

Between Shells and Snails

Objective:

Recognize a group of marine animals that are useful to man.

Learning Skills: Observation, classification

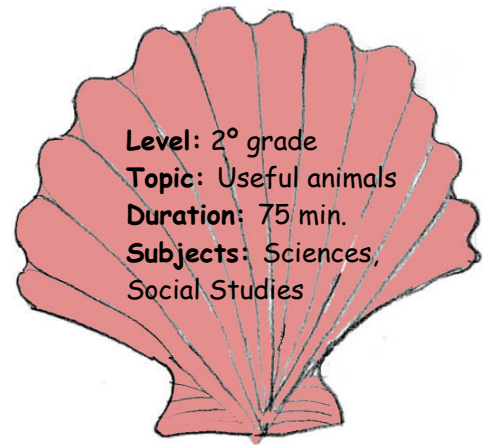
Information Base:

What is a mollusk?

Mollusks are a group of animals with soft bodies which usually produce a shell or exoskeleton made of calcium carbonate.

One of the unique characteristics of all mollusks is the presence of a "mantle" which is a type of fleshy membrane that covers the internal part of the animal and secretes the shell. They appeared in the oceans 500 million years ago, and during much of that time, some like the giant squid, were the "kings" of the deep.

Throughout history humans have used the thousands of varieties of mollusks and their shells for food, art, jewelry, money, and as objects for daily use and scientific studies.



Principle characteristics of groups represented in the matching worksheet:

***Strombus*: Conch**

Their size can reach 30 cm in length. The interior is dark pink and the lip extends outwardly (characteristic of adults) making this shell an ornamental object of some value. Its meat, notwithstanding, is very sought after and used for food by most Caribbean inhabitants. *Strombus gigas*, known in Panama as "cambute" or "cambombia", lives in shallow water and feeds on detritus.

***Conus*: Cone**

The cones are predators who are active at night. They detect their prey with a chemical receptor organ. When prey swim near by they shoot out a type of harpoon into their victims paralyzing them with potent venom. In some species this venom is so potent it can kill a man. These species are being studied because the chemical composition of the venom may be useful in the field of medicine.

Cypraea: Cowry

This is the most popular group among shell collectors. They are found in the majority of the warm tropical oceans. They feed on algae during the night and during the day they remain under rocks. These shells were used as money in Africa, in North America the shells were symbols of wealth among the Native Americans.

Pinctada: Pearl Oyster

This is one of the most delicious and oldest resources from the sea. It is actually cultivated throughout the world. Usually one of its valves or shells (the left or inferior) is stuck to a rock or another oyster. Oysters are food for man and many other marine species like sea stars, crabs, jellyfish, birds and fish.

Nerites: Chimbimbe

These are common inhabitants of the inter-tidal and rocky shores of the Pacific Ocean. They feed on algae and possess a calcareous operculum which is like a door and protects them from desiccation during low tides. Certain ethnic groups cook delicious dishes with rice and chimbimbés.

Vocabulary: Shell, Chimbimbe, Oyster, Conch, Cone, Cowry, useful animals, mollusks.

Materials: Matching worksheet, pencils, container with shells and sand, interactive activity "Look for hidden treasure in the sand", booklets for the activity "In the spirals of a shell".

Procedure:

1. Receive and welcome the group to the CEM. Invite the children to the Crab Beach and sit in the shade of the button mangrove. Once the group is seated and attentive begin the activity with a question: "Can you name some animals that are useful to man? What is their usefulness?" Allow them to explain and discuss their knowledge of the subject.
2. Have them notice they are in a special place, "We are on a beach next to the sea". Ask: "Do you know any marine animals useful to man?" Listen and discuss answers. Invite them to walk along the beach to observe and learn about animals or animal parts that are useful to man. Proceed to the upper

part of the beach above the rocky shore where there is a deposit of sand which usually has many shells.

3. Invite them to observe and pick up shells while discussing their shapes, size and characteristics (if they're worn down or not, if they're smooth or rough, what the size tells us, do they have holes, etc.).
4. Walk around looking for live shells like *Nerites* sp (chimbimbe) or *Siphonaria* (limpets), *Fisurella* sp (volcanoes), etc.
5. On the return to the beach entrance, have them notice that many shells and snails, many of which are in their hands, have been very important for many communities that live on or near the ocean. "Did you know that shells and snails form part of the sand?" Use the jar with the sand and shells to demonstrate this process.
6. "Would you like to learn more about the uses of shells and snails?"
7. Leave the shells on the beach and proceed to the interactive activity room (bunker 2). Separate into groups of 2-3 children. Assign one shell per group. They must find their use on the table, on the octopus board, and in the activity booklet "In the spirals of a snail". After 10 minutes allow them to explain and begin by saying "What is this shell's use?" Summarize the most important points. Later, hand out the matching worksheets and the pencils. Each child must match the shell with its use (5 minutes). Allow them to discuss amongst themselves.
8. To finalize, take the students to the aquariums to touch shells and live snails. Meanwhile you may continue to review their use.

Suggestions for the Docent:

If the group is very active, invite them to meet another kind of animal who lives in a borrowed shell, the hermit crab, and have them look for them in the aquariums. We can tell them that fishermen take them out of their shell to use as bait.

Suggested Classroom Activities:

Make a small shell collection, one or two of each kind, and label them with their uses.

Make a mural showing useful marine animals.

Evaluation: The matching sheet serves as a game and evaluation.

Reference:

Valencia, Lidia. Interactive activity "Look for the buried treasure in the sand", booklet "In the spirals of a snail", from the permanent exhibit at the Marine Exhibition Center at Culebra.