

Zoology assignment

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Respiratory System

Introduction

The Respiratory System is a complex network of organs and tissues responsible for the exchange of gases between the body and the external environment. It is essential for sustaining life by providing oxygen to the body's cells and removing carbon dioxide, a waste product of metabolism. Comprising the upper respiratory tract (including the nose, nasal cavity, pharynx, and larynx) and the lower respiratory tract (consisting of the trachea, bronchi, bronchioles, and lungs), the respiratory system performs a series of intricate processes to facilitate breathing and gas exchange.

Functioning of the respiratory system begins with the inhalation of air through the nose or mouth, where it passes through the airways and into the lungs. Within the lungs, oxygen diffuses across the thin walls of the alveoli into the blood stream, where it binds to haemoglobin in red blood cells for transport to tissues throughout the body. Concurrently, carbon dioxide, a byproduct of cellular metabolism, diffuses from the blood into the alveoli to be exhaled during exhalation.