BCM SCHOOL
BASANT AVENUE, DUGRI ROAD, LUDHIANA
Class VII SCIENCE
Assignment

Answer Key

Tick the correct option

1. B. A chemical change because a new substance is formed.

2. C. Tearing is a physical change but burning is a chemical change

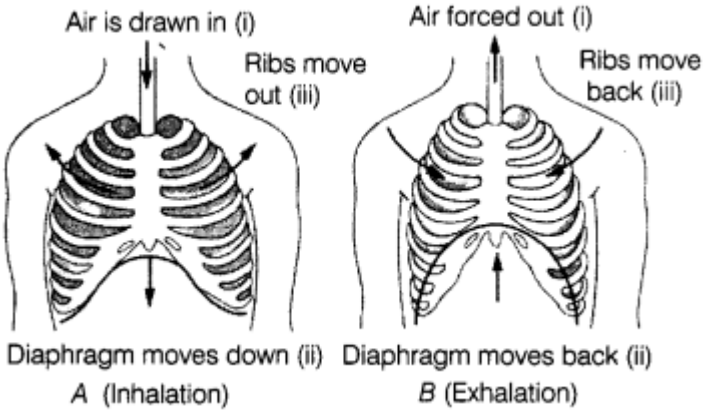
3. B. More oxygen is needed to release extra energy

4. A is false but R is true.

5. Both A and R are true and R is the correct explanation of A.

6. (i) Iron + Air + Water → Iron oxide
(ii) Copper sulphate + Iron → Iron sulphate + Copper

7. (a) Figure A indicates inhalation and figure B indicates exhalation.
(b) Movement of air, diaphragm and ribs are indicated in below figure:



8. (a) Colour of the solution in the beaker changes from blue to green

A brown coloured deposit is found on the surface of the iron nail.

(b) The changes are chemical in nature as new substances, iron sulphate (green) and copper (brown) are formed.

(c) Copper sulphate + Iron → Iron sulphate + Copper

9. Ans. Types of Respiration

On the basis of the presence or absence of oxygen, respiration is classified into two types:

1. Aerobic Respiration: When breakdown of glucose occurs with the use of oxygen, it is called aerobic respiration. During aerobic respiration, glucose is completely broken down into carbon dioxide and water and energy is released. Aerobic respiration takes place in mitochondria. It can be shown by the following equation:

$$\underset{\text{Food}}{\text{Glucose}} \xrightarrow{\text{Oxygen}} \text{Carbon dioxide} + \text{Water} + \text{Energy}$$

Aerobic respiration is seen in most of the organisms such as humans (man), dogs, cats, lions, elephants, cows, buffaloes, goats, snakes, earthworms, frogs, fishes, etc.

2. Anaerobic Respiration: When breakdown of glucose takes place without using oxygen, it is called anaerobic respiration. The glucose is not completely broken down into carbon dioxide and water. An intermediate compound is formed with the release of less amount of energy during this process. It can be shown as follows:

$$\text{Glucose} \xrightarrow{\text{No oxygen or air}} \text{Alcohol} + \text{Carbon dioxide} + \text{Energy}$$

10 . Ans. (a) Paheli had cramps in her leg muscles after running. She felt pain in her legs because of accumulation of lactic acid in the leg muscles. Lactic acid is formed due to anaerobic respiration in the muscle cells after heavy exercise or running. After heavy exercise, we require large amount of energy.

To produce more energy to meet the oxygen requirement of muscles, muscle cells perform anaerobic respiration for a short duration.

Lactic acid is formed due to partial breakup of glucose. It gets accumulated in the muscle cells and causes pain and muscle cramps.

(b) The massage or hot water bath gives the relief from muscle cramp or pain, because it improves the circulation of blood leading to increase supply of oxygen to the muscle cells. It helps in complete breakdown of lactic acid into carbon dioxide and water.