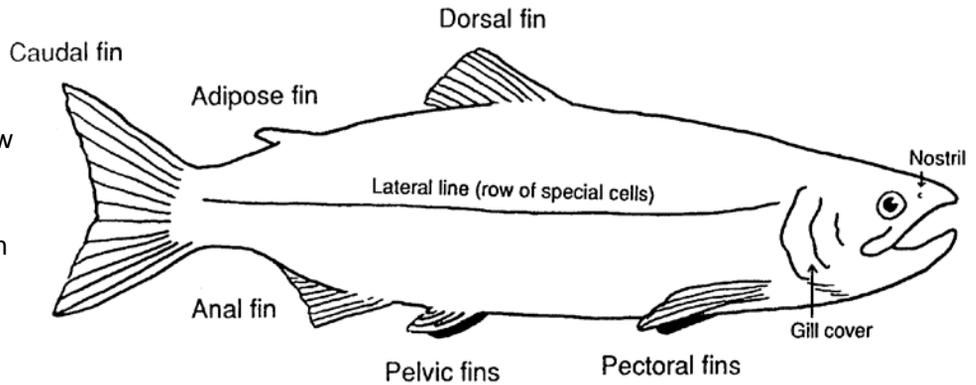


Ever Wonder How A Fish Works?



Have you ever wondered how a fish breathes underwater? What all those fins are for? Why are fish slimy? Can a fish hear underwater?

First of all, a fish does not breath underwater. Unlike marine mammals such as a dolphin or a seal, you will never see a fish at the surface of the water taking a “gulp” of air. Luckily for fish, water contains a certain amount of oxygen. The amount of oxygen in a water body can vary tremendously and is affected by such things as water temperature and the presence of aquatic plants, which produce oxygen. Fish breathe through their gills. Water enters a fish’s mouth, passes over the gills, and is expelled out into the water body. You can think of a gill as being a thin membrane. Small holes in this membrane allow tiny oxygen molecules in the water to pass through and into the fish’s body. The large water molecules cannot fit through the holes in the membrane. This process is called osmosis.

As you probably know, swimming requires a lot of energy. How do fish make it look so easy? The bullet-like shape of a fish creates less drag as it passes through the water. Powerful fins provide the necessary propulsion. A typical fish may have as many as six different types of fins. The caudal or tail fin is the most important fin for propelling the fish through water. The other fins are used to change direction (up, down, left, or right) and to maintain position in the water.

Like most animals, all fish have skin. Many fish have an outer covering of scales. Scales protect fish, much like a suit of armor. All fish have a slimy covering of mucus. This substance allows the fish to swim through the water with very little drag and also makes it difficult for other organisms to attach to the fish. So mucus is also a protective feature.

A fish’s sense of sight, hearing, and smell are excellent. If you’ve ever discovered how easy it is to scare a fish away when trying to catch it with a fishing pole, you know how good a fish’s eyesight is! Using a group of sensory cells called a lateral line, a fish is able to maintain a sense of balance by “hearing” or detecting vibrations in the water.

One other interesting aspect of a fish is the air bladder. It uses this “bag of air” to adjust its buoyancy or how it floats. The amount of air in the bladder will determine at what depth in the water the fish will float. This is important because if a fish wanted to be at a certain depth in the water, and it didn’t have an air bladder, it would have to spend a lot of energy moving its fins to stay there. So an air bladder allows the fish to conserve energy.



Tale Of A Scale

Much like you can tell the age of a tree from counting the number of rings, biologists use fish scales to determine the age of Pacific Salmon. Other things that can be learned from a scale include the number of years a salmon has spent at sea and how many times it has spawned.