

Marbella and Her Friends

Objective:

Recognize at least 5 marine animals and their distribution.

Learning Skills:

Concentration, observation, memorization, fine motor skills, and counting.

Materials:

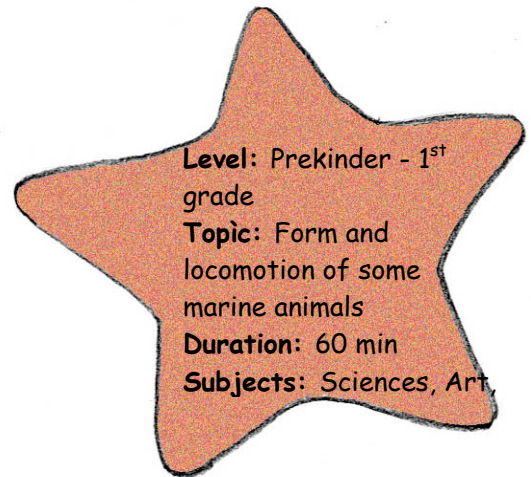
Story (see attached copy), flannel or metal board with the diagram of the beach with movable flannel/magnetic players, handouts for each child to color with a silhouette of a character from our story, and crayons.

Information Base:

The animals are presented to the children grouped as either: "marine or terrestrial", "wild or domestic", or "useful or harmful". Show them how they feed on different foods, and move differently. All of these classifications help us to recognize other living organisms with which we share the planet. The Marine Exhibition Center offers children and adults the opportunity to get close to and learn about organisms that are uncommon, animals from a world that they may only have access to on one day of fun on the beach.

The **pelican** is a common bird in Panama visible throughout the year, although their numbers are greatest during the dry season. This large bird has a long beak which it uses to catch fish in coastal waters. Their feet are membranous like ducks which allow them to swim easily in water. They are grey with white heads as adults and brown when young. They nest in trees and bushes. Taboga is a significant nesting site for the pelicans and has been designated a natural refuge.

The **sea star** has five arms, although it may have 30-40, which contain two rows of tube feet that are used for suction. The dorsal (top) surface contains a small plate that allows water to enter the body and move the tube feet. In the center of the ventral (bottom) lies the mouth. Sea stars feed on clams and other shelled animals. They force open the shells by using their tube feet. Once the shell is opened, the sea star takes out his stomach and places



Level: Prekinder - 1st grade

Topic: Form and locomotion of some marine animals

Duration: 60 min

Subjects: Sciences, Art,

it into the clam's shell where it partially digests the food outside its body. Once the sea star has formed a "soup" with the clam, the stomach is inverted again into the sea star's body.

Snails are mollusks with a simple single shell whose form varies in shape, color, and size, depending on the species. The snail hatches with a tiny shell which grows with the snail by fixing calcium carbonate from the ocean. Snails move on a large muscular foot. This foot, along with the head and two antennas that contain eyes on each tip, is what we see. Snails eat algae which they scrape with special teeth (radula); some feed on other snails or mollusks by boring a hole in their valves (shells) with their teeth.

The **Sea Urchin** (an echinoderm like the sea star) has tube feet and spines of varying colors and lengths depending on the species. The spines are jointed with the skeletal derma and help the urchin move. The mouth is found on the ventral (bottom) side with 5 visible teeth called "Aristotle's Lantern". They feed on all forms of vegetative and animal matter.

The **hermit crab** is special because he does not have a hard protective body covering. The hermit crab makes his home by placing his soft abdomen into empty shells that have been discarded by snails. With this protective shell, the hermit crab may move freely throughout the beach and feed on dead and discarded organisms.

Vocabulary: Sea star, sea urchin, hermit crab, snail, pelicans.

Marine Animals:

Aquatic animals that live in the ocean (salt water), or that depend on the ocean for life even though they live on the land.

Tide:

Movement of water that result in the highs and lows between the water and the land. The principle force is the effect of the forces between the earth and the moon. On the Pacific coasts of Panama, there are two high tides and low tides each day.

Button Mangrove:

Tree associated with mangrove areas. They have thick leaves and fruit that resemble pine needles.

Procedure:

1. After welcoming and introducing the docents, ask the children if they know any animals that live in the ocean. Allow them to name a prudent number of animals then verify whether they live in the ocean.

2. Ask the children if they know any stories about marine animals and invite them to hear a very special story. This story happened here at Punta Culebra. We can stand in front of the beach and point to the exact rocks and trees where the story they are about to hear takes place.
3. Take them to the classroom and have them sit on the floor or cushions. They will hear the story of "Marbella" with the aid of the flannel board.
4. If there are two docents, one can read the story while the other moves the figures on the flannel board. Since the story incorporates repetitive phrases and word games similar to traditional songs, the children should be encouraged to participate in the story-telling.
5. When the story is over, ask the children questions like: "How many arms does Marbella have?", "Where are her feet?", "How many feet does Pulludo have?", "How does Puntalapiz walk?" and "Who made the hermit crab's shell?"
6. Ask them if they would like to go to the aquariums and meet Marbella's cousins. Remind the children that their hands must be washed with the special soap so as to not dirty the water. Divide the group into two.
7. While walking to the aquariums, try to observe pelicans.
8. They will be allowed to touch and talk about the marine animals in the aquariums for 15-20 minutes. In conclusion, invite the children to take home a souvenir of Marbella and her friends now that they've met. Have each child color a handout with one of the characters of the story. The older children can add the beach, the moon, or the rest of the animals from the story that they have met today.

Suggestions:

Instead of coloring, they may "act out" the story by imitating the animals they have met today using their bodies, or the song of "Marbella" may be sung as a group.

Activities for the Classroom:

- ◆ In the classroom children can work with clay dough and toothpicks to create the animals and sea urchins.
- ◆ Children can make a sea shell collection (one of each type and classify them by size, color, shape and/or by how old and worn they are).

Bridging STRI's Marine Education Program Activities with the Panamanian Curricula: A Synergistic Approach

Activities

Evaluation:

The evaluations are the answers given at the end of the story and the coloring. Here the children demonstrate they are able to observe and remember details.

References:

Story of Marbella, Adriana Sautu 2000.

