

Photosynthesis

Subject: Basic Science

Class: JSS 2

Date: 2025-05-25

Time: 10:00 - 11:00

School: School G

Trainee: Trainee30 Student30

Supervisor: Supervisor1 Last1

Objectives

Explain the process of photosynthesis in plants. Identify the materials needed for photosynthesis. Describe the importance of photosynthesis to life on Earth.

Activities

Step 1: What is Photosynthesis? \- Teacher Activity: The teacher will explain what photosynthesis is using a diagram that illustrates the process. They will describe how plants use sunlight to convert carbon dioxide and water into glucose and oxygen. \- Student Activity: Students will observe the diagram and take notes on key terms such as chlorophyll, glucose, carbon dioxide, and oxygen. ### Step 2: Materials Needed for Photosynthesis \- Teacher Activity: The teacher will list the materials required for photosynthesis (sunlight, water, carbon dioxide) on the board while showing real-life samples of these materials. \- Student Activity: Students will participate in a group discussion about where these materials come from in nature and how they are essential for plant growth. ### Step 3: The Process of Photosynthesis \- Teacher Activity: The teacher will explain each step of photosynthesis in detail using a flowchart projected on a screen. They will highlight how light energy is converted into chemical energy during this process. \- Student Activity: Students will work in pairs to create their own flowcharts depicting the steps involved in photosynthesis based on what they learned. ### Step 4: Importance of Photosynthesis \- Teacher Activity: The teacher will discuss why photosynthesis is vital for life on Earth, including its role in producing oxygen and serving as the foundation for food chains. \- Student Activity: Students will brainstorm examples of how humans depend on plants for food and oxygen during a class discussion. ### Rationale Photosynthesis is a fundamental biological process that sustains life on Earth by providing food and oxygen. Understanding photosynthesis aligns with the NERDC objectives by promoting scientific literacy and environmental awareness among students. This topic is crucial as it connects students to the natural world, fostering an appreciation for plants and their role in ecosystems. By exploring how plants convert light energy into chemical energy, students will grasp essential concepts related to energy transfer, the importance of biodiversity, and the interdependence of living organisms. The pedagogical approach emphasizes inquiry-based learning, encouraging students to ask questions and engage in hands-on activities that deepen their understanding of photosynthesis and its significance in sustaining life. ### Homework Students should write a short paragraph explaining how they can help protect local plants in their community. ### References NERDC Basic Science Curriculum Guide Textbook: "Basic Science for Junior Secondary Schools" Online resources related to plant biology

Resources

Diagrams of the photosynthesis process, green plants, sunlight, water, and carbon dioxide samples, projector for visual aids.