**LESSON PLAN AND NOTE FOR WEEK 6 ENDING FRIDAY 17TH FEBRUARY 2023**

**TERM: SECOND TERM**

**WEEK:** **WEEK 6**

**DATE** :  **13TH - 17TH FEBRUARY, 2023**

**SUBJECT: BIOLOGY**

**CLASS : SS 1**

**TOPIC: BASIC ECOLOGICAL CONCEPT**

**SUB - TOPIC: 1**. **components of an ecosystem.**

1. **Definition of common terms in ecological studies.**
2. **Local communities in Nigeria ecological region.**

**PERIOD : 7th**

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

**DURATION : 40 minutes**

**AVERAGE AGE : 14 years**

**SEX: mixed**

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

1. Explain component of ecosystem.
2. Define some common terms in ecological studies.
3. Explain Nigerian ecological regions.

**RATIONALE:** the student should understand the concept of ecology.

**PREVIOUS KNOWLEDGE:** The students have been taught dentition.

**INSTRUCTIONAL MATERIALS:** map of Nigeria and the world.

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

**LESSON DEVELOPMENT**

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| **STAGES** | **TEACHER’S ACTIVITIES** | **STUDENTS’ ACTIVITIES** | **LEARNING POINT** |
| **INTRODUCTION** | The teacher introduces the lesson by reviewing the previous lesson. | The students pay attention. | To arouse the students interest. |
| **PRESENTATION**  **STEP 1** | The teacher lists and explains the components of ecosystem. | The students pay attention. | To keep them focus. |
| **STEP 2** | The teacher asks the students to define some common terms in ecological studies. | The students state the dental formula. | To encourage critical thinking |
| **STEP 3** | The teacher explains the biotic communities in Nigeria. | The students pay attention. | To keep them focus. |
| **BOARD SUMMARY** | **BASIC ECOLOGICAL CONCEPT**  Ecology can be defined as a field of study which deals with the relationship of living organisms with one another and with the environment in which they live.  **COMPONENTS OF AN ECOSYSTEM**  An ecosystem is made up of two main components namely;   1. Biotic components( living) - These include the living things( plants and animals) which are grouped into; 2. Producers - They are autotrophs ( green plants and some micro organisms) which can manufacture their own food from simple inorganic materials during the process of photosynthesis and chemosynthesis. 3. Consumers - They are heterotrophs ( animals and some plants ) which can not manufacture their own food but depends on plants directly or indirectly for their food. They may be primary, secondary or tertiary consumers. 4. Decomposers - They are bacteria and some fungi which break down dead plants and animals in order to feed on them and in the process nutrients are released to the soil for use by the producer. 5. Abiotic components - They are the non living components. Examples 6. Climatic factors like temperature, wind, humidity, sunlight and rainfall. 7. Inorganic materials and nutrients such as carbon(iv) oxide, oxygen, nitrogen, calcium and phosphorus. 8. Edaphic factors like soil, rocks, topography. 9. Other factors like dust, storm, fire and water.   **Definition of common terms in ecological studies**   1. Environment - This includes all the factors external and internal, living and non living factors which affect an organism. 2. Habitat - It is defined as an area occupied by a biotic community. It is the natural home of an aquatic habitat and terrestrial habitats. 3. **Biosphere or Ecosphere -** This is the zone of the earth occupied by living organisms. It is a layer of life which exist on the earth surface. It is a narrow zone where complex biological and chemical activities occur. It can be found on land, soil, water and air. 4. **Lithosphere -** It is the solid portion of the earth. It is the outermost layer or zones of the earth crust. It is made up of rocks and mineral materials and represents 30% of the earth surface. It forms the basis of all human settlement. 5. **Hydrosphere** - This is the liquid or aquatic part of the earth. It covers about 70% of the earth crust. It holds water in various forms, solid(ice), liquid(water) and gaseous form( water vapour). examples lake, pools, spring, ocean or sea, ponds, oasis, rivers and streams. 6. Atmosphere- This is the gaseous portion of the earth. Over 99% of the atmosphere lies within 30km of the earth surface. It contains 78% nitrogen, 21% oxygen, 0.03% carbondioxide and 0.97 rare or inert gases. 7. **Biotic community or biome -** This is any natural occurring group of any different organisms living together and interacting in the same environment. 8. **Ecosystem -** It is refers to a community of plants and animals functioning together with their non living environment. It consist of the living factors ( plants and animals) interacting with the non living factors in the environment. 9. **Population** - This is defined as the total number of organism of the same species living together in a given area. 10. **Ecological niche** - This refers to the specific portion of a habitat which is occupied by a particular organism. Every organism is adapted to specific place and plays a role in the community example it feeds on some organisms and serves as food for others. it is either a producer or a consumer.   **LOCAL COMMUNITIES IN NIGERIA**  Community - This is a group of plants and animals that occupy a given area and are adaptable to the conditions of their environments.  **Local communities in Nigeria can be grouped into two major zones;**   1. Forest zone - It consist of mangrove swamp forest( salt and fresh water swamp) and tropical rain forest. The forest zone is made up of vegetation having mainly trees. 2. Mangrove swamp forest - This is located along the coast especially in states like Delta, Cross River, Akwa-Ibom, Bayelsa, Ogun and Lagos. 3. Tropical Rain Forest - This can be found in states like Edo, Delta, Ondo, Imo, Abia, Lagos, Ogun, Anambra, Rivers, Bayelsa and Akwa-Ibom. 4. Savanna zone - This is made up of mainly grasses and is sub divided into three savanna belts or biotic communities which are; 5. Southern guinea savanna - It can be found in states like Enugu, Kogi, Benue, Kwara, Oyo, Ebonyi, Osun and Ekiti. 6. Northern Guinea savanna - This is found in states like Plateau, Kaduna, Bauchi, Niger, Taraba, Adamawa, Kano. 7. Sahel savanna - This is found only in the extreme Northern part of Nigeria such as Boron, kastina, Sokoto, Yobe,, Zamfara, 3.Desert- This is located at the Northern borders of sokoto , Kastina, Yobe and Bornu state. | 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 dentition. 2. State and explain the types of dentition. 3. Explain the structure of the tooth. 4. State the formula adaptation of omnivorous, carnivorous and herbivorous. 5. Define enzyme and state at least 5 characteristics of enzyme. | 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** | 1. Draw the structure of a tooth and label fully. | The students did and submit their assignment for marking and correction. | To encourage the students to study at home. |



14/3/2023

Principal Head Instructor