

Name: _____ Date: _____

Respiration in Organisms

Q1. How does exchange of gases take place in insects?

Ans. _____

Q2. When and where does anaerobic respiration occur in humans?

Ans. _____

Q3. What is the percentage of oxygen and carbon dioxide in inhaled and exhaled air?

Ans. _____

Q4. Why do we get relief from cramps after a hot water bath or a massage?

Ans. _____

Respiration in Organisms

Q1. How does exchange of gases take place in insects?

Ans. Insects have a network of air tubes called tracheae for gas exchange.

Oxygen rich air rushes through spiracles into the tracheal tubes, diffuses into the body tissue, and reaches every cell of the body. Similarly, carbon dioxide from the cells goes into the tracheal tubes and moves out through spiracles.

Q2. When and where does anaerobic respiration occur in humans?

Ans. During heavy exercise, fast running, cycling, walking for many hours or heavy weight lifting, the demand for energy is high. But the supply of oxygen to produce the energy is limited. Then anaerobic respiration takes places in the muscle cells to fulfill the demand of energy.

Q3. What is the percentage of oxygen and carbon dioxide in inhaled and exhaled air?

Ans. When we exhale, we breathe out less oxygen but more carbon dioxide than we inhale.

Inhaled air: Oxygen 21% and Carbon dioxide 0.04%

Exhaled air: Oxygen 16.4 % and Carbon dioxide 4.4%

Q4. Why do we get relief from cramps after a hot water bath or a massage?

Ans. Hot water bath or massage improves circulation of blood. As a result, the supply of oxygen to the muscle cells increases. The increase in the supply of oxygen results in the complete breakdown of lactic acid into carbon dioxide and water. Thus, we get relief from cramps after a hot water bath or a massage.