GRADE 8

COAST TO CACTUS
IN SOUTHERN CALIFORNIA

Curriculum and Lesson Plan Resource Guide

theNAT
SAN DIEGO NATURAL HISTORY MUSEUM

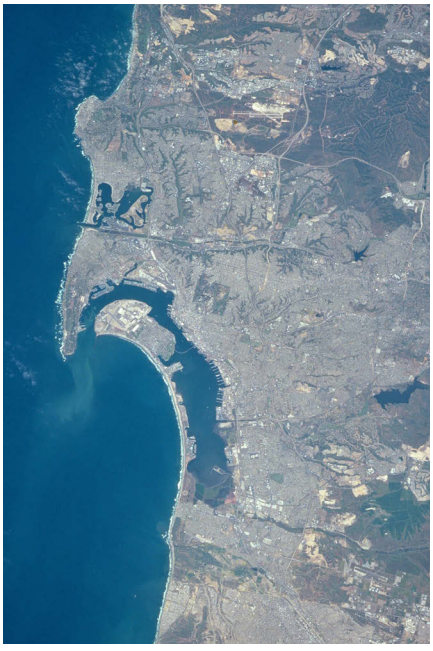
Donald C. & Elizabeth M. Dickinson Foundation • The Carol and Henry F. Hunte Fund at The San Diego Foundation

Grade 8
Endangered and Threatened Species

Essential Question

How can we help endangered and threatened species in our region?

Southern California is one of the most biologically diverse places on Earth. Many species found here do not exist anywhere else. As we alter our habitats, we sometimes lose species. Such losses can start a chain of effects, straining the health of the entire environment. Scientists seek to understand how southern California's changing habitats affect our plants and animals—and what this means for us.



Activity: Informing Others About Endangered Species

In this activity students research a local endangered or threatened species. Students will design posters, billboards, or brochures about protecting their assigned species.

Materials

- Notebook
- Writing and coloring tools
- Poster boards
- Access to a computer with Internet

This activity is best done by students working in individually or in pairs, before or after a visit to the *Coast to Cactus in Southern California* exhibition. *(See page 2 for activity instructions.)*

Informing Others About Endangered Species

Advance Preparation

- Read through the activity instructions.

Activity

1. Begin by giving your students an introduction to the definitions of endangered and threatened species. An endangered species is a species (including animals, plants, fungi, etc.) that is seriously at risk of extinction. A threatened species is any species (including animals, plants, fungi, etc.) that is vulnerable to endangerment in the near future. ***Why is this important?*** Southern California has a high level of biodiversity, meaning there is a large variety of living things in our habitats. Some of these species are endemic: they are unique to our region and found nowhere else in the world.

2. Assign each student a species from the list below.

   El Segundo Blue Butterfly (endangered), Torrey Pine (endangered), California Condor (endangered), Desert Tortoise (threatened), San Bernardino Kangaroo Rat (endangered), Gila Monster (threatened), Mountain Yellow-legged Frog (endangered), Quino Checkerspot Butterfly (endangered), Desert Pupfish (endangered).

3. Students should create a messaging system by designing a brochure, poster, flyer, or PowerPoint presentation about their assigned species.

NGSS Alignment for Grade 8

Performance expectation: MS-ESS3-3, MS-LS2-1, MS-LS2-5

Science & Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Analyzing and Interpreting Data Constructing Explanations and Designing Solutions	**ESS3.C:** Human Impacts on Earth Systems **LS2.A:** Interdependent Relationships in Ecosystems **LS2.C:** Ecosystem Dynamics, Functioning, and Resilience **LS4.D:** Biodiversity and Humans **ETS1.B:** Developing Possible Solutions	Patterns Cause and Effect Stability and Change

Interdisciplinary Common Core Connections: RST.6-8.1, RST.6-8.7, WHST.6-8.7, WHST.6-8.8, WHST.6-8.9

4. Students should include the following in their messaging:

    - Common and scientific name of the species
    - The species' habitat (desert, mountains, grassland, coast, etc.) and range (the areas where the species lives)
    - Information about what is causing the species to be endangered or threatened (habitat destruction, pollution, population reduction by invasive species, etc.)
    - Potential solution that the public should be aware of (reduce pollution or littering, plant more native plants, create wildlife corridor, etc.)
    - Potential solutions that the local or state government should be aware of (setting aside more protected land, passing legislation that prevents hunting or trapping the species, etc.)

5. Have your students present their messaging media to the class.

Extension

Have your students find an organization working to help the endangered or threatened species they researched. Have your students contact these organizations to learn about actions they have taken to help the species.

What will they learn?

During this activity students learn about southern California endangered and threatened species. Using research, writing, and design skills, students will create media pieces to present

Key words

Scientific name

A name used by scientists, especially the taxonomic name of an organism that consists of the genus and species. Scientific names usually come from Latin or Greek. An example is *Homo sapiens,* the scientific name for humans.

Endangered species

Used to describe a type of animal or plant that has become very rare and that could die out completely.

Threatened species

Any species (including animals, plants, fungi, etc.) which are vulnerable to endangerment in the near future.

Key words

Endemic
Native or restricted to a certain country or area.

Biodiversity
The variety of life in the world or in a particular habitat or ecosystem.

Habitat
The place or type of place where a plant or animal naturally or normally lives or grows.

Disruption
To cause something to be unable to continue in the normal way; to interrupt the normal progress or activity of something.

Ecosystem
Everything that exists in a particular environment. An ecosystem includes living things, such as plants and animals, and things that are not living, such as rocks, soil, sunlight, and water.

messaging about the species they have researched. Students will learn about southern California's biodiversity and its relationship to growing human populations.

Additional Resources

- Visit the *Explore the Region from Coast to Cactus* website to learn more about the different habitats in the southern California region. You can find more information at **coasttocactus.sdnhm.org.**
- Check out a specimen from our Nature to You Loan Library. For more information visit **sdnat.org/specimensearch** or contact the Loan Library at **loanprogram@sdnhm.org** or 619.255.0236.
- Visit the San Diego Natural History Museum and explore our *Coast to Cactus in Southern California* exhibition. San Diego is known for its incredibly diverse terrain, ranging from the beaches and chaparral near the coast, to the mountains and the desert farther afield. Using specimens from the Museum's scientific collections, alongside immersive environments, hands-on exhibits, live animals, and innovative media, *Coast to Cactus in Southern California* illustrates that richness by taking visitors on a journey through these habitats to explore the plants and animals that live in them.