

DETAILS

PAYMENT INFORMATION

Payment in advance is required and must be received at least 14 days prior to your scheduled program date. You will be sent an invoice immediately after you have made your reservation for a program. PLEASE, do not send or bring individual checks and cash from students/parents to cover the cost of a program. Instead, have parents write their checks to the school (or a school representative) and then issue a single check for payment. Be sure that a copy of your invoice accompanies the check. A late fee of \$20 will be charged if accounts are past due. Outreach programs outside the Sacramento city limits may include extra charges for travel expenses (the Museum's scheduler will advise you if this is applicable to your school). The Discovery Museum accepts all major credit cards and can take transactions over the telephone. If paying by check, please make your check payable to the Discovery Museum and mail it to: Discovery Museum Science & Space Center, 3615 Auburn Blvd., Sacramento, CA 95821.

CANCELLATIONS AND RESCHEDULING OF TOURS

Cancellations and rescheduling of tours must be done at least 60 days in advance of original program date to avoid a cancellation/date change fee. A fee of \$25 will be assessed for cancellations and program date changes made 30-60 days prior to original program date. A fee of \$50 will be assessed for cancellations and program date changes made 0-30 days prior to original program date. **Those groups that have not paid in advance but have not cancelled their programs and/or fail to show up for their scheduled tours will be assessed a fee at the rate of 50% of the cost of the program. It is highly recommended that teachers re-confirm their booking status.**

TEACHERS AND CHAPERONES

Teachers and chaperones are required on all Museum visits and tours. One adult teacher or chaperone is required per six students. Extra adults are allowed as space permits at \$5 each, payable at time of visit. All students must conduct themselves appropriately while visiting the Museum. Please ask students to observe good visiting behavior and not run through the galleries, climb on exhibits and fences, or consume food and beverages in the Museum. Students should be accompanied and supervised by an adult at all times during their visit. When you arrive, please allow enough time for students to take restroom breaks. The Discovery Museum has shaded outdoor picnic tables that you are welcome to use for lunches or snacks.

MUSEUM EDUCATORS

All Discovery Museum Science & Space Center education programming is delivered by paid staff members. Our educators are experienced, professional teachers who are dedicated to the teaching of science to students of all ages.

MUSEUM PROGRAMS

All Museum programs are aligned with state and federal science education guidelines, and are reviewed and adjusted annually to assure compliance.

MUSEUM STORE

Students are welcome to shop in the Museum Store at the completion of their visit. Store sales help us to maintain reasonable program fees – which have remained unchanged for 6 years. The store takes care to stock quality souvenirs in all price ranges, starting at less than one dollar including tax! Thank you for allowing time for your students to shop and support science education for all.

about us

The Discovery Museum Science & Space Center of Sacramento is a 501(c)(3) non-profit educational institution dedicated to enriching our community by encouraging the exploration of science and space. It is a hands-on learning resource for all teachers and students that continues to find new ways to develop exciting and educationally sound science learning opportunities while re-inforcing California science objectives.

- The Museum offers year-round educational opportunities for students, teachers, families, and Scouts.
- All programming meets state and federal science education standards and requirements. (Specifics upon request.)
- Visit the Museum's rotating exhibits, participate in the Challenger Learning Center and Digging Up the Past archaeology programs, learn about the universe in Sacramento's only public planetarium, or bring the excitement of the Museum to your school or organization through the Museum's outreach programs.
- For reservations or more information, please call: 916.485.8836 or visit our website at www.thediscovery.org.



DISCOVERY MUSEUM
Science & Space Center
Growing into the Powerhouse Science Center
 3615 Auburn Blvd. Sacramento, CA 95821
 916.808.3942 www.TheDiscovery.org
 E-mail: Info@TheDiscovery.org



**Discovery Museum
 Science & Space Center**
 Growing into the Powerhouse Science Center

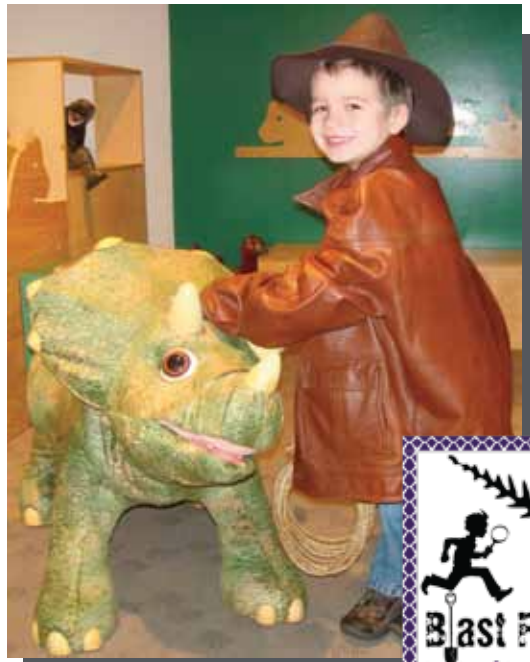
Educator's Guide

field trips | outreach programs | tours



SCIENCE ENCOUNTER!

// a self-guided hands-on experience



Blast From the Past: Rockin' Rocks and Diggin' Dinos

January 14th through August 19th, 2012

Have a real science encounter with rocks, crystals, and fossils of all kinds. The basics of sedimentary, igneous, and metamorphic rocks are presented in an engaging, hands-on style using large, attractive specimens. Special interest areas include volcanoes, floating rocks, magnetism, fluorescence, and rocks under different magnifications. Discover the Age of Dinosaurs in our dramatic presentations. Featured are Mary Anning and Roy Chapman Andrews, prominent paleontologists from the past. Try on their costumes and learn about their careers. Younger students enjoy the interactive Dinosaur Train area, with dinosaur costumes and a pretend nest. Search and find guides, aligned to the California science standards, are provided at three different learning levels.



Family Science Night

The Discovery Museum Science & Space Center is a great place for a school Family Science Night! We work with you to provide an exciting evening of science and fun. Call us to plan an event families will love. Call Susan or Emily at 916.808.3942.

Choose Plan A or Plan B

Plan A: 6pm to 8pm 150 people \$500	Planetarium Shows Animal Presentations Touring the Exhibits One Make-and-Take Activity
Plan B: 6pm to 8pm 150 people \$800	Planetarium Shows Animal Presentations Touring the Exhibits Microscope Lab Straw Rocket Lab



CHALLENGER LEARNING CENTER

// simulated space missions

Designed in cooperation with NASA, the Challenger Learning Center is an interactive educational program that uses the excitement of space flight simulation to inspire students. As your students participate in one of three mission scenarios, they apply math, science, technology, and language arts to solve real-life challenges, raising their expectations of success and inspiring them to "reach for the stars."

All students experience both Mission Control (modeled after the Johnson Space Center) and the Spacecraft (a lab in a futuristic space vehicle).

In the Spacecraft, students conduct science experiments, record measurements, operate robotic arms, build a probe, and navigate through space. In Mission Control, students use computers for research, use math to analyze data, and monitor the status of the mission. Everyone uses teamwork, communication, and problem-solving skills to solve emergencies and accomplish mission objectives.

This engaging program was created by the Challenger Center for Space Science Education, an international, non-profit organization founded in 1986 by the families of the seven astronauts who were lost during the last flight of the Challenger Space Shuttle.

RENDEZVOUS WITH COMET HALLEY™ // grades 5-8 //

In 2061, Comet Halley is returning to our part of the solar system. A team of astronauts constructs a probe, plots an intercept course, and navigates the spacecraft in search of the comet. The objective is to launch the probe through the tail and collect data for research.

VOYAGE TO MARS™ // grades 5-8 //

In 2076, astronauts have occupied a research station on Mars for two years. A new team makes the six-month journey from Earth to replace the crew and to continue exploring the red planet. The two teams work together to bring the spacecraft in for a successful landing and launch probes to study the two moons of Mars.

RETURN TO THE MOON™ // grades 5-8 //

In 2015, astronauts are returning to the Moon to establish a permanent off-Earth settlement. As they navigate into lunar orbit, the team must select a suitable landing site by analyzing data gathered from the lunar surface. This mission begins a new era in human space exploration.

Teachers may request a private tour of the Challenger Learning Center: Call 916.485.8836.

MISSION FEE: \$500 Includes half-day Professional Development Workshop for one teacher (required), classroom curriculum for pre-mission preparation, one 2.5-hour simulated mission for 16-34 students, and post-mission classroom activities. Mission times are 9-11:30 AM or 12:15-2:45 PM.

RESERVATIONS & INFORMATION:
Phone: 916.485.8836. 50% deposit due 30 days after making reservation, final payment due no later than 14 days prior to program date. Service fees: \$25 charge for cancellations or date changes made 30-60 days prior to the original program date; \$50 if 0-30 days prior. \$20 fee charged for all late payments.

SCHOLARSHIPS: A limited number of need-based scholarships may be available each year. Contact a Challenger Flight Director at 916.808.3942 for more information.

PROFESSIONAL DEVELOPMENT WORKSHOPS FOR TEACHERS
Registration 12:45 PM
Workshop 1 PM to 4:30 PM

Rendezvous with Comet Halley™
January 18, 2012

Voyage to Mars™
January 12, 2012

Return to the Moon™
January 18, 2012

CONTENT STANDARDS: Many state standards in math, science, technology and language arts are met by completing preparation curriculum and participating in the mission. A list of standards is available on our website www.thediscovery.org.



"Each year I see my students' attitudes change after our Challenger mission: they listen better, their math scores improve, and they are more eager to learn. I try to schedule our visit as early as possible! It's a fantastic program, and well worth the effort to come here."
// Kevin H., Middle School Teacher //

Science Encounter! Tours are each one-hour in length. Fees: \$90 for 20 or fewer students, \$130 for 21-40, \$160 for 41-60. Call 916.485.8836 to schedule a field trip.

OUTREACH PROGRAMS

// bring science programs into your classroom

grades k-1

OUTREACH PROGRAM FEES

Outreach programs are approximately 45 or 60 minutes in length dependent upon grade level. Programs take place in the classroom. One class is allowed per presentation and there is no combining of classes. The cost is \$200 for one outreach program, \$300 for two outreach programs and \$350 for three outreach programs. If you are booking two or three programs, they must be the same presentation and on the same day. Programs outside the Sacramento city limits may include additional fees for travel. Call 916.485.8836 to schedule an outreach program.

ANIMAL ENCOUNTER

Introduce your students to the world of animal science with an up-close encounter with three live animals from the Discovery Museum collection. A staff science educator leads your students in direct observations of the living animals to learn their similarities and differences, including an introduction to animal classification. Learn about each animal's unique habitat and niche – and the physical adaptations that help the animal meet their basic survival needs. Animal specimens, such as skulls, fur pelts, feathers, and shells further illustrate unique features and structures.

DINOSAURS I

Watch as your students learn the basics of dinosaur science while having fun. They can satisfy their curiosity by touching real fossils and large-size dinosaur models at four different stations during this presentation. Topics include what dinosaurs ate, how fossils are formed, dinosaur eggs, and much more.

INCREDIBLE INSECTS I

Did you know a dragonfly can fly 70 mph? Or that people in Africa have the largest beetle in the world as a pet? These amazing examples, as well as basic insect anatomy are covered. Includes interaction with live insects, such as petting a hissing cockroach, a close-up study of a live cricket, and more. Four independent discovery stations provide personal encounters for a deeper understanding of insects and their environments.

AMAZING ROCKS I

Children love rocks! Help make their first scientific encounter with rocks a memorable one. We present rocks and how they are created in an entertaining way, but at the appropriate educational level. There are four different learning stations with specimens and models. Your students handle large samples of many different kinds of rocks and crystals at each one.

grades 2-3

AN ANIMAL'S NICHE IN NATURE

A live reptile, mammal, and bird from the Discovery Museum collection will visit your classroom and capture your students' interest in exploring ecology. The unique behavioral and physical adaptations of each animal are highlighted to demonstrate their ability to survive. Animal skulls are used to show the differences in teeth, while fur pelts and feathers show camouflage strategies. Adaptation to life in the ocean is demonstrated with a hawksbill sea turtle specimen. These and more high-quality hands-on displays foster an understanding of each animal's place in nature.

AMAZING ROCKS II

We make rocks exciting for your students! Teachers and students alike are amazed at the large number and size of the specimens we bring to the classroom. After a staff science educator leads a discussion on sedimentary, igneous, and metamorphic rocks, students circulate among four themed stations, touching, smelling, comparing, and learning about rocks and crystals while they handle them.

DINOSAURS II

We'll set up a dinosaur museum in your classroom using our large collection of specimens set up on five stations. Everything is hands-on. Your students hold models of large dinosaur eggs, raptor claws, and actual stones from the belly of a dinosaur. Learn about carnivorous and herbivorous dinosaurs – using real fossils. Of course, we present the latest about Tyrannosaurus rex and provide many models – including a baby T. rex skull and a foot-long tooth for students to handle.

INCREDIBLE INSECTS II

Mimicry and camouflage are highlighted with a live walkingstick, preserved owl-eye butterflies and the giant, eight-inch Atlas moth. Glimpse into the work of an entomologist by studying a working case. Life-cycles of moths, bees, and grasshoppers are revealed through detailed displays. During the independent exploration time, students enjoy touching the hissing cockroach and feeling paper made by a wasp.

INTEL'S ON THE MOON™

3...2...1... Lift Off! *On the Moon* brings hands-on engineering and the adventure of space exploration to life for your students. Your third graders use step-by-step instructions to build straw rockets. They then explore the Engineering Design Process and Scientific Inquiry Process by testing and redesigning until they arrive at the best design solution. *On the Moon* was created by NASA and PBS Design Squad professional educators.

grades 4-6

AMAZING ROCKS III

We bring an amazing array of specimens into your classroom to cover the basics about rocks. But wait, there's more! A staff science educator provides an appropriate grade level program for your budding geologists and paleontologists. Students learn about life through time by placing real fossils on a six-foot time line. California fossils are part of this enhanced fourth & fifth grade program.

DYNAMIC EARTH

This all-new program meets the needs of earth science content standards with large props and specimens. We bring an elaborate cross-section model of fault blocks that demonstrate how earthquakes occur. Students can operate a real seismograph and see samples of seismograph records from the California Geological Survey. A 16-inch model of a volcano, in cross section, shows layers of Earth, the location of the magma chamber, and how molten rock reaches the surface. A hands-on collection of rock specimens of the three geological types, plus California fossils, are featured.

INTEL'S ON THE MOON™

Houston, we have landed! *On the Moon* brings hands-on engineering and the adventure of space exploration to life for your students. Your fourth and fifth graders use step-by-step instructions to build lunar landers and your sixth graders use step-by-step instructions to build lunar rovers. They explore the Engineering Design Process and Scientific Inquiry Process by testing and redesigning until they arrive at the best design solution. *On the Moon* was created by NASA and PBS Design Squad professional educators.

Attention Home Schools!

If you do not have a classroom space to host an outreach program, we will present it for you in the Discovery Museum classroom. Maximum number of students is 24. Presentations are at three different levels: K-1, 2-3, 4-5-6.

Prices are the same as for in-school programs and does not include admission to the museum. No siblings please. Please call if you have questions 916.808.3942.

testimonials

I was impressed with your rock, crystal, and fossil specimens. I especially liked the fossils. My students appreciated the hands-on lesson and models of volcanoes and earthquakes.

// Suzy D., 6th Grade Teacher //

I loved the presentation. You have inspired me to become someone who works with endangered species. I hope people will think differently about animals.

// Jennifer, 3rd Grade Student //

Thank you for the excellent dinosaur presentation. My students learned a lot – and so did I! The hands-on visual aids were excellent – in fact, the entire presentation was excellent.

// Mrs. G., 2nd Grade Teacher //

The insect presentation was fabulous, and I know both my class and I have a new regard for these fascinating creatures. Thank you so much for such a memorable, well-prepared program!

// Mrs. P., Kindergarten Teacher //

Call 916.485.8836 to schedule an outreach program.

PLANETARIUM

// astronomy shows

OUR PLACE IN SPACE // grades k-1, 45 minutes //

Are other planets hot or cold? What is the Moon made of? Explore our part of space and learn about the properties of planets and moons. We begin close to the warmth of the Sun and move farther and farther away, to the coldest parts of our Solar System and beyond to the stars.

COSMIC NEIGHBORHOOD // grades 2-3, 60 minutes //

Earth orbits the Sun and allows us to see different things at different times of the year. Join us as we discover how the sky changes from one season to another. Students learn how to "star hop," using the position of one constellation to find another. Of course, many other objects orbit the Sun just as we do. From planets to comets, this program examines all major objects found in the Solar System.

ROBOT QUEST // grades 4-6, 60 minutes //

In a vast galaxy teeming with billions of stars, the Sun doesn't seem exceptional. However, it is literally what holds our Solar System together. This program examines the Sun and its environs through the eyes (or, rather, lenses) of robotic explorers. Journey to destinations across the Solar System, following landers, orbiters, and rovers as they change the way we understand our part of the galaxy.

SPACE ADVENTURE // grades 7+, 60 minutes //

The Milky Way is our home: amazing sights greet us as we gaze out into the galaxy. Come with us as we discover wonders both far and near. From distant stars to our own "astronomical backyard," we view the galaxy and our Solar System through images from NASA and space agencies from around the world.

Bring your students to Sacramento's only public planetarium to learn about the universe!

All shows include backyard sky-watching tips. Planetarium Shows are approximately 45 or 60 minutes in length depending on grade level.

Cost is \$90 for 20 or fewer students, \$130 for 21 to 40 students and \$160 for 41 to 60 students.

Call 916.485.8836 to schedule a visit.



testimonials

This is one of the best field trips in Northern California.
// Leslie P., 3rd Grade Teacher //

It was the perfect culminating activity in our study of our solar system.
// Cathy M. //

I watched the parent volunteer faces when I could, and they seemed just as enthralled as the students. In fact, I have to say I was caught up in the whole show, too!
// Moira W., 2nd Grade Teacher //

DIGGING UP THE PAST

// a hands-on archaeology dig

DIGGING UP THE PAST // grades 4-8 //

Students are immersed in a hands-on, interactive archaeological project led by a trained archaeologist. This unique program integrates multidisciplinary skills in a realistic simulation.

What does it really take to be an archaeologist? Your class works in teams to uncover the story of the fictional people who once inhabited a corner of the Museum grounds. Students participate in an outdoor simulated archaeological dig to really understand how archaeologists uncover and decipher clues about the past.

The adventure begins in the Museum's laboratory, where students receive an introduction to tools, methodology, and techniques – and learn how real archaeologists operate using the scientific method.

Next, organized into search teams and provisioned with tools and reference materials, students trek outdoors to the dig site. On site, they begin the exciting search for buried artifacts – recording and cataloging each as it is uncovered. Once the artifacts are uncovered, students return to the laboratory to research and identify their genuine artifacts and develop historical connections in order to produce a final report of their findings to their fellow archaeologists.

Students use scientific inquiry methods to study the past while employing every subject area necessary – including science, math, history, reading, geology, and art – for a successful and complete archaeological investigation.

"Digging Up the Past" is 2.5 hours in length (9:30 AM to noon), and is limited to 35 students. \$250.

testimonials

This is the best one-day field trip we take each year. Emily is awesome. Her passion and knowledge is invaluable, and she explains things in ways that are accessible to our students. Thanks again for another great trip!
// 4th Grade Teacher //

My kids and chaperones thoroughly enjoyed this trip! It is convenient for us to get to from Auburn, is cost-friendly, and dovetails nicely with 6th grade science and social studies topics.
// 6th Grade Teacher //

This is a great field trip! The students were fully engaged and on task for the entire program. It was a learning-working field trip. Great job!
// 4th Grade Teacher //

Emily continues to do an enthusiastic job and is outstanding! How does she stay so "up" for each group? We have been coming here for 8 years, and are so appreciative. I will sing your praises forever!
// 6th Grade Teacher //

