

VIDYA BHAWAN BALIKA VIDYAPEETH

STUDY MATERIAL SCIENCE CLASS-VII

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Teacher : Poonam Kumari

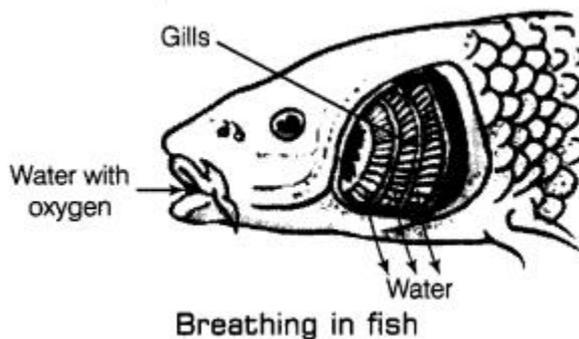
► Respiration in organisms

Breathing Under Water

There are many organisms which live in water. They do also breathe underwater. Some of them given below:

Fish

Fishes are the aquatic animals that live in water. These have a special organ for breathing called gills. The oxygen dissolved in water enters through the gills. Gills are actually the projections of skin and have blood vessels for the exchange of respiratory gases. The fishes breathe by taking in water through its mouth and sending it over the gills. The oxygen dissolved in the water is extracted by the gills and the extracted oxygen is absorbed by the blood.



This oxygen is then carried to all the parts of fishes for respiration. The carbon dioxide produced during respiration is brought back by the blood into the gills and expelled into the surrounding water.

Dolphins and Whales

Sea animals like dolphins and whales live in water but unlike fishes, they do not possess gills for respiration.

These possess nostrils which are called blowholes. Their blowholes are located on the upper parts of their heads. These animals breathe in through their nostrils and lungs. Dolphins and whales come to the surface of sea-water from time to time to breathe in air, sometimes whales release a function of water that moves upwards like a spray. This is because when a whale breathes air out of its blowhole it appears as a spray or mist, also called a spot. It can be seen from many miles away. Blowholes are surrounded by muscles that keep the holes closed when the whales or dolphins are underwater and open it when the animal is at the surface and needs to breathe.

The human cannot survive underwater because they do not possess any gills to make use of oxygen dissolved in water for breathing. When we go underwater we have to take oxygen gas cylinders for breathing.

Respiration in Plants

All the organism in the world respire whether it is an animal or a plant. Plants also take in oxygen from the air and give out carbon dioxide. They also breakdown glucose into CO_2 and water and releases energy to perform other functions. The respiration in plants differs from the animal because in plants, respiration occurs through leaves and roots, etc. They carry out respiration independently, i.e. each plant part can independently take in oxygen from the air, utilise it to obtain energy and give out CO_2 .