**LESSON PLAN ON NATURAL SCIENCE**

WEEK 2

**Name of Teacher**: Mr. Mac-Donald Arinze

Class: Year 7 & 8

Average age of learners: 13years

Gender: Mixed

**Topic**: Taxonomy

Duration: 40mins

Date: Week ending 19th January, 2024.

**CONTENT**: Binomial nomenclature (Scientific naming system)

**RATIONALE**: The knowledge acquired will enable the learners to understand the need for scientific naming system and also give scientific names of some plants(botanical names) and animals(zoological names)

**PERFORMANCE OBJECTIVES**: By the end of the lesson, given charts of Scientific names, the learners should be able to:

1. **Cognitive Domain (Minds-on):**
2. Define correctly the term Binomial nomenclature
3. Enumerate the factors that led to the introduction of Scientific naming system
4. Mention correctly at least 10 scientific names of both plants and animals
5. **Affective Domain (Hearts-on):**
6. Show willingness in the lesson by memorizing the scientific names of most plants and animals
7. Appreciate the lesson by answering the teacher’s questions with keen interest.
8. **Psychomotor domain (Hands-on)**
9. Write correctly the scientific names of common pants and animals without mistakes
10. **Interpersonal domain:** (Learners’ ability to interact with others and share knowledge):
11. Discuss elaborately in groups and share knowledge and experiences acquired.

**ENTRY/ENTERING BEHAVIOUR:** Learners are familiar with the common names of some plants and animals found around their environment.

**INSTRUCTIONAL MATERIALS:** Laptop/desktop, projector, printed images, charts, marker, and whiteboard.

**KEYWORDS**: Binomial nomenclature and scientific names

**INSTRUCTIONAL PROCEDURE:** Check table below.

**TABLE: INSTRUCTIONAL PROCEDURE**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Duration** | **Content Development** | **Teaching Strategies** | **Instructional Strategies** | **Specific Instructional Materials in Use** | **Teacher’s Performance Activities** | **Students’ Performance Activity** | **Learning Point** |
| 5 mins | Asking Provocative questions | Set Induction | Brainstorming | Marker, Whiteboard | The teacher divides the learners into groups of three members each to brainstorm and identify names of some plants and animals in Igbo, English and other native Languages. | Learners answer the probing questions that the teacher has given them after brainstorming. | Learners have listed the different common names of plants and animals found around them. |
| 14mins | -Definition of Binomial nomenclature  -The need for scientific naming | Use of examples and illustrations, planned repetition, stimulus variation, questioning and reinforcement. | Story-telling | Chart showing common names of some organisms in various languages. | The teacher uses a slide to show an infographic of the common names of some organisms sitting the disadvantages of using common names as they can be misleading. | The learners identify the need to adopt central naming system as common names are often misleading. | The learners have learnt the definition of Binomial nomenclature and the need for Scientific names to substitute common names in science. |
| 14mins | Botanical and Zoological names of common plants and animals. | Use of examples, planned repetition and illustrations | Role-play. | Charts showing Scientific names of common plants and animals | The teacher lists the common names of some plants and animals alongside their corresponding scientific names | The learners listen attentively to the teacher’s explanations and memorizes the scientific names. | The students have learnt the scientific names of most plants and animals |
|  |  |  |  |  |  |  |  |

**EVALUATION:** The teacher evaluates the lesson using the following questions

1. Define the term Binomial nomenclature
2. Enumerate two factors that led to the introduction of Scientific naming system
3. Mention correctly at least 10 scientific names each of both plants and animals

**CLOSURE:** The teacher summarizes the lesson by guiding the learners in going through the main points of the lesson, discussing the challenges encountered using common names and the scientific names of some plants and animals. The teacher gives the learners some time to reflect on what they have learnt, ask questions and as well take corrections.

**ASSIGNMENT (HOMEWORK):** Make research and mention five scientific names of any plant and animal of your choice

**Actions to carry forward:** The students having learnt scientific naming system should investigate the relationship among organisms within same genus.

**Binomial nomenclature**

**Carl Linnaeus** designed a special naming system called the binomial nomenclature to name all organisms. All organisms are therefore given two words in their names.

Note: Bi- means two, nomial - means name.

The first name is the genus name while the second is the species name.

Binomial system of naming living things is also called the “Scientific naming system”.

The major reason for the introduction of this naming system was to solve the problems brought about by the use of common names which sometimes are misleading to persons from other tribes having different languages.

Scientific names are usually written in Italics or when written upright, they should be underlined.

Scientific names are grouped into:

* Botanical names
* Zoological names

**Botanical names of some common plants**

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| --- | --- | --- |
| **S/N** | **COMMON NAME OF PLANT** | **BOTANICAL NAME** |
| 1 | Maize | *Zea mays* |
| 2 | Pawpaw | *Carica papaya/ Asmina triloba* |
| 3 | Rice | *Oryza sativa* |
| 4 | Fluted pumpkin | *Telfaria occidentalis* |
| 5 | Orange | *Citrus sinensis* |
| 6 | Neem plant (dogoyaro) | *Azardiracha indica* |
| 7 | Pepper | *Capsicum annum* |
| 8 | Potato | *Ipomoea batata* |
| 9 | Water leaf | *Talinum triangulare* |
| 10 | Mango | *Magnifera indica* |
| 11 | Cassava | *Manihot esculenta* |
| 12 | Cashew | *Anarcadium occidentalis* |
| 13 | Groundnut | *Arachis hypogea* |
| 14 | Yam | *Dioscorea alata* |
| 15 | Carrot | *Daucus carota* |
| 16 | Onion | *Alum cepa* |
| 17 | Gallic | *Alum sativum* |
| 18 | Tomato | *Lycopersicum escullentum* |
| 19 | Banana | *Musa sapentum* |
| 20 | Sensitive plant | *Mimosa pudica* |
| 21 | Garden pea | *Pisum sativum* |

**Zoological names of common animals**

|  |  |  |
| --- | --- | --- |
| **S/N** | **COMMON NAME** | **ZOOLOGICAL NAME** |
| 1 | Man | *Homo sapiens* |
| 2 | African elephant | *Loxodonta africana* |
| 3 | Lion | *Panther leo* |
| 4 | Rat | *Rattus rattus* |
| 5 | Butterfly | *Papilio demodocus* |
| 6 | Cockroach | *Periplaneta Americana* |
| 7 | Lizard | *Agama agama* |
| 8 | Dog | *Cannis spp* |
| 9 | Sheep | *Ovis aries* |
| 10 | Chicken | *Gallus domesticus* |
| 11 | Alligator | *Alligator mississippiensis* |
| 12 | Crocodile | *Crocodylus porosus* |
| 13 | Domestic cat | *Felis catus* |