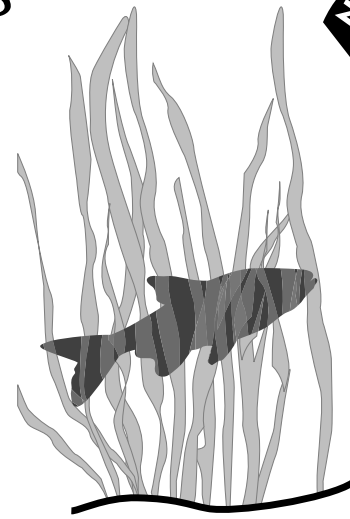


Habitats and Adaptations



Objectives

- ▶ understand that adaptations help animals survive
- ▶ create an imaginary animal with adaptations for an unusual habitat
- ▶ describe habitats on the coral reef
- ▶ describe how reef animals are adapted to these habitats

Vocabulary

habitats

adaptations

predators

crustacean

barbels

Background

The clear tropical waters around South Caicos provide a variety of habitats, or homes, for marine plants and animals. Some animals live in the reef itself, never leaving the cracks, caves, and crevices of the corals. Others hide and graze in the beds of turtle grass that carpet the sandy shallows. Many of the larger predators live on the offshore banks, where the edge of the island platform meets the deep sea. These hunters are visitors to the reef, prowling its edges in search of a meal.

With so many organisms living together in one place, competition can be fierce. Most reef dwellers have special shapes, colors or behaviors that help them to survive in the reef environment. These features, called adaptations, help reef dwellers find food, shelter and mates, and protect them from

being eaten. At the South Caicos research site, SFS students may observe some of these animals and their adaptations while diving on the reef:

- Damselfish are small but fiercely territorial herbivores. They stake out sunlit areas on the reef where algae grows, then carefully tend and defend their undersea gardens. Even scuba divers, many times the damselfish's size, may be nipped if they intrude.
- The colorful cleaner shrimp feeds itself by setting up a cleaning station on the reef. Larger fish visit the cleaner and float motionless while the shrimp removes parasites and dead skin. Some fish even invite the shrimp into their mouths to clean, but never harm the bite-size crustacean.

- Nurse sharks “taste” along the ocean bottom with fleshy whiskers called barbels. When they detect a tasty crab or spiny lobster hidden in the coral, they open their mouths and suck their prey from its hiding place like a living vacuum cleaner. Nurse sharks have flat teeth and powerful jaws for grinding and crushing shells.
- The four-eyed butterfly fish fools predators with color. Its true eyes are camouflaged in black stripes on its head but it has two large “false eye” spots on its tail. The false eyes may confuse predators. Mistaking these for the true eyes, a hunter is likely to attack the eye spots and miss the fish's head, allowing the butterfly fish to swim off in an unexpected direction.

Materials

drawing paper
colored pencils or crayons

copies of Habitats and Adaptations Worksheet
reference books

Activity

Part I: Hand out different habitat and favorite food cards and ask students to design and draw a creature adapted to eat each food and to live in each habitat. The more unusual the habitats and foods, the more inventive the exercise. For example, have students design an animal that lives on checkerboards and eats peanut butter and chocolate syrup. Or an animal that lives in a school knapsack and eats popcorn and pizza. As students design their animals, ask them to think about the following questions:

1. What color is this animal?
2. How big is it?
3. How are its mouth and body parts specialized for “catching” and eating its food?
4. How does it move?
5. Does it have any enemies?

Part II: Have students research and describe the habitat and adaptations of a reef animal by completing the following steps:

1. Choose a favorite reef animal.
2. Use reference books to identify its habitat, preferred foods, and adaptations for survival.
3. Record research results on the reef animal worksheet. Include a sketch of the animal.

Extend the Activity

Have students write “A Day in the Life” stories for selected reef dwellers. Have them describe each animal's appearance, its home, its meals, and any escapes from predators or other reef adventures.

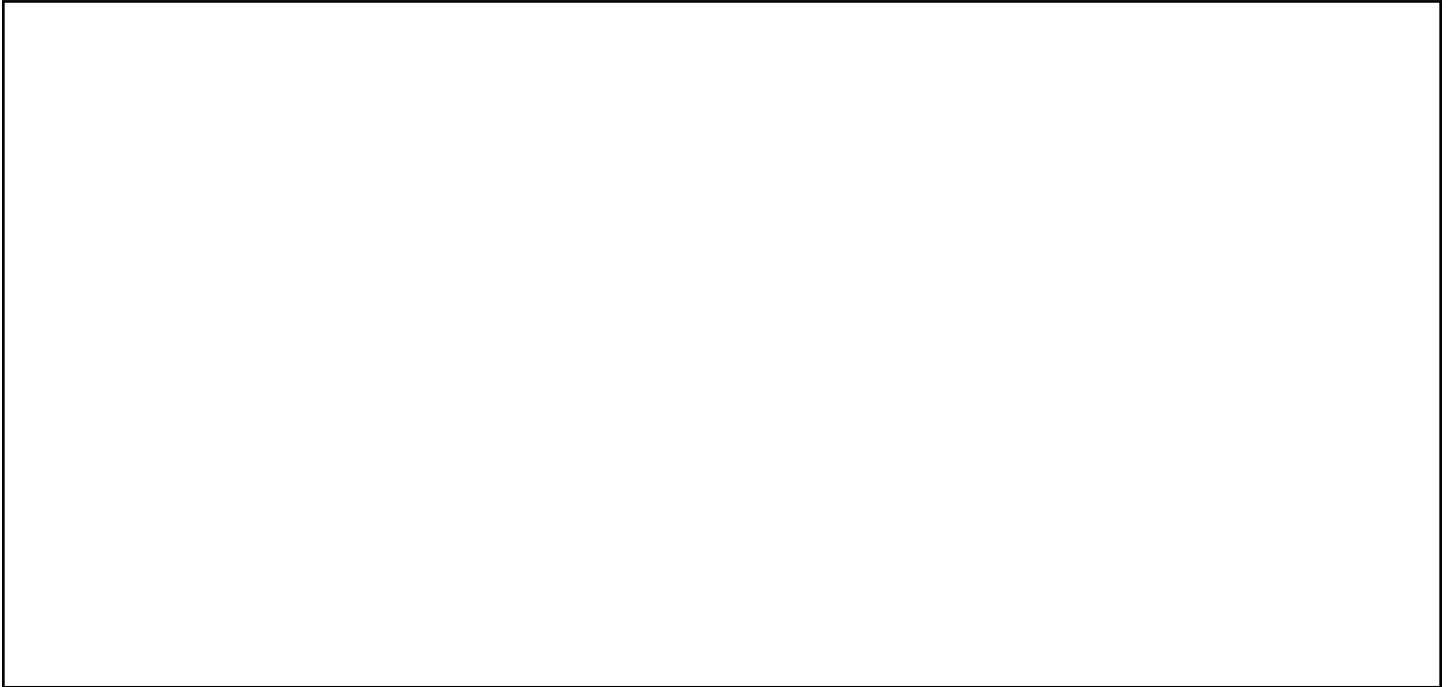
Humans are adapted for life on land, not in the water. What equipment do scuba divers use to adapt to the underwater environment? How does this equipment work?

Compare the adaptations of a scuba diver with the adaptations of a fish and/or dolphin.

Habitats and Adaptations Worksheet

Name: _____

Sketch Your Animal:



Common Name: _____

Scientific Name: _____

Habitat: _____

Food: _____

How it moves: _____

How it catches food: _____

How it protects itself: _____

Other facts: _____