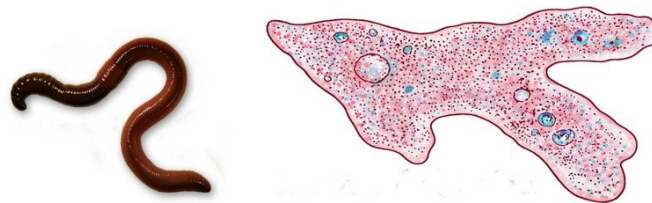


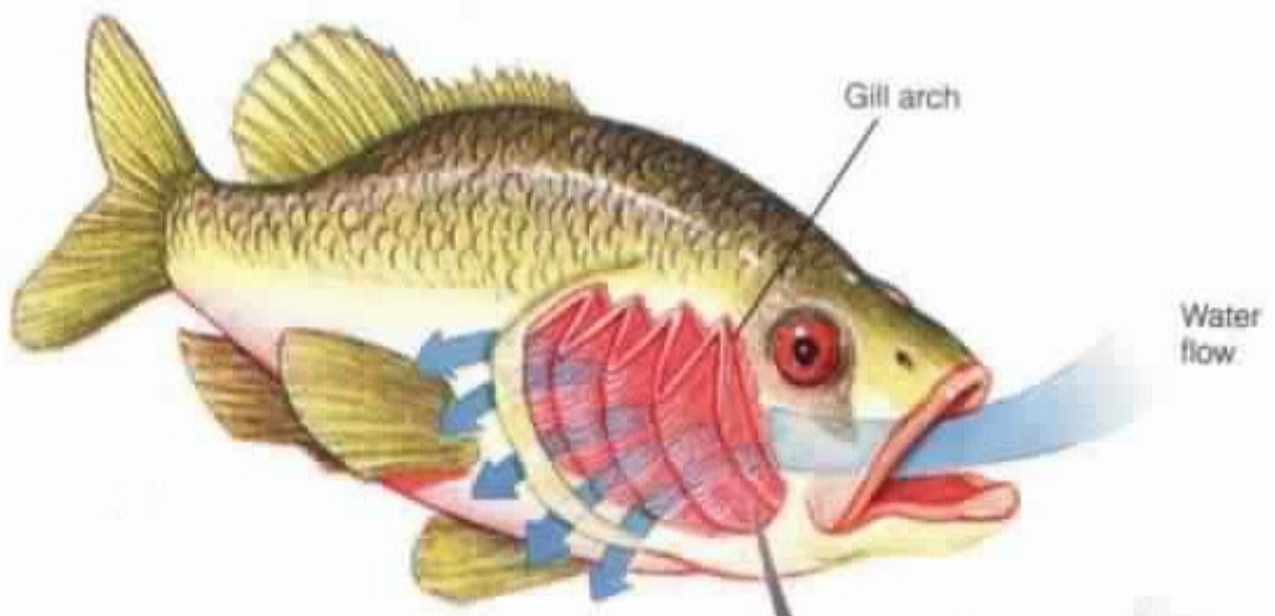
How animals breathe

Direct diffusion: Simple organisms, such as the amoeba and earthworm, have a **moist, permeable** external surface. Oxygen can pass into them through this surface by diffusion.

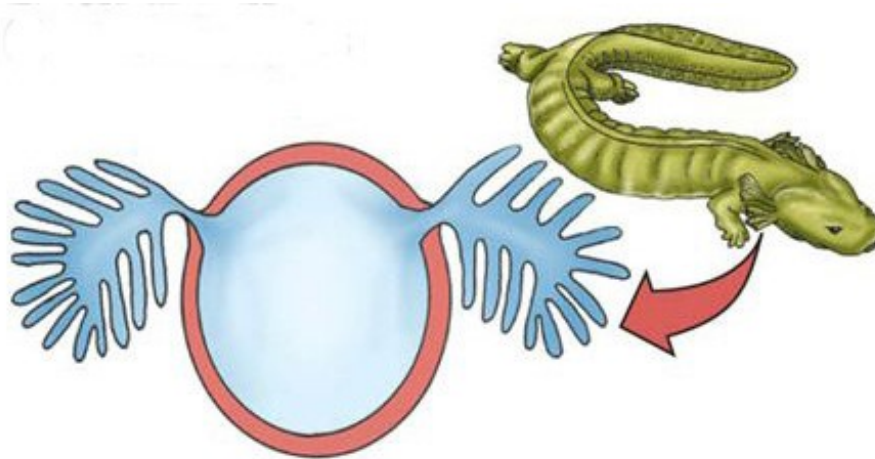


Gills: It is a respiratory organ found in many aquatic organisms that extracts dissolved oxygen from water and excretes carbon dioxide.

Internal gills: internal gills, within gill slits, occur in most fishes. Fish breathe through gills instead of lungs. Just like all other animals, fish need oxygen to survive. Because they live in water, they have gills which enable them to remove dissolved oxygen from water. Most fish have four gills on both sides of their head

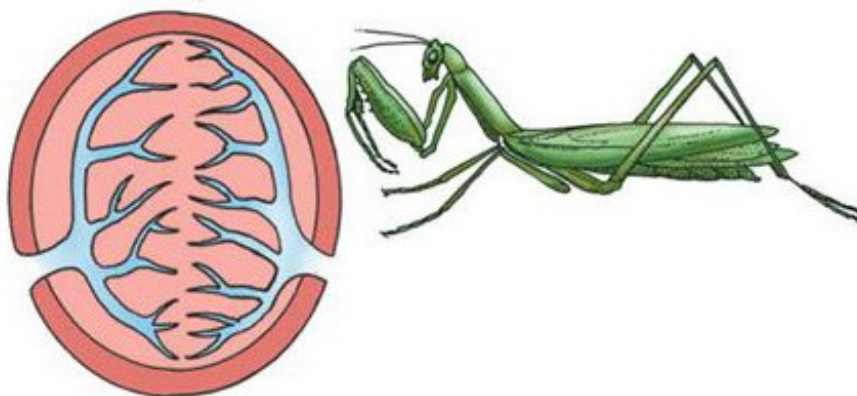


External gills: These are typically found in an amphibian that are exposed to the environment, rather than set inside the pharynx by gill slits as they are in most fishes. The external gills commonly consist of a single stalk protruding from a gill arch behind the head of the animal, above an associated gill slit. External gills occur in tadpoles, some molluscs, etc.;

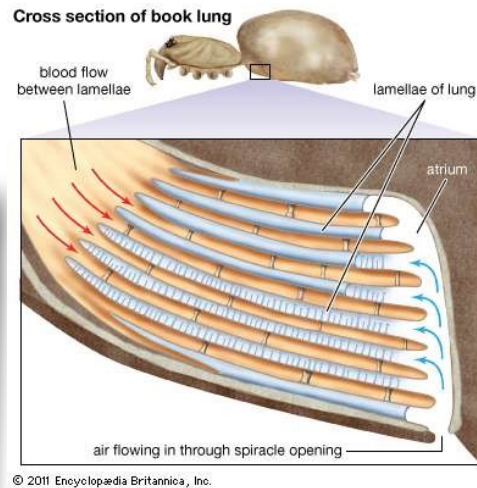


Tracheal: Tracheal Breathing. Insects, and some other invertebrates, exchange oxygen and carbon dioxide between their tissues and the air by a system of air-filled tubes called tracheae. Tracheae open to the outside through small holes called spiracles.

Example: Dragon Fly, Butter fly, Flea, Scorpion, Lobster, Centipede



Book lungs : It is a respiratory organ found in certain air-breathing arachnid arthropods (scorpions and some spiders). Each book lung consists of a series of thin plates that are highly vascular (i.e., richly supplied with blood) and are arranged in relation to each other like the pages of a book. Air enters the book lungs through a pair of slit-like openings on the under surface of the abdomen. There are four pairs in scorpions and up to two in spiders.



Lungs: The lungs are the primary organs of the respiratory system in humans and many other animals.

