



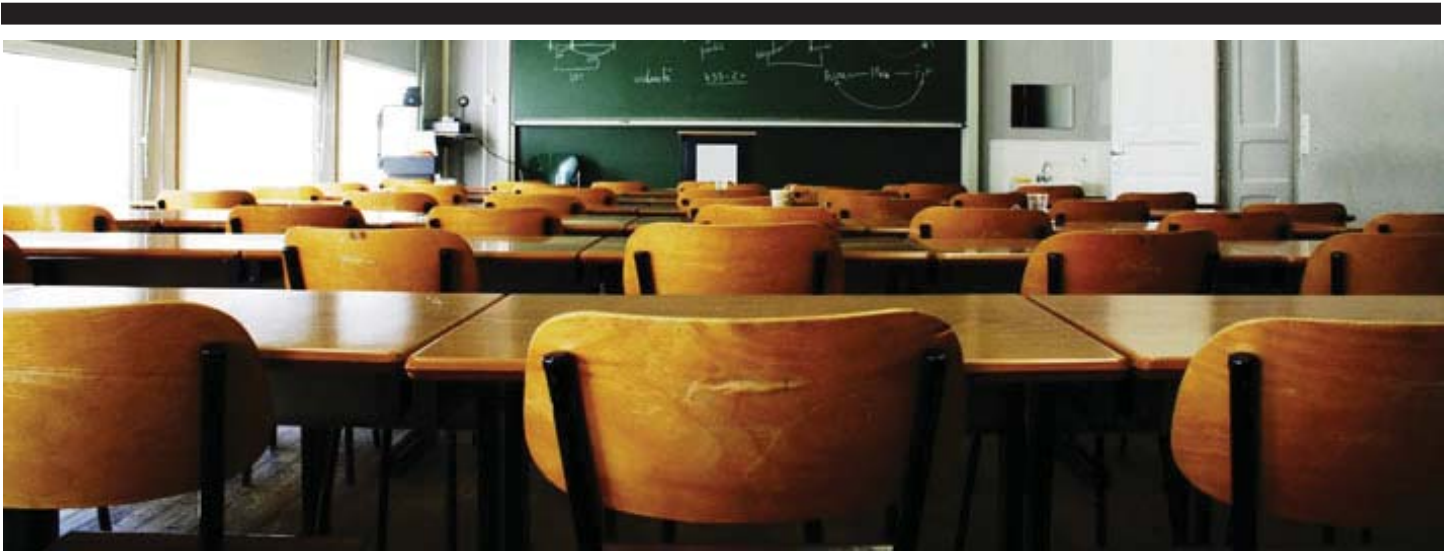
The Guadalupe-Nipomo Dunes Center, 1055 Guadalupe Street, Guadalupe CA 93434  
805.343.2455 (phone), 805.3463.0442 (fax) ~ [www.dunescenter.org](http://www.dunescenter.org) ~ [info@dunescenter.org](mailto:info@dunescenter.org)

Promoting the conservation and restoration of the Guadalupe-Nipomo dunes ecosystem through education, research and the support of cooperative stewardship.

# Greetings Teachers!

Are you looking for hands-on science programs to engage your students? Would you like to have Dunes Center science educators visit your classroom or lead a field-based program in the Guadalupe-Nipomo Dunes?

We have seven exciting options that are designed to meet your curriculum needs and engage your students in hands-on inquiry based science.



## Registration and Scheduling

To register for any of our programs, please contact us at 805.343.2455, Tuesday - Friday, 8:00 am - 4:00 pm. If you would prefer to schedule via email, please contact the Education Program Manager, Kanani Fox at [kfox@dunescenter.org](mailto:kfox@dunescenter.org).

Please have available when you call or include in the text of the email - program name, date and times, grade level and the number of classrooms.

We offer a variety of programs to suit your needs for science curriculum in the classroom. We are happy to create a specialized curriculum for you that is aligned with the CA Science Standards. For options and suggestions please contact our Education Program Manager.

Thank you for supporting our education programs!

# In Class Programs

are designed to fit within one hour of class time and support science standards for each grade level. Taught by experienced educators, the curriculum introduces new vocabulary, hands on experimentation and critical thinking skills. While all of our programs are suitable for all grades, the standard alignment gives an idea of the targeted grade level for each program.

Approximate Length: 1 hour

Grades: K-8th

Cost: \$45 per classroom (up to 35 students)

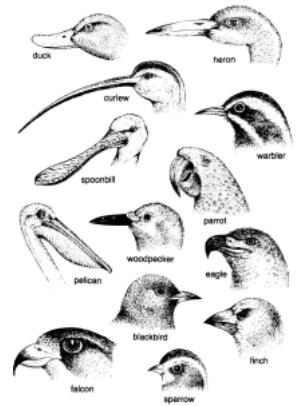
Note: 10% discount if you schedule more than 1 module per day.

**Birds: Our Feathered Friends** The objective of this lesson is to familiarize students with local birds, their diet, unique field marks, and ecological roles. The instructor accomplishes this through three activities.

Kindergarten - 2.a, 2.c, and 4.e, First Grade - 2.a, 2.b, 2.c, 2.d, 4.a, 4.b and 4.c, Second Grade - 2.d and 4.g, Third Grade - 5.a

**Mammals - Pelage, Skulls, Tracks, and Scat** The objective of this lesson is to familiarize students with local mammals, their diet, field markings, and ecological roles. The instructor accomplishes this through four activities.

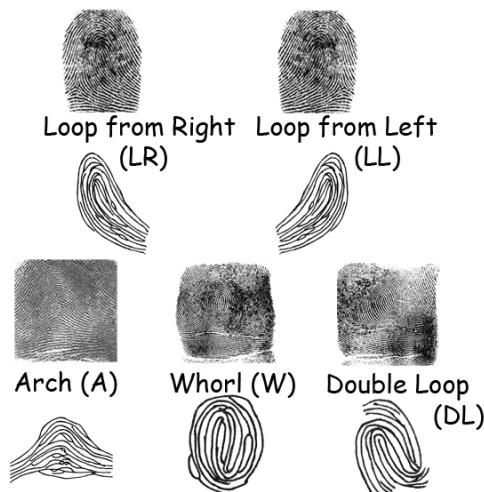
Kindergarten - 2.a, 2.c, and 4.e, First Grade - 2.a, 2.c and 2.d, Second Grade - 2.d and 4.d, Fourth Grade - 2.b



**Observations and Deductions** The objective of this lesson is to familiarize students with the components of the scientific method, specifically the development of hypotheses and the role of data collection through various methods of observation.

The instructor accomplishes this through an interactive process that includes introducing students to the concepts of developing a hypothesis and data collection through observations. This exercise includes a “guessing game” that challenges the students to make deductions about sample objects based upon their data collection.

Kindergarten - 4.a and 4.e, First Grade - 4.a, Second Grade - 4.f and 4.g



**Sand Secrets - Microhabitats for Invertebrates** The objective of this lesson is to familiarize students with the origin and components that make up our sand in our dunes and local beaches. The lesson introduces the sand’s unique geology and the micro habitat it provides invertebrates. The instructor accomplishes this through three activities.

Kindergarten - 3.c and 4.e, Second Grade - 1.f, 3.a, 3.b, 4.f, and 4.g, Fourth Grade 4.b and 5.a, Sixth Grade 2.b and 2.c





**In The Field Programs** are designed to provide the ultimate experience in outdoor education and support science standards for each grade level. Taught by experienced educators, the curriculum reinforces topics presented in our in class programs, provides an overview of the natural history of Oso Flaco Lake, and experiential learning. Grade level recommendations are listed with each program.

**Oso Flaco Lake Natural Area** We offer two types of field-based programs; Basic - docent led walk with activities that introduce the diversity of wildlife, plants, and habitats we have in the dunes and Advanced - an inquiry-based hike that reinforces natural science concepts and vocabulary.

Approximate Length: 4 hours

Grades: K-12th

Cost: 35-60 students = \$165, 61-105 students=\$250 (Requires two Staff members).

Accommodate a maximum of 105 students per day. Chaperones and Teachers are free.

\*Students must wear closed toed shoes, long pants, bring water and a sac lunch.

**Schoolyard Biodiversity Monitoring** The purpose of The Dunes Center Remote Sensing and Biodiversity Monitoring Unit is to teach students the methods of biodiversity monitoring while at the same time challenge students to use these skills in the field to help them understand how important species diversity is to a healthy habitat and ecosystem.

This is done through the following activities:

1. An in-class introduction to using x and y axis quadrants as a method to monitor biodiversity.
2. An exploration of the complexities of biodiversity monitoring using vocabulary such as relative abundance, species abundance, and invasive/endemic species.
3. A field study of Oso Flaco Lake using the scientific method to investigate the effects invasive species has on the dunes ecosystem.

**Basic Program** - the basic program includes a one hour in class program introducing students to biodiversity and one-4 hour field trip at Oso Flaco Lake Natural Area performing a study in biodiversity within the dunes habitat.

Approximate Length: 5 hours

Grades: 5th-12th

Cost: \$200 per classroom (up to 35 students)



Advanced Program - the advanced program is an indepth program which includes four-1 hour in class programs and one-4 hour field trip at Oso Flaco Lake Natural Area performing a study in biodiversity within the dunes habitat.

Approximate Length: 8 hours

Grades: 5th - 12th Cost: \$350 per classroom (up to 35 students)

Note: 10% discount if you schedule more than 1 module per day.

Grade 6: 5.c, 5.d, 7.a, 7.b, 7.c, Grade 7: 3.a, 3.e, 7.a, 7.c, 7.d, Grade 8: 9.a, 9.b, 9.e, Grade 9-12 Biology: 6.a & 6.b., Investigation 1.a, 1.b, 1.c, 1.d



**Understanding Water Quality** The purpose of the Dunes Center Understanding Water Quality Unit is to allow students to identify water pollutants and their possible sources using multiple water testing techniques. In this unit, students will be introduced to testing methods for pH, nitrate/phosphate concentrations and turbidity. Students will be challenged to connect pollutant concentrations to their affects on local species of plants and animals, and the overall ecosystem. The students then connect how science can be used in real life situations and careers.

The field-based curriculum is designed for five days:

Day 1: Introduction to the Water Cycle and Watersheds

Day 2: Acids and Bases and pH Testing

Day 3: Eutrophication and Nitrate and Phosphate Testing

Day 4: Soils and Erosion

Day 5: Field Study at Oso Flaco Lake using all testing methods and final write up and conclusions.

Basic Program - the basic program includes a one hour in class program introducing students to water quality and one-4 hour field trip at Oso Flaco Lake Natural Area testing the water quality of Oso Flaco Lake and Little Oso Flaco Creek where it meets the ocean.

Approximate Length: 5 hours

Grades: 5th-12th

Cost: \$200 per classroom (up to 35 students)

Advanced - the advanced program is an in depth program which includes four-1 hour in class programs and one-4 hour field trip at Oso Flaco Lake Natural Area testing the water quality of Oso Flaco Lake and Little Oso Flaco Creek where it meets the ocean.

Approximate Length: 8 hours

Grades: 5th - 12th Cost: \$350 per classroom (up to 35 students)

Note: 10% discount if you schedule more than 1 module per day.

Grade 6: 2.a, 2.b, 2.c, 4.a, 5.a, 5.b,5.e,7.a, 7.b, 7.c, 7.d, 7.h, Grade 7: 3.a, 3.e, 4.c, 7.a, 7.c, 7.e, Grade 8: 5.e, 6.b, 9.b, 9.e, Grade 9-12: Chemistry 5.a 5.d, Biology 6.a, 6.b, 6.e, Earth Science 9.c, Investigation 1.a, 1.b, 1.c, 1.d

