**EMERALD ROYAL INTERNATIONAL SCHOOL, MPAPE ABUJA**

**LESSON PLAN AND NOTE FOR WEEK 3 ENDING 29TH SEPTEMBER, 2023**

**TERM: FIRST**

**WEEK**: **3**

**DATE** : **25TH - 29TH SEPTEMBER, 2023.**

**SUBJECT:** **BIOLOGY**

**CLASS : SS 1**

**TOPIC : CLASSIFICATION OF LIVING THINGS.**

**SUB - TOPIC: 1**. **kingdom Animalia**

1. **Phyla in kingdom animalia**
2. **Characteristics and examples of kingdom animalia**

**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 phyla in kingdom animalia.
2. State the characteristics of kingdom animalia.
3. State the examples of each phyla in kingdom animalia.

**RATIONALE:** the students should understand the phyla, characteristics and examples of kingdom animalia.

**PREVIOUS KNOWLEDGE:** The students have been taught kingdom plantae

**INSTRUCTIONAL MATERIALS:** chart showing the phyla in kingdom animalia

**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 the phyla in kingdom animalia. | The students pay attention. | To keep them focus. |
| **STEP 2** | The teacher asks the students to state the characteristics of kingdom animalia. | The students state the characteristics of kingdom animalia. | To encourage critical thinking. |
| **STEP 3** | The teacher gives the examples of kingdom animalia. | The students were active. | To keep them focus. |
| **BOARD SUMMARY** | **KINGDOM: ANIMALIA** The first eight phyla of the animal kingdom belongs to the sub-phylum invertebrates i.e they are animal without backbone and internal skeletons while the phylum cordata belongs to the phylum vertebrata i.e animals with backbone and internal skeletons. **1. Porifera****Charactersitics** i. They are simple aquatic invertebrates ii. They do not move about but are attached to rocks or shells iii. They live in colonies iv. They are primitive multicellular animals v. Examples of animal in this group is the sponges. **2. Coelenterata****Charactersitics** i. They are multicellular organisms ii. They are mainly aquatic organism iii. They have soft jelly-like bodies iv. They have tentacles and stinging cells used for capturing their prey. v. They reproduce asexually by budding. vi. Examples are jelly-fish, Hydra, sea anemones and coral. **3. Platyhelminthes (flatworms)****Charactersitics** i. They are multicellular flat worms. ii. They are bilaterally symmetrical iii. They are mainly parasites in man and others in animals iv. Most flat worms are hermaphrodites and reproduction asexually v. Examples are tapeworms, liver flukes, planaria etc. **4. Nematodes (Roundworms)****Charactersitics** i. They have round and cylindrical bodies ii. They lack body cavity i.e they have pseudo-coelom body cavity. iii. Some are parasites in animals while others are free living iv. Some are hermaphrodites while others reproduction sexually v. Examples are roundworms, guinea worms, threadworms etc. **5. Annelida****Charactersitics** i. They have internal and external segmented bodies. ii. Their body is long and cylindrical iii. Some are aquatic while others are terrestrial iv. The alimentary canal has two openings – their mouth and the anus. v. Annelida reproduction sexually and many are hermaphrodites. vi. Examples are earthworms, leeches, etc **6. Mollusca****Charactersitics** i. They have soft unsegmented bodies. ii. They have tentacles on their heads. iii. They possess muscular foot adapted for crawling or burrowing iv. The body is covered by a soft tissue called mantle. v. Some have calcereous shells, e.g snails while others have no shells e g octopus vi. Examples are squid, mussel, periwinkles etc **7. Arthropoda****Charactersitics** The Arthropoda is the largest Phylum in the animal kingdom. It is divided into the following classes: a. Crostacea b. Insects c. Arachnida d. Myriapoda **Charactersitics of Arthropoda** i. They have segmented bodies ii. They have hard, rigid exoskeleton made of chitin iii. They have joined appendages or jointed legs used for feeding, movement, reproduction or as a sensory organs. iv. They exhibit moulting or ecdysis i.e they shed their exoskeleton at intervals to permit growth. v. Their bodies are divided into two or three segments such as the head, thorax and abdomen which may be fused in some members. vi. Their bodies are bilaterally symmetrical vii. They are triploblastic i.e they have three body layers. viii. Examples of the various classes are insecta e.g grasshopper, cockroach, housefly, butterfly ; Arachnida e.g spider, scorpion, mites; Crustaceans e.g crab, crayfish, shrimps, prawns, lobsters; Myriapoda e.g centipedes, millipedes.  Table 4: Structural Differences between Crustaceans, Insects and Arachnida **8. Echinodermata****Characteristics** i. Their bodies are radially symmetrical ii. Echinoderms have spiny skin. iii. They are mainly marine animals iv. They are triploblastic v. They have neither head nor brain and the body is not segmented. vi. Examples are starfish, urchins, sea cucumbers and bristle star. **9. Chordata** The chordata has a sub-phylum called vertebrata. The vertebrates are characterised by the presence of a backbone or vertebral column. They are divided into five classes. These are; a. Pisces (fishes) b. Amphibia (Amphibians) c. Reptilia (Reptiles) d. Aves (Birds) e. Mammalia (Mammals) These classes of vertebrates differ in some ways although they have some charactersitics in common. **General Charactersitics of Vertebrates** i. They possess an internal jointed skeleton made up of cartilage and/or bones. ii. They have bilaterally symmetrical bodies. iii. The body is divided into head, trunk and tail. iv. They have two pairs of limbs. The pectoral limbs form the fore-limbs or wings while the pelvic limbs form the hind limbs or legs. v. They have well developed central nervous system with brain and spinal cord. vi. They possess skin which may be naked or have a covering of scales, feathers or hairs. **Pisces (Fishes)****Charactersitics** i. They are aquatic animals i.e they can be found in marine or freshwater, ponds, rivers, lakes, etc ii. The skin is covered by scales but few are without scales. iii. They have fins which are used for movement in water. iv. They are poikilothermic or cold-blooded animals, i.e, their body temperature varies with that of its environment. v. They have gills which are used for gaseous exchange. vi. They have lateral line system. This is used for detection of vibration and pressure in water. vii. They have swim bladder which enables them to maintain buoyancy in water. Pisces can be sub-divisions into two groups based on the nature of their skeletal system. These are bony fish and cartilaginous fish. **Bony fish**: These are fish(es) with bony skeleton, e.g Tilipia, Carb, Salmon, Mackerel and Herring. Cartilaginous fish: These are fish(es) whose bones are made of cartilages, e.g dogfish, minnow fish, skates, rayfish or shark. **Amphibia****Charactersitics** i. They are poikilothermic or cold-blooded animals ii. They have two pairs of limbs – fore-limbs and hind limbs. iii. They have naked or moist and glandular skin with no external scales. iv. They carry out gaseous exchange (respiration) by gills, lungs, skin and mouth. v. Reproduction is sexual while fertilization is external. vi. The young ones (tadpoles) are herbivores while adults are carnivores. vii. They have poisonous glands on their skin which are used for defence. viii. They have sticky tongue which can be protruded or retracted quickly. ix. Examples are toads, frogs, salamander, newts. **Reptilia****Charactersitics** i. They are poikilothermic or cold-blooded animals. ii. They have dry skin covered with scales. iii. They have two pairs of limbs except snakes. iv. Some are aquatic animals, e.g crocodile and turtles while others are terrestrial animals, e.g snakes and lizards. v. They have lungs which are used for gaseous exchange. vi. Reproduction is sexual and fertilization is internal. vii. They have an incomplete developed four chambered-heart. viii. They have oviparous mode of reproduction, i.e the females lay fertilized eggs. ix. Examples are lizard, wall gecko, tortoise, snakes, crocodiles. **Aves (Birds)****Charactersitics** i. They are homoiothermic or warm-blooded animals, i.e they have a constant body temperature. ii. Their entire bodies are covered with feathers except the hind legs which are covered with scales. iii. They have wings which are used for flight. iv. They have rigid and hollow bones with air sacs which make them light during flight. v. Reproduction is sexual and fertilization is internal. vi. They exhibit oviparous mode of reproduction. vii. They have lungs which are used for gaseous exchange. viii. Examples are pigeons, domestic fowl, ducks, ostrich, Weaver birds, woodpeckers, Hawks, sparrow. **Mammalia****Charactersitics** i. They are homoiothermic or warm-blooded animals. ii. Their bodies are covered with hairs. iii. They have heterodont dentition, i.e they have different set of teeth. iv. Their internal cavity is divided into chest and abdomen by a muscular diaphragm. v. The skin contains glands, e.g sweat, sebaceous and mammary glands. vi. Reproduction is sexual and fertilization is internal. vii. They have viviparous mode of reproduction, i.e they give birth to young ones alive. viii. Examples are man, bats, monkeys etc. | 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 phyla in kingdom animalia. 2. State at least 5 characteristics of each phyla in the kingdom animalia. 3. Give at least 3 examples of each phyla in kingdom animalia. | 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** | Draw the following;   1. Rat 2. Tilapia fish 3. Tape worm 4. Round worm | The students did and submit their assignment for marking and correction. | To encourage the students to study at home. |

**29th September, 2023**

**DEPUTY HEAD INSTRUCTOR ADMIN**

**NB: Approved!**