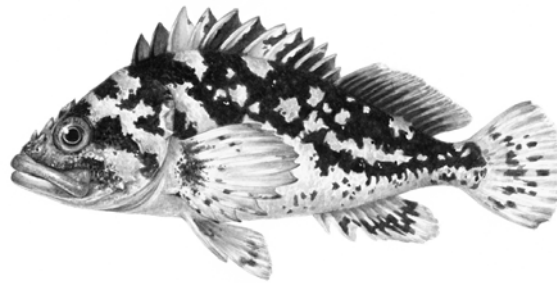


## Disappearing Fish



### Topics

Camouflage, Fish

### Grades

PreK-2

### Site

Indoors

### Duration

20 minutes

### Materials

- Live fish or photos of fish
- Science notebooks
- Pencils, colored pencils, markers
- Various kinds of wrapping paper, magazines, or construction paper
- Scissors
- Fish pattern or pre-cut white paper fish (1 per student)

### Vocabulary

camouflage, habitat, predator, prey

### National Science Education Standards

*Science as Inquiry* (K-4)  
Ability to do scientific inquiry

### *Life Science* (K-4)

The characteristics of organisms  
Organisms and environments

### Overview

*How do fish protect themselves in the ocean? One way is with camouflage. Students explore this animal adaptation by observing fish and their habitats. Students then get to “disguise” their own fish in a habitat by using art supplies and various colors and textures of paper.*

### Objectives

Students will be able to:

- Identify two fishes that camouflage in their habitats.
- Describe how camouflage helps a fish catch prey and avoid being eaten.

### Background

Many fishes in the ocean **camouflage** in their **habitat**. This means that their body shapes, patterns and colors as well as their behaviors help them blend in with their surroundings. Camouflage can be a protective adaptation. It helps a fish to hide from **predators**. It also allows a fish to sneak up on unsuspecting **prey**.

A fish's physical characteristics, like body shape and color, aid in camouflage. For example, a halibut's shape is round and flat. This helps it hide in the sand. Other fishes have different coloration for camouflage. For example, bright colors “disappear” in the ocean depths. This allows brightly-colored fishes to blend in, or “disappear” into, the water. Some fishes have counter-shading and are dark on the top, or dorsal, side of their bodies and lighter underneath on the ventral side. This makes them more difficult for predators to see when looking down on them from the surface or looking up from the ocean depths.

Fishes also have behaviors that help them camouflage. A sanddab is able to change the color of its scales to match that of the sandy floor and will partially bury itself in the sand. A crevice kelpfish sways back and forth to mimic kelp movement and blend into the kelp forest. A sculpin will stay motionless in a tide pool to blend in with rocks.

## Teacher Preparation

1. Gather various fish photographs, colored pencils or markers and various kinds of paper to use as a fish "habitat." Wrapping paper, construction paper and/or magazine pages are possible options.
2. Make a paper fish for each student or provide a template so they can cut out their own.

## Procedure

### 1. OBSERVE FISH BODY PARTS AND BEHAVIORS USING PHOTOS OR LIVE FISH IN TANKS.

Display tanks of live fish or photos of fish. As a class, make some observations about fish body parts and shapes. You may ask students questions like: *What colors are the fish? What do you notice about the shape of their bodies? Can you find patterns on them? Are the fish easy or hard to see? Do they look like the plants and rocks in their habitat?*

Next help students focus on fish behaviors by asking questions, such as, *What are the fish doing in the tanks or what might they be doing in the pictures? Are they swimming? Are they holding still? What other behaviors do you notice? Are the fish easy or hard to see?*

### 2. EXAMINE FISH HABITATS USING STUDENT DRAWINGS.

In their science notebooks, have students draw a picture of one fish they observed. Then challenge them to draw its habitat. Encourage students to be as detailed as possible *What color are the rocks in the habitat? Is there seaweed? Can you see the bottom of the tank or ocean? What's it like?* You may have students share drawings in pairs or in small groups.

### 3. DISCUSS THE IMPORTANCE OF CAMOUFLAGE AS A CLASS.

Have students look at their drawings. Ask them if their fish blends into its habitat. Why or why not? Introduce or review the idea of camouflage. *(Camouflage, or blending into a habitat, helps fish stay safe from predators. Also, some fish are predators and eat other animals. Camouflage helps them to sneak up on their prey.)*

### 4. STUDENTS EXPLORE CAMOUFLAGE BY MAKING A PAPER FISH AND ITS HABITAT.

Pass out scissors, plain white paper and a fish template for students to cut one out OR pass out a die cut fish. Let students choose a piece of wrapping paper, magazine page or construction paper to use as the fish's habitat. Have students place the white fish on their "habitat." Ask them about what they observe: *Is the fish camouflaged? Why or why not? Do you think it could escape a predator? Or catch unsuspecting prey?* Next have students place the fish on other pieces of paper and make more observations. *How does that "habitat" compare to the one they chose? Is the fish camouflaged more or less?*

### 5. STUDENTS COLOR THEIR FISH TO CAMOUFLAGE IN ITS HABITAT.

Now challenge students to camouflage, or hide, their fish in its habitat. Ask them to place their fish on their original "habitat." Give each student colored pencils or markers to color their fish so it camouflages. When students finish, discuss the importance of camouflage. *Now does your fish have a better chance to survive in its "habitat?" Why or why not?*



## VOCABULARY

**Camouflage:** to blend in, match or hide in its environment

**Habitat:** a home for plants and animals that provides food and protection

**Predator:** an animal that hunts and eats another animal

**Prey:** an animal that is eaten by another animal



## ELL TIPS

How can you provide visual scaffolding for English Language Learners to develop new vocabulary? Post new vocabulary on a classroom word wall and be sure to include images with the new words.

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**THE MISSION OF THE  
MONTEREY BAY  
AQUARIUM  
IS TO INSPIRE  
CONSERVATION OF THE  
OCEANS.**

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## CONSERVATION TIPS

Classrooms use a lot of paper! Reduce waste by using both sides of the paper before recycling. After recycling, “close the loop” and buy photocopy paper that is made from recycled materials.

## Extensions

- Construct another animal from different materials, such as fabric, felt, or pipe cleaners. Have students hide the animals in the classroom on different surfaces; like the tabletop, floor, and/or paper. Where does their animal best camouflage? Where is it harder to see their animal?
- Go on a nature walk around your schoolyard. Look for animals, such as butterflies, beetles, birds, worms, lizards, and snails and make observations. *What animals do you see? Which ones are easy to see? Which ones are hard to see? Why or why not?* In science notebooks, have students draw a picture of one of the animals they found in its habitat. Color the animal and its habitat.

## Resources

### Website

*Monterey Bay Aquarium.* [www.montereybayaquarium.org](http://www.montereybayaquarium.org)

Learn more about specific types of fish on exhibit and observe their body parts and behaviors on one of the many live web cams.

### Books

*Animal Camouflage.* McDonnell, Janet. The Child’s World, Inc., 1998.

*Eyewitness Books: Fish.* Parker, Steve. Alfred A. Knopf, 1990.

*How Animals Hide..* McClung, Robert M. National Geographic Society, 1973.

*Nature’s Paintbrush: The Patterns and Colors Around You.* Stockdale, Susan. Simon and Schuster, 1999.

*Where’s That Fish?* Brenner, Barbara, and Bernice Chardiet. Scholastic, 1994.

## Standards

### California Science Standards

Grade K: 2a, c; 4a, b, e

Grade 1: 2a, c; 4a, b, e

Grade 2: 2c, d; 4a, d, f, g

### Head Start Framework

- Use senses, tools and measuring devices to gather information, investigate, observe processes and relationships.
- Observe and discuss common properties, differences and comparisons among objects and materials.
- Begin to participate in simple investigations.
- Collect, describe and record information through discussion, drawings, maps, charts.
- Observe, describe and discuss natural world, materials, living things, natural processes.
- Show awareness and beginning understanding of changes in materials, cause-effect relationships.