

FIRST TERM E-LEARNING NOTE

SUBJECT: BIOLOGY

CLASS: SSS 1

SCHEME OF WORK

WEEK

TOPIC

1. Biology and Living Things
2. Living things and Non Living Things, Classification
3. Classification of Living Things
4. Classification of Animals and Organization of Life
5. The cell (Definition, Forms, Structure, Functions and Theory)
6. The cell and Its Environment (Osmosis, Diffusion, Biological Significance)
7. Properties and Functions of the Cell (Cellular Respiration)
- 8&9. Mode of Nutrition and Plant Nutrition (Photosynthesis and Chemosynthesis)
10. Growth (Basis and Aspects of Growth)
11. Revision and Examination

REFERENCES

- Modern Biology for Senior Secondary Schools by S.T. Ramlingam
- Essential Biology by M.C Michael
- New Biology by H. Stone and Cozen
- SSCE, Past Questions and Answers
- New System Biology by Lam and Kwan
- College Biology by IdodoUmeh
- UTME, SSCE and CAMBRIDGE Past Questions and Answers
- Biology Practical Text

WEEK ONE

BIOLOGY AND LIVING THINGS

CONTENT

- Biology as Inquiry in Science
- Process or Method of Science
- Microscope Parts and Functions

BIOLOGY AS AN INQUIRY IN SCIENCE

Science is the study of nature (living and non-living things). Biology is a science that studies living things in nature. Biology was formed from the Greek words "Bio" (meaning life) and "logos" (meaning, study of).

The organisms studied in biology are generally classified into plants and animals. Therefore, biology is a science subject that can be subdivided into two main branches or subjects namely:

- (a) Botany –the study of plants.
- (b) Zoology - the study of animals.

Other branches of biology include zoology, botany, microbiology, parasitology, anatomy, physiology, biotechnology, etc.

RELEVANCE OF BIOLOGY

Biology has found great applications in many areas of human life, some of which include:

- a. Medicine: Production of drugs and vaccines for preventing and curing many diseases e.g. penicillin, organ transplant e.g. kidney (renal) transplant, in-vitro fertilization in infertile couples.
- b. Agriculture: Production of hybrid (crops and animals with desired qualities), use of biological pesticides to control agricultural pests
- c. Bioremediation i.e. use of naturally occurring bacteria to clean up oil spills and toxic chemicals.
- d. Biotechnology: Use of genetic engineering to fight genetic diseases.
- e. Food production: Production of single cell protein (SCP) to reduce protein deficiency problem, food storage and preservation

EVALUATION

1. What is biology.
2. Describe the following branches of Biology (a) parasitology (b) anatomy (c) physiology.

PROCESS OR METHOD OF SCIENCE

This is a systematic approach used to investigate enquiries arising from any observation made in nature. Therefore, the scientific method is the tool used to unravel the mysteries of life. The scientific methods include the following steps:

- Observation
- Classification
- Inference
- Measurement and Identification
- Hypothesis
- Experiment
- Control or Conclusion
- Theory or Law

The starting point of scientific method is observation which involves the use of the senses to describe what one has seen or felt about an object. The observation then leads to classification, then to inference (logical reasoning) and later to measurement and identification of the existing problem. This is followed by hypothesis which is a reasonable explanation for an observation made and which can be tested experimentally. A tested hypothesis may be...