

Seahorse Homes

Topics

Seahorses, Habitats

Grades

PreK-5

Site

Indoors

Duration

30 minutes

Materials

- Markers or crayons and drawing paper
- Nonfiction seahorse books
- **Seahorse Habitat Photos** (1 set of three photos per group)
- **Seahorse Species Photos** (1 set of nine photos per group)

Optional

- Seahorse die-cuts
- Magazine pictures, wrapping paper or white drawing paper

Vocabulary

adaptations, camouflage, habitat

National Science Education Standards

Science as Inquiry (K-4)
Ability to do scientific inquiry
Understanding of scientific inquiry

Life Science (K-4)
The characteristics of organisms
Organisms and their environments



Overview

What is a seahorse? Where does it live? Students find out while exploring the importance of a “home,” or habitat in this activity. Seahorse body parts, behaviors and habitats are introduced to the class through pictures or a book. Students then match seahorse photos with one of three habitats and share their conclusions.

Objectives

Students will be able to:

- Identify the body parts that make a seahorse a fish.
- Describe two adaptations that help a seahorse survive in its habitat.
- Compare three seahorse habitats: sea grass beds, mangroves and coral reefs.

Background

Seahorses can be found in three main **habitats**—mangrove forests, coral reefs and sea grass beds. Here they can find food, shelter and protection. Mangrove forests consist of trees with dense underwater roots. Coral reefs are composed of coral colonies which are groups of tiny animals with hard skeletons. Sea grass beds are like underwater meadows with thick patches of plants. Most of these habitats are in tropical and temperate ocean water along the coasts of continents that are near the equator.

A seahorse is a fish with fins for moving and gills for breathing. Seahorses have other **adaptations**, or special body parts and behaviors, that help them survive in their habitats, too. These adaptations include grasping tails to hold on to the dense underwater roots, coral branches or sea grass blades. Some seahorses can also change color or grow fringe-like skin appendages to help them blend into their surroundings and **camouflage**. This allows them to hide from predators as well as to hide from their prey. While hidden, it is easy for them to slurp up unsuspecting tiny ocean organisms with their long straw-like snouts.



VOCABULARY

Adaptations: body parts and behaviors that help an animal survive

Camouflage: to blend in or match an environment

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

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Teacher Preparation

1. Assemble drawing paper and art supplies.
2. Find a seahorse book to read with the class. See suggestions in "Resources."
3. Make copies of the included **Seahorse Habitat Photos** and **Seahorse Species Photos**. Each group of students should have three habitat photos and nine seahorse photos. You might want to color-code or identify which seahorse lives in each habitat.

Procedure

1. EXPLORE THE IDEA OF A HABITAT.

Ask students to think about where they live (*house, apartment, etc.*) and what they do there (*eat, sleep, play, feel safe, etc.*). Introduce or review the word for home (*habitat*) with students.

2. EXAMINE DIVERSITY AND IMPORTANCE OF HABITATS USING STUDENT DRAWINGS.

Pass out drawing paper and crayons or markers. Have students draw pictures of their own "habitats" or homes. Compare the drawings as a class or in small groups. Make sure students identify some differences and similarities (*color, style, size*). Discuss why habitats are important. (*protection from weather and danger, places to eat, places to sleep and rest*)

3. INVESTIGATE SEAHORSES AND THEIR HABITATS BY READING A BOOK.

Use a large photo in the book to help students discover why a seahorse is a fish and observe other adaptations. (*A seahorse is a fish because it has fins for swimming and gills for breathing. It also has a snout with a mouth at the end and a tail for holding on to a plant or coral.*) Ask students to describe where seahorses live and how that compares to students homes. (*seahorses live underwater, not in houses with furniture like people, there are other plants, animals, rocks, coral or roots*)

4. COMPARE AND CONTRAST PHOTOS OF SEAHORSE HABITATS IN SMALL GROUPS.

Pass out a set of **Seahorse Habitat Photos**. Have students make some observations. What do students notice about the three habitats? What's similar and different? (*colors, plants and animals*) Discuss the habitats with the class. Refer to "Background" as needed.

5. COMPARE AND CONTRAST PHOTOS OF DIFFERENT SEAHORSE SPECIES.

Pass out a set of **Seahorse Photos** to each group. Have students compare and sort photos by color, size or shape. (*Does the skin look smooth or bumpy? Size? Color?*)

6. STUDENTS MATCH EACH SEAHORSE TO ITS CORRECT HABITAT.

Ask students guiding questions if necessary. *Is the seahorse camouflaged? Does it have the same color as sea grass or bumpy skin like the coral? Are there plants (like mangrove tree roots or sea grass) or animals (like coral) where it can hold on tight?*

7. STUDENT GROUPS SHARE CONCLUSIONS WITH CLASS.

Have each group share one seahorse and the habitat where it lives. Have the students explain their thinking to the class. You may assign a particular seahorse or habitat per group.

Extensions

- Make class murals of the three main seahorse habitats (coral reefs, sea grass beds and mangrove forests). Students can draw a seahorse or color a die cut and then add it to the mural where they think it lives. Have them describe whether their seahorse can camouflage or hold on in that habitat.
- Give each student a paper die cut seahorse and a piece of recycled wrapping paper or colorful magazine picture to represent a habitat. Have them color the seahorse so it matches or blends into the habitat picture.
- Explore the regions where seahorses live by making a “body globe” with your students. Pretend your waist is the equator, your chest is the Northern Hemisphere and your thighs are the Southern Hemisphere. Tell students that most seahorses live near the equator where the ocean water is warm (pat hands on waist). Some species live close to land in the southern part of North America (pat lower chest) and some are found in the northern part of South America (pat upper thighs). Many other kinds live in the coastal waters of East Africa, Asia and Australia (pat the backs of thighs). Use a real globe to compare.

Resources

Websites

Monterey Bay Aquarium. www.montereybayaquarium.org

Learn more about specific types of seahorses and some of the challenges they face in the wild on Monterey Bay Aquarium’s website.

Project Seahorse. <http://seahorse.fisheries.ubc.ca>

Find out more about *Project Seahorse*, an international organization dedicated to saving wild seahorses and communicating ocean conservation.

Books

Seahorses. Berger, Melvin and Gilda. Scholastic Inc., 2003.

Seahorses. George, Twig C. Millbrook Press, 2003.

Seahorses. James, Sylvia M. MONDO Publishing, 2002.

Sea Horses. Schaefer, Lola M. Heinemann Library, 2002. Pebble Books, 1999.

Sea Horses. Walker, Sally M. Carolrhoda Nature Watch Book, 1999.

Sea Horses. Walker, Sally M. Early Bird Nature Book, 2004.

Standards

Ocean Literacy Standards

Principle 5: The ocean supports a great diversity of life and ecosystems.

CA Science Standards

Kindergarten: 2a, c; 3a; 4a, d

Grade 1: 2a, b, c; 4b

Grade 2: 4a, c, d

Grade 3: 3a, b, c, d; 5b, e

Grade 4: 3a, b, c; 6a

Grade 5: 6a, h



ELL TIPS

Some of the vocabulary may be challenging for English language learners. Use the new vocabulary in a practical way, such as comparing what the students do in their own homes (eat and sleep) to what seahorses do in their habitats.



CONSERVATION TIPS

Pollution causes seahorse habitat destruction. Some ways you can help decrease pollution:

- Put all litter in trash cans with lids.
- Prevent storm drain run-off by recycling used car oil and paint products.
- Wash your car on the lawn or at a car wash so that soapy water doesn't flow into street drains.



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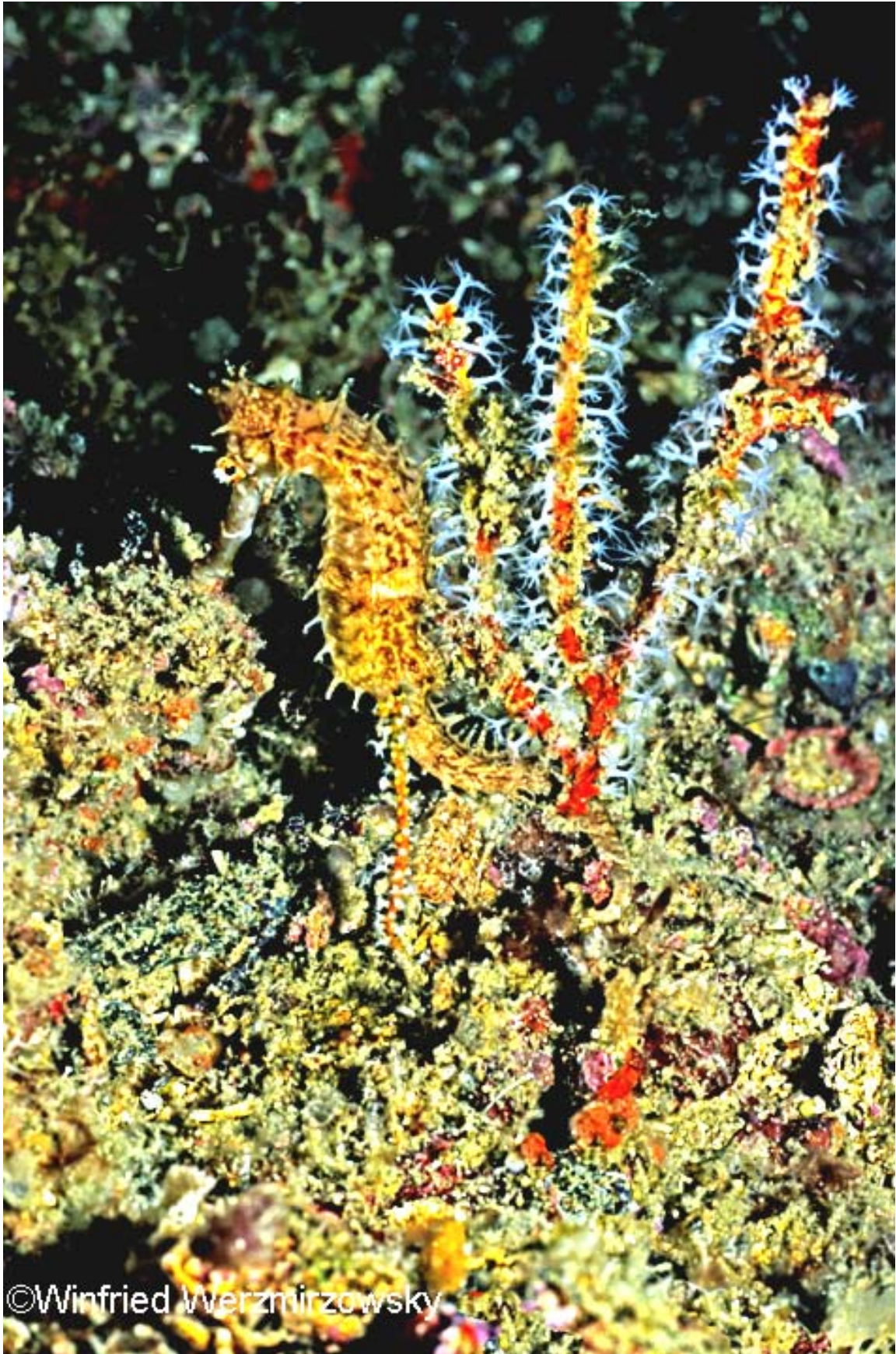
Coral Reef Habitat



Zebra-nout Seahorse (*Hippocampus barbouri*)
Coral Reef



Bargibant's Seahorse (*Hippocampus Bargibanti*)
Coral Reef



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Mystery Seahorse
Coral Reef



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Sea Grass Habitat



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Lined Seahorse (*Hippocampus erectus*)
Sea Grass



©Monterey Bay Aquarium

White's Seahorse (*Hipposcampus whitei*)
Sea Grass



©Monterey Bay Aquarium

Dwarf Seahorse (*Hippocampus zosterae*)
Sea Grass



Courtesy of NOAA

Mangrove Forest Habitat



©Monterey Bay Aquarium

Longsnout Seahorse (*Hippocampus Reidi*)
Mangrove Forest



Courtesy of Carl Clifford

Longsnout Seahorse (*Hippocampus Reidi*)
Mangrove Forest



Yellow Seahorse (*Hippocampus kuda*)
Mangrove Forest