



Musaeus College

Study Pack 2 / Week 2 /March 2020

Grade : 10

Subject : Science

Medium : English

Lesson 01

Respiration

All organisms need energy for their metabolism. They obtain this energy by breaking down of food inside the cell that they have produced or obtained by other means.

The process by which the stored food is transformed into energy inside the cells is known as cellular respiration.

Cellular respiration is a series of bio chemical reactions which cannot be observed directly. But can be observed using respiratory movements of some organisms.

Refer: Text book, page 145

Lesson 02

Activity 02 – To show the release of CO₂ during respiration.

Refer: Text book, page 145, fig 8.8 (Draw the diagram)

Questions:

1. The reason for using KOH in bottle A?
2. Explain why the lime water in bottle B does not becomes milky?
3. Observation in bottle D?
4. Explain the reason for using bottle E with a tap?
5. Name 03 other materials than can be used instead of the frog?
6. Explain how a control set up can be arranged for this experiment.

Lesson 03

Activity 03 – To show absorption of Oxygen in respiration

Refer: Text book, page 146, fig 8.9 (Draw the diagram)

Questions:

1. Out of the two set ups, name the control set up.
2. Explain what should be done to the seeds before using for the experiment.
3. What is the reason for using KOH in set up A?
4. What is the reason for using a rubber tube and making it tight with a piece of thread?
5. Write the observations in each set up. Explain the reasons for the observations.
6. Write two assumptions we make during this experiment.

Lesson 04 and 05

Irritability and Co-ordination

A change which is strong enough to bring about a response is known as a stimulus. The stimuli are detected by the sensory organs: Eyes, Ears, Nose, Tongue and Skin.

The reactions according to the changes in the environment are known as responses. Humans respond to stimuli using effectors: Muscles and glands.

The communication between different organs during responding to stimuli is known as co-ordination. Nerves, muscles and hormones are important in co-ordination.

Plants also respond to stimuli.

Refer: Text book, page 147 and write two examples to show plants responding to stimuli.

Lesson 06

Excretion

All the chemical and physiological activities or building up and breaking down of materials within the cell are known as metabolic activities.

Removal of the byproducts of the body that are produced during metabolism is known as excretion.

The main excretory materials of organisms are **urea, salts CO₂, and water**. There are systems in the human body for excretion.

Examples :

1. Nitrogenous excretion (Products containing Nitrogen: Urea) mainly takes place by the kidneys
2. CO₂ is expelled by the Lungs

Plants also show excretion.

Examples :

1. Removal of CO₂ during respiration
2. Removal of O₂ during Photosynthesis

Refer text book: page 147, 148

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