

Q1) How is oxygen and Carbon dioxide transported in human beings?

Ans) In human beings air is taken through our nostrils. Then the filtered air from hairs of nostrils reaches to the lungs through throat. Rings of cartilage in the throat ensures that the air passage doesn't collapse.

Within the lungs, the passage divides into smaller and smaller tube which finally terminates in Balloon like structure known as alveoli. Alveoli is the part where the exchange of gas takes place. It contains a lot of blood vessels. Through blood CO_2 is brought back from the our body parts to release at alveoli, and the O_2 in the alveolar air is taken up by the blood in the alveolar blood tube transported to the cells in the body. During the breathing cycle, when air is taken in and let out, the lungs contain a residual volume of air so that there is sufficient time for O_2 to be absorbed and CO_2 to be released.

Q2) How are the lungs designed in human beings to maximize the area for exchange of gases?

Ans -> Lungs are divided into smaller and smaller tubes which ~~at last~~ ~~terminated~~ ~~into~~ ~~at~~ ~~last~~ terminated from Bronchus; Bronchioles to Alveoli, hence increasing the area of the exchange of gases.

Q3) What are the different ways in which glucose is oxidised in various organisms to provide energy?

Ans -> Different organisms oxidised the glucose in ^{two} different ways. Some use oxygen to break down glucose completely into Carbon dioxide, and water. This can be seen in the cytoplasm and called as aerobic respiration. Some other organism like yeast that break glucose without the involvement of O_2 , converting glucose to Pyruvate then pyruvate is converted

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into ethanol and CO_2 . This process is called as Anaerobic Respiration.

Q4) What advantage over an aquatic organisms does a terrestrial organism have with regard to obtaining the Oxygen for respiration?

Ans) Animals have evolved different organs for uptake of O_2 from the ~~atmosphere~~ ^{environment}. Terrestrial animals can breathe O_2 present in the atmosphere but aquatic animals need to use the O_2 dissolved in the water.

Q5) Why is trachea provided with Cartilaginous rings?

Ans) The ~~rings~~ Cartilaginous rings in trachea ^{prevent} the trachea from collapsing and blocking off the airways along with that it provides stability to it when air passes through these. So the Cartilaginous rings are provided to with the trachea.