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How is a key helpful in the identification and classification of an organism?

'Key is an artificial analytic device having a list of statements with dichotomic table of alternate characteristics. Taxonomic

keys are aids for rapid identification of unknown plants and animals based on the similarities and dissimilarities. Keys are primarily based on stable and reliable characters. The keys are helpful in a faster preliminary identification which can be backed up by confirmation through comparison with detailed description of the taxon provisionally identified with. Separate taxonomic keys are used for each taxonomic category like Family, Genus and Species.

Illustrate the taxonomical hierarchy with suitable examples of a plant and an animal.

The arrangement of various taxa in a hierarchical order is called taxonomic hierarchy. The hierarchy indicates the various levels of kinship. The number of similar characters of categories decreases from lowest rank to highest rank. The hierarchical system of classification was introduced by Linnaeus.

The hierarchy of major categories is:

Species —► Genus-► Family —► Order—► Class

Kingdom -4— Phylum or Division

Increasing specificity – ► Decreasing specificity

Classification of a plant (Wheat):

Kingdom – Plantae

Division – Angiospermae

Class – Monocotyledonae

Order – Poales

Family – Poaceae

Genus – Triticum

Species – aestivum

Classification of an animal (Housefly):

Kingdom – Animalia

Phylum – Chordata

Class – Insecta

Order – Diptera

Family – Muscidae

Genus – Musca

Species – domestica

