

Practice Worksheet on Cellular Respiration and Motion

Generated for - Based on resource uploaded by user.

[Generate one yourself at LitGrades](#)

Subject: Biology and Physics

Date: 1/12/2025

Long Answer Questions

1. Explain the process of transpiration through stomata and its importance in plants.
2. Describe the process of gaseous exchange in stomata and its significance for plant life.
3. Illustrate the process of respiration, highlighting the key stages involved.
4. Compare and contrast aerobic and anaerobic respiration, explaining their differences and similarities.
5. Differentiate between scalar and vector quantities using relevant examples from motion.

Multiple Choice Questions

1. What does displacement represent?

- a) The total distance covered
- b) The shortest distance between the starting and ending points
- c) The average speed
- d) The total time taken

2. Which of the following is a scalar quantity?

- a) Speed
- b) Velocity
- c) Acceleration
- d) Displacement

3. Uniform linear motion implies:

- a) Constant acceleration
- b) Constant speed
- c) Constant velocity
- d) Changing acceleration

4. What is calculated by dividing distance by time?

- a) Distance
- b) Velocity
- c) Speed
- d) Displacement

5. What gas is taken in by plants through stomata for photosynthesis?

- a) Oxygen
- b) Nitrogen
- c) Carbon Dioxide
- d) Hydrogen

Answer Key

Long Answer Questions - Expected Responses

1. Explain the process of transpiration through stomata and its importance in plants.

Expected Answer: Transpiration is the process of water movement through a plant and its evaporation from aerial parts, such as leaves, stems and flowers. Stomata are tiny pores on the surface of leaves that regulate gas exchange and transpiration.

2. Describe the process of gaseous exchange in stomata and its significance for plant life.

Expected Answer: Gaseous exchange in stomata involves the intake of carbon dioxide for photosynthesis and the release of oxygen as a byproduct. It's crucial for plant survival and growth.

3. Illustrate the process of respiration, highlighting the key stages involved.

Expected Answer: Respiration is a process where glucose breaks down to release energy. It includes glycolysis, the Krebs cycle, and electron transport chain in aerobic, and fermentation in anaerobic conditions.

4. Compare and contrast aerobic and anaerobic respiration, explaining their differences and similarities.

Expected Answer: Aerobic respiration uses oxygen to produce energy (ATP) and releases carbon dioxide and water as byproducts, whereas anaerobic respiration occurs without oxygen producing less ATP.

5. Differentiate between scalar and vector quantities using relevant examples from motion.

Expected Answer: Scalar quantities have only magnitude (size), such as speed and distance; vector quantities have magnitude and direction, like velocity and

displacement. This distinction is crucial for motion problems.

Multiple Choice Questions – Correct Answers

1. What does displacement represent?

Correct Answer: The shortest distance between the starting and ending points

2. Which of the following is a scalar quantity?

Correct Answer: Speed

3. Uniform linear motion implies:

Correct Answer: Constant speed

4. What is calculated by dividing distance by time?

Correct Answer: Speed

5. What gas is taken in by plants through stomata for photosynthesis?

Correct Answer: Carbon Dioxide