



# LESSON: Shell-ter

## Episode: "A Home for Herman"

Franny lands on a beautiful beach, where she helps a hermit crab find a new shell. In *Franny's Treasures*, Franny prompts the audience to match animals to their homes, including a beaver lodge, a beehive, and a spider web.

### Learning Objectives/Skills

#### Children will:

- \* **make observations about the body of a hermit crab.**
- \* **identify the qualities of a good shelter for a hermit crab.**
- \* **use this list of qualities to sort and classify items that would make a good hermit crab shelter.**
- \* **compare a hermit crab shelter to a human shelter.**
- \* **use fine motor skills to construct a hermit crab shell collage.**

**Grade**  
PreK - 2nd Grade

**Subject**  
Life Science

**National Standards**  
NS.K-4.6

**Approx. Times**  
40 minutes  
(Plus 20 minutes prep)

## Overview

Most living things can't survive without shelter. Shelter protects living organisms from things that might harm them, such as the weather or predators. Using their environmental surroundings, animals make or choose their shelter. One animal that chooses its shelter is a hermit crab. Hermit crabs live by the seashore. Their bodies are covered in an exoskeleton that is hard in some places, like the pincers, and soft in others, like the abdomen. In order to protect the softer spots of their bodies, hermit crabs find abandoned seashells, pull themselves inside the shells, and use them as portable shelters. Throughout its life, a hermit crab will outgrow many shells. Each time it does, it will need a new one.

In these activities, children will take a close look at the body of a hermit crab and differentiate between the hard and soft spots of the exoskeleton. They will observe the way that a seashell fits onto a hermit crab's body. The children will make a list of the qualities of a good hermit crab home. Keeping those qualities in mind, they will sort through a collection of items that might be found on the beach. They will select the items that might make a good home for the hermit crab, while ruling out others that would not. They will compare and contrast the qualities that make a good hermit crab home with the qualities that might make a good human shelter. The group will contribute their ideas to create a drawing of an ideal human shelter. Finally, they will color in a template of a hermit crab and construct a shell collage to fit on its back.



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## Materials

### Classroom materials:

- Large picture of a hermit crab with shell
- Large picture of a hermit crab without shell
- Live hermit crabs and/or a large hermit crab puppet
- Shells of assorted shapes, sizes, and types
- Other natural and man-made things a hermit crab might find on a beach, like stones or bottle caps
- Cotton balls
- Magnifying glasses
- Large piece of paper and marker or chalkboard and chalk
- Tissue paper cut or torn into small pieces
- Glue or glue sticks
- Crayons
- Stapler

### Each child will need:

- Hermit crab template photocopied on card stock
- 6 inch paper plate



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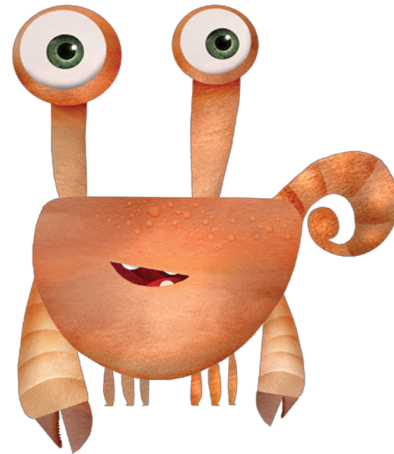
## Prep

### Introduction:

- Search online for hermit crab images and puppet.
- If possible bring in live hermit crabs.

### Activity 1:

- Set up tables so that children may work in small groups.
- Gather items that might be found on the beach.
- Separate these items into small, varied collections according to the number of groups.
- Place one collection, such as cotton balls and magnifying glasses, on each table for the children to explore.



### Activity 2:

- Prepare chalkboard or large piece of paper.
- Have chalk or markers on hand.

### Activity 3:

- Photocopy template onto card stock (one for each child).
- Set out one paper plate for each child.
- Place crayons, tissue paper, and glue on each table for children to share.
- Have a stapler on hand.



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## Introduction - Let's Talk About Hermits

1. Tell the children that they will have a chance to meet a shy and quiet animal that will only come out when it feels safe. (If you don't have a real hermit crab, ask the children to use their imaginations and pretend that a picture or puppet is real.)  
Ask:
  - *Can you be very quiet and gentle so the animal won't be afraid?*
2. Gently, and very carefully, show the children a live hermit crab. Invite the children to make observations about the hermit crab. Let each child have a close-up look. Ask:
  - *What is the hermit crab inside of?*
  - *How many legs does the crab have? Let's count them together.*
3. Invite the children to examine the body of the hermit crab (or puppet or picture) and compare it to the human body. Explain that although a hermit crab has eight legs, four of the hermit crab's legs are used to carry the shell and hold it in place. Those legs are on the inside of the shell. Four other legs can be seen on the outside of the shell. Those legs are used for walking. *The two front legs have claws or pincers.* Ask:
  - *How many legs do we have?*
  - *Can we try to walk like the crab?*
  - *What do you think is special about the crab's front two legs?*
  - *Does the hermit crab's body seem hard or soft?*
4. Invite the children to study a large picture of a hermit crab without its shell. Explain that a hermit crab is covered with a coating called an "exoskeleton." The exoskeleton is strong and tough on the crab's head and front legs, and softer on its rear section and back legs. The rear part of the hermit crab that curls inside the shell is its abdomen. Prompt the children to repeat the words "exoskeleton" and "abdomen" after they begin to describe those parts. Ask:
  - *What parts of the hermit crab's body have a strong, tough exoskeleton for protection?*
  - *What parts of the body look less tough and strong?*
  - *What part of its body does the crab want to hide inside of a seashell?*
5. Challenge the children to guess what parts of the hermit crab grow larger over time. Invite them to compare the hermit crab's growth to their own. Ask:
  - *Do you think that the hermit crab's seashell home will grow bigger as its body grows? Why or why not?*
  - *What do you do when you grow too big for a pair of shoes?*



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## Activity 1 - Hermit Crab Home Inspection

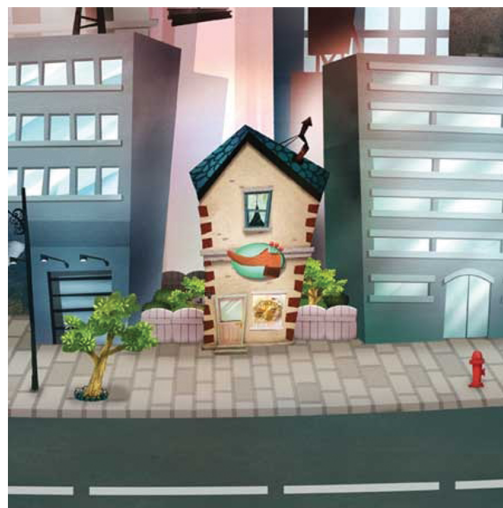
1. Invite the children to think of different reasons a hermit crab might use a seashell for home.
2. Direct the children to work together in small groups. Hand out the assorted shells and other objects that can be found on a beach. Challenge the children to determine whether any of these things would make a good home for a hermit crab. Children may use their fingers, or even try using a cotton ball to represent the body of a hermit crab. Encourage them to consider whether a hermit crab could lift, fit inside, and firmly grasp each potential shelter. Ask the children:
  - *Is this object hard enough to offer protection to a hermit crab living inside?*
  - *Is there a big enough opening for the crab to get in or out of it?*
  - *Are there too many holes for the crab to be safe inside?*
  - *Does the shape of the object give the crab something to hold on to so the shelter doesn't fall off its back?*
  - *Does it feel too heavy for the crab to lift?*
3. Challenge the children to sort the sea shells and other objects into three categories based on whether they might make good homes for a hermit crab: a "no" pile, a "maybe" pile, and a "yes" pile.
4. Once all of the groups finish sorting, ask a child from each group to show one of their group's "yes" objects to the other children and explain why it would make a good home for a hermit crab. Record each explanation on a large paper or chalkboard. Create a chart to record the reasons behind the children's "yes," "no," and "maybe" verdicts. Ask:
  - *Can someone tell me why you think this object would be a hermit crab's best choice for a new home?*
  - *Does everyone agree that a hermit crab would want a home like this? Why or why not?*
5. As a group, examine the objects that children put in the "maybe" piles. Ask:
  - *Now that we've thought a lot about what a hermit crab needs in a home, do you think we can say this object would make a good home? Why or why not?*
6. As a group, examine the objects that the children put in the "no" pile. Ask:
  - *Why do you think these objects would not make a good home for the hermit crab?*



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## Activity 2 - People Need Shelter Too

1. Challenge the children to compare and contrast a hermit crab's seashell with the different kinds of dwellings inhabited by people. Ask them:
  - *What is a hermit crab's shelter?*
  - *What types of shelter do we have?*
  - *Why does a hermit crab have a shelter? How does it help him? What does it give him?*
  - *Why do people have shelters? How are shelters useful to us? What do they give us? Are there similarities between our shelters and hermit crab shelters?*
2. Draw a picture of a shelter a person might live in (house, apartment, etc.) on a chalkboard or large piece of paper. Ask the children to suggest some physical characteristics the shelter should have. Add one item at a time to the drawing until it is complete. Ask:
  - *What do you think our shelter needs in order to protect us from the weather?*
  - *What does our shelter need to keep unwanted things out and friends and family safe inside?*
  - *What do you think our shelter needs so that we can get in and out of it?*
  - *What do you think our shelter needs so that we can see what is happening outside and so that we can get light and air?*

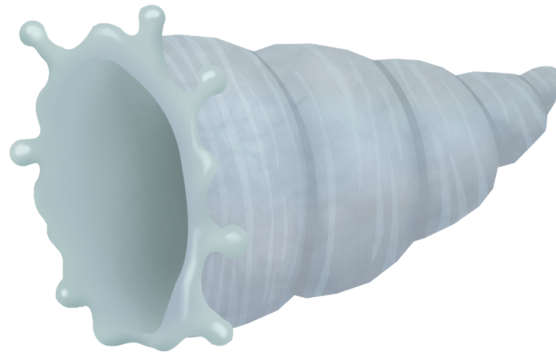




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### Activity 3 - Create and Decorate a Shell for Herman

1. Ask each child to color the hermit crab template. Prompt them to color all of the hermit crab's body parts, including those that are usually hidden inside the shell. Ask the children:
  - *What color will you make the crab's claws or pincers?*
  - *Are the walking legs the same color as the legs that hold on inside the shell?*
2. Invite children to decorate the underside of a paper plate to make a shell for their hermit crab. Assist them in using glue to affix bits of colorful tissue paper. (Optional: demonstrate how to use a pencil to draw a spiral on the plate, starting from the center and working outwards. Then use the spiral design as a guide for decorating the plate to imitate the spiral of a snail shell.)
3. When the shells are completely decorated, set them aside to dry. Clean up the tissue paper and glue.
4. Finish the hermit crab template by drawing the habitat around it. Ask the children:
  - *Where can hermit crabs be found in the wild?*
  - *What other things might be found in that environment?*
5. Ask the children to name their crabs.
6. Invite the children to glue their decorated shells onto the hermit crab templates. As each child holds the shell in place, an adult helper can staple the top edge of the shell onto the template so it covers the hermit crab's abdomen. Be sure to position the shell in such a way that four legs are outside of the shell and four legs are inside of the shell.





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## Science Extensions

1. Hermit crabs are not the only creatures that travel with their homes. Ask the children to think about other animals that carry their homes on their back, such as turtles or snails.
  - *What do those animals have in common?*
  - *Although some animals travel with their homes on their back, many others don't.*
  - *Can you think of some animal homes that are built to stay in one place?*
  - *Where might we find beaver lodges, bird nests, bee hives, and ant hills?*
  - *Why do you think these animals build shelters? Where do they build their shelters?*
  - *How do they build their shelters? In what ways are their shelters useful to them?*
2. Explain that some humans travel with their homes. They are called "nomads." Share images and illustrated books with the children to start a discussion about nomadic peoples from around the world. Ask the children:
  - *What does it mean to be nomadic?*
  - *How do shelters like teepees, tents, houseboats, and motor homes make moving from place to place possible?*
  - *Imagine that you have a traveling home. What would you want it to look like? What kind of material would you use to make it? What would you want to have inside of your home?*
3. Engage the children in a discussion about growth. Hermit crabs often outgrow their shells. When this happens they must find bigger shells to live in. Ask children:
  - *You grow too. What are some things that you have grown out of or grown into?*
  - *Keep a foot growth chart in the classroom or invite the children to keep a foot growth chart at home; trace foot once a month for an entire year. Is it getting bigger?*
  - *How can you tell if your feet are growing?*
4. Go on an expedition. Challenge the children to explore their yard, neighborhood, or local park and look for evidence of animal homes. Instruct the children to bring a pad and pencil so they can jot down notes and observations, and sketch drawings about what they see (animal tracks, nests, etc.). Invite them to use a keen eye, like a naturalist. Ask the children:
  - *What animals homes might you find underground? In a tree? In the water?*

Remind the children to be very careful. They should not disturb anything that they come across; the homes they might encounter belong to animals.





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## Literacy Connections

- ***A House for Hermit Crab***, by Eric Carle
- ***Herman, the Hermit Crab***, by Elaine Fantle Shimberg
- ***What Lives in a Shell?***, Kathleen Weidner Zoehfeld

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