

WELCOME TO THE *A HOUSE FOR HERMIT CRAB LAB* PROGRAM

A House for Hermit Crab is a story that captures the interest and imagination of young readers and pre-readers. Hermit crabs, sea stars, sea urchins, and sea snails: living ocean animals to capture the hearts and minds of young scientists. It is with this winning combination that we proudly welcome you to the Ocean Institute's *A House for Hermit Crab Lab* program!

We have developed this innovative program to assist kindergarten and first grade teachers in meeting Language Arts and Science Content Standards through the attraction of popular children's literature and the excitement of live ocean animals. Your students will enjoy this delightful mix of science and children's fiction as they follow the adventures of Hermit Crab as he journeys across the ocean floor.

Please take a few moments to familiarize yourself with the materials we have included, and share them with other teachers and chaperones who will be joining you. These materials contain important information to prepare you, your chaperones, and your students for your visit. Make sure to link to the 'Required Forms' found just under this 'Prep Pack' link on the web site to find the required Acknowledgement of Risk and Waiver form.

We are excited to present to you our *A House for Hermit Crab Lab* program and are pleased that you'll be joining us. If you have any questions before your program, please do not hesitate to contact our program director, Linda Blanchard at (949) 496-2274, extension 314. If you have questions on scheduling, please contact Alexis Honens at (949) 496-2274, extension 610.

Sincerely,
Rick Baker
Vice President of Education

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A. ADMINISTRATIVE CHECKLIST FOR PROGRAM

This preparation package contains information for the *A House for Hermit Crab Lab* program that takes place in the Ecology Learning Center. Please review the package carefully to ensure that you will be prepared for your program.

Immediately upon receiving your program agreement...

- Carefully review the Teacher Preparation Package
- Arrange your transportation
- Return your signed program agreement and deposit to the Ocean Institute in order to confirm your reservation

Two months before your trip...

- Confirm student and adult numbers with the Ocean Institute
- Arrange for parent chaperones—please limit the number to 2 adults for every 12 students

One month before your trip...

- Begin student preparation
- Copy and distribute Acknowledgement of Risk and Waiver to each student and adult participant

Two weeks prior to the trip...

- Mail program payment to the Ocean Institute—full payment must be received a minimum of 10 days before your program
- Collect Acknowledgement of Risk and Waiver from each participant
- Contact parents to remind them to sign and return the Acknowledgement of Risk and Waiver
- Contact the Ocean Institute with any changes in the number of participants. We cannot guarantee our ability to accommodate changes in numbers of students or adults within two weeks of your program date

One week prior to the trip...

- Review behavioral expectations with students
- Read the book, *A House for Hermit Crab*, to your students**
- Distribute Student Clothing and Supply List
- Contact the Ocean Institute with any last minute questions or changes

24 hours to go!!!...

- Prepare nametags for students and adults

When you arrive for your A House for Hermit Crab Lab program...

- Unload the bus in front of the Ocean Institute
- Check in at the Student Services building with a final head count and all Risk and Waiver forms.
- If necessary, students may use the restroom facilities that are located within the teaching complex. Please do so quietly so as not to disturb other programs. Return to the front of the Student Services building to wait for our staff.

B. DESCRIPTION OF PROGRAM

A House for Hermit Crab, by Eric Carle, tells of the yearlong journey of a hermit crab and describes the friendly ocean creatures he meets along the way. In this one-hour lab program, students will discern between fact and fiction as they use lab equipment and aquariums to compare and contrast literary characters with live organisms. **Please read *A House for Hermit Crab* with your students before your program.**

The students will be divided into groups and rotate through four stations.

- **Discovery Pool Station**
Students observe four different animals—the sea anemone, the knobby star, the sea snail, and the sea urchin—from the story and determine if the information in the story is scientific fact or literature fiction. Students will focus on methods of eating, moving, and attaching.
- **Wet Table Station**
Students explore crab characteristics. Students examine different species of crabs using special magnifying cameras. They compare and contrast the characteristics that define a crab.
- **Shells of All Sizes**
Students use elementary math skills to measure and graph shells of different sizes and discuss the environmental impact of taking shells and/or organisms out of the tidepools.
- **Children's Theater**
Students enter the story as they watch an underwater video in the Children's Theater. They explore the interactions in the ocean between a hermit crab and the other organisms in the story and then gently handle a live hermit crab, observing how it moves and wears its shell.

C. LINKS TO CALIFORNIA CONTENT STANDARDS

Kindergarten

Science Standards

Life Sciences

- 2.a. Students know how to observe and describe similarities and differences in the appearance and behavior of plants and animals.
- 2.b. Students know stories sometimes give plants and animals attributes they do not really have.
- 2.c. Students know how to identify major structures of common plants and animals.

Investigation and Experimentation

- 4.a. Students will observe common objects by using the five senses.
- 4.b. Students will describe the properties of common objects.
- 4.d. Students will compare and sort common objects by one physical attribute.

English-Language Arts Standards

Reading Comprehension

Comprehension and Analysis of Grade-Level-Appropriate Text

- 2.2 Use pictures and context to make predictions about story content.
- 2.4 Retell familiar stories.
- 2.5 Ask and answer questions about essential elements of a text.

Literary Response and Analysis

Narrative Analysis of Grade-Level-Appropriate Text

- 3.1. Distinguish fantasy from realistic text.
- 3.3 Identify characters, settings, and important events.

Grade One

Science Standards

Life Sciences

- 2.a. Students know different plants and animals inhabit different kinds of environments and have external features that help them thrive in different kinds of environments.

Investigation and Experimentation

- 4.c. Students will record observations on a bar graph.

English-Language Arts Standards

Reading Comprehension

Comprehension and Analysis of Grade-Level-Appropriate Text

- 2.2. Respond to *who*, *what*, *when*, *where*, and *how* questions.
- 2.7. Retell the central ideas of simple expository or narrative passages.

D. ADMINISTRATIVE PREPARATION FOR PROGRAM

ADMINISTRATIVE CONTACT

For questions regarding the *A House for Hermit Crab Lab* program, please contact:

Linda Blanchard, Director of Lab Programs and Volunteers
Telephone Number: (949) 496-2274, extension 314
E-mail: lblanchard@ocean-institute.org

For questions regarding scheduling, please contact :
Alexis Honens, Program Reservation Coordinator
Telephone Number: (949) 496-2274, extension 610
E-mail: ahonens@ocean-institute.org

INTRODUCTION

Thank you for choosing the Ocean Institute as your field trip destination. We appreciate the time and effort it takes to prepare your students for their program, and we will do everything we can to make their experience as rewarding as possible.

Please make sure that all of the participating teachers have a copy of these teacher materials. The information contained here can help you find answers to your questions, develop your preparation timeline, and prepare both your students and chaperones. This packet also contains directions to the Ocean Institute as well as contact phone numbers—please call us at any time with any questions you may have about your field trip.

TEACHER INFORMATION: BEFORE THE PROGRAM

You can do several things before you arrive to help make your program run as smoothly as possible:

- Review the program goals, station activities, and expected student behaviors with the students before you arrive. **Read the book, *A House for Hermit Crab*, with your students**, have them complete the classroom activities, and make sure they have a clear understanding of the educational concepts they will explore during the program.
- Spend some time choosing and preparing your parent chaperones. Review the program goals, station activities, and expected student behaviors with them before you arrive. Make sure that they have a clear understanding of their role as a chaperone.
- Have a signed Acknowledgement of Risk and Waiver for each student and chaperone before boarding the bus.
- Notify the Ocean Institute staff of students with any special health or behavioral considerations.
- Send program payment to the Ocean Institute at least 10 days before the scheduled date of your field trip.

TEACHER INFORMATION: DURING THE PROGRAM

Ocean Institute instructors are all well trained to work with students of different ages and abilities. Both you and the adult chaperones can help the instructors monitor student behavior and safety. There are several things that you can do to help facilitate the smooth running of your educational program:

- Work cooperatively with Ocean Institute instructors and your parent chaperones to manage students during the program.
- Work cooperatively with Ocean Institute instructors and your parent chaperones to solve student and chaperone management problems.

- Report any problems (including facilities and management) to the Ocean Institute staff as soon as possible.
- Spend a few minutes completing a program evaluation at the end of the program.

CHAPERONE INTRODUCTION AND INFORMATION

Adult chaperones play a significant role in safety and the educational quality of the program. We request that you bring no more than 2 adults per 12 students. We ask your chaperones to help us in the following ways:

- Work cooperatively with Ocean Institute instructors and classroom teacher to enforce all safety rules.
- Work cooperatively with Ocean Institute instructors and classroom teacher to keep students on task at the stations.
- Guide students to different stations throughout the program.
- Act as a positive role model for the students by exhibiting enthusiasm for learning without answering questions directed at students.
- The rooms are crowded and noisy. Please make sure your chaperones know that the instructors need a certain amount of teaching space in order to distribute materials to students and effectively teach. Please ask your chaperones to turn off their cell phones and to not carry on conversations with each other that add additional noise.

PAYMENT

Payment must be received 10 days before your program date. Please mail a **single check** for the total amount of the program minus the deposit you have already paid. Please make checks payable to **Ocean Institute**.

FINAL COUNT

Call the Ocean Institute two days before your program if the number of students or adults changes. When you arrive at the Ocean Institute for your program, you must have an accurate count of total students and adults participating in the program. If the number of participants listed on your Confirmation Form is not accurate, call the Ocean Institute immediately. **We cannot guarantee that changes in numbers of students or adults can be accommodated if requested within two weeks of your program date.**

STUDENT AID

The Ocean Institute maintains a student aid fund for students who are unable to obtain sufficient funding to attend the program. Please call (949) 496-2274, extension 0 for more information and to receive the necessary forms for student aid.

TRANSPORTATION

Student transportation should be arranged well in advance. **It is important that you arrive on time.** Please schedule yourself to arrive at least 15 minutes before your scheduled program start time. If you arrive late, your program time will be shortened.

Buses can unload in front of the Student Services building. After the students have unloaded, the drivers will be notified of where to park the buses and must retrieve an Ocean Institute Bus Parking Permit.

STUDENT BEHAVIORAL EXPECTATIONS

Please take time to discuss the academic nature of their field experience with your students before arriving at the Ocean Institute. While at the Ocean Institute, we expect your students to follow the same behavioral rules you have in your classroom.

STUDENT PREPARATION

We have found that the more familiar the students are with program concepts and content before they arrive, the more they will benefit from and enjoy their experience. We have included classroom activities to introduce important concepts to your students before they arrive for their program. **In addition, please make sure that the students are familiar with the book, *A House for Hermit Crab*.**

FORM FOR THE A HOUSE FOR HERMIT CRAB LAB PROGRAM

Please make sure to have all the completed forms with you upon arrival for your program.

Acknowledgement of Risk and Waiver

Each participant must have this form signed by a parent or guardian to participate in the *A House for Hermit Crab Lab* program. Please make sure that you have one signed form for each student and adult chaperone when you check in with the Ocean Institute staff in the Student Services building. This form is available under 'Required Forms' on the program web page.

STUDENT CLOTHING AND SUPPLY LIST

For safety reasons, students participating in the *A House for Hermit Crab Lab* program need to have and/or wear the following clothing. The weather is often cooler at the Ocean Institute than it is inland, so make sure your students are prepared.

- Jacket
- Rubber-soled, closed-toe shoes

Optional Items:

- Money for the gift and book store

LAURENA G. CHAMBERS GALLERY BOOK AND GIFT STORE

Chambers Gallery Book and Gift Store is a fun and unique non-profit museum store open daily from 9:00 AM to 5:00 PM and definitely worth the visit. The revenue is directed toward lowering tuition for schools that participate in Ocean Institute programs.

To help accommodate all of the schools that would like to shop each day, please have one teacher from your school check-in with a store staff member before your students begin shopping.

There will be a limit on the number of students allowed to shop at one time and we encourage you to organize them so that they all have time to enjoy the shop. Please have one or two adults in the store to help supervise your students. We ask that all food, drink, and backpacks be left outside while they are shopping. Teachers receive a 15% discount in the shop if members of the Teachers Club and 10% normally.

Please remind your students that sales tax will be added to their items.

In order to ensure a positive experience, we recommend the following:

1. Plan sufficient time before or after your program to shop.
2. All purchases should be stowed safely away and out of sight for the program.

3. Please allow only 10-12 students in *Chambers Gallery* Book and Gift Store at a time. Remaining students should remain outside in a manner that does not interfere with traffic in and out of the building.

DIRECTIONS TO THE OCEAN INSTITUTE

The address of Ocean Institute:

24200 Dana Point Harbor Drive
Dana Point, CA 92629
(949) 496-2274

Directions from Los Angeles:

- Travel south on Interstate 5
- Exit on the Pacific Coast Highway Exit
- Stay in the right lane of the exit ramp and go north on Pacific Coast Highway
- Turn left onto Dana Point Harbor Drive
- The road ends in the Ocean Institute parking lot

Directions from San Diego:

- Travel north on Interstate 5
- Exit on the Beach Cities Exit
- Stay in the left lane of the ramp and go north on Pacific Coast Highway
- Turn left onto Dana Point Harbor Drive
- The road ends in the Ocean Institute parking lot

E. BACKGROUND INFORMATION ON THE BOOK

A House for Hermit Crab, by Eric Carle

"Time to move," said Hermit Crab one day. "I've grown too big for this little shell." In this wonderful story, Hermit Crab casts his eyestalks on a newer, bigger shell, but it seems plain at first. Over the course of a year, sea anemones, sea stars, coral, sea snails, sea urchins, and lantern fish all join forces with him, making his house a home. Much to his dismay, just when he is happy and comfortable in his new home, he finds he has physically outgrown his shell again. Instead of bemoaning his fate, he eagerly spots a newer, bigger shell—to him a fresh, blank artist's canvas—and relishes the thought of all the undersea home-improvement possibilities: sponges, barnacles, clown fish, and more!

About the Author:

Born in Syracuse, New York, in 1929, Eric Carle moved with his parents to Germany when he was six years old; he was educated there, and graduated from the prestigious art school, the *Akademie der bildenden Künste*, in Stuttgart. In 1952, with a fine portfolio in hand and forty dollars in his pocket, he arrived in New York and found a job as a graphic designer in the promotion department of The New York Times. One day, respected educator and author, Bill Martin Jr., called to ask Carle to illustrate a story he had written. *Brown Bear, Brown Bear, What Do You See?* was the result of their collaboration. Soon Carle was writing his own stories, too. His first wholly original book was *1,2,3 to the Zoo*, followed soon afterward by the celebrated classic, *The Very Hungry Caterpillar*.

F. PRE-TRIP ACTIVITIES**A House for Hermit Crab Comprehension Questions**

After reading A House for Hermit Crab, answer the following questions!

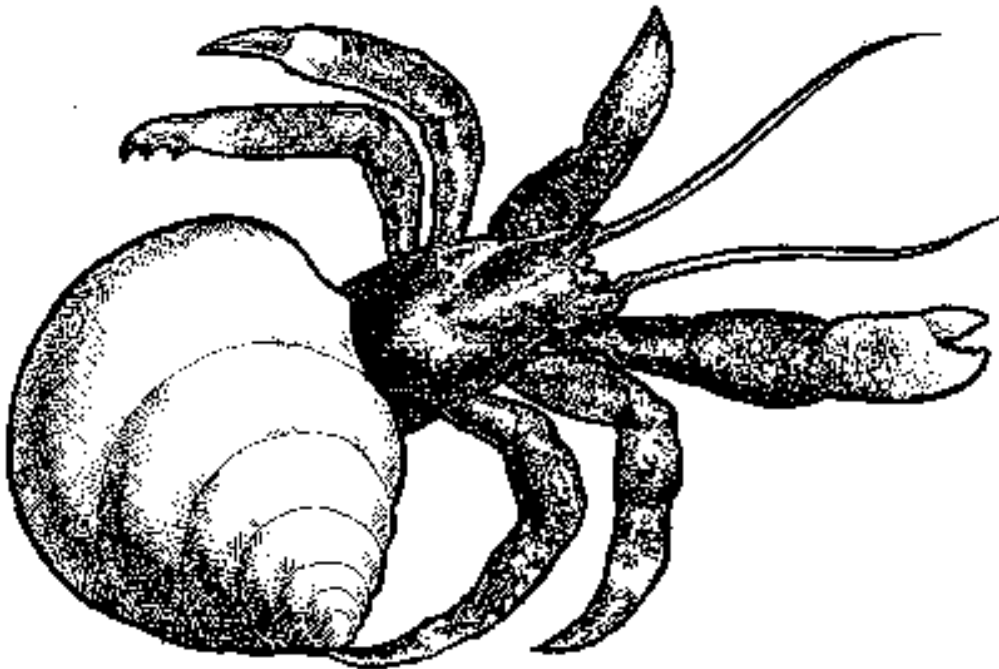
1. Why does Hermit Crab need a new shell? _____

2. Why does Hermit Crab decide to decorate his shell? _____

3. What are some of the animals Hermit Crab meets in the story? _____

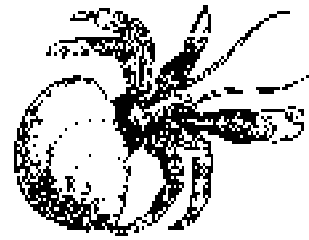
4. What happens to Hermit Crab and his shell at the end of the story? _____

5. What is your favorite animal from the story? _____



Crazy about Crabs

Could you imagine carrying your house with you everywhere you went? The hermit crab wears a shell upon its back to protect itself. Only its face, legs and claws stick out! If the hermit crab is scared, it can pull its body into its shell and hide. When the hermit crab gets bigger, it has to find a bigger shell. Many empty shells in the tidepools and on the beaches become homes for hermit crabs.



1. The hermit crab wears a _____ on its back for protection.
 2. Only its face, legs, and _____ stick out!
 3. When the hermit crab gets bigger, it has to find a _____ shell.
 4. Many empty shells in the tidepools become homes for _____.
-



Some crabs that live in the tidepools do not wear shells on their backs. The shore crab has a hard body, so it does not need a shell for protection. The shore crab has very hard skin, just like a knight in shining armor! When the shore crab gets bigger, it sheds its skin, just like snakes do. This is called molting. Underneath, the shore crab has a brand new layer of skin that will now start to harden. The skin, or hard body, of the shore crab is called an exoskeleton.

1. Some crabs that live in the tidepools do not wear _____ on their backs.
2. The _____ has very hard skin, just like a knight in shining armor!
3. When the shore crab gets bigger, it sheds its skin. This is called _____.
4. The skin, or hard body, of the shore crab is called an _____.

Stories about Snails



Have you ever seen a snail in your garden? There are also snails that live in the ocean, moving around on rocks close to shore. Snails grow their own shells and can hide inside their shells for protection. Snails have one large foot that they use to move, and they have rough, bumpy tongues called radula that they use to feed. Snails like to eat seaweed and algae off the rocks using their sandpaper-like tongue. Have you ever had a cat lick you? This is what a snail's radula would feel like.

1. Snails live in gardens and in the _____.
 2. Snails _____ their own shells.
 3. Snails have rough, bumpy tongues called _____.
 4. Snails like to eat _____ and _____.
-

Do you make noise sometimes when you chew your food? Snails make noise too. Scientists can listen to the sounds snails make underwater. Scientists can put microphones in the water and listen to snails as they eat. Snails use their tongues, their radulas, to scrape algae and seaweed off rocks—when they eat, they sound just like you do when you bite into a crunchy apple!

1. Snails make _____ when they eat.
2. Scientists can _____ to the sounds snails make.
3. Snails use their tongues, their _____, to eat algae.



Hooray for the Sea Star!

Have you ever been to the beach? Have you ever played in a tidepool? Many animals live in tidepools. Sea stars can often be found in tidepools. Sea stars are very interesting animals. They have many arms—some sea stars have five arms, and some sea stars have twenty! They have little tiny eyes on the ends of each arm—imagine if you had eyes on the tips of your fingers! If a sea star loses an arm, it can grow another arm! This is called regeneration.



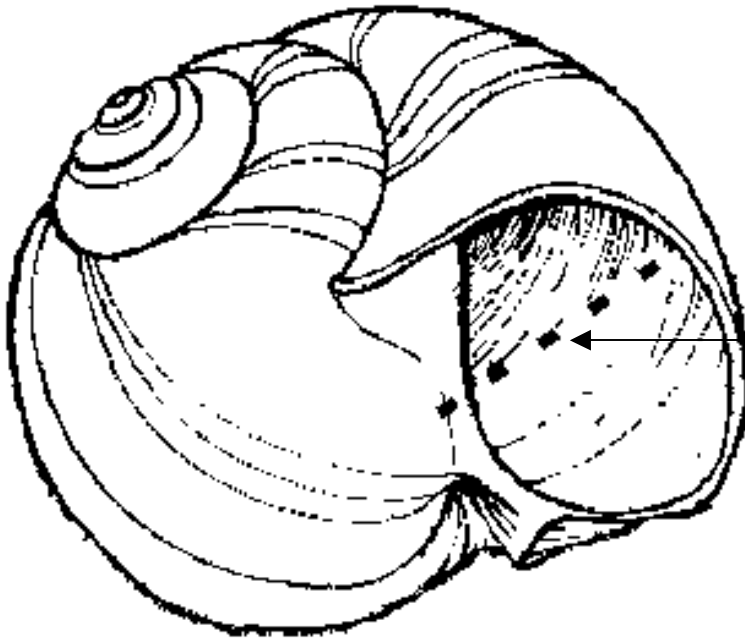
1. Many animals live in _____.
 2. _____ can often be found in tidepools.
 3. Sea stars have _____ on the ends of each arm.
 4. If a sea star loses an arm, it can grow another arm. This is called _____.
-



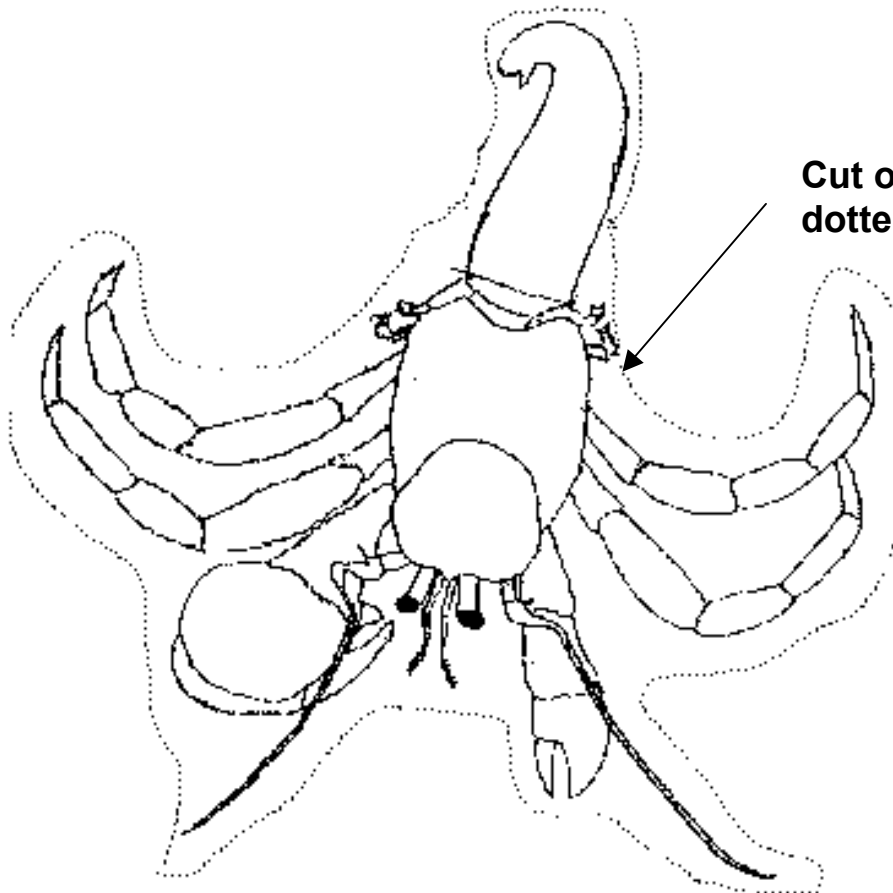
How do you eat a peanut butter and jelly sandwich? The sea star eats its food in a very strange way. The sea star moves on top of its dinner, opens its mouth, and sticks its stomach out of its body! The stomach holds on to the food, and the food is digested outside of the sea star's body. When the sea star's stomach is finished eating, the stomach goes back inside its body and the sea star crawls away. Could you imagine how funny it would be if every night at dinner your stomach came out through your mouth and ate your dinner for you?

1. The sea star _____ its food in a very strange way.
2. The sea star sticks its _____ outside of its body!
3. The food is digested _____ of the sea star's body.
4. When the sea star is finished eating, the stomach goes back _____.

A House for Hermit Crab



Cut on the dotted line to make a slit.



Cut out along the dotted line.