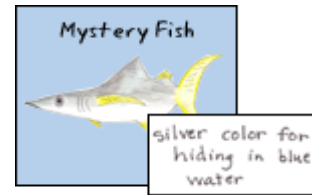


Design a Mystery Fish Activity

Teacher Page

Activity Description

What shape and color are fish bodies? How many fins do fish have? Where do they live? Students observe ocean habitats. They design mystery fish that can survive in specific habitats. They write clues to help their classmates determine in which habitats the fish will survive. Then the class places the mystery fish into their habitats.



Key Concepts

- Different types of fish live in different parts of the ocean.
- A fish's shape, position and shape of its fins and tail and location of its eyes and mouth are characteristics that help it survive in a specific habitat.
- Scientists make and record observations. They share their findings.

California Science Standards

Grade 3: 1a, 2a, 2c, 3a, 3b, 3c, 3d, 5a, 5b, 5e

Grade 4: 2a, 2b, 3a, 3b, 6a

Grade 5: 2a, 2b, 2c, 3a, 6a, 6g, 6h

(<http://www.cde.ca.gov/re/pn/fd/documents/sci-std.pdf>)

California Language Arts Standards

Reading

Writing

Written and Oral English Language

Conventions

Listening and Speaking

(<http://www.cde.ca.gov/re/pn/fd/documents/elcontentstnds.pdf>)

Materials

- Nonfiction resource materials about fish (books, magazines, web sites)
- Habitat photos*
- [Mystery Fish Group Exploration Guide*](#) (optional)
- Mystery books
- Science journals
- Writing materials
- Art materials (paper; paint, colored pencils, markers, crayons or pastels)

* These materials are available on the aquarium's web site on the Activity Link listed to the right.

Activity Link

This activity is part of an Ocean Explorers Teaching Unit "Mystery Fish."

http://www.mbayaq.org/lc/teachers_place/activity_fish_mystery.asp

You'll find other related activities, background information about fish and their physical characteristics and more online resources students can use to research fish and their habitats.

Directions

1. Review observations from the *Fishy Habitats* activity for habitat information. (If you have done this activity, go to Step 5.). The *Fishy Habitats* activity is available on the aquarium's web site at the Activity Link listed above.
2. Discuss how scientists make and record observations. They make additional observations to answer their questions, which are like mysteries. How do people solve mysteries? They make observations and look for clues.

3. Explain to the students that they will record in their science journals what they notice and wonder about fish and their habitats.
4. Students will look for clues—things that help fish survive in their habitats. Discuss what makes a fish a fish (fins, gills, scales). Where do fish live (fresh or salt water)? What living and non-living things are in fish habitats (water, sand, vegetation, other animals)? What other things affect a fish's habitat (sunlight, lack of sunlight, water temperature, salinity)? Students record their answers.
5. Explain that each student will design a mystery fish that is adapted for a specific habitat. The students select one ocean habitat, such as the kelp forest, coral reef, sandy seafloor or open ocean. Tell the students to keep their habitats a secret as part of the mystery. Later everyone will try to match the habitats and mystery fish. Then have the students list the living and non-living things that they notice in their habitats.
6. Students observe fish in their chosen habitats using nonfiction resources or visiting the aquarium. They record their observations.
 - What shape are the **bodies** (streamlined, torpedo-like, flat side to side, flat top to bottom)?
 - What shape are the **tails** (squared, forked, pointed)?
 - How many **fins** do the fish have and where are they located?
 - Describe their **eyes** (big, small, looking upward, looking downward).
 - Look at their **mouths** (beaklike, long jaws, lower jaw extends beyond upper jaw) and **teeth** (small, large, sharp, triangular, in rows).
 - What **colors** are the fish (countershaded – dark on top and light on the bottom, spotted, brightly colored)? How might their coloration help them camouflage?
 - How do they **swim** (fast, slow, alone, schooling)?
7. Using his/her journal notes, each student designs a mystery fish that can survive in the student's selected habitat. Have him/her draw the fish and color it on **only one side** of a piece of paper.
8. Then have each student think of clues that will help other students determine in which habitat his/her fish lives. Clues may include information on its place in a food web, area of the world where the fish lives or how it breathes (number of gill slits). Have the students write clues on the back of their fish papers. Students give their fish a common name based on their characteristics. For example: "Tuark" or "Shuna."
9. Place the ocean habitat photos on desks or the floor. Have students take turns sharing their mystery fish and clues. The class decides in which habitat the mystery fish will survive. Each student then places his/her mystery fish in its correct habitat.



Activity Resources

[Monterey Bay Aquarium Web Site](#)

Live Web Cams

Students can watch and observe sharks and many different kind of fish on our live Kelp Forest and Outer Bay web cams.

http://www.mbayaq.org/efc/cam_menu.asp

Animal Fact Cards

Printable animal fact cards including fish in several different habitats.

http://www.montereybayaquarium.org/lc/activities/critter_cards.asp

Online Field Guide

Online field guide of marine animals with photos, diet, range, habitat and conservation notes.

http://www.montereybayaquarium.org/efc/living_species/default.asp

Fish Videos

Short clips to watch online from our Video Library.

http://www.montereybayaquarium.org/efc/video_library/video_library.aspx

Sea Searcher's Handbook

The "Fishes" chapter includes background information about how fish are adapted for specific habitats.

http://www.mbayaq.org/lc/teachers_place/resources_seasearchers.asp

External Link

FishBase is a global information system on fish. The web site has information about 28,500 fish, including common and scientific names and photos. Take a Fish Quiz!

www.fishbase.org

Recommended Books

Ling, Mary. *Amazing Fish, Eyewitness Juniors*.

Resnick, Jane P. *Eyes on Nature: Fish*.

Extensions

- After the students have given their mystery fish common names, have them give their fish scientific names. Use the prefix and suffix chart in the *What's in a Name?** activity for naming the fish. Have other students "translate" the scientific names.
- Trade mystery fish with other students or in small groups. De-code the mystery fish using the *De-code a Fish** activity directions. Where does the fish live? How does it make its living (an ambusher, a nibbler)?
- Sort the mystery fish by habitats. Graph the results.
- Create a mystery fish using a picture of the fish's habitat for its body, such as a picture from a magazine or a student drawing. On the back of the fish, write clues for its physical characteristics (body parts, coloration) and behaviors. Hang the fish in the classroom.

* These activities are available on the aquarium's web site at

http://www.mbayaq.org/lc/teachers_place/activity_fish_mystery.asp