Build a Fish

An Extension Activity for "Fantastic Fishes"

Objectives:
Students will be able to:

Explain how fish interact with their environment

Simulate and explain the parts of a fish and the function of each part

Materials:
Vocabulary necklaces (fish parts) for building a human fish. For a group of 24 students provide: 1 mouth, 1 dorsal fin, 1 set pectoral fins, 1 set pelvic fins, 1 caudal fin, 1 anal fin, 2 gills, 2 gill covers (operculum), 2 eyes, 12 scales.

Fish Parts Diagram

Index Cards

Yarn or string

Markers or pencils

Procedures:
Access a stream or aquarium (if not available a photo or movie will work) and draw the students' attention to the fish. Have students observe the fish and identify known parts.

Ask if there are any parts of the fish that we cannot see. Introduce the next section by commenting that there are many parts that we don't see.

Build a Human Fish:
Give each student parts-of-a-fish necklace. One by one explain what each role will be.

The student with the **Caudal Fin** should stand at the end of an open area. This is the powerful tail fin used to propel the fish through the water at incredible speeds! Ask students why it is important for fish to be able to propel themselves quickly through the water (feeding and predator evasion). Have the student stand with arms out in front in a "v" shape and wave her/his arms in a back and forth motion to imitate the tail fin. This student should chant **"Forward, Ho!"**

The **anal fin** is the next structure. The anal fin adds stability to the fish and allows it to steer directionally. The student should squat down in front of the caudal fin with both arms stretched downward, palms together and perform a swinging motion towards the back of the fish. The student should repeat **"Stabilize, stabilize!"**

Ask students what other type of motion could be important in fish besides propulsion (what speeds up must slow down). The students with the **pelvic fins** should take their place squatting in front of the anal fin. The pelvic fins are used for stability as well as to slow the fish down which is just as important as speed! The student with the pelvic fins should raise and lower his/her arms towards the back of the fish. This student should repeat the **sound of brakes squealing**.

The **dorsal fin** may be one single fin or separated into many fins depending on the fish. This fin is used mainly for balance and also for sudden directional changes. Ask students what importance this type of movement has (predatory evasion). The student with the dorsal fin should stand just in front of the pelvic fin with palms together & up in the air. This student chants, **"Balance, balance!"**

Pectoral fins are important for diving. Pectoral fins can also be used for tasting, touching and for additional swimming strength. The students should squat just in front of the dorsal fin and wave his/her arms in a powerful forward and back motion. These students can chant **"Dive, dive!"**

Next come the **gills**. Ask the students if they know what structure fish use to breath. Oxygen enters the bloodstream through diffusion at the gills. Gills are the feathery structures found on the sides of the head. The students with the gills should stand in front of the pectoral fins and wave their fingers (as if playing a piano) to mimic the movement of water across the gills. These students should make **exaggerated breathing sounds.**

In many fishes the gills have a protective plate covering called the gills called the **operculum**. Students with the operculum necklace should stand by the gills with their arms out as if to protect the gills. These students say **"Protect, protect!"**

Fish are visual predators. They have **eyes** to help them not only see where they're going but they also help them catch their food! Students should stand in front of the gills and chant, **"Ooh, looky, looky."**

The shape of a fish's **mouth** tells a lot about what they eat. Fish with upturned mouths mostly feed on the water's surface. Fish with down-turned mouths, such as a catfish, feed on the bottom of their water column. The student with the mouth should stand in the very front with arms in front, opening and closing them in alligator fashion, and repeat **"Mmm, chomp, chomp!"**

All remaining students are the **scales.** Scales are modified skin cells and are extremely important in protecting the fish from disease and parasites. A coating of mucous on the scales gives additional protection against disease and helps it move through its watery environment. The scales should position themselves standing in rows along each side between the caudal fin and mouth with arms outstretched, and should repeat the phrase "**Ooh so slimy!"**

On the count of three, have the students perform their parts to put the fish in motion.

Credit: This activity is adapted from the *Project Learning Tree,* Tree Factory (2006).