



Student Name: \_\_\_\_\_

Class: \_\_\_\_\_

Student ID: \_\_\_\_\_

Date: {{DATE}}

## Assessment Details

<b>Duration:</b> 30 minutes	<b>Total Marks:</b> 40
<b>Topics Covered:</b>	<ul style="list-style-type: none"><li>• Definition and Importance of Photosynthesis</li><li>• Reactants and Products of Photosynthesis</li><li>• Role of Light Energy in Photosynthesis</li><li>• Process of Photosynthesis in Plants</li></ul>

## Instructions to Students:

1. Read all questions carefully before attempting.
2. Show all working out - marks are awarded for method.
3. Calculator use is permitted except where stated otherwise.
4. Write your answers in the spaces provided.
5. If you need more space, use the additional pages at the end.
6. Time management is crucial - allocate approximately 1 minute per mark.

### **What is Photosynthesis?**

Foundation: Photosynthesis is the way plants make food from sunlight.

Core: Photosynthesis is the process by which plants, algae, and some bacteria convert light energy from the sun into chemical energy in the form of glucose.

Extension: Photosynthesis is a complex process that involves the conversion of light energy into chemical energy, which is then used to power the plant's metabolic processes.

### **Importance of Photosynthesis**

Foundation: Photosynthesis is important because it helps plants grow.

Core: Photosynthesis is essential for plant growth and development, as it provides the energy and organic compounds needed for growth and reproduction.

Extension: Photosynthesis is crucial for life on Earth, as it provides the oxygen and organic compounds needed to support the food chain.

**Question 1**

**[2 marks]**

What is the primary function of photosynthesis in plants?

A) To release energy from glucose

B) To produce energy from sunlight

C) To break down water molecules

D) To absorb carbon dioxide

**Question 2**

**[2 marks]**

Which of the following is a reactant in the process of photosynthesis?

A) Oxygen

B) Glucose

C) Carbon dioxide

D) Water

**Question 3**

**[5 marks]**

Describe the importance of light energy in photosynthesis.

**Question 4**

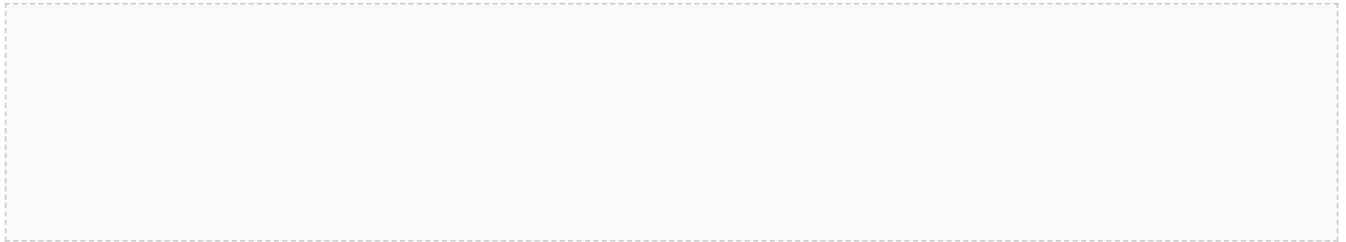
**[5 marks]**

What are the products of photosynthesis?

## Diagram Labeling

Label the following diagram of a plant cell, identifying the parts involved in photosynthesis:

 Plant Cell Diagram



Multiple Choice Questions:

1. b) To produce energy from sunlight
2. c) Carbon dioxide

Short Answer Questions:

3. Importance of light energy in photosynthesis:

Foundation: Accept answers that mention light energy is necessary for photosynthesis.

Core: Accept answers that explain the role of light energy in converting carbon dioxide and water into glucose and oxygen.

Extension: Accept answers that provide detailed explanations of the light-dependent reactions and their significance in photosynthesis.

4. Products of photosynthesis:

Foundation: Accept answers that list glucose and oxygen.

Core: Accept answers that list glucose, oxygen, and water.

Extension: Accept answers that explain the significance of each product.

## Implementation Guidelines

Time allocation: 30 minutes

Administration tips:

- Ensure students have access to a diagram of a plant cell.
- Provide clear instructions for each question type.
- Allow students to ask questions if they are unsure about any part of the assessment.

## Differentiation Options

For students with special educational needs:

- Provide a simplified diagram of a plant cell.
- Offer one-to-one support during the assessment.
- Allow the use of assistive technology, such as text-to-speech software.

For English language learners:

- Provide a bilingual dictionary or glossary of key terms.
- Offer one-to-one support during the assessment.
- Allow the use of visual aids, such as diagrams and pictures.

For gifted and talented students:

- Provide additional challenging questions that require critical thinking and problem-solving skills.
- Encourage students to design and conduct their own experiments to investigate photosynthesis.
- Offer opportunities for students to research and present on advanced topics related to photosynthesis.