



GRADE 1



COAST ^{TO} CACTUS

IN SOUTHERN CALIFORNIA

Curriculum and Lesson Plan Resource Guide



theNAT
SAN DIEGO NATURAL HISTORY MUSEUM



Grade 1

Awesome Adaptations

Essential Question

What kinds of adaptations help animals survive?

Animals have different adaptations that help them survive extreme environments such as deserts, find and eat different types of foods, and escape from predators. Some birds have long beaks to dig for clams and crabs in coastal mudflats. Bats use echolocation to find their way around at night. Flying squirrels glide between trees in the San Bernardino Mountains.



Activity: Level Up Animals

In this activity, students use their observation and research skills to study animal adaptations. Using their research they create a new type of animal by combining adaptations from other animals.

Materials for the Museum visit

- Notebook or paper
- Writing tool

Materials for classroom activity

- Printed animal sheets
- Computer with internet access to visit *Explore the Region from Coast to Cactus* website (optional). Visit coasttocactus.sdnhm.org

This activity can be done by students working individually, in pairs, or in groups, following a visit to the *Coast to Cactus in Southern California* exhibition. (See Page 2 for activity instructions.)

Level Up Animals



Before the activity

- Review activity instructions.
- Print out animal sheets.
- Schedule a field trip to the NAT. Reservations are required for all group visits. Please call 619.255.0349 to make your reservation or go online to www.sdnat.org/schoolprograms.

During your Museum visit

- Ask students to pay special attention to the animals in the exhibition.

What makes these animals different? Each of these animals is adapted to live in its specific habitat.

What is an adaptation? An adaptation is something a plant or animal has that makes it better able to live in a particular place or situation. Examples include a fish's ability to breathe under water, or the rattle on a rattlesnake's tail, which scares away animals that might eat the snake.

- While the students explore the exhibition, make sure they pay attention to the adaptations each animal has that helps it survive in its habitat. **Can the animal fly, breathe under water, or sting? Is it good at hiding, or does it have a special ability that helps it escape getting eaten? Does it have shells, feathers, or scales?**

Back in the classroom

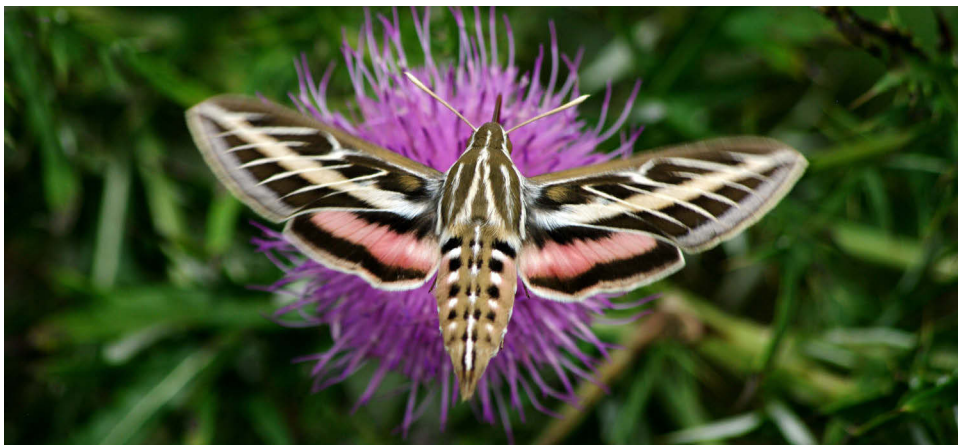
1. Pass out the animal sheets to students working individually, in pairs, or in groups. On each animal sheet, only part of the animal will be visible.
2. Ask the students to add adaptations from other animals that might help the animal on their sheet survive better. *Example:* Draw a stinging tail on the snake to help it fight something trying to eat it, or create a bird that can breathe under water so that it can hunt for fish.

NGSS Alignment for Grade 1

Performance expectation: 1-LS3-1

Science & Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Constructing Explanations and Designing Solutions	LS3.B: Variation of Traits	Patterns

Interdisciplinary Common Core Connections: 1.RI.1, W.1.7, W.1.8, MP.2, MP.5, 1.MD.A.1



3. If computer access is available, students can use the *Explore the Region from Coast to Cactus* website to search for animals from the exhibition to get inspiration. Visit coasttocactus.sdnhm.org
4. Have your students finish drawing their animal and describe its new adaptation on the back of the sheet.
5. Have students make a presentation to teach their classmates about their new animals. ***What did they add to the animal? How do they think this adaptation will help the animal survive?***

Extension

Have your students add animal adaptations to a human. ***What would they add? A stinging tail like a scorpion? Wings like a bird?*** Have them make a drawing of their human-animal hybrid.

What will they learn?

In this activity, students learn that all animals have adaptations that allow them to survive in their environment. Animals have different adaptations that help them eat, escape from predators, or survive extreme weather.

Additional Resources

- Check out a specimen from our Nature to You Loan Library. Specimens related to this lesson include: Desert Hairy Scorpion, Pallid Bat, Western Rattlesnake, Gila Monster, Coast Horned Lizard, Kit Fox, Kangaroo Rat, Turkey Vulture. For more information visit sdnat.org/specimenssearch or contact the Loan Library at loanprogram@sdnhm.org or 619.255.0236.
- Use the *Explore the Region from Coast to Cactus* website to learn more about the different habitats in the southern California region. Visit coasttocactus.sdnhm.org to journey through coastal areas, mountains, and deserts, and to learn more about San Diego's amazing diversity of plant and animal life.

Key Words

Environment

The conditions that surround someone or something; the natural world.

Animal

A living thing that is not a plant.

Habitat

A place where a plant or animal lives or grows.

Survive

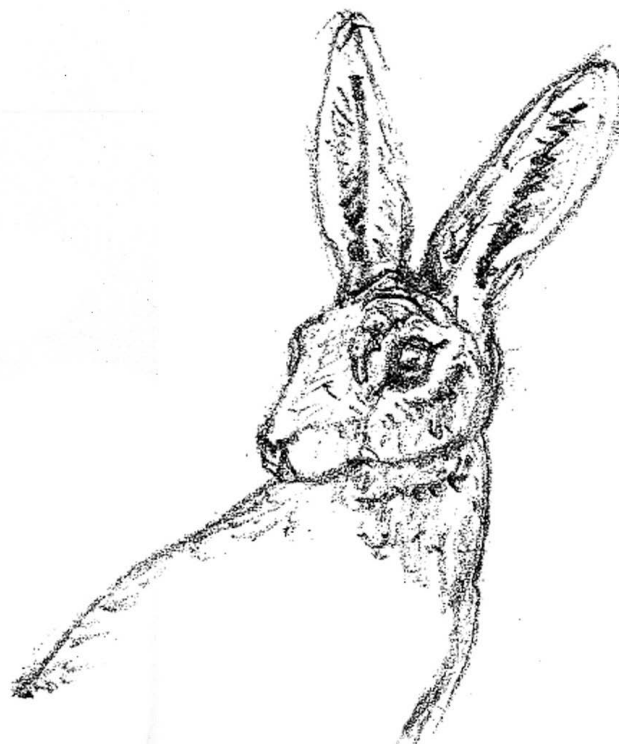
To remain alive; to continue to live.

Adaptation

Something that a plant or animal has that makes it better able to live in a particular place.

Level Up Animals

Name: _____



Level Up Animals

Name: _____

