



Sandy Shores

Concepts

There are many different types of crustaceans. Crabs, lobsters, shrimp, prawns, and barnacle are some types of crustaceans.

Crustaceans share many of the same physical characteristics, but some have unique features of their own. All animals including crustaceans have special needs that ensure their survival.

HCPS III Benchmarks

SC 2.1.1

SC 2.3.1

SC 2.5.1

HE.K-2.5.1

LA.2.6.1

Duration

1 hour

Source Material

MARE Sandy Shores

PRISM

Vocabulary

Crustaceans

Antennae

Exoskeleton

Invertebrate

Vertebrate

Crustacean Critters

Summary

Students will have the opportunity to work with live hermit crabs in their classroom. They will learn what it takes to keep a hermit crab, as well as, all other animals happy and healthy in their habitat.

Objectives

- Students will discover the four basic things that all animals need to survive.
- Students will be able to identify the abiotic and biotic components of a hermit crabs sandy shore habitat.
- Students will be able to describe how hermit crabs are adapted to live on the sandy shore habitat.

Materials

Activity 1: Habitat Huddle

1 large piece of chart paper or board in front of classroom

Activity 2: Crustacean Drawing

5-10 pictures or specimens (can be bought at the market or just use toy models) of different types of crustaceans such as crabs, lobsters, hermit crabs, and shrimp.

2 pieces of chart paper

drawing paper for each student

1 pair of plastic gloves per student

Making Connections

Students may recall seeing different types of crustaceans during visits to the sandy shore. Learning about the different kinds of crustaceans and how they are similar or different will help students identify the various adaptations and characteristics that make the sandy shore a suitable habitat for some and not for others.

Teacher Prep for Activity

Activity 1: Habitat Huddle

Make a habitat huddle chart. You could use either the board in front of your class or a piece of white chart paper and hang it up in the front.

Activity 2: Crustacean Drawings

Find 5-10 pictures of different crustaceans. Make a chart titled Crustacean Body Parts on paper or the board. Under the title make two columns: on the left side write “Parts All Crustaceans Have” and on the right side write “Special Parts Only Some Crustaceans Have”. Write out the key concepts from the end of this lesson on a piece of chart paper.



Background (for teacher)

All crustaceans share some similar characteristics. **Crustaceans** are a type of arthropods, like insects. They are all **invertebrates** meaning that they do not have a backbone. All crustaceans have 10 legs (some have less than 10, like crayfish). They have hard outer coverings called **exoskeletons** that are used to protect themselves from predators. The exoskeleton is not a shell but rather a hard outside skeleton. This hard crusty outside is how they got the name crustacean. They also have jointed legs and segmented bodies. There are many different types of crustaceans including shrimp, crabs, lobster, prawns, and barnacles. Most of them live in the ocean or in fresh water like a pond. However, some have adapted to live on the land. All crustaceans have two pairs of **antennae**, a three-part body including a head, thorax, and abdomen.

Crabs are one type of crustacean that has five pairs of legs (10 total). The first pair of their legs are their large pincers. They usually move sideways but can move in all directions. There are two different groups of crabs: true crabs and false crabs. Hermit crabs are false crabs because they have different physical characteristics than true crabs. For example, they do not have the hard outer exoskeleton. The main difference is that hermit crabs use shells to protect their bodies.

Procedure

Activity 1: Habitat Huddle (This should take ~30 minutes)

Main Question: What does it take to be a crab?

1. To begin the activity, read, define, and write the new vocabulary words on your sandy shores vocabulary list (HINT: you may need to consult the background for the next lesson if you are not sure of the definitions). Be sure that the students understand that a habitat is a home that includes everything that an animal needs to survive.
2. Put the students into groups of 2 and have them spread out throughout the classroom where they feel comfortable. Assign each student either #1 or #2.
3. Explain that you will be asking them questions and that each person will have a chance to share their answers and ideas. Buddy #1 will answer first while Buddy #2 listens and then shares Buddy #1's ideas with the rest of the class. Then they will switch roles.
4. Ask Buddy #1 the first question from the list below. Give them 30-60 seconds to talk about their ideas to Buddy #2.
5. Ask Buddy #2's to share those ideas with the rest of the class and list them in words or pictures on your habitat huddle chart that you hung in front of the class.
6. Switch roles and remind the students that only one person talks while the other listens. Pose question #2 for Buddy #2 to answer. Give them 30-60 seconds and then ask them to share, again listing their responses on the chart.
7. Repeat steps 4-8 until all the questions have been asked and responses have been recorded on the chart.

List of Questions:

1. *What things do animals need to have in their habitat in order to survive? (food, water, shelter, mate, plants, air, etc.)*
2. *We are studying the sandy shore habitat. What are some animals that might live there? Describe what one of those animals looks like.*
3. *Imagine that you are a crab that lives on a sandy shore. Describe what your home might look like.*



4. *What would you eat and where would you find water? How would you protect yourself from being eaten by something else?*

Activity 2: Crustacean Drawings (This should take ~30 minutes)

1. Separate the students into groups of four (larger groups may be necessary for bigger classes) and have the groups spread out in the classroom.
2. Distribute a different picture or example (model, dead casing, actual one from seafood market, etc.) of a crustacean to each of the small groups. If you are using actual specimens, distribute gloves to students to protect them from bacteria on dead specimens if they are touching them.
3. Give each student one piece of white/drawing paper and a pencil to each student.
4. Tell the students that each group will become an expert on the animal in their picture, BUT that all the animals are a kind of crustacean. They will need to find out what all the crustaceans have in common and what is different or special about each one.
5. Have them sit with their group around the picture. Explain that each student must draw and label all the parts of the body that they can see. If they do not know the names, then have them make up a name that describes the part. Once each student's drawing is complete, rotate the specimens around the groups so all groups can quickly see the different specimens before the discussion.
6. Display the drawings around the room and have a volunteer from each group explain their labels and drawings. As they are describing their body parts, ask them to tell you where to list those features on your Crustacean Body Parts chart in front of the class. Should it go on the left side for parts all crustaceans share or the other for special parts only some crustaceans have. Keep the chart for reference in the next lesson.
7. To end the lesson, review the key concepts from the day:
(HINT: it may help to have them written on paper and read them aloud together at the end):

A habitat is a home and has everything an animal needs to survive.

Each kind of animal has its own special needs for food, water, air, and shelter.

HOMEWORK (Optional): Crayfish Homework Sheet

Assessments

Crustacean drawings complete with labels

Resources

edhelper.com/AnimalReadingComprehension_23_1.html

<http://atschool.eduweb.co.uk/sirrobbhitch.suffolk/key/shrimps&.htm>

Literature Connections

A House for Hermit Crab by Eric Carle

This book provides an excellent resource to help the students start thinking about hermit crabs that can be found on the sandy shore. The students will hear general information about the hermit crab and its home. It provides an excellent introduction to the next lesson and can be used to get the students excited about working with real live hermit crabs in your next session.



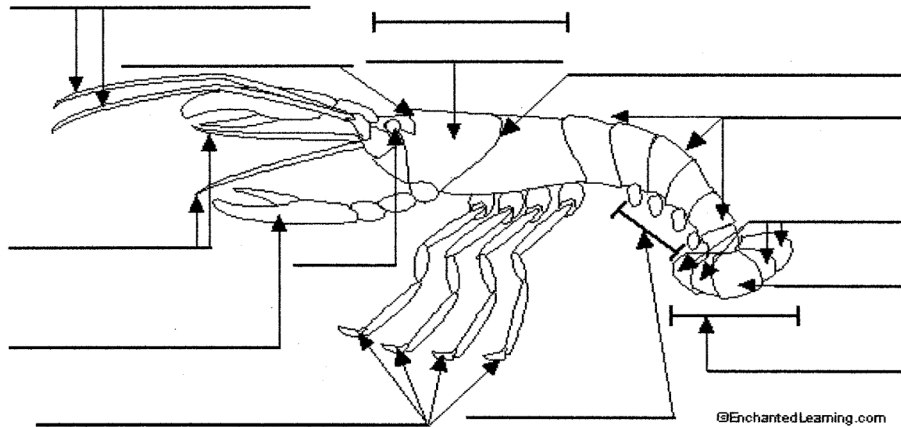
Pagoo by Holling Clancy

This book provides an excellent story about a hermit crab named Pagoo. It tells the story of Pagoo as he grows and learns about life in the sea. The illustrations alone can provide the students with a lot of information about hermit crabs.



STUDENT NAME _____

CRAYFISH



Label the parts from the list below. Next to the part, write how the part is used and **how the crayfish uses each part to survive.** Color the crayfish after labeling.

Abdomen _____

Carapace (Exoskeleton) _____

Eye _____

Long Antennae _____

Short Antennae _____

Walking Legs _____

Swimming legs _____

Tail Fan _____