

SPOT ON

Second Grade: Observing Animals

OVERVIEW

For this activity, **head to the Ecosystems Gallery**. You will go to two separate locations: the [Desert Zone](#) located on the Upper Level and the [Touch Tank](#) located outside on the Upper Level. In each of these spaces, students will make observations of two different animals in their natural habitat.

Next Generation Science Standards

This lesson supports the following performance expectation:

- 2-LS4-1 Students who demonstrate understanding can make observations of plants and animals to compare the diversity of life in different habitats.

Focus Question

How do living things get what they need from their environment in order to survive?

Surviving in Extreme Environments

All living things need to do a number of things in order to survive, such as get energy, grow and develop, reproduce, respond to their environment, and adapt to changing conditions. For this activity, we will focus on how animals get food and water (obtain energy), move (adjust to their environment), and protect themselves (respond to their environment).

Students will compare two animals that live in vastly different environments. The desert is a dry location, where animals have to adjust to having limited water. Rocky shores are turbulent environments with changing conditions every day and where animals are exposed to conditions on land and underwater. In both places, there is a diversity of life where animals tackle these challenges in different ways.



SMALL GROUP CHALLENGE

Help your group explore two different types of animals. They should work together to complete the animal summaries for the sea star and the desert tortoise.

1. Identify one person to be the Recorder and take notes for the group. The group will share notes once they get back to the classroom. You may also choose to be the Recorder for your group.
2. Give the Recorder the animal observation guide.
3. Go to either the Desert Zone or the Touch Tank. Have the group find the Sea Star or Desert Tortoise, depending on which gallery you are in. Ask one student to draw what it looks like.
4. Assign each student one thing to find out about the animal (see below). They should spend at least 2 minutes observing the animal in order to answer their question, as well as reading the text panels within the exhibit. They may also ask questions to Science Center staff or other students.

Investigation Questions:

- How does the sea star find food? How do tortoises in the wild survive without water every day? (*NOTE: Students may observe that Science Center tortoises have constant access to water, but graphics to the right explain how their wild cousins survive.*)
 - How does the animal protect itself from changing conditions?
 - How does the animal move?
 - Find the most interesting fact about the animal!
5. They should report back to the Recorder with their findings after exploring the gallery.
 6. Move to the other gallery – either the Desert Zone or the Touch Tank – and repeat steps 3, 4, and 5.



VISIT DEBRIEF

As you wind up your visit to the Ecosystems Gallery, ask students to reflect on what they found in the two different areas.

- What was challenging for animals living in the desert? What about the rocky shores?
- What were some of the coolest things you saw animals do, or heard that they do, in each area?
- How did the tortoise survive without water present?
- How did the sea star find food without eyes?

Have students record a response to the focus question in their notebook: *How do animals get what they need from their environment in order to survive?*



IN THE CLASSROOM: GOING FURTHER

Materials

- Writing tools
- Poster paper
- Sticky notes or notecards with tape on the back
- Observation guides

Students observed two animals in Ecosystems. Extend their experience by having them relate the needs that animals have to the needs they have.

1. Ask students to draw three things they get or do every day that they couldn't live without. For each item, have them write why they need it.
2. Create a large chart with columns for "Must Have" and "Nice to Have." Ask students to place their notecard in the column where they think it belongs.
3. Focus students' attention on the "Must Have" list. Which of these items are similar to what the animals they saw must have or do in order to survive?
4. Ask: "How do you use your body to **get** the things that you must have in order to survive?" Guiding questions:
 - What body parts help us obtain and eat food / water? *Hands, mouth, teeth, tongue, eyes, noses*
 - What body parts protect us? *Skin, hands, feet*
 - What body parts help us move around and respond to things that happen to us? *Feet, eyes, nose, ears, hands*
5. Have students think about the animals they saw in Ecosystems. How do those animals get the things they need in order to survive in their natural environment? Guiding questions may include:
 - What body parts helped the animals obtain food? *Tortoise – eyes, mouth; Sea star – light sensors, stomach*
 - What body parts protected the animals? *Tortoise – shell; Sea star – harder body / spines, ability to grow back arms*
 - What body parts helped the animals move around their environment? *Tortoise – eyes, legs / feet; Sea star – arms, tube feet*
6. Wrap up by having students return to their initial responses to the focus question and refine their response.



SEA STAR: TOUCH TANK



Draw Me!

How do I find food?

How do I move?

How do I protect myself?

**Something interesting
about me:**

TORTOISE: DESERT ZONE



Draw Me!

How do I survive without water every day?

How do I move?

How do I protect myself?

Something interesting about me: