

Whales and Fish: Creatures of the Deep

Fish and whales are both vertebrates, which means they both have backbones. They also live in aquatic environments. Except for a couple of species, whales live only in the ocean water. Fish, however, inhabit both fresh and salt water. Whales are among the largest animals on Earth, and some fish can be among the smallest.

Being mammals, whales are warm-blooded. This means they must maintain a constant and warm body temperature. Fish, on the other hand, are more like reptiles. Most are cold-blooded. This means their body temperature changes to match the surrounding water.

Whales have a thick layer of fat called blubber under their smooth, almost hairless skin. This fat helps them retain their body heat. Fish have very little fat, which is why many fish are prized as food. To keep from freezing in the cold water, fish blood contains an anti-freeze substance. Fish are also covered with a slimy material that helps protect their skin from salt or other chemicals in the water.

Though whales are mammals and fish are not, they are similar in some ways. Both have fins and a tail, which helps them swim and stay upright in the water. But these similarities are in appearance only. Whales move their body through the water with the help of their horizontal tail, which flaps up and down to propel them through the water. Fish, on the other hand, have vertical tails, which move from side to side. Even though whales are huge creatures, they can reach astounding speeds when swimming. Killer whales can swim up to 37 miles per hour; some dolphins move at speeds of 18 miles per hour, while the large Fin Whale cruises along at 13 to 16 miles per hour. Right Whales and Gray Whales are somewhat slower, with a top speed of about 6 miles per hour. How fast fish swim depends on the size and shape of the fish. Herring, a small fish, swims at only 3 miles per hour. Swordfish are the speedsters. They have been clocked at 60 miles per hour. Both whales and fish will swim at high speeds if they are chasing or escaping an enemy. It requires too much energy to swim fast all the time.

Whales can dive deeply and stay underwater a long time. The Sperm Whale, for instance, can dive to more than 6,500 feet, depths that would crush a submarine. It can also remain under water for up to 90 minutes! Like land mammals, whales have lungs and must come to the surface to breathe through their blowhole, which is located on the top of the whale's head. Fish, on the other hand, breathe by removing oxygen from the water through special organs called gills. A fish will quickly suffocate when removed from the water.

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1. What protects a fish from freezing in very cold water?
 - A. A layer of slimy material coating the fish's skin.
 - B. A layer of blubber.
 - C. An anti-freeze substance in the fish's blood.
 - D. Fish normally stay in warm water to prevent freezing.

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2. What does the word propel mean in this passage?

- A. To keep horizontal.
- B. To move or push forward.
- C. To keep the air pressure constant.
- D. To stabilize or hold upright.

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3. The main idea of this passage is:

- A. How whales and fish are different and similar.
- B. How whales swim.
- C. Why whales can stay underwater longer than fish.
- D. How fish and whales use oxygen.

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4. A fish will die if removed from water because

- A. The fish's internal organs will be crushed by air pressure.
- B. The anti-freeze in the fish's blood will quit working.
- C. A fish's gills cannot remove oxygen from the air.
- D. The air pressure will burst the fish's lungs.

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5. Some characteristics of mammals are that they:

- A. Have scales and lay eggs.
- B. Can adjust their body temperature to match the water temperature.
- C. Can swim very quickly.
- D. Are warm-blooded and have lungs.

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On a scale between 1 and 10 with 1 being low and 10 being how well did you like this passage?

Didn't												I Really
Like It	1	2	3	4	5	6	7	8	9	10	Liked It	
At All												

Connections: Create a Venn diagram that shows the similarities and differences between whales and fish.