

Gyotaku (Japanese Fish Printing): Art and Anatomy

Grade Level: 5-9

Subject Areas: Life Science, Art

Duration: 50 minutes

Setting: classroom

Skills: identify fish anatomy

Objectives

Students will be able to:

- learn the process of fish printing
- identify the parts of a fish, and see what it can reveal about the external fish structure

Materials

- fresh fish (yellow perch or rainbow smelt work well)
- newspaper
- watercolor paper, newsprint or rice paper
- tempera or water-based ink (linoleum block ink is best)
- stiff $\frac{1}{2}$ inch brush

Background

Gyotaku is an ancient art, which now is used to record catches of sport fish and to document information about fish biology. Fish prints often show details of the fish's external structure that are not apparent when looking at the fish itself. Before making the print, identify the fish, list its characteristics, research its natural history, and learn when, where, and how it was caught.

Use Gyotaku Japanese Fish Printing as pre-trip preparation for using the dichotomous key at the fish station on the Schoolship, or as a fun post-trip activity to review. In order to use the key for the fish station aboard the Schoolship, students will have to recognize the parts of a fish.

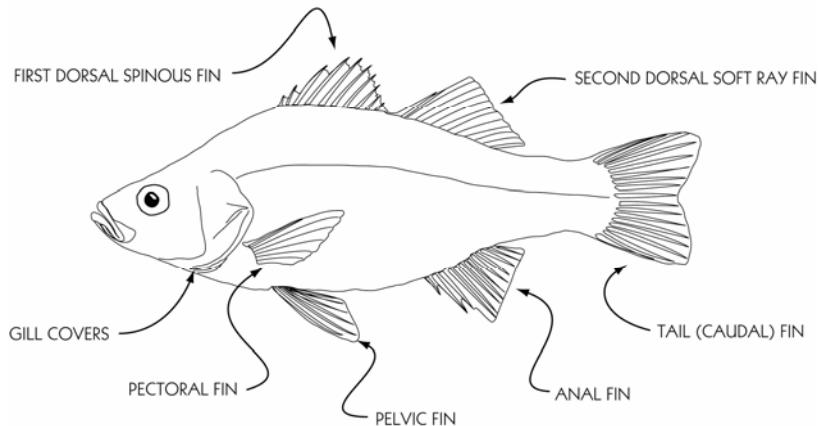
The Activity

1. Obtain a whole (ungutted) fresh fish. Support your local fishing industry or fishermen. Rubber fish may be used in a pinch, but fresh fish result in much better prints.
2. Wash the fish with soap and water. Dry thoroughly.
3. Place the fish on newspaper on a wooden board. Arrange its fins properly.
4. Brush on a light, even coat of diluted tempera paint or water-base printer's ink.
5. Place paper over the fish and press lightly with your hand all over the body and fins, noticing scales, body structure, body shape, etc.
6. Lift paper with print (a small brush may be used to paint in the eye).
7. Notice shape and location of the eyes, gills, scales, fins, and lateral line. Do a print of another kind of fish and compare the two.
8. Label your print with both common and scientific names of the species, your name, and date of print.
9. You can also try the process with crayfish, shells, etc. Experiment and let us know what works!!

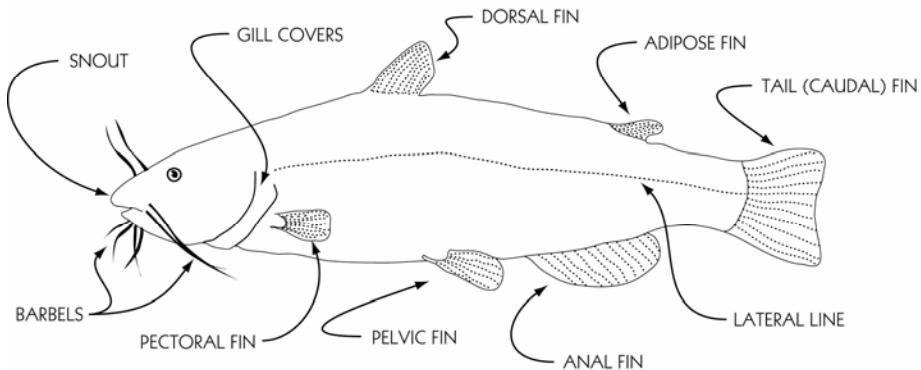
Wrap –Up Questions

1. What features of the external structure of the fish can you see on the print?
2. Were you surprised by some of these details or by the sensation of touching the fish?
3. What parts of the fish give you clues about what they eat and where they may be in the food web?

PARTS OF A SPINY RAYED FISH



PARTS OF A SOFT-RAYED FISH



Additional Resources

<http://www.glix.org/epicenter/>

Great Lakes Indian Fish and Wildlife Commission Exotic Plant Information Center

<http://www.invasivespecies.gov/>

A gateway to federal and state invasive species activities and programs.

<http://www.great-lakes.net/envt/flora-fauna/invasive/invasive.html>

GLIN (Great Lakes Information Network) Invasive Species in the Great Lakes Region

Source

Reference: The Floating Lab Resource Manual Grade 7-12

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