

HW

Q. How is oxygen and carbon dioxide transported in human beings?

In human beings air is taken into the body through the nostrils. The air passage in the nostril is filtered by the fine hairs that line the passage.

From here, the air passes through the throat and into the lungs.

Rings of cartilage are present in the throat these ensure that the air-passage does not collapse.

The passage divides into smaller tubes which finally terminate into balloon like structures called alveoli.

When we breathe in our we lift our ribs and flatten our diaphragm, and the chest cavity become larger as a result.

The blood brings carbon dioxide from the rest of the body for release into the alveoli and the oxygen in alveolar air is taken up by blood in the alveolar blood vessels to be transported to all the cells in the body.

When air is taken in and out, the lung always contain a residual volume of the air so that there is sufficient time for oxygen to be absorbed and carbon dioxide to be released.

24 How is Lungs designed in Human beings to maximise the area for exchange of gases?

Lungs play a major role in the respiratory system. A pair of lungs are designed in such a way that they are lined by thin membrane, the smaller tubes are called bronchioles a balloon like structure called alveoli and a network of blood capillaries increase the surface area for exchange of gases.

Q4) How are alveoli designed to maximise the exchange of gases?

Ans- The air passage divides into smaller and smaller tubes which finally terminate in balloon like structures which are called alveoli.

The alveoli provides a surface area where the exchange of gases can take place. The walls of alveoli contains an extensive network of blood vessel.

Q5) What are the different ways in which glucose is oxidized to provide energy in various organisms?

+ Aerobic respiration

+ Anaerobic respiration

Q6) What advantage does a terrestrial organism have over an aquatic organism with regard to obtaining oxygen for respiration?

Ans Terrestrial organisms take oxygen from the atmosphere whereas aquatic animals get oxygen from water. Air contains more O_2 than water. The terrestrial animals don't have to breathe faster to get more oxygen. Therefore unlike aquatic animals they don't ~~have~~ need adaptations for gaseous exchange.

6) Why is the trachea provided with the cartilaginous rings?

The cartilaginous rings are present in throat they are C shaped. ~~are~~ These ensure that the air passage does not collapse.