**EMERALD ROYAL INTERNATIONAL SCHOOL, MPAPE ABUJA**

**LESSON PLAN AND NOTE FOR WEEK 1 ENDING 15TH SEPTEMBER, 2023**

**TERM: FIRST**

**WEEK**: **1**

**DATE** : **11TH - 15TH SEPTEMBER, 2023.**

**SUBJECT:** **BIOLOGY**

**CLASS : SS 1**

**TOPIC : RECOGNISING LIVING THINGS**

**SUB - TOPIC: 1**. **level of organisation.**

1. **Advantages of complexity in higher animals.**
2. **Disadvantages of complexity in higher animals.**

**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. Explain the level of organisation in living thing.
2. State the advantages of complexity in higher animals.
3. State the disadvantages of complexity in higher animals.

**RATIONALE:** the students should understand the level of organisation of life.

**PREVIOUS KNOWLEDGE:** The students have can state the level of organisation of life.

**INSTRUCTIONAL MATERIALS:** chart showing level of organisation of life.

**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 attentive. | To arouse the students interest. |
| **PRESENTATION**  **STEP 1** | The teacher states and explains the level of organisation of life. | The students pay attention. | To keep them focus. |
| **STEP 2** | The teacher asks the students to state the advantages of complexity in higher animals. | The students states the advantages of complexity in higher animals. | To encourage critical thinking. |
| **STEP 3** | The teacher explains the disadvantages of complexity in higher animals. | The students were active. | To keep them focus. |
| **BOARD SUMMARY** | **Organisation Of Life** All living things are highly organised. This organisation occurs in levels. The simplest structures are found at the lowest levels and they interact to build up more complex structures at the next level and so on.  **Levels Of Organisation Of Life**  There are four levels of organisation of life in organisms. These are the cells, tissues, organs and systems. The simplest of all these levels is the cell.  **[Cells](https://itsmyschoollibrary.com/2020/02/10/complete-lesson-note-on-plant-and-animal-cells-definition-theory-structure-organelles-functions-similarities-and-differences-forms-in-which-cell-exist/" \t "https://itsmyschoollibrary.com/2020/08/08/recognising-living-things-biology-lesson-note/_blank) (First Level)**  The cell is defined as the smallest unit of living organism. It is the first level of organisation of life. All plants and animals are made of only one cell hence they are unicellular organism while others are made up of many cells and are therefore called multicellular organisms. Examples of unicellular organisms are Amoeba, Euglena, Paramecium, Plasmodium, Trypanosome, Chlamydomonas. These organisms have only one cell each and are capable of carrying our all life processes such as movement, respiration and reproduction. Examples of cells in higher plants are phloem cells, xylem vessels, while examples of cells in higher animals are rod and cone cells in the eyes, ova or eggs, spermatozoa cells, nerve cells, red blood cells, white blood cells and epidermis cells.  **Tissues (Second level)**  A tissue is a group of similar cells forming a layer in an organism which performs a particular function. In other words, a tissue consist of two or more different types of cells aggregating together to perform a specific function. Examples of tissues in higher plants are mesophyll layer in leaves, epidermal tissue, sclerenchyma tissue, xylem tissue, parenchyma tissues in stem. Examples of tissues in higher animals include muscles, bone, cartilages and blood (a liquid tissue). Examples of organisms which exist at the tissue level of organism of life are Hydra, Algae, sponges and fungi.  **Organs (Third Level)**  An organ is a group of similar tissues forming a layer in an organism which performs a specific function. Examples of organs in plants are leaves, flowers, roots, stems and seeds. Examples of organs in animals are skin, eyes, ears, stomach, brain, kidney, liver and heart. These organs are known to perform specific functions in the body.  **Systems (Fourth Level)**  A system is a group of similar organs which work together to perform specific functions. Examples of systems in plant are the shoot system and root system. Examples of systems in animals are digestive, reproductive, respiratory, skeletal, nervous, excretory and circulatory systems. These systems work together to make up an organism. For an organism to perform well, all the cells, tissues, organs and systems must also function normally. Complexity of Organisation in Higher Organisms There is an increase in complexity from unicellular organisms to multicellular organisms. Even though unicellular organisms can perform all life processes, they still lack vital tissues, organs or systems that is efficient and capable of ensuring their survival. As a result of this, higher organisms have advantages and some disadvantages in complexity over the unicellular organisms.  **Advantages Of Complexity In Higher Organisms**   1. **It leads to cellular differentiation:** As a result of complexity, group of similar cells are differentiated to form tissues that carry out similar functions. **ii. It leads to internal structural specialisation:** Differentiation: Differentiation leads to internal structural specialisation in which the group of similar cells or tissues become specialised to carry out one or more functions. **iii. Mutual interdependence between component cells:**There is always mutual interdependence between component cells. In other words, there is division of labour among the component cells. **iv. Complexity leads to efficiency:**Complexity makes higher organism to be efficient in carrying out life processes. **v. Complexity leads to increase in size:**Complexity leads to increase in size of organisms because there are spaces between cells for growth.   **Disadvantages Of Complexity In Higher Organisms**  **i. Inability to individual cells to exist on their own:**In complexity, cells lose their independence and become increasingly dependent on one another’s activities. **ii. Difficulties in acquisition of oxygen and food materials:** Increased size creates difficulties in acquisition of respiratory gas (oxygen), food materials and loss of waste products. **iii. It leads to slower rate of diffusion**: Complexity leads to slower rate of diffusion of oxygen or respiratory gas to individual cells. **iv. Slower rate of expansion of waste products**: Complexity leads to slower rate of expulsion of waste products from cells. **v. Difficulties in reproduction:** Complexity also leads to difficulties in reproduction in higher organisms. | 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 and explain the level of organisation in living things. 2. State at least 3 advantages of complexity in higher animals. 3. State at least 3 disadvantages of complexity in higher animals. | 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. List and explain 5 usefulness of science. | The students did and submit their assignment for marking and correction. | To encourage the students to study at home. |