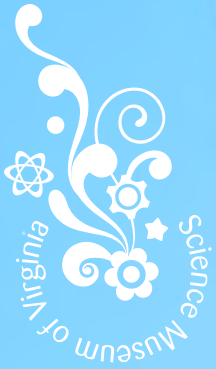


SCIENCE MUSEUM OF VIRGINIA

FIELD TRIP

GUIDE



2021 - 2022

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Field Trips Are Back!

To say we missed field trips last year would be an understatement. Nothing is better than the sights and sounds of young minds discovering the awesome science all around them! Well, the screams of excitement when the Foucault Pendulum knocks over a peg are pretty good, too.

We are thrilled to be back to normal operations and ready to welcome field trips back to the Museum. Because there is no better place to bring classroom lessons to life.

Whether you're coming to explore our exhibits, plan to see a planetarium show or giant screen film in our Dome Theater, or want to add a workshop or lab to let your students get really hands on, we're ready and waiting!

This guide will show you just about everything you can do by category. We'll also offer up some recommended adventures or you can build your own.

Once you're ready to book, give us a shout or head to smv.org/groups to fill out our online reservation request form and we'll make it happen.

We can't wait to see you soon!



TOURING EXHIBITIONS



September 25, 2021–January 23, 2022

Included with admission

Speed, power, performance ... buckle up and race with the most famous toy vehicles on the planet—Hot Wheels®! Guests will be a part of a dynamic race team working together to build and test the world's fastest (and safest) speed machines, using Hot Wheels diecast cars. This behind-the-scenes look at the thrilling world of racing investigates the scientific process for designing super-fast cars. Hands-on experiences, authentic race gear, and captivating memorabilia will engage families in the process of experimenting for an unforgettable fun learning experience.



April 30, 2022–January 15, 2023

Included with admission

Skin has a number of impressive features: it's shape shifting, color changing, and highly adaptive. But it's also thought provoking, interaction changing, and extremely personal. In this interactive exhibition, guests will explore the physical and philosophical properties of skin. What can skin teach us about evolution, adaptation, innovation, regeneration, and protection? From armored scales, aerodynamic feathers, and insulating fur to the role pigment color plays in racism, prejudice, and discrimination, guests will figuratively and literally feel the complex, multi-layered impacts of skin as viewed through the lens of science.



May 28–September 5, 2022

Additional ticket required

Leave the outside world behind and dive into the incredible underwater world of sharks. Guests will trace millions of years of evolution, come face-to-face with the Great White shark, learn the true impact of the shark fin trade, and gain a whole new level of respect for the ocean's oldest and most effective predator. Produced on a size and scale never seen before, *Planet Shark: Predator or Prey* includes awe-inspiring shark models cast from real animals, an extraordinary collection of real teeth and jaws, and extremely rare fossils—some up to 370 million years old!

Years of fishing pressure and media misrepresentation have pushed sharks to the brink of extinction. Their last hope lies with public education and awareness and *Planet Shark: Predator or Prey* is a vital first step. The experience will leave guests deeply immersed in the story of this magnificent yet sadly misunderstood animal.

EXHIBITS



BOOST!

This exhibit focuses on the science behind wellness, but it's so fun that students won't notice they're learning! Walk on a tightrope to appreciate balance, compose music using animatronic instruments, or challenge peers to a dance off or a battle of memory games. Boost! will really keep them on their toes.

Thank you to our Boost! Kitchen sponsor:

Hamilton Beach

Wegmans



SPEED

Featuring the SR-71 Blackbird supersonic jet, Speed unveils the mind-blowing intersection of motion and time across a world of science and technology. Experience the superfast and the incredibly slow as you race an Olympic athlete, feel hurricane force winds, challenge a quick-thinking robot, and more.

EXHIBITS



THE FORGE

Science, technology, engineering, and math are at the heart of making things. The Museum's permanent makerspace, The Forge, harnesses the power of the maker movement, celebrates innovation, and encourages guests to roll up their sleeves to create. Part showroom and part workshop, The Forge both celebrates and demonstrates the process of design and fabrication. Classes are welcome to participate in Maker Challenges, which are simple, open exploration-style engineering activities offered most mornings from 10 a.m. – noon. No registration is required; space is available on a first-come, first-served basis. Visit smv.org for activities scheduled on the day of your visit.

Want your students to dive deeper into engineering skills? Sign your students up for one of our challenges (see page 14)!



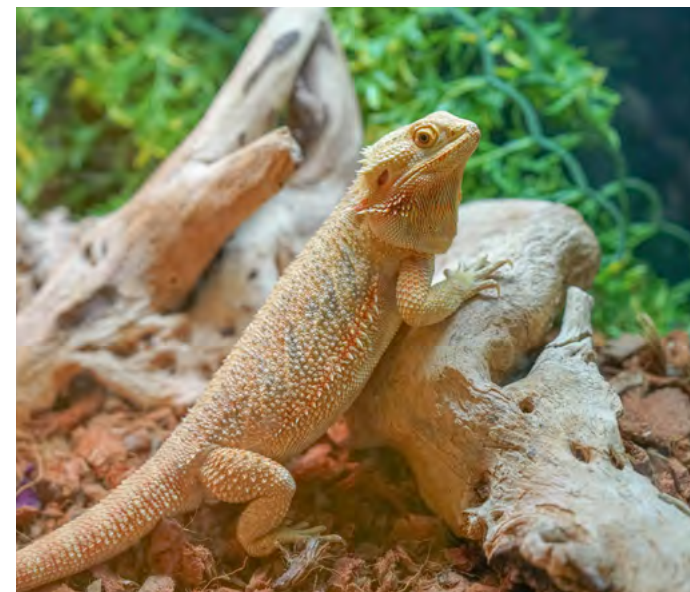
ART LAB

Get creative as you mix science and art in this hands-on lab. The Museum provides the materials and suggested activities and you provide the imagination! Activities may change by time of year or other programming throughout the Museum.



COMMUNITY SCIENCE HYPERWALL

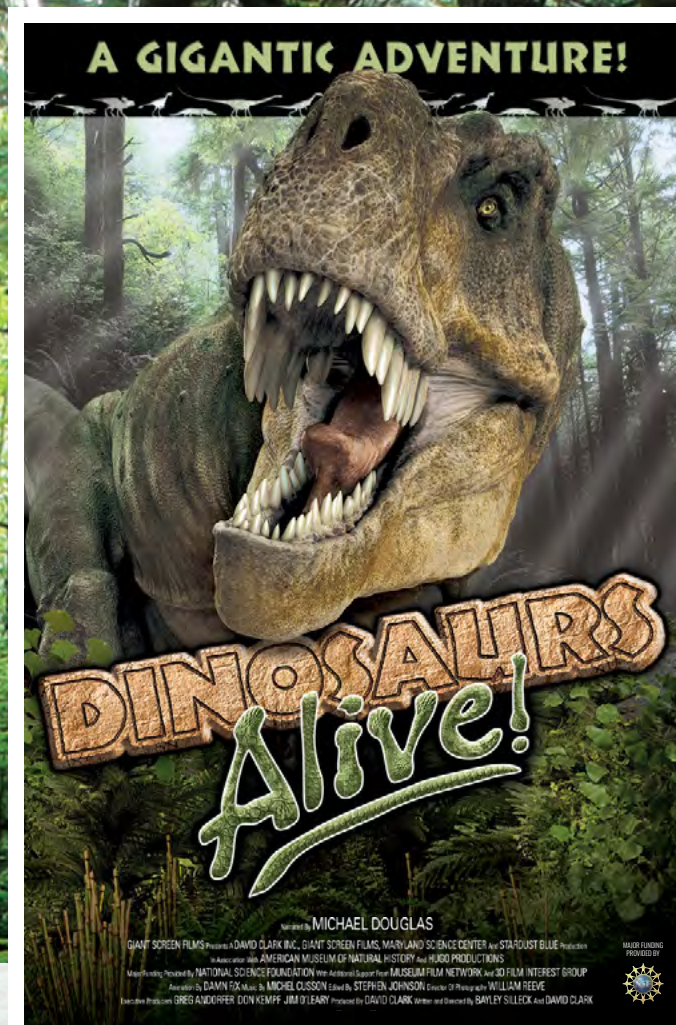
The Museum's new Community Science Hyperwall, funded through a Museums for America grant from the Institute of Museum and Library Services, leads guests through environmental, social, and climate science stories from right here in Virginia.



ANIMAL LAB

Have an up-close encounter with snakes, cockroaches, beetles, and more! Find out what different animals need to survive in their environment and how they eat, sleep, and live. Come on, who doesn't love animals?

THE DOME



Dinosaurs Alive is a global adventure of science and discovery, reincarnating the earliest creatures of the Triassic to the monsters of the Cretaceous—life-sized and life-like. Join renowned paleontologists from the American Museum of Natural History as they uncover new fossils—including the remarkable discovery of what may be the oldest dinosaur ever found in North America. The film instills a passion for exploration, promotes a curiosity about science and paleontology, and most importantly encourages guests to become dinosaur hunters.



When we think of big astronomy, we think of big telescopes. But it is people who enable discoveries!

It takes many people with diverse backgrounds, talents, and skills to run a world-class observatory. Meet a few of these people as they share the wonder of the sky—and the excitement of discovery. Explore the world-class observatories nestled in northern Chile's mountains and learn why Chile with its beautiful mountain ranges and clear, cloudless skies create an ideal environment for studying the cosmos.



Explore how the moon has inspired human creativity, learning, and exploration ever since we have looked to the sky. Examine our relationship with the moon as our partner in space and companion in the sky.

An extra ticket is required for Dome features. Add a Dome feature to your field trip for \$4 per person.

THE DOME

Below is a sample of other features available in The Dome.

Visit smv.org for a full list of offerings and trailers.

PLANETARIUM SHOWS



Live Universe

Take off on a spectacular tour of space as you see a custom all-live planetarium show. Interested in learning about the latest space discoveries, planets, moons, asteroids, or comets? Pick your cosmic destinations, and let our astronomer be your guide as you explore the stars like never before!



We Are Stars

Journey 13.8 billion years through time and space to discover our explosive origins. Investigate our cosmic chemistry by following the formation of hydrogen atoms to the synthesis of carbon and beyond. See stars explode and planets form as you explore the secrets of the universe alongside the Time Master, a cheeky Victorian guide leading this steampunk inspired adventure.



Phantom of the Universe

Join us on a journey of discovery, following scientists around the world as they unlock the mystery of dark matter. Explore its creation during the big bang and its role in the formation of galaxies and thus ourselves. Travel thousands of feet below the Earth's surface to the gigantic CERN laboratory where beams of protons are hurled together in head-on collisions in an attempt to create new dark matter particles.



One World, One Sky

Travel with the three friends on an imaginary trip from Sesame Street to the moon, where they discover how different it is from Earth. Interact with the show as you draw constellations and count the time it takes the sun to set.

GIANT SCREEN MOVIES



Volcanoes: The Fires of Creation

For billions of years, volcanoes have helped forge the world we know. With over 500 active volcanoes, the Earth is bursting at the seams with these forces of mass construction. Travel across the globe to learn the story of volcanoes, the story of the planet's creation.

Presented by **Allianz** **Partners**



Dream Big

Celebrate engineering ingenuity and see innovation brought to life in the most unlikely places! From the world's tallest building to underwater robots, *Dream Big* reveals the hidden world behind ingenious inventions and iconic structures. Discover how today's engineers are shaping our tomorrow.



Superpower Dogs

Join an adventure to experience the life-saving superpowers of some of the world's most amazing dogs and the biology that makes those powers possible. Journey around the globe to meet remarkable dogs who save lives and discover the powerful bond they share with their human partners.

Locally presented by



Oceans: Our Blue Planet

From coastal shallows to mysterious worlds, discover untold stories of the oceans' most astonishing creatures. Meet fascinating characters like the ingenious tusk fish that uses a tool to open its food or find a cunning octopus who shields herself in an armory of shells to hide from predators.

An extra ticket is required for Dome features. Add a Dome feature to your field trip for \$4 per person.

Make your reservation today!

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804.864.1400 smv.org

LIVE SCIENCE PROGRAM

DEMONSTRATIONS

Demos are explorations where participants watch and engage with a Museum educator who demonstrates amazing scientific experiments to guests. Demos are approximately 30 minutes long.

Amazing Animals

Grades K–7
Have an up-close encounter with snakes, cockroaches, and rats! Find out what different animals need to survive in their environment. And come on, who doesn't love animals?

Brain Dissection

Grades 5–12
Watch one of our educators dissect a sheep brain and learn about its different parts and functions. How does your brain work? We'll cover the brain and its role in the nervous system!

Cow Eye Dissection

Grades 5–12
You won't believe your eyes! Can cows see color? Do our eyes change over time? Watch an educator dissect a cow eye while explaining its different parts and functions. Learn about the eye-brain system by comparing human eyes and cow eyes.

Heart Dissection

Grades 5–12
How does your heart work? Watch an educator dissect a sheep heart while explaining its different parts and functions. You're going to love learning about the cardiovascular system.

Radical Reactions

Grades 6–12
Discover chemistry at its coolest as we make fire and foam. Explore four types of chemical reactions to learn about acids and bases and exothermic and endothermic reactions.

Scientific Method

Grades K–6
Put your observation and prediction skills to the test as we go step-by-step through an exciting science experiment. What can we learn and what could we do differently next time?

Simple Machines




Grades 3–5
Can you name the six types of simple machines? Learn how simple machines work and observe simple machines in action.

Sound Science

Grades 5–8
Explore the science behind sound waves. We'll blow your mind—but not your eardrums—with the power of sound.

Supercool: Liquid Nitrogen

Grades 2–8
How do solids, liquids, and gases react to super cold temperatures? Make predictions and observations as pennies shatter, balloons shrink, and plants crumble.

Demonstration	Grade	SOL Standards
 Amazing Animals	K – 7	K 6, 7 1 5 2 4, 5 3 4 4 2 LS 6, 7, 8, 11
 Cow Eye, Brain, and Heart Dissection	5 – 12	LS 2 BIO 3 PH 6
 Radical Reactions	6 – 12	6 5 PS 3 CH 5, 7
 Scientific Method	K – 6	K 1 1 1 2 1 3 1 4 1 5 1 6 1
 Simple Machines	3 – 5	3 2 5 2 PS 1
 Sound Science	5 – 8	5 1, 5 PS 6 PH 5
 Super Cool! Liquid Nitrogen	2 – 8	2 3 5 7 6 5, 6, 7 PS 2, 5

PH Physics | **BIO** Biology | **LS** Life Science | **ES** Earth Science | **PS** Physical Science

Add a Live Science Program for \$4 per person.
A minimum of 10 guests are required to reserve a Live Science Program.



LIVE SCIENCE PROGRAM

ENGINEERING CHALLENGES

Our challenges are an opportunity for students to investigate scientific phenomena while working collaboratively to imagine, plan, create, test, and improve on solutions to design challenges. Students will use their own creativity and real scientific tools to evaluate their creations. Challenges are approximately 45 minutes long. Class size is limited.

Catapult Competition Challenge

Grades 9–12 (Physics)

Students will use their engineering skills to construct a working catapult. When done, they will compete to see which team's catapult can launch a projectile the furthest. This activity encourages a quick scientific investigation and students' skills in mechanics and physics come into play.

Egg Drop Challenge

Grades 3–12

Have you ever received a package and the item inside was broken? Protecting items from breaking during shipping is a big business! Design a structure that can protect an egg from a two-story drop by measuring kinetic and potential energy as well as energy transfer. And it's just fun to drop eggs.

Forces of Flight Challenge

Grades K–7

Explore the four forces of flight and discover the fun of scientific investigation while creating and testing your own gliding machine that can hover in our vertical wind tunnel.

Mass and Motion Challenge

Grades 4–8

Work in groups to build a bobsled and time how long it takes to travel down the track. What variables can be changed to make it go faster or slower?

Renewable Resources Challenge







Grades 3–8

What are renewable and non-renewable resources? What renewable energy resources is Virginia using today? Explore solar or wind energy as you design, construct, and test a renewably powered device.

Video Controllers for Humanity

Grades 7–12, 1 ½ hour activity

Learn about circuitry and the design process through the creation of video game controllers. Using Makey Makeys, students will create their own controllers based on socially impactful and challenging parameters. No controller is complete until it's been tested, so buckle down to evaluate your creation—all in the name of science.

Engineering Challenges		Grade	SOL Standards
	Catapult Competition	9 – 12	PS 5 PH 4, 7
	Egg Drop Challenge	3 – 12	5 1, 3 PS 5 PH 4
	Forces of Flight (AKA Soaring Satellites)	K – 7	1 1, 2 3 3, 1 5 1, 3
	Mass and Motion	4 – 8	5 1, 3 PS 5, 8
	Renewable Resource Challenge	3 – 8	3 1, 8 5 1, 9 6 1, 9 ES 6
	Video Controllers for Humanity	7 – 12	PS 1 PH 1, 8

PH Physics | BIO Biology | LS Life Science | ES Earth Science | PS Physical Science

Add a Live Science Program for \$4 per person.
A minimum of 10 guests are required to reserve a Live Science Program.



LIVE SCIENCE PROGRAM

WORKSHOPS

Workshops provide students with an opportunity to investigate a scientific phenomenon facilitated by a Museum educator. Workshops are approximately 45 minutes long. Class size is limited.

It's in the Genes

Grades 6–12

Why do we look like we do? Explore the world of genetics and see how characteristics get passed on from parents to offspring. Learn about how genes, heredity, and environmental factors influence the way organisms look.

Magnets

Grades K–2

Explore characteristics of magnets and discover some of their everyday uses!

Owl Pellets

Grades 3–8

Where do owls belong in the food web? Are they a predator or prey? Students will find out when they become wildlife biologists and dissect an owl pellet. Can students see *hoo* was for dinner?

Plants and their Pollinators


Grades 3–5

Explore parts of plant anatomy as we identify local pollinators and examine their importance in our ecosystem. What role do pollinators play with plant reproduction and what happens if they disappear?

Preparing for a Hotter and Wetter Virginia

Grades 9–12

Extreme heat and rain events are already becoming more common here in Virginia. How can we leverage design, engineering, and natural landscapes to make our houses more resilient to these changes? Students will learn actionable steps they can take at home to become more resilient today.

	Workshops	Grade	SOL Standards
	It's in the Genes	6 – 12	LS 10 BIO 5
	Magnets	K – 2	K 1, 2 2 1, 2
	Owl Pellets	3 – 8	3 1, 4, 5 4 1, 3 LS 4, 5, 6, 7
	Plants and their Pollinators	3 – 5	4 1, 2
	Preparing for a Hotter, Wetter, Virginia	9 – 12	ES 12 BIO 8

PH Physics | BIO Biology | LS Life Science | ES Earth Science | PS Physical Science

Add a Live Science Program for \$4 per person.
A minimum of 10 guests are required to reserve a Live Science Program.



SCIENCE ON A SPHERE®

DEMONSTRATIONS

Explore the Earth and our solar system as never before on this room-sized animated display. Explore weather and climate, the planets, volcanoes, and more! Science on a Sphere® demonstrations are approximately 20 minutes long. Class size is limited.

Climate Resiliency

Grades 6–12

What can we do as individuals and communities to be resilient as the climate continues to change? An educator will guide your students in a data-driven, deep dive into the science of climate change and community resiliency.

Earth Science

Grades 5–8

Discover how plate tectonics have shaped our world. See where volcanoes are located and earthquakes happen in near real-time! Track natural disasters from the past before taking a closer look at more recent occurrences that have impacted the world.

Weather Junior

Grades K–2

What is weather? Come get wind of the basics of weather and seasonal changes and learn how these processes affect living things—not just outside playtime.

Weather vs. Climate





Grades 3–5

What is the difference between weather and climate? See how heat is distributed around the planet, and learn about hurricanes, typhoons, and cyclones.



Add a Live Science Program for \$4 per person.
A minimum of 10 guests are required to reserve a Live Science Program.



Science on a Sphere®		Grade	SOL Standards
	Climate Resiliency	6 – 12	6 6, 7 LS 8 ES 12
	Earth Science	5 – 8	5 8 ES 7
	Weather Junior	K – 2	K 1, 8, 9 1 1, 7 2 1, 6, 7
	Weather vs. Climate	3 – 5	4 4 6 4, 7 ES 10, 12

PH Physics | **BIO** Biology | **LS** Life Science | **ES** Earth Science | **PS** Physical Science

CARPENTER SCIENCE THEATER COMPANY

SHOWS

Our professional tale tellers deliver intriguing science stories with energy and style for our guests. Performances run between 15 and 20 minutes in length.

Carl the Crab Goes Golfing

Grades K-3

Carl the crab meets a Basking shark while golfing on the ocean floor. At first he is frightened, but they become fast friends once he realizes that she would rather help him with his golf game than eat him.

Chasing Infinity

Grades 6-Adult

A poignant glimpse at the life and dreams of Sally Ride, who became the first American woman to enter space.

Pack for the Moon and Mars

Grades K-5

Silliness abounds in this live/video show, as the character and her robot decide what she should pack to go on a trip to the moon and Mars!



Shine Bright Speed Light

Grades 3-8

A fun look at how visible light travels at the same, finite, constant speed, no matter what the source. This adventure includes silliness, music, and a little magic.

Something's (A)Foote With Eunice

Grades 6-Adult

A sassy telling of the overlooked, 19th century female scientist who was the first to demonstrate the heat trapping effects of certain gases and theorize about their interaction with the Earth's atmosphere.

Susie Sleuth

Grades K-5

Susie the sleuth sets out to solve the mystery of whether the *T. rex* was truly a predator or simply a scavenger. During her silly shenanigans, she stumbles upon some evidence and asks the audience to help her draw a conclusion.

Twyla Meets a Monster

Grades K-5

Story of Twyla the garden spider who fearfully encounters the great tarantula migration in the barren lands of northern Texas. She befriends one tarantula named Bubba, who requests her assistance. Upon realizing she is safe, Twyla happily obliges.

TEACHER WORKSHOPS

Teachers need time to explore and learn just like their students!



Maker Mindset Teacher Professional Development Workshops in The Forge

Flex your own “maker mindset” and join us for a day of experimentation, prototyping, and invention in The Forge. Teachers will work together on creative challenges, create their own prototypes/projects for use at their schools, and have a hands-on experience with a variety of tools and equipment. Through these project-based experiences, these sessions will assist and inspire teachers in implementing hands-on, maker-based learning in their own classrooms. Half-day sessions are \$25 per teacher and full-day sessions are \$50 per teacher. Both sessions have a max of 15 participants per session.

Contact TheForge@smv.org to learn more.



Add a performance to your Museum visit when you register for no additional fee.
Available Tuesday through Friday.



RECOMMENDED ADVENTURES FOR YOUR CLASS

Whether it's your first visit or you are a seasoned pro, these itineraries are recommended to maximize your learning experience.

KINDERGARTEN – SECOND GRADE

Live Science Program:
Animals

Science on a Sphere® Demonstration:
Weather Junior

Dome Feature:
Flight of the Butterflies

Exhibit:
Animal Lab

THIRD GRADE

Live Science Program:
Simple Machines

Science on a Sphere® Demonstration:
Weather vs. Climate

Dome Feature:
Live Universe

Exhibit:
Boost!

FOURTH GRADE

Live Science Program:
Mass and Motion

Science on a Sphere® Demonstration:
Weather vs. Climate

Dome Feature:
Imagine the Moon

Exhibit:
Speed

FIFTH GRADE

Live Science Program:
Sound Science

Science on a Sphere® Demonstration:
Earth Science

Dome Feature:
Dream Big

Exhibit:
Speed

SIXTH GRADE

Live Science Program:
Renewable Resources Challenge

Science on a Sphere® Demonstration:
Climate Resiliency

Dome Feature:
Violent Universe

Exhibit:
Community Science Hyperwall

LIFE SCIENCE

Live Science Program:
It's in the Genes

Dome Feature:
Dinosaurs Alive

Exhibit:
Animal Lab

PHYSICAL SCIENCE

Live Science Program:
Egg Drop Challenge

Dome Feature:
We Are Stars

Exhibit:
Boost!

EARTH SCIENCE

Live Science Program:
Preparing for a Hotter and Wetter Virginia

Dome Feature:
Volcanoes: The Fires of Creation

Exhibit:
Speed

BIOLOGY

Live Science Program:
Cow Eye & Sheep Heart Dissection

Dome Feature:
Superpower Dogs

Exhibit:
Boost!

CHEMISTRY

Live Science Program:
Radical Reactions

Dome Feature:
We Are Stars

Exhibit:
Speed

PHYSICS

Live Science Program:
Catapult Competition

Dome Feature:
Big Astronomy

Exhibit:
Speed

MAKE THE MOST OF YOUR VISIT



© STEVEN INGE MEDIA

Lunch Time!

Our Periodic Table Café is closed, so we are no longer able to offer boxed lunch services. Groups at the Museum during lunch should plan to bring their own lunches or snacks. We do offer vending machines with snack and drink options in our break area off the Rotunda on Level 1.

Lunches will be scheduled on a first-come first-served basis when your group arrives at the Museum. A lunch spot and time are not guaranteed, so please be prepared to eat on your buses or on the lawn if no spots are available.

Need Assistance?

The Museum has been working to remove obstacles to ensure all guests have a great experience. If you or any of your students need assistance – mobility, hearing, sensory, etc. – please speak with a member of our Group Adventures team to learn about what services we have available.

Also check out our Curiosity Guide online to help prepare for your visit.

Shop4Science

Keep the fun going at home by stopping by our gift shop! From toys and kits to books and keepsakes, scientists of all ages will find something they love.



© SEAN DEWITT PHOTOGRAPHY

The Science Museum of Virginia is located at: 2500 West Broad Street, Richmond, Virginia 23220
804.864.1400 smv.org

Museum Hours: Tuesday–Sunday*, 9:30 a.m.–5 p.m.

**Please note, Tuesday - Sunday hours begin after Labor Day.*

For groups of 10 or more, the Museum offers these special discounts:

Exhibits + Dome + Live Science Program	\$18/person
Exhibits + Dome.....	\$14/person
Exhibits + Live Science Program	\$14/person
Exhibits Only.....	\$10/person
Additional Live Science Programs	\$4/each per person

Please note that our front circle is both for loading/unloading and for guests driving to the parking lot. To ensure guest safety, bus drivers should extend their bus's stop sign and turn on its flashing lights when loading/unloading guests. Once complete, bus drivers should retract the stop sign so traffic can flow in the loop.

Field Trip Grant Funding

The Museum is known for memorable and unique adventures. To make that accessible to all, we have grant funding available for group visits in September, October, January, or February. Funds are available on a first-come, first-served basis. To request aid for your upcoming adventure, simply email groupsales@smv.org and include your organization's information, mission, and verification of your Title 1 or low-income status.

Group Booking Policies

We strive to give all guests the best experience possible, so we staff appropriately to support group visits. To allow us to provide an unforgettable experience for your group, we ask that you observe the below group policies:

- To book a Live Science Program, reservations must be made **two weeks in advance**.
- Payment and a final group count is due **two weeks prior to arrival** and can be made by check or credit card. If you require an invoice for payment, please let a Group Adventures Associate know when you book your visit.
- Payment will be due at booking for visits booked within two weeks of arrival.
- Because groups of 10 or more enjoy a special price for personalized visits, individual memberships and other discounts are not valid toward group admission fees.
- To ensure the best experience for all of our guests, we request groups bring **one chaperone for every 10** guests in your group.
- On the day of your visit, if additional guests join your group, those guests will receive the general admission price.
- On the day of your visit, if a guest in your group does not attend, the group leader will be given a voucher for that guest to return to the Museum another day. Individual refunds cannot be issued.
- If you have to cancel your visit, we ask that you notify us **within 48 business hours** of your visit to receive a refund. Visits canceled within 48 business hours will receive a refund, less a \$95 administrative fee.

Contact the Group Adventures team at 804.864.1400 or fill out our online reservation form at smv.org to book your visit today.

Please visit smv.org to read our operating policies.

DIGITAL DEMOS

If you're looking for a scientific adventure, but you're unable to come to the Museum, consider a Digital Demo!

Digital Demos, sponsored by the Virginia Lottery, are live, virtual lessons that are highly interactive and designed to involve students in STEM through inquiry, hands-on activities, and demonstrations.



Digital Demos range in length from 30–45 minutes.

Digital Demos are \$150 per lesson for up to 90 students. Demos are available Tuesday–Friday with start times at 9 a.m., 10 a.m., 11 a.m., 1 p.m., 2 p.m., or 3 p.m. Afterschool hours are available on request.

We have grant funding available to make digital demos accessible to all. To request aid for your upcoming adventure, simply email groupsales@smv.org and include your organization's information, mission, and verification of your Title 1 or low-income status.

Visit smv.org/virtualadventures to learn more about technology requirements and how to best prepare for your Digital Demo.

Presented by:



VIRGINIA LOTTERY



Science Demos Max 90 Students

Engage with a Museum educator as you explore anatomy, chemistry, and physics!

Amazing Animals Grades K–7

Have an up close encounter with snakes and cockroaches! Find out what different animals need to survive in their environment. And come on, who doesn't love animals?

K 6, 7 **1** 5 **2** 4, 5 **3** 4 **4** 2 **LS** 6, 7, 8, 11

Brain Dissection Grades 5–12

Watch an educator dissect a sheep brain while learning its different parts and functions. How does your brain work? We'll cover the brain and its role in the nervous system.

LS 2 **BIO** 3 **PH** 6

Cow Eye Dissection Grades 5–12

You won't believe your eyes! Watch an educator dissect a cow eye while explaining its different parts and functions. Can cows see color? Do our eyes change over time? Learn about the eyebrain system by comparing the difference between human eyes and cow eyes.

LS 2 **BIO** 3 **PH** 6

Heart Dissection Grades 5–12

Watch an educator dissect a sheep heart while explaining its different parts and functions. How does your heart work? Learn about the cardiovascular system by comparing a sheep heart to a human one.

LS 2 **BIO** 3 **PH** 6

Radical Reactions Grades 6–12

Chemistry is at its coolest when you put it into action! See four types of chemical reactions, learn the difference between exothermic and endothermic reactions, and watch a colorless liquid turn blue once shaken...not stirred.

6 5 **PS** 3 **CH** 5, 7

Supercool Grades 2–8

How do solids, liquid, and gases react to extremely cold temperatures? Watch wide-eyed as pennies shatter, balloons shrink and plants crumble. Observe matter change state right in front of you!

2 3 **5** 7 **6** 5, 6, 7 **PS** 2, 5



Hands-on Engineering Challenges Max 30 Students

Have fun with a Museum educator as we investigate scientific phenomena while working collaboratively to imagine, plan, create, test, and improve upon solutions to design challenges. We'll send you a list of common materials you will need to have ready before the lesson.

Build a Better Parachute Grades 2–7

Gather your supplies and your favorite small object and work with us to design a better parachute! We'll practice our engineering skills as we work on this challenge together.

2 2 **3** 1, 2 **4** 1 **5** 1, 3 **PS** 1

Forces of Flight Grades 2–7

Explore the four forces of flight and discover the fun of scientific investigation while designing and testing your own paper airplane. Is yours better than our educator's?

2 2 **3** 1, 2 **4** 1 **5** 1, 3 **PS** 1

Ready to book?

Visit smv.org/virtualadventures to submit your online request form or call us 804.864.1400!

