**EMERALD ROYAL INTERNATIONAL SCHOOL, MPAPE ABUJA**

**LESSON PLAN AND NOTE FOR WEEK 1 ENDING 5TH MAY, 2023**

**TERM: THIRD**

**WEEK**: **1**

**DATE** : **2ND - 5TH MAY, 2023.**

**SUBJECT:** **BIOLOGY**

**CLASS : SS 1**

**TOPIC : ENERGY TRANSFORMATION IN NATURE**

**SUB - TOPIC: 1**. **definition of energy transformation.**

1. **Flow of energy.**
2. **Energy loss in the ecosystem.**

**PERIOD : 7th**

**TIME : 12: 30 - 1:00**

**DURATION : 40 minutes**

**AVERAGE AGE : 15 years**

**SEX:** **mixed**

**LEARNING OBJECTIVES:** by the end of the lesson,the students, should be able to;

1. Define energy transformation.
2. Trace the energy flow in an ecosystem.
3. State and explain ways energy is loss in the environment.

**RATIONALE:** the students should understand energy transformation in ecosystem.

**PREVIOUS KNOWLEDGE:** The students have been taught food chain in an ecosystem

**INSTRUCTIONAL MATERIALS:** chart showing energy transformation in an ecosystem.

**Reference Material:** Essential Biology foe Senior Secondary School by M.C. Michael.

**LESSON DEVELOPMENT**

|  |  |  |  |
| --- | --- | --- | --- |
| **STAGES** | **TEACHER’S ACTIVITIES** | **STUDENTS’**  **ACTIVITIES** | **LEARNING POINT** |
| **INTRODUCTION** | The teacher introduces the lesson by writing the scheme of work for the term | The students were attentive. | To arouse the students interest. |
| **PRESENTATION**  **STEP 1** | The teacher defines energy transformation in an ecosystem. | The students pay attention. | To keep them focus. |
| **STEP 2** | The teacher asks the students to trace the flow of energy in an ecosystem. | The students trace the energy flow in an ecosystem. | To encourage critical thinking. |
| **STEP 3** | The teacher explains how energy is lost in an ecosystem. | The students were active. | To keep them focus. |
| **BOARD SUMMARY** | **ENERGY TRANSFORMATION IN NATURE**  Energy exists in various forms, These forms of energy are inter- convertible , i.e , one form of energy can be transformed into another form, Such energy transformation are governed by the laws of thermodynamics.  In nature, energy transformation is brought about by living organisms. Their activities cause energy to flow through the ecosystems. The sun is the ultimate and eternal source of energy for ecosystem on earth. **FLOW OF ENERGY** Energy flow is unidirectional non- cyclic, it is either utilized or stored. Light energy from the sun is absorbed by chlorophyll in green plants; and used in photosynthesis to produce carbohydrates; the chemical energy in the carbohydrate is passed down the food chain when the primary consumers food on the plants producer the chemical energy is passed along the food chain to the secondary consumer and them to the tertiary consumer decomposer. **ENERGY LOSS IN THE ECOSYSTEM** Energy is lost at each trophic level- when a herbivore/ primary consumer feeds on a plant/ producer ; not all parts of the plant is eaten ; as a result not all the energy in the plant /producer is consumed plants lose energy via respiration, and they do not utilize all the energy present in preceding members. Energy is also lost in respiration , execution , movement , and other metabolic activities.  In ecosystem, energy is also lost through the following :(i) Vegetation (ii) Soil ( iii) Air ( iv) Heat (v) evaporation of water (vi) Effects of wind. | The students ask questions for further clarification. | To create room for slow learners. |
| **Evaluation** | The teacher evaluates the students with the following questions:   1. Define energy transformation in an ecosystem. 2. Explain how energy flows in an ecosystem. 3. State ways energy is lost in an ecosystem. | The students attempt the questions. | To ascertain their level of understanding. |
| **Conclusion** | The teacher concludes by coping the note on the board. She checks and marks the note. | The students copy the note on the board. | For future use. |
| **Assignment** | With the aid of a chart explain the energy flow in an ecosystem. | The students did and submit their assignment for marking and correction. | To encourage the students to study at home. |



22/5/2023

Principal Head Instuctor