

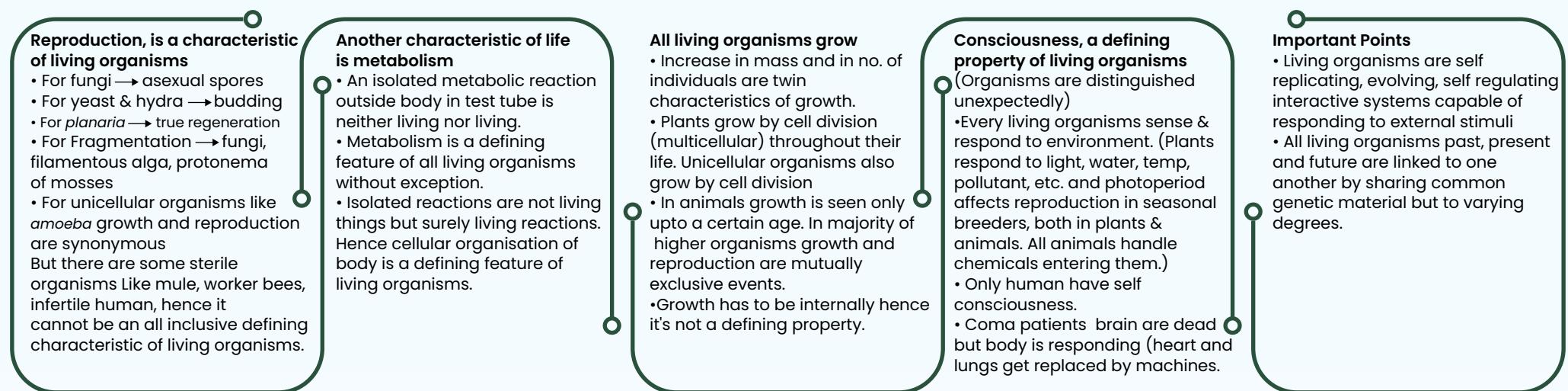


THE LIVING WORLD

What is Living?

Unique features of living organisms

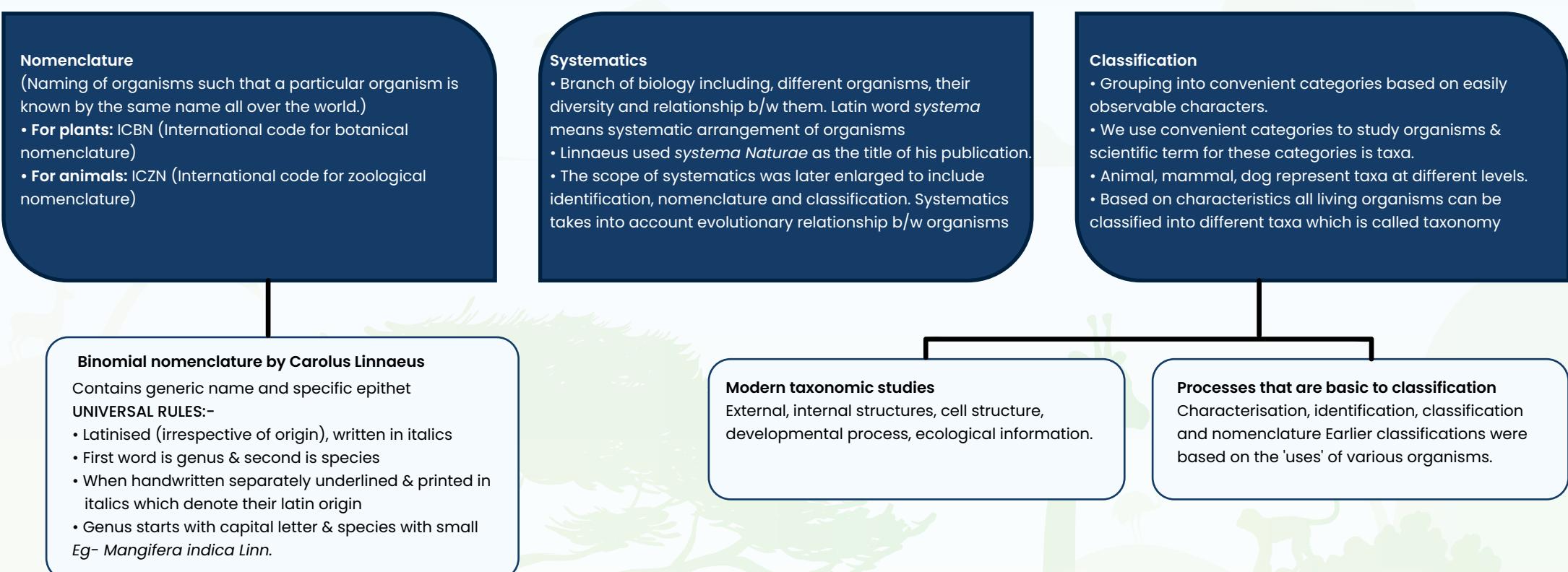
Living organisms are Self Replicating, Evolving, Self Regulating Interactive systems capable of responding to external stimuli



Diversity in the Living World

Each different kind of plant, animal or organisms represents a species.

1.7-1.8 million species have been known and described which refers to biodiversity (no. & type of organisms present on Earth)



Taxonomic Categories

Each step in classification represents a rank or category called taxonomic category and all of them makes taxonomic hierarchy. Each category is referred as unit of classification represents rank & is commonly termed as taxon.

Groups represent category(eg-insects) & it further denotes rank/taxon.

These groups/category are distinct biological entities and not merely morphological aggregates.



IMPORTANT POINTS

Subcategories in this hierarchy are introduced to facilitate more sound & scientific placement of various taxa.
Higher the category, greater is the difficulty of determining the relationship to other taxa at the same level.

Taxonomical Aids-

Information gathered or actual specimens are primary source of taxonomic studies and training in systematics

01

Herbarium-

- Collection of dried, pressed & preserved plant specimen & then the sheets are arranged according to a Bentham and Hooker's system.
- Information on herbarium sheet- date & place of collection, english local & botanical name, family, collectors name. They serve as quick referral system in studies & become store house, repository for future use.

2

Botanical garden-

- Collection of living plants which are grown for identification & research purposes .
- Each plant is labelled indicating botanical name & its family
Famous botanical gardens are at Kew (England), Indian Botanical garden, Howrah (India) and at National Research Institute, Lucknow (India)

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Biological museum

Set up in schools, colleges & include collection of preserved plant & animal specimens in jars in preservative solutions (formaline). Insects are preserved in insect boxes after collecting, killing and pinning. Larger animals are stuffed and preserved. They also contain collection of skeletons

4

Zoological parks(Zoos)

- (Wild animals under human care) by which we learn their food habits & behaviour.
- They are provided with condition similar to natural habitat

5

Key

Used for identification of plants and animal based on affinity. They are based on contrasting characters generally in a pair called couplet. Results in acceptance of only one & rejection of other. Each statement in key is called a lead. Separate taxonomic keys are required for each taxonomic category such as family, genus and species for identification purposes. Keys are generally analytical in nature.