Chapter 16-1

How do organisms take in Oxygen?

breathe

fish
water

All organisms use O_2, but they do not get rid of it the same way.

Single celled organisms take Oxygen from a watery environment.

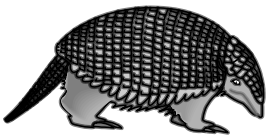
Example: paramecium

Single celled organism (like the paramecium) has a membrane like the cell membrane.

Oxygen diffuse across it and so does carbon dioxide.

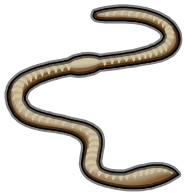
Complex organisms

Most have a specific body structure that takes in oxygen and release carbon dioxide.



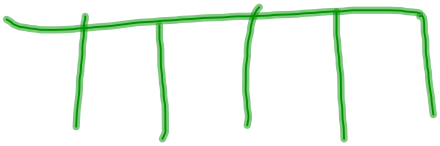
An earthworm has capillaries in their skin where carbon dioxide and oxygen exchange.

They take oxygen from the moist soil and release carbon dioxide through their skin.



A grasshopper has a system of tubes called trachea.

The trachea is passageways though which air travels into and out of the body.



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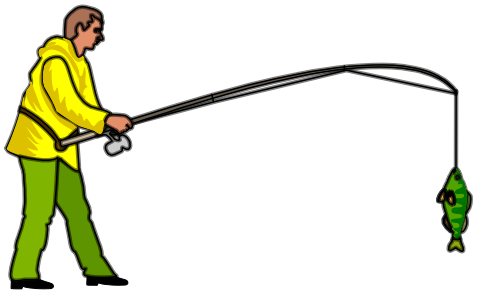
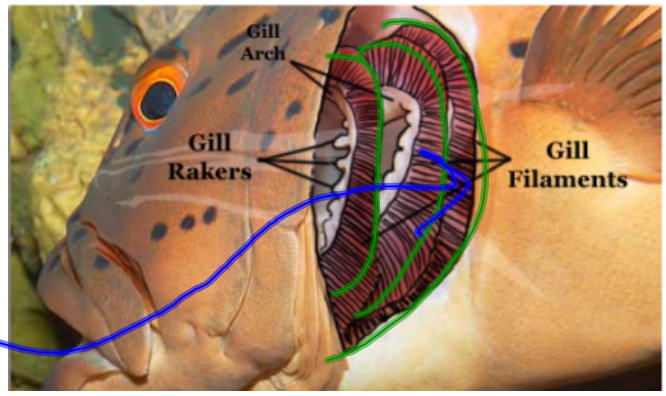
How do fish get their air?



gills

Fish have gills . Gills are respiratory structures that some aquatic animals use. Gills take oxygen from the water.



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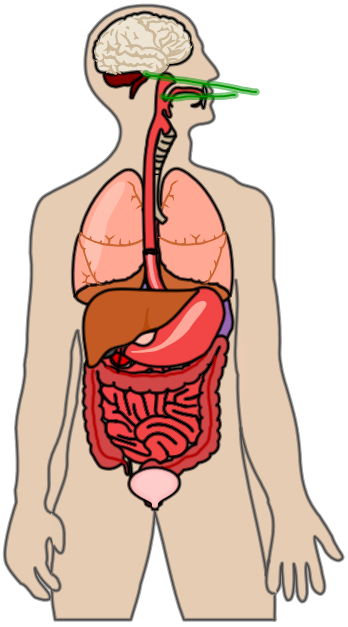
When a fish opens its mouth, water flows in at the same time and the flaps over the gills close.

The water moves through the mouth over the gills and past the flap that is now open.

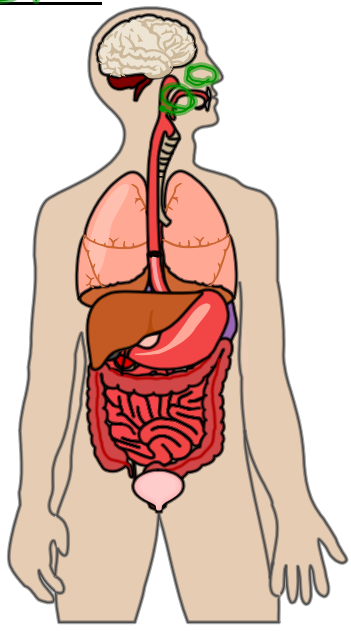
Each gill is made of a spongy structure called gill filaments. They look like ſ up close.

Human passageway for air.

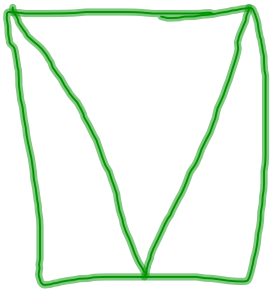
1. Air enters the body through the nose and mouth.

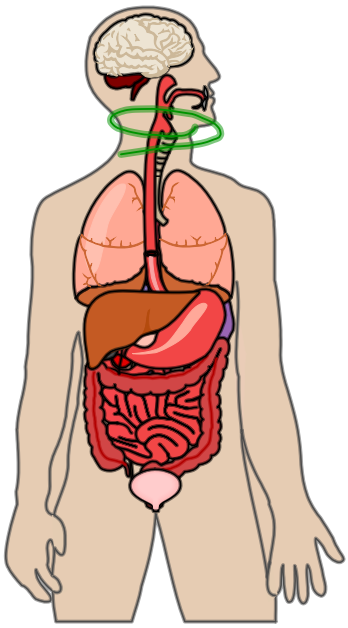


2. It passes by the tissue in the nasal cavity and mouth where the body transfers heat and moisture to the air.

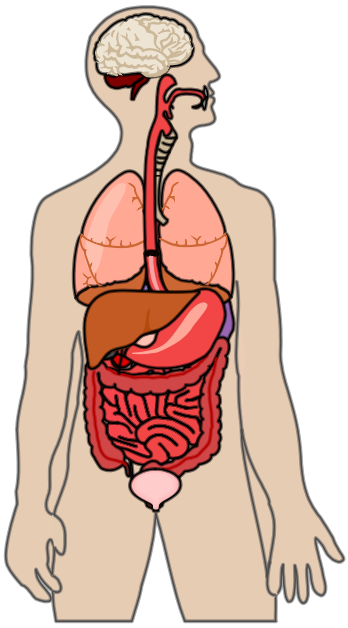


3. Warned air then moves through the pharynx and the larynx.

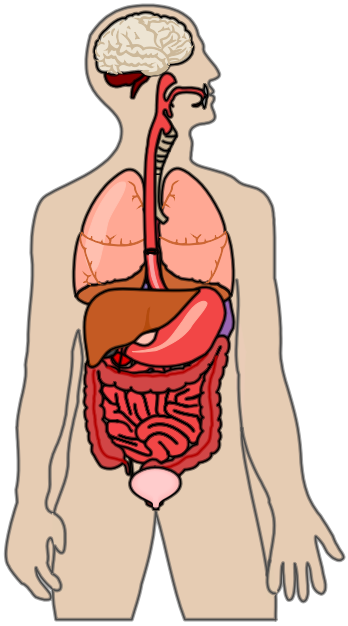




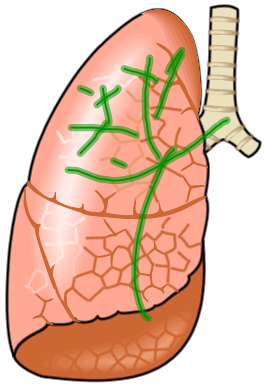
4. Epiglottis cover the larynx.

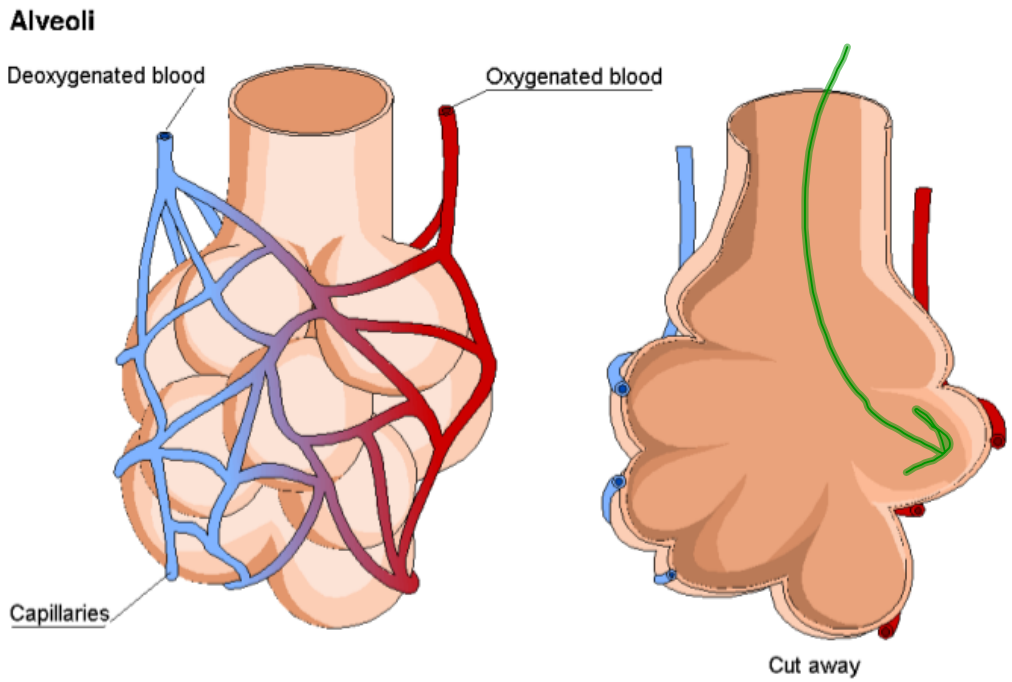


5. At the end of the larynx are two bronchial tubes. The air is now entering the lungs.



6. The lungs are the main organ for respiration. This is where the oxygen and carbon dioxide exchange. Within the lungs, the tubes keep getting smaller and smaller.





7. The smallest tubes are called the alveoli. These are tiny clusters of thin walled sacs. Each one looks like a cluster of grapes. Each alveoli is surrounded by capillaries.