

Name _____

Date _____

What Is a Fish?

Kingdom: *Animalia*Phylum: *Chordata*Subphylum: *Vertebrata*3 Classes: *Agnatha* (Ag NATH a) means "jawless fish."*Chondrichthyes* (Kon DRIK the eez) means "cartilage fish."*Osteichthyes* (OS tee IK the eez) means "bony fish."

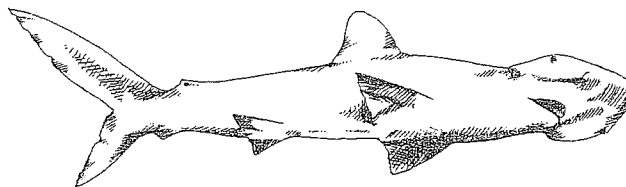
June 13-30

Hello, student observers, let's take to the water and learn about the simplest and oldest group of vertebrates in the animal kingdom. Fish live in most of the earth's bodies of water and have become a very successful and varied group of aquatic creatures. Fish are superbly designed for living underwater. When you hear the word *fish*, what image forms in your mind?

Some people visualize a streamlined bass, while others visualize brightly colored tropical fish that dart quickly in and out of coral reefs. To some people the word "fish" conjures up terrifying images of sharks, or they mistakenly visualize whales or dolphins. Together, throughout this unit, we will try to gain an understanding of the term *fish*.

Although fish are vastly different, we can make a few generalizations that apply to most fish. **Fish** are ectothermic vertebrates that have scales and swim with fins. An ectotherm is an animal that is coldblooded. A coldblooded animal's body temperature changes with the temperature of its surroundings. Fish are well adapted (suited) to all aquatic habitats. Since most fish live in water, they breathe by filtering the oxygen from the water as it flows over their gills. Gills are feathery organs that have many blood vessels. The dissolved oxygen passes from the water into the blood in the gills. The bloodstream carries the oxygen to all parts of the fish's body. Carbon dioxide, a waste product made by the fish, passes out of the bloodstream into the gills where it is removed from the body.

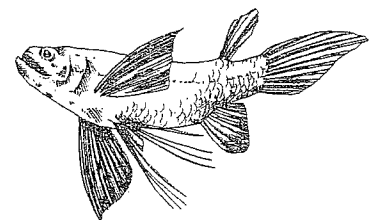
The term *fish* is used to describe three very different groups, or classes, of animals. The three main classes of fish are jawless fish, cartilaginous fish, and bony fish. These amazing animals have been extremely successful from the shallow surface areas to the ocean depths.



Bonnet shark
Chondrichthyes
"cartilage fish"



Hagfish
Agnatha
"jawless fish"



West African butterflyfish
Osteichthyes
"bony fish"