

Internal & External Fish Anatomy

Adapted from: An original Creek Connections activity.
Creek Connections, Allegheny College, Meadville, PA 16335.

Grade Level: Intermediate or advanced

Duration: 15-30 minutes

Setting: classroom

Summary: Students match internal and external parts of a fish to the appropriate parts on the board.

Objectives: Students study the internal and external anatomy of a Fish.

Vocabulary: anatomy, adipose fin, anal fin, anus, caudal fin, dorsal fin, gill, gill cover, gonads, heart, intestine, kidney, lateral line, liver, pectoral fin, pelvic fin, spleen, stomach, swim bladder, urine bladder

Related Module Resources:

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Materials (Included in Module):

- 2 External fish anatomy poster
- 2 Internal fish anatomy poster
- Name pieces and green covers

Additional Materials (NOT Included in Module):

- None

ACADEMIC STANDARDS:

4th Grade

- 3.3.4.B. Know that living things are made up of parts that have specific functions.

7th Grade

- 3.3.7.A. Describe the similarities and differences that characterize diverse living things.

10th Grade

- 3.3.10.A Explain the structural and functional similarities and differences found among living things.

12th Grade

- 3.3.12.A Explain the relationship between structure and function at all levels of organization.

BACKGROUND:

Fish are very important to waterway ecosystems and they play many valuable roles in the French Creek Watershed. They help maintain the balance needed for organisms to survive and the waterway to remain healthy. In the study of science, fish provide an excellent example for an understanding of **anatomy**. Anatomy is all the parts found in the structure of a plant or animal.

The anatomy of a fish is best studied with the use of a side-view internal diagram or an incased specimen that has been cut in a way that reveals the fish's internal anatomy. Each part in the internal and external anatomy of a fish serves a purpose in the fish's daily function. For example, the ventral aorta, located near the heart, controls blood flow and the **anal fin**, located on the exterior of the fish, helps the perch to swim by working as a steering mechanism.

OVERVIEW:

Students will examine a poster of a fish's anatomy and match the pieces to the appropriate spot. Students should, with some practice, be able to remember the basic order of the anatomy of a fish.

PROCEDURE:

Teacher Preparation:

1. Make sure that green labels are covering the answers on the posters before students start.

Student Activity:

1. Remove the parts cards from the envelope on the back of each poster.
2. Try to correctly match the name of the part to the correct part by sticking them on Velcro. **DO NOT LOOK UNDER GREEN LABEL!!!! CHEATERS NEVER PROSPER!**
3. Once all the cards have been stuck to board, lift the green labels to check your answers.

DISCUSSION:

What anatomical structure does a fish have that is used as a sense organ?

The lateral line, it is used to detect movements and vibrations in the surrounding water.

Does the fish have parts for breathing on the inside of its body like we do? *No, fish have gills for breathing.*

In general, how many fins do fish have? *6, Dorsal fin, adipose fin, caudal fin, pectoral fin, pelvic fin, and anal fin.*

EVALUATION:

- Go over answers as a class.
- Use words like Identify, Explain, Describe
- You can also quiz students on the parts of a fish

EXTENSIONS AND MODIFICATIONS:

- Compare the anatomy of a fish to the anatomy of another aquatic organism, for example a frog, turtle or water snake. What similarities and differences do you notice? What adaptations are specific to each organism? How do these adaptations help each creature survive in its habitat?
- Dissect a fish with the class. Determine if students can identify the anatomical structures when examining a real fish.
- Use this activity as a quiz.
- Time students to see who is the fastest.

NOTES (PLEASE WRITE ANY SUGGESTIONS YOU HAVE FOR TEACHERS USING THIS ACTIVITY IN THE FUTURE):