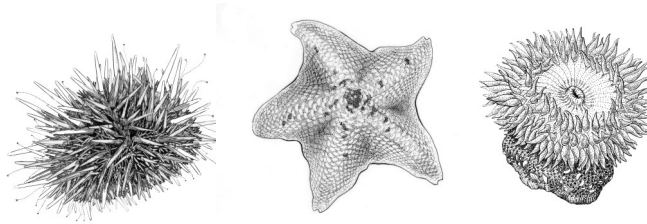


Patterns of Survival



Topics
Patterns of Survival

Grades
K-2

Site
Outdoors, Aquarium,
Classroom

Duration
60 minutes, in 3 sessions

Materials

- Science notebooks
- Pencils
- **Patterns of Survival Sentence Frames**
- Internet-connected devices

Vocabulary
habitat, survive

Next Generation Science Standards

Practices

Constructing Explanations

Core Ideas

LS1.A Structure and Function

Crosscutting Concepts

Patterns

Performance Expectations

See page 4

Focus Question

What patterns do we see in animals that live in the same habitat?

Overview

Students choose three animals that live in the same habitat, observe them and then explain that there are common patterns of survival in the habitat. Students communicate their learning to others by creating a screencast that explains the observed patterns of survival.

Objectives

Students will:

- Make scientific observations.
- Construct explanations based on observations.
- Create a screencast to communicate their thinking.

Background

The Next Generation Science Standards note that “noticing patterns is often a first step to organizing phenomena and asking scientific questions about why and how the patterns occur.” Through observations, young children can begin to notice patterns in the natural world around them. This activity is designed to help students notice similarities in animals that live in the same **habitat**. They then use those observations to construct explanations – an important scientific practice – about patterns of survival in that habitat. This activity supports students in answering the question, *what do animals in this habitat need to survive?* Experiences like these will help students develop a stronger understanding of adaptations (body parts and behaviors) in later years.

To support students as scientific thinkers, it’s important to refrain from anthropomorphizing (giving animals human traits) during science activities. Encourage students to refer to animals as “it” rather than him or her if the gender is unknown. During the screencasting portion of the activity, have students use only photos or their own scientific illustrations (if they’ve been trained to create them), rather than imaginative animal illustrations. It can be helpful to talk about the difference between fiction and nonfiction books before this activity so students understand why imaginative illustrations aren’t appropriate in this context.



VOCABULARY

survive: to live or exist

habitat: a home for plants and animals that provides food and protection



TEACHER TIP

Pre-literate students can make verbal observations, related illustrations and attempted writing. Some may need adult support.

Teacher Preparation

1. Plan a field trip to the Monterey Bay Aquarium or your local aquarium, zoo, or nature center where students will be able to observe animals.
2. Obtain a copy of the book *In One Tide Pool* by Anthony D. Fredericks (or similar nonfiction picture book on the habitat you'll be exploring).
3. Research different screencasting apps or websites that your students can use. A free, popular one is Educreations (see resources).
4. Learn about common adaptations that animals in the habitat you will be exploring have.

Procedure

For this procedure, we'll use the rocky shore as an example habitat students could explore.

Part One: Before the field trip

1. DEVELOP BACKGROUND KNOWLEDGE.

Ask if students have ever been to a tide pool. Discuss with them what they saw. Read the book *In One Tide Pool* by Anthony D. Fredericks aloud with students. Afterwards, ask students to name some of the animals they would expect to find in the rocky shore.

Part Two: At the Monterey Bay Aquarium or other field site

2. ACCESS STUDENTS' PRIOR KNOWLEDGE ABOUT THE ROCKY SHORE.

At the Aquarium, bring your class to the Rocky Shore exhibit area. Ask them to name all the animals they can remember that live in the rocky shore. If possible, hold up images of animals they name (or illustrations from *In One Tide Pool*).

3. STUDENTS SELECT THREE ANIMALS TO OBSERVE.

Have students (individually or in small groups) choose three of the named animals to observe in Aquarium exhibits. Tell them they're looking for patterns or similarities they notice in the animals. To help students record their observations, give them time to photograph their animals with their mobile devices or create scientific illustrations in their notebooks. Also provide them with an insert for their notebook with a sentence frame (see student sheet). For example, a student might write:

"In the rocky shore, the sea star, sea urchin, and anemone all stick to rocks."

4. STUDENTS CONSTRUCT EXPLANATIONS ABOUT SURVIVAL.

After students have made their observations, have them think-pair-share about ONE pattern they observed. Then, ask students *"how do you think that pattern helps animals survive in this habitat?"* Give students time to think-pair-share their explanations verbally. Hand out the following sentence frame, as stickers for their notebooks or as handouts, and have students complete it.

"In the rocky shore, I think sticking to rocks helps animals survive. I think this because of the strong waves."

Part Three: In the classroom

5. STUDENTS CREATE AND SHARE A PATTERNS OF SURVIVAL SCREENCAST.

Have students use their patterns of survival sentence frames and photographs from their field trip to record a screencast communicating their thinking. After students have created and published their screencast, allow them to share their work. Depending on time, students can share their screencasts with a partner, a small group, the whole class or at a school event.

6. ASSESS BY DISCUSSING A FOCUS QUESTION.

After students hear about all the different patterns their peers have found, ask: *What patterns do we see in animals that live in the rocky shore?* Students may think on their own or discuss with a partner. In their notebook, they may add to their notes from the Aquarium with ideas they've learned from their peers. The patterns they identify might include: sticking to rocks, needing water, having a hard shell, and/or eating kelp.

Resources

Website

Educreations <https://www.educreations.com>

Standards

Next Generation Science Standards www.nextgenscience.org

Performance Expectation

Supports K-LS1: Use observations to describe patterns of what plants and animals (including humans) need to survive.

Relates to 1-LS1: Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.

California Transitional Kindergarten Standards

Supports PreK-LS1.3: Recognize that living things have habitats in different environments suited to their unique needs.

Common Core State Standards www.corestandards.org

Language Arts, W.K.6, W.1.6, W.2.6

Writing: With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers.

Language Arts, SL.1.5

Speaking and Listening: Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.

Language Arts, W.K.2

Writing: Use a combination of drawing, dictating and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.



TEACHER TIP

Don't have access to a class set of tablets?

Ask chaperones to bring their smartphones. Students can use them to take photos that they then email to the teacher for later use.

Patterns of Survival Sentence Frames

In the _____, the _____, _____
(habitat) *(animal)* *(animal)*

and _____ all _____.
(animal) *(pattern)*

In the _____, I think _____
(habitat) *(pattern)*

helps animals survive. I think this because _____

_____.