**EMERALD ROYAL INTERNATIONAL SCHOOL, MPAPE ABUJA**

**LESSON PLAN AND NOTE FOR WEEK 2 ENDING 12TH MAY, 2023**

**TERM: THIRD**

**WEEK**: **2**

**DATE** : **8TH - 12TH MAY, 2023.**

**SUBJECT:** **BIOLOGY**

**CLASS : SS 2**

**TOPIC : RELEVANCE OF BIOLOGY TO AGRICULTURE**

**SUB - TOPIC: 1**. **Effects of agricultural activities on ecological system.**

1. **Effect of farming methods on ecological system.**

**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. State the agricultural activities on ecological system.
2. Explain the effects of agricultural activities on ecological system.
3. Explain the effects of farming methods on ecological system.

**RATIONALE:** The students should understand the effects of agricultural activities and farming methods on ecological system.

**PREVIOUS KNOWLEDGE:** The students have been taught classification of plants.

**INSTRUCTIONAL MATERIALS:** chart showing the effects of agricultural activities on ecological system.

**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 were active. | To arouse the students interest. |
| **PRESENTATION**  **STEP 1** | The teacher states the agricultural activities. | The students pay attention. | To keep them focus. |
| **STEP 2** | The teacher asks the students to explain the effects of the agricultural activities on the ecosystem. | The students state the effects of the agricultural activities on the ecosystem. | To encourage critical thinking. |
| **STEP 3** | The teacher explains the effects farming methods on the ecosystem. | The students were active. | To keep them focus. |
| **BOARD SUMMARY** | **EFFECTS OF AGRI[CULTURAL](https://stoplearn.com/category/cultural-and-creative-arts-jssce/) ACTIVITIES ON ECOLOGICAL SYSTEM**  The following agri[cultural](https://stoplearn.com/category/cultural-and-creative-arts-jssce/) or farming practices carried out by farmers have some consequences on the ecological system. These agri[cultural](https://stoplearn.com/category/cultural-and-creative-arts-jssce/) practices and their effects include;   1. Bush Burning: Bush burning involves the setting of fire in the bush to clear out the vegetation.Effects of bush burning include   –              Destruction of the organic matter in the soil  –              Atmosphere is polluted with smoke.  –              Many of the micro-organisms are killed  –              exposes the soil to erosion and leaching  –              reduces the water holding capacity of the soil  –              Bush burning leads to the extinction of some animals  –              The ash produced by bush burning gives the soil a slightly alkaline nature.  b.   Overgrazing: Overgrazing is a situation where more animals than what can be supported on a particular pasture are put there to graze. It is a way of exceeding the carrying capacity of the soil. Overgrazing.  –   removes the vegetative cover of the soil.  –   exposes the soil to erosion.  –  destroys the soil structure.  –  More faeces are dropped on the soil which could improve the fertility of the soil.  – Weeds can eradicated from such lands.  – It leads to compactness of the soil resulting from continuous trampling of animals.  – causes poor growth and regenerative capacity of vegetation.  c. Tillage: Tillage is defined as the working, digging or breaking up of the soil in preparation for the planting of crops. Tillage encourages leaching.  –  helps to loosen the soil.  –  it enhances proper aeration of the soil.  –  tillage exposes the soil organisms and may kill some.    -- it changes the structure and texture of the soil  –  tillage leads to changes in the ecology of the land  -- Intensive tillage can lead to loss of soil fertility.  –  It exposes the soil to erosion.  d. Deforestation: Deforestation is the continuous removal of forest stand (trees) either by bush burning or indiscriminate felling without replacing them. Deforestation.  –   It reduces water percolation due to absence of humus and dead leaves on the soil.  –  It reduces the amount of rainfall in the area.  – Deforestation hinders micro-organisms activities in the soil.  –  It results in loss of nutrients through leaching and erosion.  –   It reduces wildlife population in the area concerned.  – It reduces the humus content of the soil.  e. Fertilizer application: This involves the application of certain chemicals or substances into the soil to improve its fertility. Effects of fertilizer application include  – It brings about the loss of organic matter or humus.  –  It deteriorates the structure of the soil.  – Fertilizer increases the porosity of the soil.  – It supplements nutrient content of the soil  – Excessive application of fertilizer can cause soil acidity.  – The productive capacity of the soil is enhanced by the application of fertilizer.  – It stimulates vegetative growth, hence it reduces soil erosion.  f. Application of pesticides/herbicides: Pesticides are chemical substances which are used to destroy or kill pests while herbicides are also chemical substances in form of solution or gases capable of destroying weeds. Effects of pesticides application include  – It causes pollution of the environment.  – It affects or destroys other useful plants and animals.  – It reduces the population of the target insects or plants.  – Pesticides may leave undesirable residue in the environment.  – When such chemicals are washed into rivers or lakes, they can cause death of aquatic animals. | The students ask questions for further clarification. | To create room for slow learners. |
| **Evaluation** | The teacher evaluates the students with the following questions:   1. State the agricultural activities. 2. Explain ant 5 and state their effects. 3. State any 3 farming methods and state their effects on the ecosystem. | The students attempt the questions. | To ascertain their level of understanding. |
| **Conclusion** | The teacher concludes by copying the note on the board. She checks and marks the note. | The students copy the note on the board. | For future use. |
| **Assignment** | Explain the effects of erosion on the 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