

SCIENCE MUSEUM OF VIRGINIA

# FIELD TRIP

GUIDE 2023-2024



# Science Museum of Virginia Field Trips

There's plenty of discovery that happens in the classroom, but sometimes a change of scenery can make a big impact. Let us help expand on your classroom lessons by giving students the chance to experience firsthand how STEM applies to nearly everything around them.

Whether you're coming to explore our exhibitions, plan to see an astronomy show or giant screen film in The Dome, or want to add a workshop to let your students get really hands-on, we're ready and waiting with dozens of customizable options to ensure a day full of engagement and excitement!

We're pros at providing awesome field trip experiences, and are here to help you make it happen. This guide will show you just about everything you can do on a group visit to the Science Museum.

Once you're ready to book, head to [smv.org/groups](http://smv.org/groups) to fill out our online reservation request form. Still have questions? Give us a shout at 804.864.1400.

## Digital Demos

Need to stay put for now? Don't worry: we can come to you virtually! Check out page 12 to explore our Digital Demos in case your class can't leave the building but still want to experience Science Museum programs.

## Homeschool Groups

Field trips aren't just for public and private school students. The Science Museum offers homeschool cooperatives the chance to expand their learning opportunities, too! Visit [smv.org/homeschoolgroups](http://smv.org/homeschoolgroups) to learn about how to book a field trip for 10 or more homeschoolers.



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Science Museum of Virginia  
2500 West Broad Street  
Richmond, Virginia 23220  
804.864.1400  
[smv.org](http://smv.org)

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## Teacher Open Houses

Mark your calendars! On **September 23, 2023**, and **January 20, 2024**, the Science Museum is hosting a Teacher Open House to give you a chance to talk with our educators about all the ins and outs of field trips. How many students can attend a live demo? How long should groups spend in each exhibition? Where do students eat lunch? Are there post-visit resources available? What's the best Dome show to match Earth science SOLs? We have the answers! Grab some friends or family (up to three guests get in free with you!) and spend the morning being WOWed by all the field trip fun the Science Museum has to offer. Visit [smv.org](http://smv.org) for details.



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## Touring Exhibitions



September 23, 2023 – January 21, 2024  
Included with admission

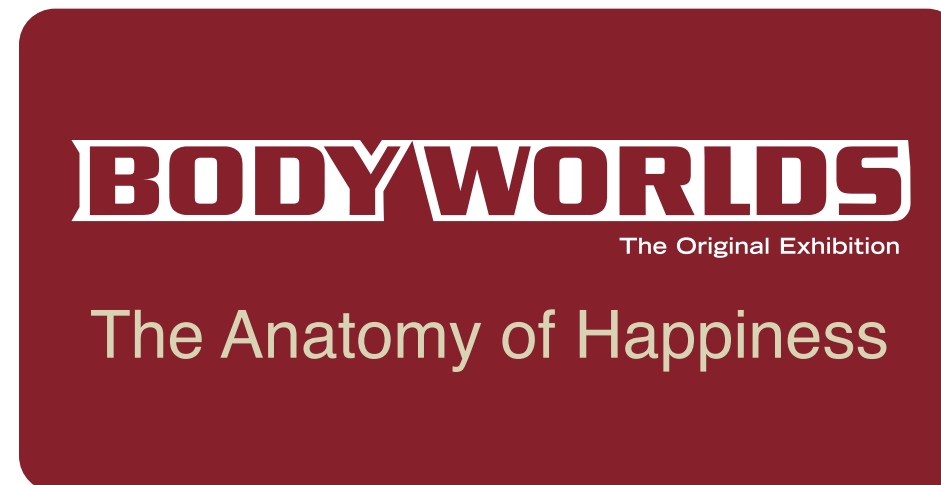
Building on children's natural interest in animals, *Wild Kratts®: Creature Power®!* takes students on wide-ranging STEM adventures. Diverse environments immerse elementary-age future scientists in explorations of animals, habitats and the relationships between them. They make investigations, observations and take on missions centered around the lives of animals and their creature powers.

Wild Kratts® © 2023 Kratt Brothers Company Ltd. Story Media Group Inc.



February 10 – August 18, 2024  
Included with admission

How did thinkers of the late 1800s envision the future? Students will find out in this hands-on touring exhibition showcasing the fusion of art, history and technology. They'll learn about 19th-century innovators while experimenting with more than 20 interactive machines inspired by their ideas. Students will appreciate the unique Victorian aesthetic and teachers will love the important science concepts of ingenuity, collaboration, resilience and creative problem solving showcased.



May 25 – September 2, 2024  
Extra ticket required

Happiness has an impact on our mind and body, influencing our movements, perceptions, sensations, mood and more. Through real human specimens called plastinates, explore how anatomy is involved in happiness and how positive or negative emotions can affect health. Discover the complexity, resilience and vulnerability of what lies beneath the skin.

## Classic Favorites



Explore the mind-blowing intersection of motion and time across a world of science and technology. Students can race an Olympic athlete, feel hurricane-force winds, watch the world's slowest device in "motion," play games with a quick-thinking robot, unearth geological change with prehistoric fossils, examine a massive supersonic jet and more. There's no shortage of discovery as they experience some of the fastest and slowest things the universe has to offer.



Harness the power of the maker movement, celebrate innovation and encourage students to roll up their sleeves to create. *The Forge* both champions and demonstrates the process of design and fabrication.

In the showroom section, students can code their own sea creature, create digital wallpaper, program a 500 multi-colored lighting piece, watch a robot create art and more. In the workshop section, classes can participate in Maker Challenges, which are simple, open exploration-style engineering activities offered most mornings from 10 a.m. – 12 p.m. Registration is not required, and space is available on a first-come, first-served basis. Visit [smv.org](http://smv.org) for activities scheduled on the day of your field trip.

Want your students to dive deeper into engineering skills? Sign your students up for one of our engineering challenges highlighted on page 7.



While the science behind wellness might not sound riveting, this exhibition is so fun that students won't notice they're learning! They can generate energy with their feet and hands, lift peers with the power of leverage, compose music using animatronic instruments, challenge classmates to a dance off and test their memory with brain games. *Boost* will really keep them on their toes.

Thank you to our *Boost* kitchen sponsors:



## Other Spaces to Explore



### Animal Lab

Are your students critter curious? Give them the chance for an up-close encounter with frogs, snakes, cockroaches, spiders and more! They'll explore what different animals need to survive in their environment and how they eat, sleep and live.



### Eco Lab

In this small space, we go big on all things ecology. Students can inspect insect, rock and mineral specimens with a microscope and check out ever-rotating experiments. But the part that will keep students buzzing long after their visit is the observational honey bee hive.



### Art Lab

Let your students get creative as they mix science and art in this hands-on lab. The Science Museum provides the materials and suggested activities and they provide the imagination! To keep things fresh, we change Art Lab activities periodically. An element of surprise is part of the fun!



### Hyperwall

Data isn't super exciting when it's just lots of numbers in a spreadsheet. That's why we blew up the canvas and jazzed up the content! Students are in control of which Virginia-based environmental, social and climate science stories they want to explore through compelling imagery on two enormous projection screens. This immersive experience is sure to get everyone hyped about science!

### US By the Numbers

Data visualization doesn't have to be drab! Touch-screen technology lets students take a guess at the top ice cream flavor, hand washing prevalence, museum visitation and more. They'll be surprised by the stats when the answers are displayed on the massive projection screen.

### The Green

Comprised of native flowers and trees, walking paths, benches and interpretative signage, this two-acre urban greenspace is the perfect place to go for a nature stroll to watch pollinators at work.

Check out our Green Guide to help you spark conversations about biodiversity and ecosystems. This printable nature journal activity gives students environmental observation prompts to help their inner naturalist bloom while exploring The Green!

**NEW!**



# The Dome

Get engaged with space during an astronomy show or travel to some of the most elusive places on Earth with our giant screen films!

Here are three ways you can add a Dome experience to your field trip:

- Each month, the Science Museum rotates the films it shows for guests. Groups can purchase tickets to features on the general public schedule.
- If no general public tickets have been sold, groups of 50 or more can request a special Dome showing from any film in our group library. The film can change, but the showtime will adhere to the Science Museum's regular Dome schedule.
- Groups of 75 or more can book any Dome feature from our group library and can reserve a special time spot outside of the Science Museum's regular Dome schedule.

Each of the above options is based on availability. Special showings and additional showtimes must be booked at least two weeks in advance. Dome features last approximately 45 minutes.

**Innovation underway!**

The Dome will be closed in September 2023 for enhancements. With updated projectors, computers, lighting and speakers, seeing a feature in this immersive theater on the largest screen in Virginia will have an even bigger impact starting in October!

## NEW FEATURES



**Grades 4–12**  
Science and adventure collide in this mission to unlock the secrets of the Earth's climate in the most unlikely of places: caves. Until recently, scientists had no reliable way to accurately study the climate of Earth's distant past. Students join explorers as they travel the world searching for geologic "fingerprints" that reveal clues about the planet's climate history.

Science Standards of Learning  
**6** 3, 7 **ES** 6, 8, 10, 11, 12

Environmental Science Guidelines  
**ENV** 1, 3, 7, 9, 11



**Grades 1–8**  
The world, its peoples and environments are more than just connected, they're interdependent. From the smallest bacteria to the largest ocean whale, a link exists between all things. In this film, students will discover how ecosystems are intrinsically bound and the role satellites play in monitoring the relationship between human activities and climate change.

Science Standards of Learning  
**1** 4, 5, 8 **2** 5, 6, 7, 8 **3** 4, 5, 8 **4** 2, 3, 4  
**6** 6, 7, 9 **LS** 4, 5, 6, 8, 9 **BIO** 8 **ES** 11, 12

Health Standards of Learning  
**1** 1, 2, 3 **2** 2, 3 **3** 2 **4** 1 **6** 1 **7** 1



**Grades K–12**  
Long before astronauts travel to space, they must train here on Earth. How do you simulate spacewalks and microgravity while still on this planet? Go underwater! Students will explore the high-tech ways NASA uses subaquatic environments to mimic life and work in space when they follow astronauts training in a giant underwater facility and on the seafloor.

Science Standards of Learning  
**K** 1 **1** 1 **2** 1 **3** 1 **4** 1, 7 **5** 1 **6** 1  
**7** 1, 7 **PS** 1, 8 **BIO** 1, 2 **ES** 1, 2 **PH** 1, 3, 4

# The Dome

These educator-favorites are just a sample of the more than two dozen features in the Science Museum's film library. For the full list of features available in The Dome, and to watch trailers of the films you're interested in, please visit [smv.org/dome](http://smv.org/dome).

## Astronomy Shows

**Big Astronomy**  
**Grades 1–12**  
 Technology helps but it's really the people who enable discoveries! Students will meet professionals with diverse backgrounds, talents and skills who run a world-class observatory and share in the excitement of discovery. *Available in English and Spanish.*

Science Standards of Learning  
**1** 1, 2, 3, 6, 7 **2** 1, 2, 6, 7 **4** 1, 4, 5, 6 **5** 1, 2, 4, 6 **6** 1, 2, 3, 7  
**ES** 1, 2, 12 **PS** 1, 5, 6, 7, 9 **PH** 1, 5, 6, 7, 8, 9

**Birth of Planet Earth**  
**Grades 6–12**  
 Take your students on the ultimate field trip: back 5 billion years to the origins of our planet! They'll discover how Earth became a living planet and what history tells us about finding other life in the universe.

Science Standards of Learning  
**6** 2, 3, 6 **ES** 2, 5, 7

**Live Astronomy Show**  
**Grades K–12**  
 Take off on a spectacular tour of space with a custom cosmic adventure designed specifically for your students! Pick your space destinations and let our astronomer be your guide as you explore the stars like never before. The best part: live astronomy shows can be tailored to meet your SOL needs.

**Living Worlds**  
**Grades 3–12**  
 Whether earthly or alien, all life leaves a trace. Students will go on a journey through space and time to discover how life makes Earth liveable, where it could be found elsewhere in the cosmos and what new technologies are needed to find it.

Science Standards of Learning  
**4** 1, 3, 5, 7 **5** 1, 6 **6** 1, 2, 4 **LS** 3, 4, 5 **PS** 7 **BIO** 2 **ES** 2, 3  
**PH** 5, 6

## Giant Screen Films

**Dream Big**  
**Grades 4–8**  
 Celebrate engineering ingenuity and see innovation brought to life! This inspirational film reveals ingenious inventions and iconic structures. Students will discover how today's engineers are shaping our tomorrow.

Science Standards of Learning  
**4** 1 **5** 1, 8, 9 **6** 1, 9

**Great Bear Rainforest**  
**Grades K–12**  
 Deep in Canada's Pacific Coast, one of the rarest creatures on Earth roams the forests and mountains: the all-white Kermode bear. Students will journey through a diverse ecosystem to get an up-close look at both the human and spirit bear inhabitants.

Science Standards of Learning  
**K** 5, 6, 7 **1** 4, 5 **2** 4, 5 **3** 4, 5 **4** 2, 3 **6** 4, 6  
**LS** 4, 5, 6, 7, 8, 9 **BIO** 8

**National Parks Adventure**  
**Grades K–8**  
 Help students step off the beaten path and connect to their inner trailblazer in this cross country journey to some of North America's most beautiful landscapes. This non-stop ride explores the human connection we share with the natural world.

Science Standards of Learning  
**3** 5, 8 **5** 8 **6** 9

**Oceans: Our Blue Planet**  
**Grades K–12**  
 From coastal shallows to mysterious worlds beneath the waves, students will meet fish, octopuses and other fascinating characters when they dive into untold stories of the oceans' most astonishing creatures.

Science Standards of Learning  
**K** 7 **1** 5 **2** 4, 5 **3** 4, 5 **4** 3, 7 **LS** 6, 7



# Demos

Demos are just what they sound like: students watch a Science Museum educator demonstrate amazing scientific experiments! From chemistry to anatomy, and from biology to engineering, we have engaging demos covering a wide range of STEM topics.

Demos last approximately 30 minutes, and can accommodate 10-120 students. Adding a demo to your field trip depends on space availability. The Science Museum offers demos during weekday operating hours from September to May. Demos must be booked at least two weeks prior to the field trip. Add a demo for \$4 per person.



### Amazing Animals

**Grades K-7**  
Students can have an up-close encounter with snakes, cockroaches and rats. They'll learn about what different animals eat, how they sleep and what they need to survive in their environment.

Science Standards of Learning  
**K** 6, 7 **1** 5 **2** 4, 5 **3** 4 **4** 2  
**LS** 6, 7, 8, 11

### Fantastic Fruit **NEW!**

**Grades 3-5**  
Is a tomato a fruit or a vegetable? What are some of the unique adaptations plants have for reproduction? Students will learn the answers to these questions and more when educators dissect their favorite foods.

Science Standards of Learning  
**3** 4 **4** 2, 3

### Heart Dissection

**Grades 5-12**  
There's no better way to learn how a heart works than by watching an educator dissect a sheep heart while explaining its different parts and functions. Students will love learning about the cardiovascular system.

Science Standards of Learning  
**LS** 2 **BIO** 3

### Illuminating Light **NEW!**

**Grades 3-5**  
This demo really shines! Students will discover how light can be blocked, bounced and bent. Note: This demo has flashing lights and periods of darkness.

Science Standards of Learning  
**3** 1 **4** 1 **5** 1, 2, 6

### Scientific Method

**Grades K-6**  
Teamwork makes the dream work! Students and our educator will use the scientific method to collaboratively design and execute a soda-and-mint experiment that really pops.

Science Standards of Learning  
**K** 1 **1** 1 **2** 1 **3** 1 **4** 1 **5** 1 **6** 1

### Simple Machines

**Grades 3-5**  
Students will explore the six types of simple machines by watching massive versions of wedges, pulleys, levers and more in action. It's simply sensational!

Science Standards of Learning  
**3** 2 **5** 2 **PS** 1

### Sound Science

**Grades 5-8**  
We'll blow your student's mind—but not their eardrums—with the power of sound. Educators will share visual representations of pitch, volume and more to help students understand the science behind sound waves.

Science Standards of Learning  
**5** 1, 5 **PS** 6 **PH** 5

### Supercool: Liquid Nitrogen

**Grades 2-8**  
How do solids, liquids and gasses react to super cold temperatures? Students will make predictions and observations as pennies shatter, balloons shrink and plants crumble.

Science Standards of Learning  
**2** 3 **5** 7 **6** 5, 6, 7 **PS** 2, 5



# Hands-On Experiences

Creativity + scientific tools = a chance to truly engage in the STEM process! Students can investigate scientific phenomena while working collaboratively to imagine, plan, test and improve on design solutions. Students will evaluate their outcomes to spark ideas for future innovations.

Hands-on experiences last approximately 45 minutes and can accommodate 10-35 students. We only offer one hands-on experience in a timeslot.

The Science Museum offers the following challenges and workshops during weekday operating hours from September to May. Hands-on experiences must be booked at least two weeks prior to the field trip. Add a hands-on experience for \$4 per person.



### Egg Drop Engineering Challenge

**Grades 3-12**  
Protecting items from breaking during shipping is big business! In this open-ended challenge, students work together to design a structure that can protect an egg from a two-story drop by measuring kinetic and potential energy as well as energy transfer.

Science Standards of Learning  
**3** 1 **4** 1 **5** 1, 3 **6** 1 **PS** 1, 5 **PH** 1, 4

### Forces of Flight Engineering Challenge

**Grades K-7**  
Help students discover the fun of scientific investigation. They'll explore the forces of flight by designing an aircraft in this open-ended challenge. Don't wing it: their flying machine has to hover in our vertical wind tunnel!

Science Standards of Learning  
**K** 1 **1** 1, 2 **2** 1 **3** 1, 2 **4** 1  
**5** 1, 3 **6** 1

### Intro to Robotics Workshop **NEW!**

**Grades 3-6**  
See students put STEM into action as they work in teams to get their robot to navigate a maze and complete other challenges. They will be introduced to basic coding as they use a visual programming language to input commands.

Computer Science Standards of Learning  
**3** 1, 2, 3, 4 **4** 1, 2, 3, 6 **5** 1, 2, 3  
**6** 1, 2, 3

### Magnets Workshop

**Grades K-2**  
This workshop is especially attractive! Students will learn about the science of magnets and how we use them in our daily lives.

Science Standards of Learning  
**K** 1, 2 **2** 1, 2

### Mass and Motion Engineering Challenge

**Grades 4-8**  
It's time for some speedy science! Students work in groups to build a bobsled and explore what variables can be changed to make it travel faster or slower down the track in this open-ended challenge.

Science Standards of Learning  
**4** 1 **5** 1, 3 **6** 1 **PS** 1, 5, 8

### Plants and Their Pollinators Workshop

**Grades 3-5**  
Watch the learning bloom! Students will explore plant anatomy as they dissect a flower to investigate plant reproduction and the importance of pollinators.

Science Standards of Learning  
**4** 1, 2

### Preparing for a Hotter, Wetter Virginia Workshop

**Grades 6-12**  
Students will learn how to leverage design, engineering and natural landscapes to make communities more resilient to extreme heat and rain events.

Science Standards of Learning  
**6** 1, 4, 6, 7, 9 **ES** 1, 12 **BIO** 1, 8

Health Standards of Learning  
**6** 1, 3 **7** 1, 3 **8** 1 **10** 1, 3

Environmental Science Guidelines  
**ENV** 1, 8, 9, 10, 11, 12



# Science on a Sphere®

An educator will take your students on a journey across the globe and beyond in this animated display on a six-foot-diameter suspended sphere-shaped screen. They'll explore weather and climate, the planets, volcanoes, ocean temperatures and more!

Science on a Sphere demonstrations last approximately 25 minutes, and can accommodate 10-30 students. We only offer one Science on a Sphere demo in a timeslot. Adding a Science on a Sphere demo to your field trip depends on space availability.

The Science Museum offers Science on a Sphere demos during weekday operating hours from September to May. Science on a Sphere demos must be booked at least two weeks prior to the field trip. Add a Science on a Sphere demo for \$4 per person.



## Earth Science Grades 5-8

Volcanoes and earthquakes and plate tectonics ... oh my! Students will track natural disasters from the past and look at more recent occurrences that have impacted the world.

Science Standards of Learning  
**ES** 8 **ES** 5, 7

## Extreme Weather **NEW!** Grades 6-12

Hurricanes are stronger and floods are more frequent. Why? Students will find out as they explore extreme weather events and how communities can be resilient to a changing climate.

Science Standards of Learning  
**ES** 6, 7 **LS** 8 **ES** 10, 11, 12

Health Standards of Learning  
**6** 1 **7** 1 **9** 1 **10** 2, 3

Environmental Science Guidelines  
**ENV** 1, 2, 7, 9, 11



# Professional Development

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

Half-day sessions are \$25 per teacher and full-day sessions are \$50 per teacher. Sessions have a max of 15 participants per session. Contact [theforge@smv.org](mailto:theforge@smv.org) to learn more or to schedule your session.

## Maker Mindset Workshops

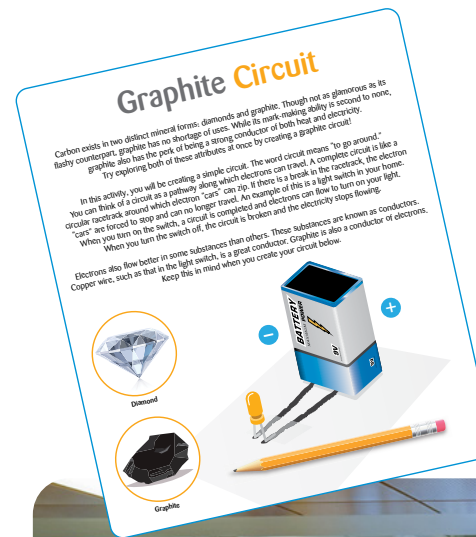
Flex your own maker mindset and join us for a day of experimentation, prototyping and invention in *The Forge*. Educators will work together on challenges, create their own prototypes/projects for use at their school, and get experience using a variety of tools and equipment. These project-based experiences will assist and inspire teachers in implementing hands-on, maker-based learning in their own classrooms.

## Digital Resources

Help your students keep the discovery going in the classroom or at home with our collection of experiments, activities, videos and more! Visit [smv.org/stayconnected](http://smv.org/stayconnected) to check out nearly 50 hands-on and easy-to-understand activities about nature, astronomy, chemistry, fossils, circuitry and other STEM topics. *Most activities are available in both English and Spanish.*

Plus, if you don't already follow us on social media, now's the time to jump on board! We regularly post engaging content on Facebook, YouTube and Instagram that teachers can use to supplement classroom lessons throughout the year or send home with students on breaks.

Be social! Follow us on



# Make the Most of Your Visit

## Lunch Time!

If your group plans to eat lunch at the Science Museum, please notify Guest Services when booking your visit. They will schedule a tentative lunch location and time in advance of your visit. Lunch locations and timing are subject to change. Guest Services will confirm your group's lunch time upon check-in. The Science Museum does not guarantee availability for a lunch location or time, so please be prepared to eat on your bus if there are no spaces available.

Please note: the Science Museum's café does not provide group lunch options and is not equipped to accommodate groups. Groups may not eat in the café.

## Gift Shop

Help your students keep the fun going at home by stopping by our gift shop! From STEM kits to books to special Science Museum keepsakes, scientists of all ages will find something they love.



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## Accessibility Accommodations

Our Curiosity Guide includes accessibility and accommodation information to help you prepare for your group's visit. If any of your students or chaperones will need mobility, hearing or sensory assistance or translation services during your field trip, please contact Guest Services at least two weeks prior to your field trip to discuss options.

## Parking

Bus unloading/loading locations may change during periods of construction. Guest Services will share dropoff and parking information prior to the visit.

Bus drivers should extend their stop sign and turn on flashing lights only when actively loading/unloading guests. When students are not exiting/entering the bus, drivers need to retract the stop sign so traffic can flow in the loop.

Buses do not fit in the parking deck and attempting to park in the deck will damage the bus. Chaperones and additional guests meeting the group at the Science Museum should park in the parking deck.



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**Science Museum of Virginia**  
**2500 West Broad Street**  
**Richmond, Virginia 23220**  
**804.864.1400**  
**smv.org**

## Hours

Day after Labor Day – March 3:  
 Tuesday – Sunday, 9:30 a.m. – 5 p.m.

March 4 – Labor Day:  
 Seven days a week, 9:30 a.m. – 5 p.m.

## Pricing

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

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

## Field Trip Grant Funding

The Science Museum is known for memorable and unique adventures. To make that accessible to all, we have limited grant funding available for group visits in October, November, January or February. Funds are available on a first-come, first-served basis. All grant funding requests need to be made at least two weeks in advance of the visit.

To request aid for your upcoming adventure, email [guestservices@smv.org](mailto:guestservices@smv.org) and include your organization's information, mission, verification of your Title 1 or low-income status and dollar amount you are able to pay per student.



## 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 following group policies. To read the Science Museum's full operating policies, please visit [smv.org](http://smv.org).

- Collecting payment for your group on the day of your visit is challenging and delays the start of your adventure. Because of this, payment and final group count is due **two weeks prior to arrival**. Payments can be made by check, credit card or purchase order. If you require an invoice for payment, let Guest Services know when you book your field trip.
- 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 require **one chaperone for every 10 guests** in your group. All students, even high schoolers, must be accompanied by a teacher or chaperone at all times.
- On the day of your visit, if additional guests join your group (including non-staff chaperones), those guests will receive the general admission price. Please note that space in Live Science Programs and The Dome is not guaranteed for guests added the day of your visit.
- If you need to cancel your field trip, please contact us as soon as possible at 804.864.1400. Field trips canceled more than 48 hours before the visit may receive a refund. Field trips canceled within 48 hours of the visit will receive a refund less a \$95 administrative fee.

## Let's Do This!

Contact Guest Services at 804.864.1400 or fill out our online reservation form at [smv.org/groups](http://smv.org/groups) to book your field trip today. Please complete one form for each group coming to the Science Museum.

# Digital Demos



If you're looking for a scientific adventure but you're unable to come to the Science 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 and hands-on activities.

Digital Demos range in length from 30–45 minutes. Digital Demos are \$150 per lesson for up to 90 students. Technology requirements are listed at [smv.org/virtualadventures](http://smv.org/virtualadventures).

Digital Demos are available Tuesday – Friday from September – May. Digital Demos are available with the following start times: 9 a.m., 10 a.m., 11 a.m., 1 p.m., 2 p.m. and 3 p.m. After-school hours are available on request.

We have limited grant funding available to make digital demos accessible to all. Funds are available on a first-come, first-served basis. All grant funding requests need to be made at least two weeks in advance of the Digital Demo. To request aid for your upcoming adventure, email [guestservices@smv.org](mailto:guestservices@smv.org) and include your organization's information, mission, verification of your Title 1 or low-income status and dollar amount you are able to pay per student.

## Ready to book?

Visit [smv.org/virtualadventures](http://smv.org/virtualadventures) to submit your online request form or call us 804.864.1400!



## Science Demos

Engage with a Science Museum educator as you explore anatomy, chemistry and physics! Science demos can accommodate up to 90 students.

### Amazing Animals Grades K–7

Students will meet snakes, cockroaches and rats. They'll learn about what different animals eat, how they sleep and what they need to survive in their environment.

Science Standards of Learning  
**K** 6, 7 **1** 5 **2** 4, 5 **3** 4 **4** 2  
**LS** 6, 7, 8, 11

### Brain Dissection Grades 5–12

Students will watch an educator dissect a sheep brain. How does your brain work? This demo is sure to make students think about the role of the nervous system.

Science Standards of Learning  
**LS** 2 **BIO** 3

### Eye Dissection Grades 5–12

You won't believe your eyes! Students will watch an educator dissect a cow eye while explaining its different parts and functions to see how the eyes and brain are connected.

Science Standards of Learning  
**LS** 2 **BIO** 3 **PH** 6

### Heart Dissection Grades 5–12

Students will love learning about the cardiovascular system! There's no better way to learn how a heart works than by watching an educator dissect a sheep heart while explaining its different parts and functions.

Science Standards of Learning  
**LS** 2 **BIO** 3

### Radical Reactions Grades 6–12

Chemistry is at its coolest when you put it into action! Students will see four types of chemical reactions, learn the difference between exothermic and endothermic reactions, and watch a colorless liquid transform.

Science Standards of Learning  
**6** 5 **PH** 3 **CH** 5, 7

### Supercool Grades 2–8

How do solids, liquids and gases react to extremely cold temperatures? Students will watch as pennies shatter, balloons shrink and plants crumble. Matter will change state right in front of them!

Science Standards of Learning  
**2** 3 **5** 7 **6** 5, 6, 7 **PS** 2, 5

## Hands-on Engineering Challenges

Help your students have fun investigating scientific phenomena. They'll work 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. Engineering challenges can accommodate up to 30 students.

### Build a Better Parachute Grades 2–7

A little healthy competition gives students the chance to put their engineering skills to the test! Students will use gathered supplies to design a better parachute than their classmates.

Science Standards of Learning  
**2** 1, 2 **3** 1, 2 **4** 1 **5** 1, 3 **6** 1 **PS** 1

### Paper Airplanes Grades 2–7

Forces + flight = fun! Student learning will soar as they experience scientific investigation by designing and testing paper airplanes.

Science Standards of Learning  
**2** 1, 2 **3** 1, 2 **4** 1 **5** 1, 3 **6** 1 **PS** 1

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