

Scheme of Work for Biology SS1

FIRST TERM

WEEK 1

TOPIC: RECOGNIZING LIVING THINGS

- Meaning and Branches of Biology
- Meaning and usefulness of Science
- Processes or Methods of Science or Scientific Approach
- Living and Non-Living things
- Characteristics of Living things
- Differences between Plants and Animals
- Organization of Life
- Complexity of Organization in Higher Organisms

WEEK 2

TOPIC: CLASSIFICATION OF LIVING THINGS (I)

- Meaning of Classification
- Reasons for Classification of Living things
- Taxonomic Hierarchy
- Binomial System of Nomenclature
- Characteristics of Virus
- Kingdom Monera
 - General Characteristics
 - Schizophyta and Cyanophyta
- Kingdom Protista
 - General Characteristics
 - Protozoa and Euglenophyta
- Kingdom Fungi

WEEK 3

TOPIC: CLASSIFICATION OF LIVING THINGS (II)

- Kingdom Plantae
 - Thallophyta and Bryophyta
 - Tracheophyta [Pterodophyta and Spermatophyta]
 - Gymnosperms and Angiosperm
 - Mono cotyledon and Dicotyledon

WEEK 4

TOPIC: CLASSIFICATION OF LIVING THINGS (III)

- Kingdom Animalia
- Invertebrates
 - Porifera
 - Coelenterata
 - Platyhelminthes
 - Nematoda
 - Annelida
 - Mollusca
 - Arthropoda
 - Echinodermata
- Vertebrata (Chordata)
 - Pisces
 - Amphibia
 - Reptilia
 - Aves
 - Mammalia

WEEK 5

TOPIC: THE CELL

- Meaning of Cell
- History of Cell
- Cell theory
- Forms in which living cells exist
- Structure of Plant and Animal Cell
- Similarities and Differences between Plant Cell and Animal Cell

WEEK 6

TOPIC: THE CELL AND ITS ENVIRONMENT

- Diffusion
 - Meaning and Factors affecting Diffusion
 - Experiment to Demonstrate Diffusion
 - Importance of Diffusion
- Osmosis
 - Conditions Necessary for Osmosis to take place
 - Living Cells as Osmometer
- Plasmolysis, Haemolysis, Turgidity and flaccidity

WEEK 7: MIDTERM BREAK

WEEK 8

TOPIC: SOME PROPERTIES AND FUNCTIONS OF THE CELL (I)

- Nutrition
- Cellular Respiration
- Excretion

WEEK 9

TOPIC: SOME PROPERTIES AND FUNCTIONS OF THE CELL (II)

- Growth
 - Basis of Growth
 - Mitosis and meiosis
 - Aspect of Growth
- Cell Response to its Environment
- Movement
- Asexual Reproduction

WEEK 10: REVISION

WEEK 11& 12: EXAMINATION

WEEK 13: CLOSING

SECOND TERM

WEEK 1

TOPIC: PLANT NUTRITION

- Meaning and Mechanism of Photosynthesis
- Materials and Conditions Necessary for Photosynthesis
- Evidence of Photosynthesis
- Mineral Requirements of Plants

WEEK 2

TOPIC: ANIMAL NUTRITION (I)

- Meaning of Food and Classification of Food Substance
- Modes of Nutrition
- Feeding Mechanism

WEEK 3

TOPIC: ANIMAL NUTRITION (II)

- Meaning and types of Dentition
- Dental Formula
- Meaning, types and characteristics of Enzymes

WEEK 4

TOPIC: TISSUES AND SUPPORTING SYSTEMS (I)

- Meaning of Skeleton
- Component of Skeletal Materials
- Types of Skeleton
- Bones of Axial Skeleton
 - Skull
 - Vertebral column
 - Ribs

WEEK 5

TOPIC: TISSUES AND SUPPORTING SYSTEMS (II)

- Bones of Appendicular Skeleton
 - Pectoral girdle
 - Pelvic girdle
 - The Limbs

WEEK 6

TOPIC: TISSUES AND SUPPORTING SYSTEMS (III)

- Meaning, types and structure of Joints
- Functions of Skeleton in man
- Supporting Tissues in Plants
- Mechanisms of support in plants
- Functions of Supporting Tissues in Plants

WEEK 7: MIDTERM BREAK

WEEK 8

TOPIC: BASIC ECOLOGICAL CONCEPTS

- Meaning and types of Ecology
- Ecological Concepts
- Components of an Ecosystem

- Local Biomes in Nigeria
- Biomes of the World
- Population studies
- Ecological factors

WEEK 9: PRACTICAL CLASSES

WEEK 10: REVISION

WEEK 11: EXAMINATION

WEEK 12: CLOSING

THIRD TERM

WEEK 1

TOPIC: FUNCTIONING ECOSYSTEM/ENERGY TRANSFORMATION IN NATURE

- Autotrophs, Heterotrophs and Decomposers
- Food Chain, Food Web, Pyramid of numbers, Pyramid of Energy
- Energy flow
- Laws of thermodynamics

WEEK 2

TOPIC: RELEVANCE OF BIOLOGY TO AGRICULTURE (I)

- Classification of plants
 - Agricultural Classification
 - Classification based on life cycle
- Effects of Agricultural Activities on Ecological System

WEEK 3

TOPIC: RELEVANCE OF BIOLOGY TO AGRICULTURE (II)

- Meaning, types, effects, Prevention and control of crop pest
- Meaning, causes, effects, prevention and control of crop diseases
- Parasites the farm animals

WEEK 4

TOPIC: MICROORGANISMS AROUND US, IN ACTION AND BETTER HEALTH

- Meaning and groups of micro organisms
- Growth of micro organisms
- Beneficial and Harmful effects of micro organism
- Diseases caused by micro organisms

- Control of harmful micro organisms
- Maintenance of good Public Health

WEEK 5

TOPIC: AQUATIC HABITATS

- Meaning of Aquatic Habitat
- Marine Habitat
- Estuarine Habitat
- Fresh Water Habitat

WEEK 6

TOPIC: TERRESTRIAL HABITATS

- Meaning of Terrestrial Habitat
- Forest Habitat
- Grassland Habitat
- Arid Land Habitat
- Marshy Habitat

WEEK 7: MIDTERM BREAK

WEEK 8

TOPIC: REPRODUCTION IN UNICELLULAR ORGANISMS AND VETEBRATES

- Meaning and types of Reproduction
- Reproduction in Amoeba, Paramecium, spirogyra, Earthworm, cockroach
- Meaning and types of metamorphosis
- Reproduction in Toad

WEEK 9: PRACTICAL CLASSES

WEEK 10: REVISION

WEEK 11: EXAMINATION

WEEK 12: CLOSING