

What can we find at the beach?

List five things that you might see if you go to the beach.

1. _____
2. _____
3. _____
4. _____
5. _____

Take a look at your list and try and write an “L” next to things that are living and an “N” next to things on the list that are not living.

Sunshine State Standards addressed:
SC.D.1.1.2 Know that life occurs on or near the surface of the Earth in land, air, water
SC.D.2 The student understands the need for protection of the natural systems on Earth.
SC.F.1.1.2 Know how to distinguish between living and nonliving things
SC.G.1.1.1 Know that environments have living and nonliving parts
SC.G.1.2.2 Know that living things compete based on fitness for an environment
SC.G.2.1.2 Know that the activities of humans affect other life in many ways

How many things on your list were living? _____ How many were not living? _____

Very often we look at the beach without seeing all of the things that are there. Many types of animals live in the beach sand but are colored in a way that makes them difficult to see in the sand. This is called camouflage. We will do an activity to demonstrate camouflage later in this book. Sometimes we can use clues that animals leave behind to find out what types of animals may be nearby.

Things to look for...

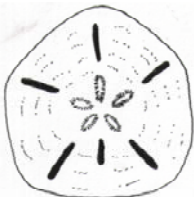
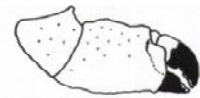
Footprints/tracks—birds, raccoons and even crabs can leave behind footprints, especially in wet sand. Although sea turtles do not have feet, when they crawl up the beach to lay eggs, they leave behind a track that looks a bit like tractor wheel marks.



Holes—Ghost crabs are the main diggers of holes on sandy beaches. Fiddler crabs make smaller holes in muddy marsh and mangrove areas. Fiddler crab holes often have small balls of mud around their edges. This is because the crabs eat tiny bits of food that are in the mud.

Shells—seashells start out as homes for animals like snails and clams.

This group of animals is called mollusks. When the animal dies, empty snail shells might become homes for hermit crabs, other shells might wash up on the beach (often the shells get broken into pieces by the surf). You may find crab shells on the beach too. Before you take a crab shell home, if it is a complete crab, look at its eyes. If they are black, leave the crab at the beach—it will stink! If the eyes are clear, the shell is OK to take home. Sand dollars, sea stars and sea urchins have “shells” that scientists call “tests”. In some parts of the state, you might find small pieces of coral on the beach.



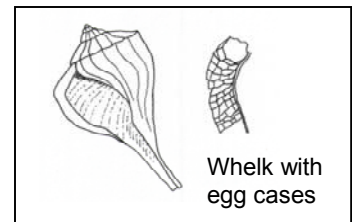
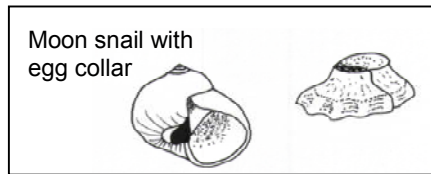
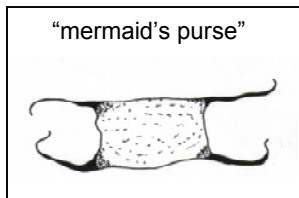
You might find barnacles attached to pieces of driftwood or other debris that has been floating in the water. If you find gooseneck barnacles, try putting them in a cup of seawater and look carefully at them—you may see them eating. They use a net-like “arm” to catch tiny creatures or plankton out of the water.



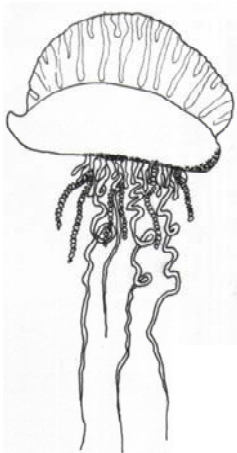
Gooseneck barnacle

Did you know...? Crab shells don't grow with them like our skeletons do. In order for a crab to grow, it has to crawl out of its shell (the shell will split in half around the edges and the crab will "back out" of the old shell). The "naked" crab will then puff itself up with water and hide somewhere until its new shell hardens. During this time, the crab is called a "softshell" crab and does not really have any way to protect itself. Once the new shell is hard, the crab gets rid of the water and grows into its new shell.

Eggs—Many marine animals lay eggs, but these do not look like bird eggs. Many fish and worms lay eggs in blobs of jelly. Some sharks and skates (a fish that is related to the shark) lay eggs in capsules that we call "mermaid's purses". Many snails lay eggs in long strands of protective cases. The moon snail (also called shark's eye snail) lays eggs in jelly that it mixes with sand to make an "egg collar". At times you may see some of these washed up on the beach.

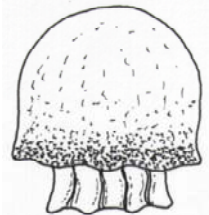


Bones and teeth—Many people who visit the beach enjoy hunting for sharks' teeth in the sand. It is not unusual to find fish bones at the beach. Some fish bones can be very unusual looking. One type of catfish has a skull that is often called a "crucifix fish".



Portuguese Man-o-War

Jellyfish—There are many types of jellyfish found in Florida waters. Sometimes these will wash up on the beach. Some jellyfish can sting you, even if they are out of the water. One of these is the Portuguese Man-o-War, which looks like a blown-up plastic bag with pink and purple strings attached to it. The "strings" are called "tentacles" or "arms" and can give you a nasty sting. Be very careful if you are poking around in the sand when there are Portuguese Man-o-War on the beach as there may be small pieces of tentacles in the sand. Cannonball jellyfish are common in some parts of the state—these are actually eaten by people in Japan. The jellyfish are cut into slices and dried or fried, then served as a snack or on salads. Ask your helper to show you Japan on a map or globe.



Cannonball jellyfish

Marine plants

Sometimes you may find pieces of marine plants (most of which are actually types of algae) washed up on the beach. One type of algae that is commonly seen is Sargassum seaweed. This brown seaweed actually grows as a floating mat of seaweed and provides a home to many small fish, shrimps, crabs and even baby sea turtles. If you look closely at a piece of Sargassum, you may notice lots of little "balls" attached to it. These "balls" contain gases and act as floats to keep the seaweed from



sinking. In south Florida, there are several types of algae that make a skeleton. These skeletons help make some of our sand. After storms, you may find lots of different types of plants and algae washed up on the beach. These may include seagrass, red, green and brown algae.

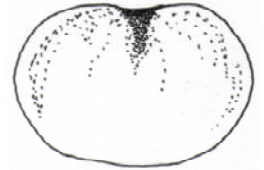
Sea beans—There are many trees and vines that make seeds which fall into the water and end up getting carried around the world by the ocean currents. These seeds are known as “sea beans” and they include the hamburger bean, sea heart and sea purse.

For more information, check out the book, “The Nature of Florida’s Beaches” by Cathie Katz (ISBN 1-888025-07-7).



Hamburger bean

Sea heart



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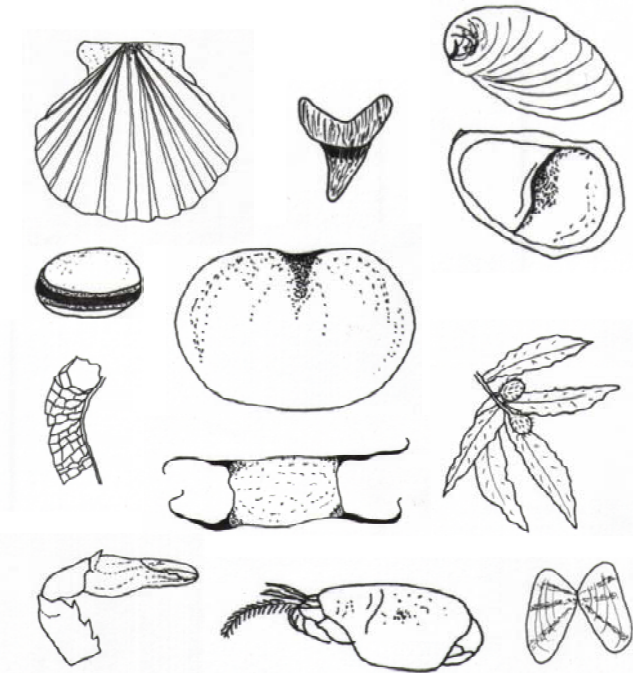

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Activity: Beach scavenger hunt

Take a trip to a beach or coastal area. See how many of the items on this list you can find. If you are doing this as a group activity, each person should collect one of each item he/she finds in a plastic bag or bucket to show the other people in the group. Remember that it is probably not possible to find everything on the list! Ask your guide if it is OK to collect live animals—if so, be sure to let them go (put them back where you found them!) as soon as you can.

Scavenger hunt list:

Coquina clam
Crab shell (any kind)
Slipper shell
Sea bean
Shark's tooth
Sargassum seaweed
Sand dollar
Mermaid's purse
Snail egg case
Fishing line
Balloon
Aluminum can
Cigarette butt
Straw
Barnacle
Scallop shell
Plastic bag
Any kind of snail shell



Talk it Over

- How many items were you able to find?
- Which items were common, and which ones were difficult to find?

Let's Reflect

- Some of the things on the list are naturally found on the beach, and some are found there because of people's activity. Which of the items on the list come from people?

So What?

- What effect can some of the human-made items have on wildlife?

Issues to Discuss

- What might happen if a marine animal swam into or ate the human-made items?
- Why is it important that people on boats not throw their garbage overboard?
- What should people do with their garbage instead of throwing it overboard or leaving it on the beach? (Consider which items could be recycled).

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