

Classification of organism

Overview

This topic involves application of biosystematics principles. These include identification, classification and nomenclature. It indicates the relationship among organisms basing on their characteristics.

It should be noted that although viruses have nonliving characteristics, they show some characteristics of living things when they are within the living cells of an organism.

General objectives

By the end of the topic, learners should be able to trace the relationships between groups of organisms.

Specific objectives

The learners should be able to

1. Explain the principles of taxonomy
2. Explain the principles of classification
3. Explain the importance of studying diversity.
4. List three criteria for classifying organisms (i.e. morphology, anatomy, physiology)
5. State the hierarchy of classification according to Carl Linnaeus (species-genus-family-order-class-division/phylum-kingdom)
6. Distinguish between scientific and local names
7. Explain the need to conserve biodiversity.

Principle of classification

This is an arrangement of organisms into manageable groups based similarities of their structures or appearance. The branch of chemistry that deals with classification is called Taxonomy.

The smallest unit of classification is the **species** that include organisms that can interbreed. Similar species make a Genus and the next levels are families, order, classes, phyla and finally Kingdoms.

Nomenclature of organisms.

The system of naming organisms is known as binomial system of nomenclature. Here an organism's name consists of two names. The first name is a genus name which starts with a capital letter and the second name is a species name which starts with a small letter for example, man is **Homo sapiens**.

Kingdoms

There are five kingdoms

1. Prokaryote
2. Fungi
3. Protoctista
4. Plantae
5. Mammalia

Importance of classification

1. Provides a way of identifying different groups of organisms.
2. It gives internationally recognized way of referring to a particular organism.
3. It helps in quantifying biodiversity because if these organisms can be identified, then the way their population changes over time can be monitored, this helps in conservation of living organisms.
4. It enables scientists to explain how different organisms are related to each other.
5. To show evolutionary relationship