

GHSGT Review: Biology (Day 6)

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OBJECTIVE: Classifies organisms into a hierarchy of groups and subgroups based on their similarities.

LINNAEAN SYSTEM

In the mid-1700's, Carolus Linnaeus developed a new classification system that revolutionized taxonomy. He suggested that organisms be classified with other organisms that had similar structures. Organisms are known by their common name, such as red maple. Organisms have been given a scientific name, the genus followed by the species. The genus and species for the red maple tree is *Acer rubrum*. The genus begins with a capital letter and the second name is always lower case. All scientific names are written in Latin, and are italicized or underlined.

A classification key can be used as an aid to identify organism. It uses an organisms general characteristics and special features to find its appropriate placement.

TAXONOMY

Scientists these days study chromosome structure, reproductive potential, biochemical similarities, and embryology to determine the relationships among organisms. The classification levels are:

Kingdom-Phylum-Class-Order-Family-Genus-Species
(King Phillip Came Over For Great Spaghetti)

REALLY IMPORTANT : every organism is given a scientific name which consists of its genus name (1st) & species name (2nd). This is called binomial nomenclature (bi-nomial = 2-names) & is attributed to Carolus Linnaeus (remember him ?). so a human's scientific name is *Homo sapiens*, a lion's is *Felis leo*, a house cat's is *Felis domesticas*, etc. In a SCIENTIFIC NAME, the genus name should be capitalized & the species name lowercase, & both should be either italicized or underlined.

OBJECTIVE: Describes characteristics and examples of monerans.

Examples:	Bacteria, blue-green bacteria, and other microorganisms that lack nuclei
Characteristics:	prokaryote, microscopic, lives as a single cell or in colonies in water. Most are autotrophic (producers), a few are heterotrophic (consumers)
Structures:	flagella, capsules
Growth:	cell membrane and availability of food set growth limit; keep moist and warm for optimal conditions
Reproduction:	binary fission (splits in two)
Beneficial:	decomposers of matter, in digestive system, nitrogen-fixers
Harmful:	can cause diseases like strep throat, pneumonia

OBJECTIVE: Describes characteristics and examples of protists

Examples:	Most unicellular organisms - protozoa, amoeba, zooplankton, euglena, paramecium, and algae
Characteristics:	Animal-like organism, distinguished by method of locomotion, eukaryotes, mainly microscopic, single celled or multicellular; some are autotrophic (algae) and many are heterotrophic (protozoans)
Structures:	flagella, capsules, cell organelles, membrane bound, some are photosynthetic
Growth:	cell membrane, availability of food set growth limit.
Reproduction:	asexual or sexual
Beneficial:	some are harmless
Harmful:	sleeping sickness, malaria

OBJECTIVE: Describes characteristics and examples of fungi.

Examples:	mushrooms, bread molds, slime molds, rusts and smuts, yeast
Characteristics:	Animal-like organism, cannot move, eukaryotes, mainly multicellular, parasitic, symbiotic, heterotrophic,
Structures:	root-like, caps, filaments
Growth:	based on food source and availability
Reproduction:	asexual, sexual
Beneficial:	yeast, penicillin, decompose organic material
Harmful:	cereal rusts, ringworm, athlete's foot