**Fish**

**Learning Target:**

There are 7 groups of vertebrates:



Only \_\_\_\_\_\_% of the animals on earth are vertebrates. Most vertebrates on earth are fish. There are more than \_\_\_\_\_\_\_\_\_\_\_\_\_ species of fish, ranging in size from tiny minnows to whale sharks. Fish live in nearly every aquatic environment, from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ lakes to \_\_\_\_\_\_\_\_\_\_\_\_\_\_ water and the bottom of the sea.   
Most bony fish have fins with different functions. Their bodies are designed for moving \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ through water.  They have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to support muscles and surround the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cord, which connects the animal's \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to its nerves.  Other bones, such as the \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_, protect organs like the heart, lungs and brain.

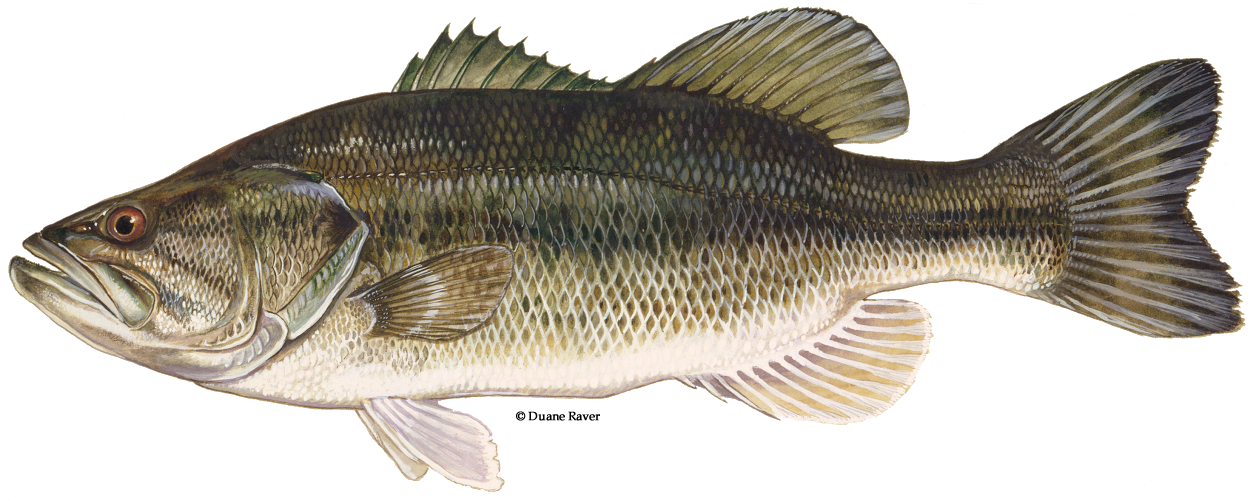
Fish have \_\_\_\_\_\_\_\_\_\_\_ to remove oxygen from the water. Fish gills are made up of many \_\_\_\_\_\_\_\_\_\_ of tissue and are filled with blood. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_ that allows fish to sense objects and organisms that are nearby by using vibrations.  Fish have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_that allow the fish to adjust how high or low the fish floats.

There are three types of fish:  
  
Jawless Fish: This group includes \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_.  Jawless fish are believed to be the first fish on earth.  They have simpler bodies than other fish.  They do not have a \_\_\_\_\_\_\_\_\_\_\_\_\_.  They do have teeth but they cannot chew.

Cartilaginous Fish: This group includes \_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_.  Their skeletons are not made of hard bone, but of a flexible tissue called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.   
  
Bony Fish: Most fish species, including tuna, flounder, goldfish, and eels, are classified in this large, diverse group.  Of the 20,000 fish species, about 96 percent are bony fish.  Bony fish have skeletons made of hard bone.   Most bony fish have \_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and several pairs of \_\_\_\_\_\_\_\_\_\_\_\_\_.

Label the following items on the large-mouth bass below.

1. ​Spiny Dorsal Fin
2. Soft Dorsal Fin
3. Anal Fin
4. Pelvic Fin
5. Pectoral Fin
6. Caudal Fin
7. Operculum
8. Lateral Line
9. Maxilla
10. Mandible



Most fish reproduce \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  The female produces eggs, and the male fertilizes them \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with sperm.  After the eggs are fertilized, the parent fish usually leaves the eggs to develop and hatch on their own.   Most fish eggs are surrounded by a soft egg case that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_can pass through.  Since fish lay eggs in the water, this means that a fish \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ inside an egg gets the water and oxygen it needs directly from its surroundings.  The egg's \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ provides the developing fish \_\_\_\_\_\_\_\_\_\_\_.  Fish often lay and fertilize many eggs, but with no \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, few of them survive to maturity.