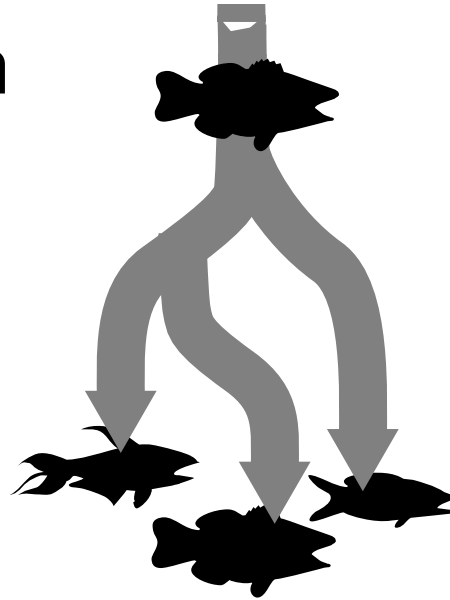


Animal Classification



Objectives

- ▶ create a classification system for familiar animals
- ▶ understand the classification system used by scientists today

Vocabulary

vertebrates
invertebrates

phylum

species

Background

The coral reef is home to an astounding variety of plants and animals. Some of these are vertebrates, animals with backbones. But most of the reef's many inhabitants are invertebrates, animals without backbones.

To help them identify and study the millions of animals in the world, scientists group or classify animals with similar features. For example, all vertebrates (fish, reptiles, mammals, amphibians and birds) belong to the scientific phylum, or group, known as *Chordata*. The invertebrates belong to several different groups. Some of the groups the SFS students study on the reef are:

Porifera - These are the sponges—animals that look more like plants or rocks than animals. The “sponge” part of the animal is its skeleton.

Cnidaria, also known as *Coelenterata* - These are the corals, sea jellies, and sea anemones. Most Cnidarians have stinging cells for stunning and catching prey.

Echinodermata - These are the sea stars, sea urchins, and brittle stars. Echinoderms are also called the spiny-skinned animals. Most are prickly on the outside like sea stars and sea urchins.

Mollusca - These are the conch, octopus, and clam. Many mollusks, like the conch and the clam, make their own hard shells for protection. Others like the octopus squirt ink as they jet away from danger.

Arthropoda - These are the spiny lobsters, cleaner shrimp, and hermit crabs. They have 8 jointed legs and two claws or feeding appendages. Their land relatives are the insects.

Materials

poster board

markers

reference books

Activity

As a group, have students brainstorm a list of 20 animals that are found in your community or in the ocean. Next, assign students to small groups and have them complete the following steps:

1. List the characteristics/features of each animal on the list generated from the brainstorm.
2. Look for characteristics/features that these animals have in common.
3. Look for differences between the animals.
4. Group animals according to their similarities and differences.
5. Create names and descriptions for each group.
6. Design a chart that shows the classification system and share with the class.

Display charts in the classroom. Have each group explain the steps they took to create their classification system. Ask students why using one classification system worldwide is important. Introduce some of the groups scientists use to classify animals and descriptions of those groups. Have students brainstorm names of animals that would fit in each group.

Extend the Activity

Choose a land community, such as the rain forest, the African plain, or a woodland pond and classify the plants and animals that live there. Have students discuss: Are there any groups found on the reef that are not found in the land communities? Are there groups on land not found in the reef community?

An animal's common name can vary from country to country or even within the same country. To avoid confusion, scientists give each animal or species a unique scientific name that can be used to identify the animal anywhere throughout the world. One of the first challenges facing the SFS students at the South Caicos research site is to learn the scientific names of the many new and unusual animals they study. The scientific name of an animal consists of two words: the first is the animal's subgroup or genus; the second is the species. For example, the spiny lobster is *Panulirus argus*. The queen angelfish is *Holocanthus ciliaris*, and the blue angelfish is *Holocanthus isabelita*. Use a field guide or reference book to find the scientific names of some familiar reef animals.