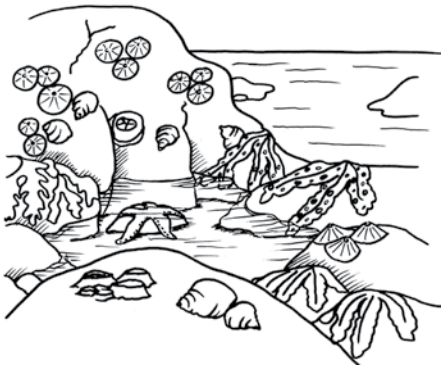
# Lesson 9
## —*Day 1*

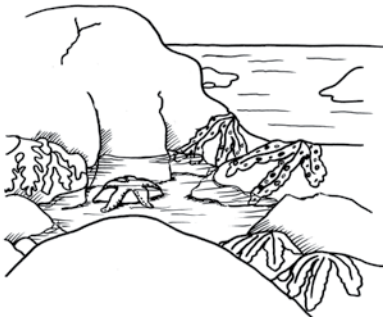
*Materials:*
Student Page Lesson 9 Day 1
Discovering the Ocean Book

*Vocabulary Words:*
Review the words you want your students to learn. Encourage them to use these words while talking about the material and in their written work.

**algae**
**discarded**
**webbed**
**streamlined**

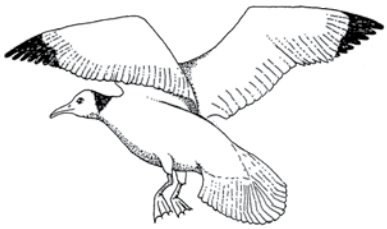


Seashores are different in appearance, and each type has its own colonies of marine animals. Some are flat with sandy shores that have gentle waves. Others are storm-battered and rocky, while others are surrounded by tall cliffs. The ocean shore is filled with animals and plants that depend on the tides to survive.



Seaweed is a type of **algae** that has root-like organs which cling to the rocks. Seaweed is tough and rubbery, allowing it to survive on shore through high and low tides.

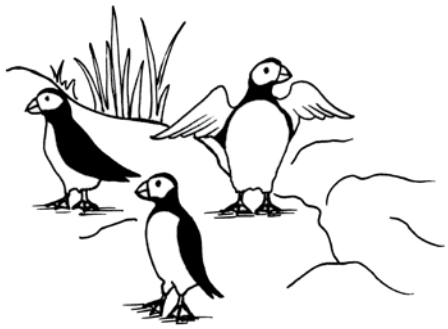
Hermit crabs are soft bodied animals that live in the discarded shells of snails to protect themselves. When the hermit crab outgrows its shell, it must find a larger **discarded** one on the shore or ocean floor.



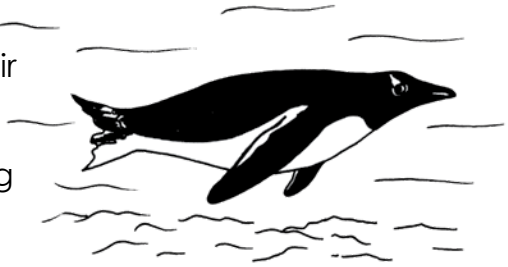
Sea birds live along the coastlines too. Sea gulls have a hooked bill, **webbed** feet and long wings. They can easily soar over the shallow ocean and find fish for food.

Pelicans are huge birds that line the shores of some oceans. These unique birds use a plunge-diving technique to catch fish and have a pouch-like mouth to trap fish.

Puffins are sea birds that live in large groups on cliffs high above the shore. They use their wings to swim underwater and catch small fish.



Penguins are another flightless bird that depends on the ocean. They are known for their **streamlined** body and their dark and white colors.



In our next class, we will learn more about these fascinating creatures.

### Discovering the Ocean Book

Hand out Student Page Lesson 9 Day 1 and **Discovering the Ocean** book.

Cut out image 9A.

Color the pictures.

Copy the name under each picture. *Ex: seaweed, hermit crab, sea gull, pelican, puffin, penguin*

Label and write one or two facts for each picture. *Ex:*
*seaweed—algae, cling to rocks with holdfasts, rubbery*
*hermit crab—soft bodies, live in discarded shells*
*sea gull—hooked bill, webbed feet and long wings*
*pelican—use plunge-diving to catch fish, have pouch-like mouth to trap fish*
*puffin—live in large groups on cliffs, use wings to swim and catch fish*
*penguin—streamlined body, dark and white coloring*

Crease along the glue line. Glue this page under the previous page of your *Discovering the Ocean* book on the glue line.

# Lesson 9
## —*Day 2*

*Materials:*
Student Page Life in the Ocean page 1
Discovering the Ocean Book
one letter size manilla file folder or
12"x18" sheet of cardstock
8.5"x11" piece of paper

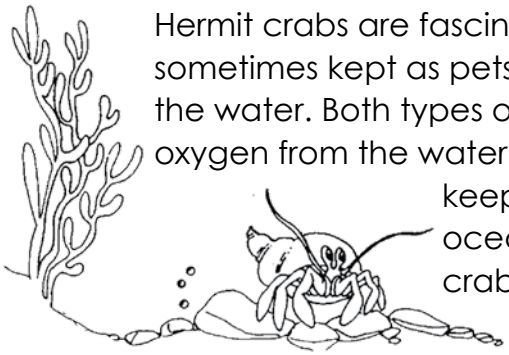
*Vocabulary Words:*
Review the words you want your students to learn. Encourage them to use these words while talking about the material and in their written work.

**aquatic**
**habitat**
**migratory**

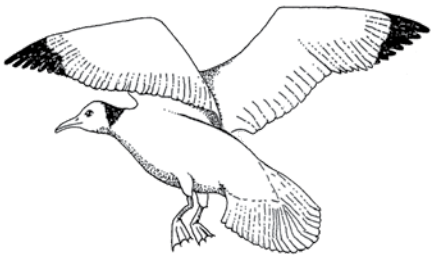
Let's review what we have learned about the ocean so far.

Ask students to look through their **Discovering the Ocean** book and discuss each page.

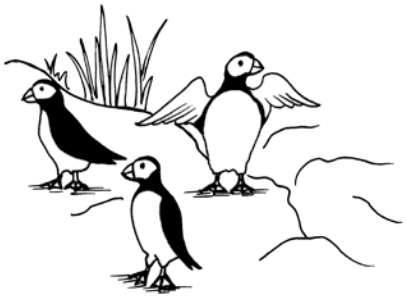
Today we are going to learn more about the animals we met in our last class.



Hermit crabs are fascinating creatures. There are land hermit crabs, which are sometimes kept as pets, and **aquatic** hermit crabs that live on the shore and in the water. Both types of crabs breathe using gills. Aquatic hermit crabs get their oxygen from the water, while land hermit crabs need a humid environment to keep their gills moist. You may see a hermit crab near the ocean but don't take a wild crab home with you, as hermit crabs' **habitats** have specific things they need to survive.

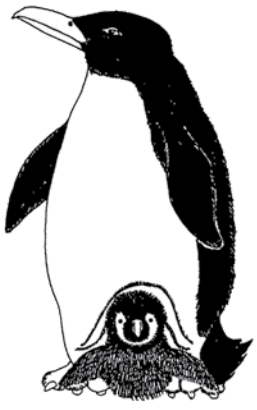


Seagulls are birds that feed on just about anything they can get. They eat fish, insects, other birds and much more. Seagulls can be a nuisance for people on the beach. They annoy hungry beach goers for snacks; if you feed one sea gull you can be sure that many will surround you soon after you do.



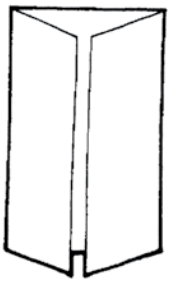
Puffins are seabirds that feed primarily by diving in the water to find food. They breed in large colonies on coastal cliffs or offshore islands, nesting among rocks or in burrows in the dirt. Two species, the tufted puffin and horned puffin, are found in the North Pacific Ocean, while the Atlantic puffin is found in the North Atlantic Ocean. The horned puffin has pure white feathers around the face, a large flashy beak, and a fleshy black horn above the eye. The tufted puffin also has white facial feathers and a colorful beak, but the addition of two tufts of yellow feathers atop its head makes it easy to see the difference between the two.

The brown pelican lives on the Pacific and Atlantic coasts of North America. Like other **migratory** birds, brown pelicans move north up the North American coasts and return southward to warmer areas for the winter. A brown pelican's pouch near its bill holds more liquid than its stomach. The pouch will hold up to three gallons of water, while the stomach will hold about one gallon. Pelicans are one of the largest birds on the seashore and are sometimes seen perched on fishing piers. They can be seen gliding in groups, over the waves in a v shape.



There are 18 penguin species found all over the world. Only two of them make the continent of Antarctica their main homes. They spend roughly half of their lives on land and the other half in the sea. There are many reasons that penguins live in Antarctica: it is the coolest region on the earth and has very little population, so penguins get lots of food. Penguins must keep a high body temperature to remain active. They have thick skin and lots of fat (blubber) under their skin to keep warm in cold weather. Penguins have tightly packed feathers that overlap to provide waterproofing and warmth. They also huddle together with friends to keep warm. Penguins live from Antarctica's icy waters to the drier shores of South America. Only one species of penguins, the Galapagos penguin, is found north of the equator.

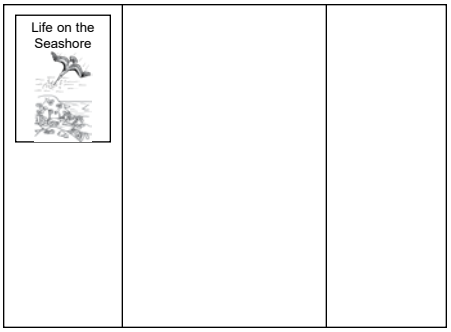
## Life in the Ocean Shutter Fold



Hand out Student Page Life in the Ocean pages 1 and 2, a folder or 12”x18” cardstock, and 8.5”x11” sheet of paper. Note that the order of the graphics on page 2 begins at the bottom of the page.

Fold the folder or 12"x18" cardstock into a Shutter Fold. Cut out image 9A on Student Page 1. Cut the image in half and glue the images on each side of the cover. Title it *Life in the Ocean*.

## Life on the Seashore book




Use the 8.5"x11" piece of paper to make a Large Questions and Answer Book (See Lesson 2 Day 2). From Student Page 2, cut out image 9B and glue to the cover. Label it *Life on the Seashore*. Store Student Page 2 for future lessons.

Choose two of the seashore animals you like best. Open the book and

Copy each name on a tab. Under the tab, draw a picture of each animal.

Title each tab with the name of your animal and draw a picture. Under the tab write one or two facts about the animal.

Title each tab with the name of your animal and draw a picture. Under the tab write a paragraph about each animal.

Glue the *Life on the Seashore* Large Question and Answer Book inside the Life in the Ocean Shuttle Fold on the top left side. Store Student Page for our next lesson.

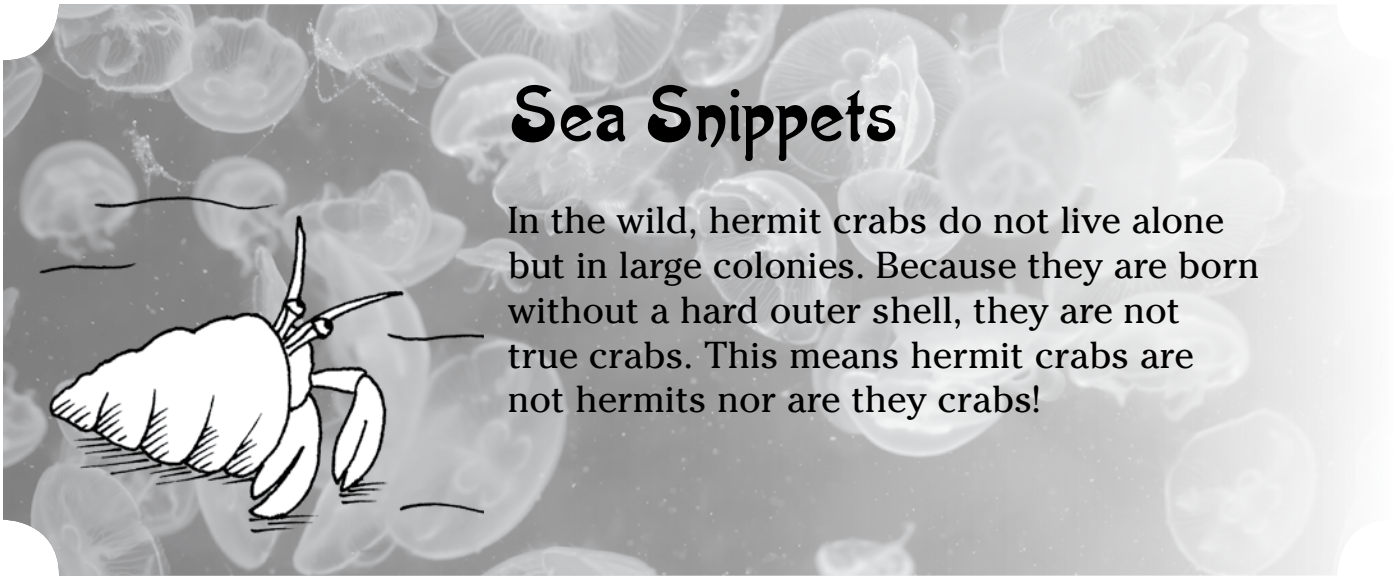
# Lesson 9
## —*Day 3*

*Materials:*
Collect materials for activities you choose:
glass bowl
water
1 sheet black craft foam
1 sheet white craft foam
glue stick
scissors
1 sheet black paper
flashlight

Complete one or more of the following activities:

1. The penguins' distinctive coloring helps protect them from predators. The penguin's back is dark. When a predator is looking down at a swimming penguin, it blends into the dark water below. The front is white, so when a predator below the penguin looks up, the penguin blends into the sunlit water. To observe how this works, draw a small penguin shape on the black foam and cut it out. Using the white foam, cut out a shape that almost covers his stomach and chest area. Glue the white shape on the penguin. Fill a large glass bowl half full of water and place the penguin black side up on the water. To see how a predator looking from above would see the penguin, place the bowl on a black sheet of paper to represent the dark depths of the ocean. Have someone hold a flashlight over the bowl and look at the penguin from the bottom of the bowl. Now, turn the penguin over. Which way was a better camouflage for the penguin?

2. Using an Internet Search Engine, research ocean seashores.
3. Investigate the importance of sand dunes on beaches.
4. Write a first-person story of a hermit crab's life.
5. Watch videos of some of the seashore animals we have studied.



# Sea Snippets

In the wild, hermit crabs do not live alone but in large colonies. Because they are born without a hard outer shell, they are not true crabs. This means hermit crabs are not hermits nor are they crabs!