



Sandy Shores

Concepts

Hermit crabs are some of the most colorful and engaging crustaceans found on the rocky and sandy shore. Hermit crabs, like all other animals, need the same basic things to survive: food, water, oxygen, and shelter. These things are essential for them to lead a happy and healthy life in their habitat.

HCPS III Benchmarks

SC 2.1.1
SC 2.3.1
SC 2.5.1

Duration

1 hour

Source Material

MARE Sandy Shores

Vocabulary

Molting

Hermit Crabs in the Classroom

Summary

Students will have the opportunity to observe and handle live hermit crabs in their classroom. They will learn the proper behavior and handling procedures for live animals. They will identify all the necessary components of their habitat and how hermit crabs are adapted to life on the sandy shore.

Objectives

- Students will learn through real interactions with hermit crabs about their physical and behavioral characteristics.
- Students will learn the proper procedures on how to handle and treat live animals.

Materials

1 hermit crab and habitat for each group (See teacher prep for further materials and instructions)
1 piece of drawing paper

Making Connections

Students may recall personal experiences they have had with live animals. Through this hands-on interaction they will learn how to treat live animals at home and on the sandy shore.

Teacher Prep for Activity

Put together the hermit crab habitats with the crabs in them for each group (instructions based on having 4 or 5 groups): You will need 4 or 5 clear plastic animal homes, which can be purchased for \$5 or less at a local pet store. Be sure that the homes have a ventilated top. For each home you will need some abiotic and biotic components. For example, sand, rocks, empty shells, food (lettuce is best), water (put in a small dish or bottle lid), and some other vegetation, wood, etc. to add to the habitat. Be sure to include sources of all four basic needs for survival (food, water, shelter, and oxygen). You will need one hermit crab for each home. These can be purchased online or collected from rocks along Hawaii's coast if put back when finished.

Background (for teacher)

Hermit crabs are crustaceans. A hermit crab is a type of crab that does not have a hard shell. It is not a "true" crab because it uses other animal's old shells for protection. For this reason, hermit crabs are called "false" crabs. As hermit crabs grow, they move from their shell that has become too small into larger available shells. This is called **molting** and is the reason why empty, larger shells must always be available for them to move to. Hermit crabs have gills that



they need to keep wet at all times in order to breathe, which is why they must be provided with water at all times. However, they cannot be constantly submerged in water because they can drown. It is best to have only one hermit crab in a home at a time (for this lesson) to ensure that there will be no competition for empty shells or space.

Procedure

1. Tell the students that today they will be observing live hermit crabs in class. Remind the students to look, listen, smell, and do not touch unless given permission. (HINT: students should be reminded that these critters do have claws and should be handled very carefully. Explain that the hermit crabs should only be picked up by their shells and they should never put their fingers near their claws. If a student were to get pinched, running their finger or hand under lukewarm water should release the crab.) (~5 minutes)
2. Separate the students into groups and ask them to tell you questions they have or things they would like to know about hermit crabs. Make a list of their questions on chart paper or on the board. Some examples of questions students may have are (there are many more): (~10 minutes)
 - How many legs do they have?
 - How many legs are outside and inside their shell?
 - What does it use the different legs for?
 - How does it find food?
 - What does it eat?
 - How do they get in and out of their shells?
 - Does it know we are watching it?
 - What happens when it gets scared?
 - Does it like its habitat or home?
3. Give each group one hermit crab habitat with the crab already inside. Give each group about 5 or 10 minutes to make observations and discoveries about their hermit crabs on their own. Have each group decide on one observation to share with the class. Move around the room during this time to ensure proper treatment of the animals and to help the students make good observations. You may want to make statements like:
 - Let's get down a little closer and see if we notice anything else.
 - Look closely and with a careful eye to observe their movements and home.
 - Pay attention to when they are out moving, and when they go back in their shell.
 - How many things can you find on your hermit crab?
 - Tell me what you see and can count. Show me what you mean.
 - Do you hear any noises?
 - Give me some words to describe your hermit crab.

**After a few minutes, if you feel confident that the students will be responsible and treat the hermit crabs properly you may allow them to take them out and put them on the desks. Students often like to hold them in their hands and feel them, but do not force students who are scared to do so. Often this hands-on approach brings forth new observations!

(~15 minutes)
3. After the initial observation period have the students look at the Crustacean Body Parts chart from the last session. Ask the question:
 - How many of the basic crustacean parts they can find? (~ 5 minutes)
4. Refer back to their list of questions and work through each one to find out if they have



- learned the answer through their own observations. Circle the questions that they do not yet have answers for. (~10 minutes)
5. Let each group pick a circled question to figure out a way they might be able to answer it. Give them time to come up with ideas or methods for how they might find the answer. Have them share their ideas with the rest of the class and discuss ways they may be able to refine their investigation. (HINT: When asking them to do this portion of the activity, it is fun to tell them they should pretend that they are real scientists to get them excited) (~10 minutes)
 6. Tell the students to make sure their hermit crabs are safely back in their homes with all the things they need to survive and instruct them to place in an area of the room you have chosen where they will be undisturbed. (~ 5 minutes)
 7. Congratulate the students on their excellent handling and care skills during the activity and for thinking like real scientists!

Assessments

Questions formed

Creative ideas on how to answer those questions & verbal discussion

Resources

www.enchantedlearning.com

Art Connection

Distribute one blank sheet of white paper or drawing paper to each student. Ask them to get out their crayons or colored pencils. Explain that scientists often use drawings as a way to communicate about an animal. Have them draw their hermit crabs – they should draw them big and include as many details as possible. They should use the actual colors they observed in their hermit crab and include anything extra that would help them identify their hermit crab. Display the pictures around the room.

(HINT: it may be necessary to allow the students to observe their hermit crabs again while completing their drawing to get the most accurate depiction. Instruct them that they can just observe their hermit crab while he is still safely in his home. Do not get them out again)