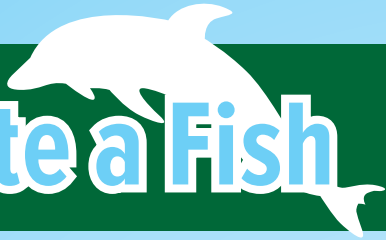


Create a Fish



Goal:

Students will learn about the special adaptations fish have evolved to help them improve their chances for living and reproducing.

Grade Level: 3-8

Subject Areas:

science and art

Materials Needed:

- 3 x 5" index cards for fish ideas
- art supplies for creating fish

Time to Complete:

two 45-minute class sessions

Introduction

Fish are probably the most familiar of all water-dwelling animals. Thousands of different kinds live in ocean and fresh waters, from the sea surface to the ocean floor and in rivers, ponds, lakes and streams. Each kind of fish has specific living and feeding requirements. Many have evolved special characteristics that help them meet the challenges of survival. These special features that improve an organism's chances for living and reproducing are called ADAPTATIONS.

How Do Fish Feed?

Depending on the kind of fish, its diet may include plants, shellfish, other fish, or microscopic animals.

Where a fish lives and what it eats can often be deduced using clues given by the build and shape of the fish. The position of the mouth and the type of teeth are good indicators of feeding habits. For example, bottom dwelling fish usually have mouths near the bottom of the head and eat plant matter. Fish with upward pointing mouths and sharp teeth usually feed on other animals near the water's surface. Adaptations like these help fish live and thrive in their natural habitat.

Where Does It Live and What Does It Eat?

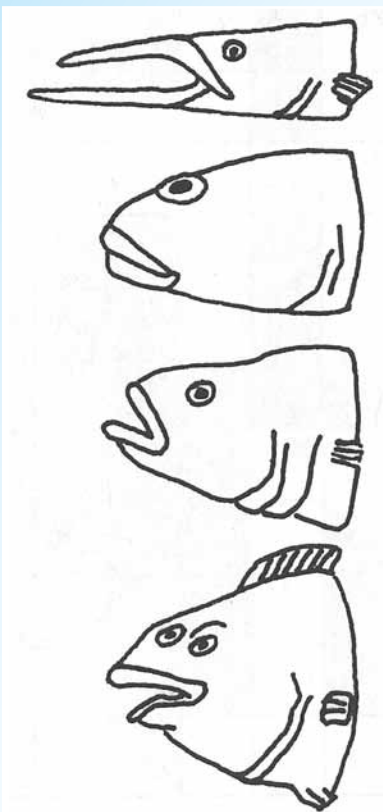
1. Introduce the concept of ADAPTATION and relate it specifically to feeding. Use the examples given above and others that you find.
2. Copy the illustrations of fish heads and give it to the students, or draw them on a blackboard. Can students tell where each of the fish might live and what they might eat?
3. Have students draw their own fish heads and label them as to bottom or surface feeders. Let them guess the feeding habits of each other's fish.

How Do Fish Survive?

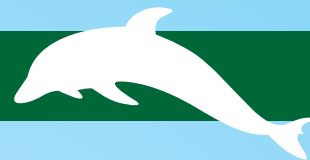
Besides feeding adaptations, fish have developed other special features that help them avoid being preyed upon by predators. Many have markings and colorations on their skin that allow them to blend in with their habitat. Some can even change color to match changing surroundings. This camouflage helps to keep them hidden from predators. Other fish have a flat shape, which allows them to settle on the bottom, nestling unobtrusively in the sand. With only eyes showing, they are well hidden from the watchful eyes of hungry predators. Still other fish have evolved more dramatic means of protecting themselves. The pufferfish blows up like a balloon when startled, scaring away potential predators.

Procedure

Distribute 3 x 5" index cards, each with an idea written on it of an



Create a Fish



imaginary fish with certain adaptations that students can construct. Challenge the students to use the materials provided to construct an imaginary fish with the adaptations specified on their idea cards. Students having difficulty creating an imaginary fish can be encouraged to look at real fish pictured in books.

Idea cards may include:

CREATE A FISH THAT CAN:

- vacuum food from the bottom
- eat something bigger than it is
- hide on the bottom
- slip through small openings
- hide in seaweed
- be seen through

CREATE A FISH THAT:

- shouldn't be stepped on

- doesn't look like a fish
- blows up like a balloon when afraid
- must swim against strong currents
- can live among rocks and reefs
- fly, crawl

References

Cooper, Alan. *Fishes of the World*. New York: Grosset & Dunlap, Inc. 1971 .

National Geographic Society. *Wondrous World of Fishes*. Washington, National Geographic Society. 1965.

Zim, Herbert S. *Fishes: A Guide to Fresh- and Salt-Water Species*. New York: Golden Press. 1956.

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