

Respiration in Animals

Chapter 9: Life Processes in Animals · Topic 2

Key Concept

Gills work by allowing water to flow over thin membranes rich in blood vessels, where oxygen from the water diffuses into the blood while carbon dioxide diffuses out — this is why fish need constantly flowing water over their gills to survive. An earthworm's skin must stay moist for cutaneous respiration to work efficiently, which is why earthworms are usually found in damp soil and often come to the surface after rain when their burrows fill with water.

Quick Revision Notes

- Humans/land animals: lungs. Fish: gills. Insects: tracheae. Earthworms: skin (cutaneous respiration).
- Gills extract dissolved oxygen from water as it flows over blood-rich membranes.
- Earthworm skin must stay moist for effective gas exchange.
- Earthworms surface after rain because their burrows fill with water.

Practice Questions

- 1 Name the respiratory organ used by an earthworm.
- 2 Explain how gills allow fish to extract oxygen from water.
- 3 Why do earthworms often come to the surface after rainfall?