

School Programs

SAN DIEGO NATURAL HISTORY MUSEUM



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Bio-regional Environment Education Project
Environmental education training programs for teachers in the Baja California peninsula

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Welcome

Dear Educators,

In times when education budgets are being hit so hard, the San Diego Natural History Museum is expanding its role in providing **excellent science-education resources** to our many partners in education. We are here to support you...

Inside this brochure you will find our latest offerings to teachers describing high-quality programs that provide science-based, hands-on, In-Museum and Outreach programs. Teachers who use our programs rate them in the 98th percentile affirming they help meet the **California State Science Standards** and enhance their students' learning experience.

Our dedicated education staff is truly committed to delivering superior programs. Each year, we add new programs, update our materials, and strive for excellence in our workshops and nature experiences. As a member of our Nature to You loan library, you have 1,300+ specimens to choose from to take out on loan for your classroom.

Sixty-five volunteer Docents support our Education Department with in-house tours and nine outreach programs that reach grades PreK–8. Our docents are former educators, citizen and trained scientists, and are passionate and committed to teaching children about natural history and nature. Our Museum Canyoneers, trained volunteer naturalists, offer one-hour nature walks throughout San Diego County. Nature and Me Storytime is offered every month for mothers or guardians and their younger children and Ms. Frizzle will bring engaging science adventures to your classroom.

What else is new? A curriculum on forests for Pre–2; a Pre–K program on mammals; a behind-the-scenes experience for high school students; and a field journal for high school students to use when they are taking a self-guided tour through *Fossil Mysteries* exhibition. As we expand current collaborations and seek new ones, we're also exploring new ways to integrate the California Environmental Education Initiative curriculum into our programs.



Please join us on October 18 for our Annual Educators Resource Fair. Last year, the educators who attended were thrilled to participate. We'll have some tremendous raffle and door prizes, too. Pass the word: it's a terrific event!

Here's wishing you an innovative and successful 2012–2013 school year. We hope to see you often.

Doretta Winkelman
Director of Education,
U.S. and Mexico Programs

Register

Museum Access Funds are available to help support the costs of your field trip or outreach program. Ask our Programs Registration Coordinator if you qualify.

All Museum programs are aligned with California State Content Standards. Visit sdnhm.org/education/school-programs to see specific standards met for each program.

For workshops at your school site, please schedule programming in the same room per school visit.

Registration

- Reservations are always required. Please call 619.255.0210.
- For Museum programs, one adult chaperone per eight students is required and a one to five ratio is recommended.
- Required chaperones and carpool drivers are admitted free.

Payment

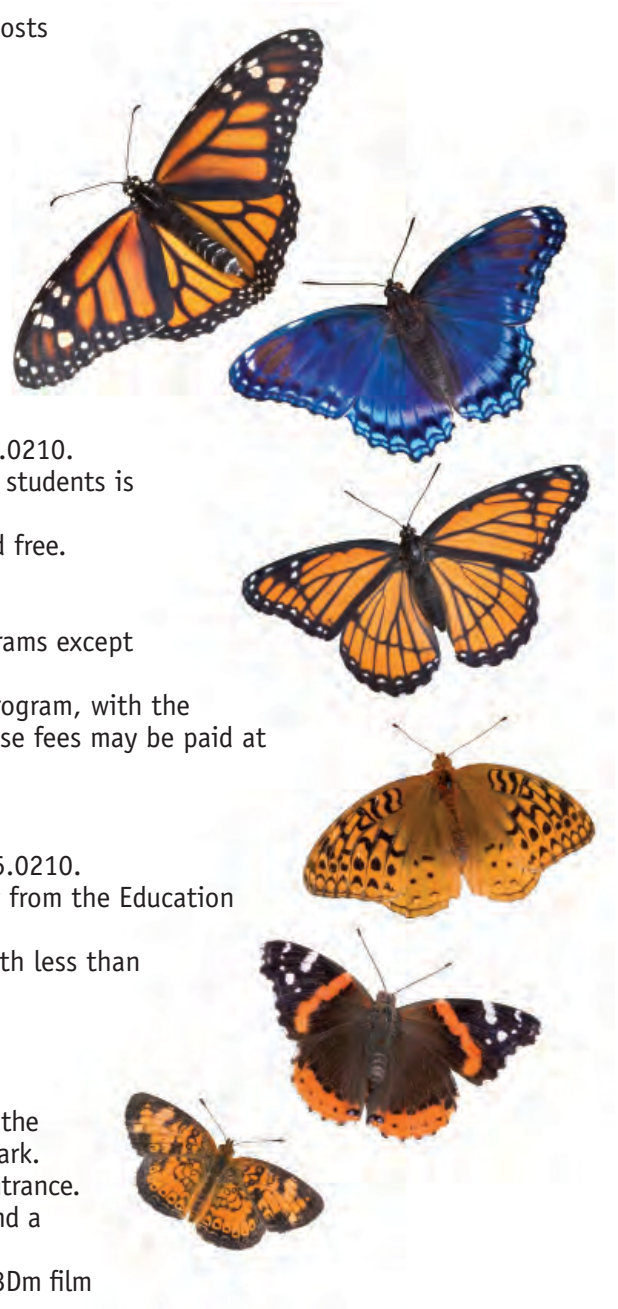
- A \$25 non-refundable deposit is required for all programs except Self-Guided Visits.
- Payment in full is due one week prior to scheduled program, with the exception of Self-Guided Visits and Docent tours; these fees may be paid at the door.

Cancellations

- When cancellations are necessary, please call 619.255.0210.
- Cancellations are not official until you receive a reply from the Education Department.
- Full program fee is charged for cancellations made with less than one-week notice.
- Deposits are non-refundable.

Museum Information

- The San Diego Natural History Museum is located near the corner of Park Boulevard and Village Place in Balboa Park.
- Student groups should enter at the North "Fig Tree" Entrance.
- Student group admission for Self-Guided Visits is \$6 and a minimum of ten students is required.
- Student group admission does not include the 3D films. 3Dm film passes are \$3 per person.



Teacher Resources

Nature to You Loan Program

Inspire your class and bring nature inside. Become a member of the Nature to You Loan Program. Membership with the loan library allows for a year of unlimited access to the program's collection—over 1,300 specimens that represent the biologic and geologic diversity of the southwestern United States, Baja California, and the world! Search the database of specimens available for loan at sdnhm.org/archive/education/naturetoyou/catalogs/catalogs.php

Annual Fee: \$50



Films

3D film schedule:

Flying Monsters—June 1, 2012–January 20, 2013

The Last Reef—June 1, 2012–May 31, 2013

TBD—January 20, 2013–June 30, 2013 (See website for updates)

2D film schedule:

Robert Vavra's Such is the Real Nature of Horses—June 1, 2012–January 2, 2013

Ocean Oasis shown daily

Nature & Me Storytime

Calling all budding naturalists! Come enjoy an imaginative journey into nature through dynamic readings and visits to exhibitions. Storytime is held every second Thursday of the month at 10:15 AM and is open to all ages. (Recommended for ages 1–5)

Nature & Me Storytime is free with Museum admission and free for members.

Teacher Resources

Ms. Frizzle's Classroom Adventures (PreK–2) at your school site Reinforce State Science Standards while being entertained. Invite Ms. Frizzle—Scholastic's favorite science teacher—to your classroom. Students will take chances, make mistakes, and get smarter with “the Frizz.” A perfect reward for your class! Uncover fossils with *Digging into Dinosaurs*, learn about pollination through *Bats are Beautiful*, or become familiar with the intricacies of the honeybee lifecycle in *The Bee Olympics*. See page 12 for more details.

Teacher E-news

Sign up for our e-newsletter and stay informed about exhibitions, films, online classroom resources, and exclusive teacher events. Send an email to education@sdnhm.org to sign up.

Teacher's Guides

Preview exhibitions, classroom and gallery activities at: www.sdnhm.org/education/teacher-resources/educator-guides

Let us help you meet your state content standards. Each of our traveling-science workshops are designed to help you complete your Foss Kit units. Check out the programs listed below:

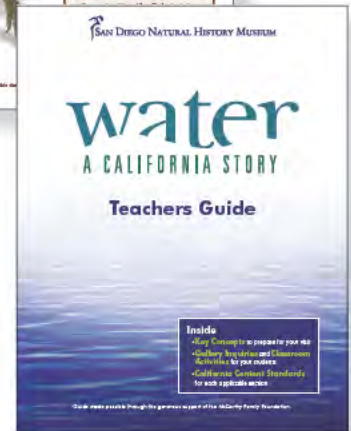
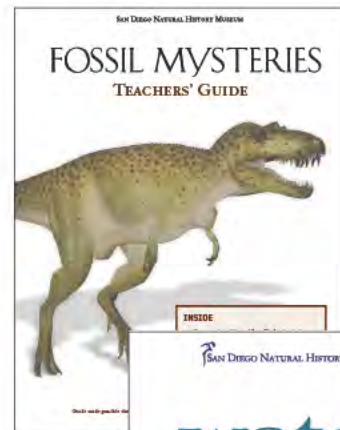
Grade 1: **Flora and Fauna**—page 13

Grade 2: **Earth Detective**—page 14

Grade 3: **Survivor!**—page 13

Grade 4: **Read a Rock**—page 15

Grade 5: **It's Elemental**—page 15



**Join us for
Educator Night
October 18, 2012.
Details online at
sdnhm.org-education.**

Nature Walks

In the Field

Nature Walks

Roll up your sleeves, put on your walking shoes, and discover the beauty of our own backyard—San Diego County. On your one-hour nature walk, the Museum's Canyoneers (trained volunteer naturalists) will guide you through a trail that will invigorate your senses. Inhale the fragrant beauty; get up close and personal with some of our native arthropods; touch the flora and learn how to identify local plants. In addition, the Canyoneers will demonstrate how the Kumeyaay Indians adapted to their environment by utilizing available resources. Choose from a selection of fantastic walks at: sdnhm.org/education/school-programs/in-the-field



Is transportation a problem? Is there a natural area within walking distance of your school? By special arrangement, Canyoneers will conduct hikes in other appropriate locations. For more information call 619.255.0210. Please be prepared to describe the area and distance from your school.

Fee: \$2 per student, \$30 minimum per class

Group size: 32 student maximum per one-hour walk



Museum Workshops—Life Science

Grades K–3

Autumn Harvest *at the Museum*

What does it mean to hunt and gather? Step back in time! Grind acorns, scrape yucca leaves to discover fibers, investigate hunting strategies, and find out if your students can match the ingenuity of California's Kumeyaay Indians.

Fee: \$155 per 1.5-hour program (includes Museum admission for up to 25 students—additional students \$6 each).

Group size: 25 student maximum per 1.5-hour program.

Cetacean Sensation *at the Museum*

Discover the power of whale chatter and what is on the menu for our marine cousins. Compare your teeth to whale teeth. Eat like a baleen whale. Build a whale to illustrate beneficial adaptations. Put your hand in “blubber” to feel how it insulates and protects whales from cold waters.

Fee: \$155 per 1.5-hour program (includes Museum admission for up to 25 students—additional students \$6 each).

Group size: 25 student maximum per 1.5-hour program.



Amazing Arthropods *at the Museum*

Come learn about your neighbors: the insects, arachnids, and a surprise backyard crustacean. Discover how arthropods use sight and smell to be such great survivors. Observe and discuss life cycles and touch a live specimen!

Fee: \$155 per 1.5-hour program (includes Museum admission for up to 25 students—additional students \$6 each).

Group size: 25 student maximum per 1.5-hour program.



Outreach Workshops–Life Science

Please schedule programs in the same room per school visit.

Preschool and Kindergarten (4–5 years)

Mesozoic Mysteries *at your school site*

Take a pretend visit to the Mesozoic past. Discover what types of animals lived millions of years ago, what they ate, and how big some of these animals were. Touch a real dinosaur fossil. Describe and match fossils. Learn a song and make a “fossil” to take home.

Fee: \$155 per visit for two one-hour programs.

Group size: 20 student maximum per one-hour program.



Tide Pool Wonders *at your school site*

Make a tide pool in your classroom. Sit on a felt rock and feel the tide washing in and out. Eat like a piddock and barnacle. Hold on, the way abalone and sea stars do, to keep from being pulled into the ocean. Make a tide pool craft to take home.

Fee: \$155 per visit for two one-hour programs.

Group size: 20 student maximum per one-hour program.



Mammals Classified *at your school site* **New!**

Mammals are one of the six main classes of animals. They inhabit almost every environment on the planet. What distinguishes a mammal from other animal classes? Sort the facts and use your scientific skills to explore the diverse and fascinating world of mammals.

Identify habitats, compare furs and make a mammal track!

Fee: \$155 per visit for two one-hour programs.

Group size: 20 student maximum per one-hour program.

PreK–2

Ms. Frizzle’s Classroom Adventures *at your school site*

Reinforce State Science Standards while being entertained. Invite Ms. Frizzle–Scholastic’s favorite science teacher–to your classroom. Students will take chances, make mistakes, and get smarter with “the Frizz.” A perfect reward for your class! Uncover fossils with *Digging into Dinosaurs*, learn about pollination through *Bats are Beautiful*, or become familiar with the intricacies of the honeybee lifecycle in *The Bee Olympics*.

Fee: \$275 for one 45-minute program; \$300 for two programs; \$350 for three programs.

Group size: 60 student maximum per 45-minute program.



Grade 1

Flora and Fauna *at your school site*

Learn how plants and animals get their jobs done by observing clues from our environment. Investigate nests, skulls, and other Museum specimens. Match seeds with their correct mode of travel. Participate in a “pollination play” and discover small secrets of the life around us.

Fee: \$210 for two 1.5-hour programs.

Group size: 25 student maximum per 1.5-hour program.

Grade 3

Survivor! *at your school site*

Discover the elegance of survival with real specimens. Life forms adapt to meet the challenges and opportunities in an environment. Investigate the power of successful adaptations and take a closer look at some of the Earth’s most famous extinctions. Invent a unique species and explain how its adaptations would allow it to survive or to go extinct.

Fee: \$210 for two 1.5-hour programs.

Group size: 25 student maximum per 1.5-hour program.

Grades 4–6

Eyes on Nature *at your school site*

Connect science and language arts. Explore shapes found in the natural world. Using loupes, identify patterns in animal and plant specimens. Draw the shapes you see and write analogies to describe these patterns. Theorize how form follows function in nature and how shape may benefit a specimen.

Fee: \$210 for two 1.5-hour programs.

Group size: 32 student maximum per 1.5-hour program.



Outreach Workshops–Earth/Physical Science

Please schedule programs in the same room per school visit.

Preschool and Kindergarten (4–5 yrs)

Cloud Science *at your school site*

Your students will “sit on clouds” and learn how to identify basic cloud types through song, art, and experiment. Students will be introduced to the water cycle by playing a game and will make a cloud craft they can take home.

Fee: \$155 per visit for two one-hour programs.

Group size: 20 student maximum per one-hour program.



Grades K–3

Autumn Harvest Hits the Road *at your school site*

What does it mean to hunt and gather? Step back in time! Grind acorns, scrape yucca leaves to discover fibers, investigate hunting strategies, and find out if your

students can match the ingenuity of California’s early Kumeyaay Indians.

Fee: \$210 for two 1.5-hour programs.

Group size: 25 student maximum per 1.5-hour program.

Grade 2

Earth Detective *at your school site*

Crack the Earth’s crust and be an Earth detective! Investigate the ingredients on Earth including dirt, rocks, minerals, and fossils. Shake rocks to demonstrate weathering and erosion. Group activities reinforce soil-water retention concept.

Fee: \$210 for two 1.5-hour programs.

Group size: 25 student maximum per 1.5-hour program.





Grade 4

Read a Rock *at your school site*

No more mock rocks! The real deal comes to your classroom. Categorize rocks based on their physical properties. Illustrate the rock cycle using Starbursts candies. Classify minerals based on the testable properties of color, luster, streak, and hardness.

Fee: \$210 for two 1.5-hour programs.

Group size: 32 student maximum per 1.5-hour program.

Grade 5

It's Elemental—The State of Things *at your school site*

Chemistry is basic to an understanding of the natural world and an important part of fifth-grade science standards.

Investigate the states of matter. Hypothesize how atoms move as water changes from a solid, liquid, and gas. Take a scavenger hunt through the periodic table and discover how much metal is in your body!

Fee: \$210 for two 1.5-hour programs.

Group size: 32 student maximum per 1.5-hour program.

It's Elemental—Making and Breaking Bonds *at your school site*

Have fun in this more advanced chemistry class. Take a closer look at the make-up of atoms, elements, molecules, and compounds. Conduct experiments that create physical and chemical reactions using household items. Investigate molecular bonding by creating a bouncy putty polymer.

Fee: \$210 for two 1.5-hour programs.

Group size: 32 student maximum per 1.5-hour program.



New for High School



Grades 9–12

The Science of Collections-based Research *at the Museum* **New!**

Why do natural history museums collect so much stuff? Learn how we organize, preserve, and use collections to further our knowledge about the ecology and evolution of life on this planet. Students will receive a brief introduction to collections-based research from a Museum curator before dividing into groups for a behind-the-scenes guided tour of different research collections. The experience concludes with students regrouping for a facilitated discussion on the different collections visited.

Fee: \$9/student

Group size: 45 student maximum per two-hour program

Duration of class: two hours

Evolution in San Diego *in the Fossil Mysteries Exhibition* **New!**

Where is evidence for the theory of evolution found right here in the San Diego region? Learn how the fossil record provides clues to the dramatic changes in our environment and plant and animal species over 75 million years. Guide your students through the *Fossil Mysteries* exhibition as they explore the concepts of mass extinctions, natural selection, and “survival of the fittest.” Students will complete a self-guided field journal.

Fee: included in Museum admission

Docent-led Tours at the Museum

The following Docent-led tours are available Tuesdays, Wednesdays, and Thursdays.

Grades 2–12

Water *at the Museum*

Water is life; life is water. Students will learn how plants and animals of San Diego County adapt to their specific habitat. Water conservation, where we get our water, how we use our water, and where our water goes will be included.

Fee: \$8 per student

Group size: 32 student maximum per one-hour program

Grades 2–8

Habitats of San Diego *at the Museum*

San Diego County has more biodiversity than almost any other place in our country. Students view the varied habitats of the seacoast, valleys and mesas, mountains, and desert. Students will also observe a live snake and discuss the adaptations necessary for its survival. This is similar to the *Roadrunners* outreach program. (See page 19).

Fee: \$8 per student

Group size: 32 student maximum per one-hour program

Grade 3

Door to the Desert *at the Museum*

Small groups will focus on different aspects of the desert including soil percolation, weathering, and plant and animal adaptations. Following this discussion, students will visit a curator (botany, herpetology, paleontology, entomology, or small mammals and birds). Class designed for 3rd grade GATE classes.

Fee: \$9 per student

Group size: 24 student maximum per two-hour program

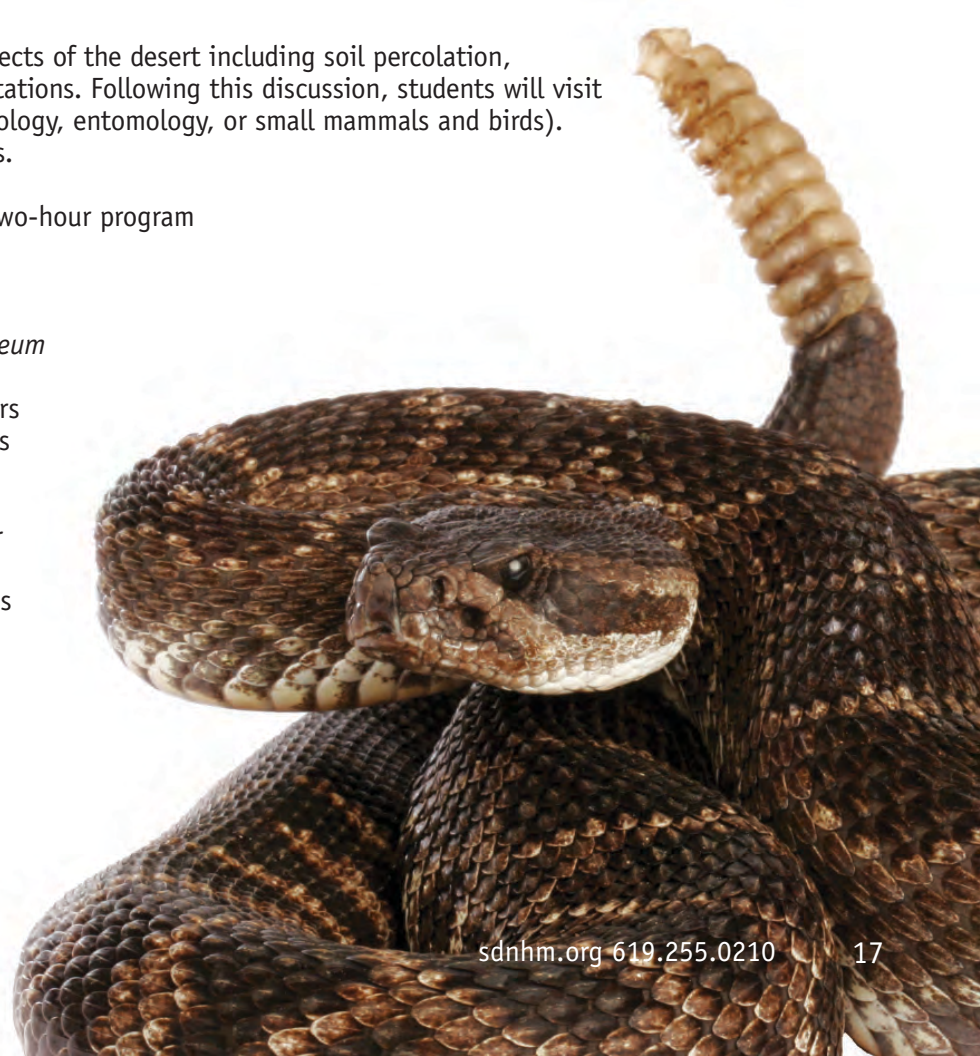
Grades 3–8

Explore Fossil Mysteries *at the Museum*

San Diego County has a fascinating history with fossils from 75 million years ago on display at the Museum. Students tour seven epochs with a Docent and ponder the evidence for past climates, environments, and extinctions. Familiar and bizarre animals are encountered from San Diego and Baja California. This is similar to the *Fossil Tales* outreach program. (See page 19).

Fee: \$8 per student

Group size: 32 student maximum per one-hour program



Docent Outreach–Museum on Wheels!

The following Museum on Wheels! Programs are available for *PreK (4–5 yrs) on Fridays and K–2 grades Tuesday through Friday*. Docents will bring cased and touchable specimens to your classroom in each of these engaging programs. All programs have four Docents presenting to small groups.

Please schedule programs in the same room per school visit.



Grades PreK–2

Habitats of San Diego County:

Desert at your school site

How do the plants and animals of the desert survive in such a dry environment? Using exhibits, puppets, and models, students will learn how plants and animals adapt to the desert habitat. Students will participate in songs, stories, and activities.

Fee: \$155 per visit for two one-hour programs.

Group size: 24 student maximum per one-hour program.

Ponds at your school site

Meet the creatures of the air, land, and water as they interact in the fresh water environment of the pond. Students will enjoy the use of exhibits, puppets, and models for hands-on learning including the metamorphosis of insects and frogs. Students will participate in songs, stories, and activities.

Fee: \$155 per visit for two one-hour programs.

Group size: 24 student maximum per one-hour program.

Oceans at your school site

The saltwater environment of marshes and ocean are an integral part of San Diego County. Students will learn how the animals and plants are so well-adapted to the saltwater environment. Students will enjoy the use of exhibits, puppets, and models for hands-on learning. Students will participate in songs, stories, and activities.

Fee: \$155 per visit for two one-hour programs.

Group size: 24 student maximum per one-hour program.

Forests at your school site **New!**

Explore the exciting world of Forests, the only habitat in San Diego County in which both plants and animals must adapt to seasonal changes in climate. Enjoy puppets, stories, specimens, songs and activities.

Fee: \$155 per visit for two one-hour programs.

Group size: 24 student maximum per one-hour program.



The following Museum on Wheels! programs are available
Tuesdays, Wednesdays, and Thursdays.

Museum on Wheels! Docents will bring cased animal, plant, and geologic specimens to your classroom in each of these engaging programs. All programs have five or six Docents presenting to small groups.

Please schedule programs in the same room per school visit.

Grades K–2

Incredible Insects *at your school site*

Program begins with an introduction to insects and arachnids. Students visit stations highlighting: Social Insects, Butterflies and Moths, Metamorphosis, Beetles, and Live Insects and Other Arthropods.

Fee: \$155 per visit for two one-hour programs.

Group size: 30 student maximum per one-hour program.

Grades 3–6

Nature's Night Life *at your school site*

Students are introduced to nocturnal animals and their special adaptations for life in San Diego County. Stations highlight: Things that Fly at Night, Animals that Can't Stand the Heat, Finding Food at Night, Live Animals, and Demonstrations.

Fee: \$155 per visit for two one-hour programs.

Group size: 32 student maximum per one-hour program.

Life in the Desert *at your school site*

This program discusses the geology, plants, animals, and their adaptations for the extremes of life in our Anza-Borrego desert. Stations highlight: Cactus Scrub and Rocky Hillside, Dry Wash and Oasis, Badlands and Dunes, Low Desert, and Live Animals.

Fee: \$155 per visit for two one-hour programs.

Group size: 32 student maximum per one-hour program.

Roadrunners *at your school site*

Students are introduced to five habitats in the most biologically diverse county in the U.S.—San Diego! Stations highlight: Seacoast, Coastal Plain, Foothills, Mountains, and Desert. Run around the county like a roadrunner!

Fee: \$155 per visit for two one-hour programs.

Group size: 32 student maximum per one-hour program.

Grades 3–8

Fossil Tales of San Diego *at your school site*

Students are guided through 75 million years of our county's fossil history with stations highlighting: Cretaceous, Eocene and Oligocene, Miocene, Pliocene, and Pleistocene. Models and casts of familiar and bizarre creatures that roamed our county are shared.

Fee: \$155 per visit for two one-hour programs.

Group size: 32 student maximum per one-hour program.



SAN DIEGO NATURAL HISTORY MUSEUM

Education Department
P.O. Box 121390
San Diego, CA 92112-1390
www.sdnhm.org

Nonprofit Org.
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San Diego Natural History Museum
To register call: 619.255.0210**

