Taxonomy

In biology, classification is the process of arranging organisms, both living and extinct, into groups based on similar characteristics. The science of naming and classifying organisms is called taxonomy.

Taxonomists classify organisms into a structural hierarchy—a multi-level system in which each group is nested, or contained, within a larger group. Groups at the highest level are the largest and most general and contain a wide variety of living things. These groups are divided into smaller groups of similar organisms. Each smaller group is split into even smaller groups, which contain organisms with even more similar features.

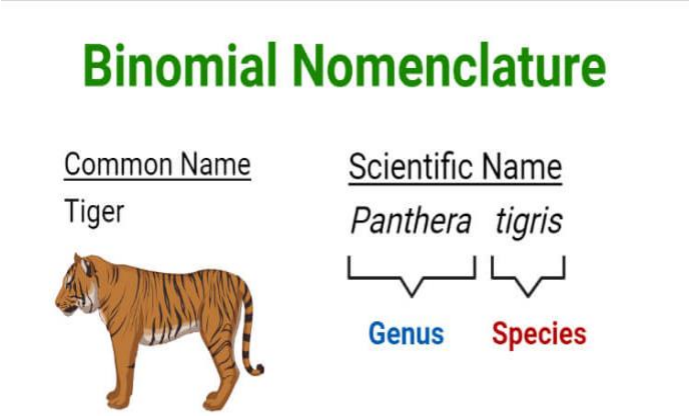
The benefits of animal classification are as follows :

1. Studying the different animals becomes easy when they are placed under different groups.
2. When few representative animals of the particular group are being studied then the idea about other animals belonging to that group also becomes clear.
3. Animal evolution becomes easier to follow after studying classification.
4. The identification of animals can be done accurately.
5. Relationship of the different animals with each other and with other groups can be understood clearly.
6. Habitat of each animal and its role in nature is understood by classification.
7. Various adaptations are understood by learning classification

Animal kingdom classification is an important system for understanding how all living organisms are related. Based on the Linnaeus method, species are arranged grouped based on shared characteristics.

This system of animal kingdom classification was developed by Swedish botanist **Carolus (Carl) Linnaeus** in the 1700's. The Linnaeus Method, also known

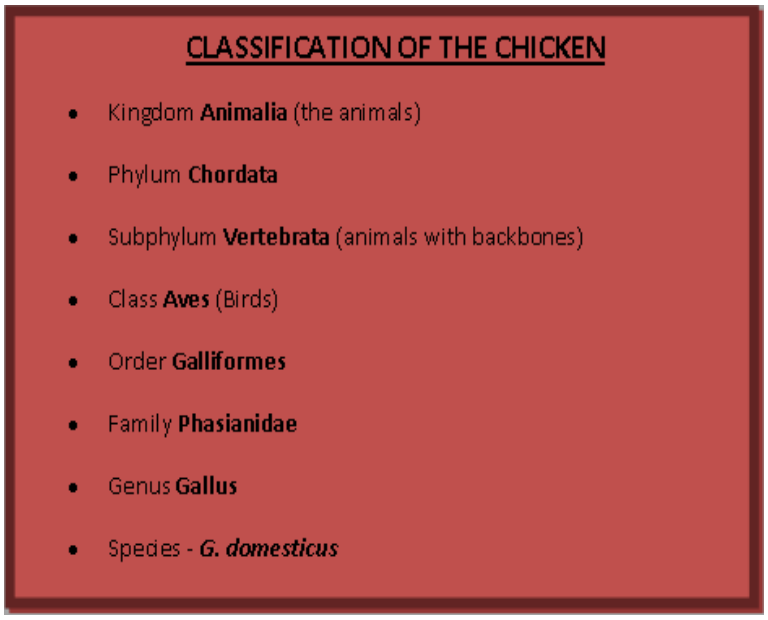
as Linnaean Taxonomy, creates a hierarchy of groupings called taxa, as well as binomial nomenclature that gives each animal species a two-word scientific name.This method of giving scientific names to animals is typically rooted in Latin by combining the genus and species. For example, ***humans*** are classified as *homo sapiens* while **wolves** are *canis lupus.*



The more features that a group of animals share, the more specific that animal classification group is. Every species is defined based on nine branching categories.

The primary method of animal classification chart is :

Kingdom – Kingdom is the most amazing fundamental division where all articles are set. The Animal Kingdom includes all creatures on the planet.
Phylum – We can isolate every realm into more modest developments called phyla. For instance, Chordates are a phylum with people having the notochord.
Class – We can isolate chordates into classes. For instance Mammalia, Birds, Reptilia, and Amphibians.
Family – We can isolate classes into families. Families contain more than one variety.
Genus – Families are sub-parceled into genera. Creatures that have similar sort are generally something very similar.
Species – Species are the most critical and contain just a single sort of creature.



Animals have been categorized into two primary categories in the animal kingdom based on the presence or absence of a backbone or spinal column.

- **Vertebrates**
- **Invertebrates**

Vertebrates

Vertebrates are the animal kingdom's most advanced species. Members have an internal skeleton system with a backbone that is well defined. The spinal cord connects the nerve tissues in humans as it passes along the body between the caudal and cranial regions. In comparison to invertebrates, vertebrates have more sophisticated and specialized organ systems. Organ systems, such as the respiratory system, are extremely complicated, having numerous functions. Even the sensory organs have improved, allowing vertebrates to adapt to their surroundings. The total number of vertebrates on the globe is estimated to be between 57,000 and 58,000. All chordates, such as mammals, birds, fish, reptiles, and amphibians, are examples of vertebrates. The members of the vertebrates have bilaterally symmetrical bodies.

Invertebrates

Animals without a backbone are known as invertebrates. They are abundantly distributed, found anywhere, from the hottest deserts to the deepest seabeds, as well as the deepest caves and highest mountains.

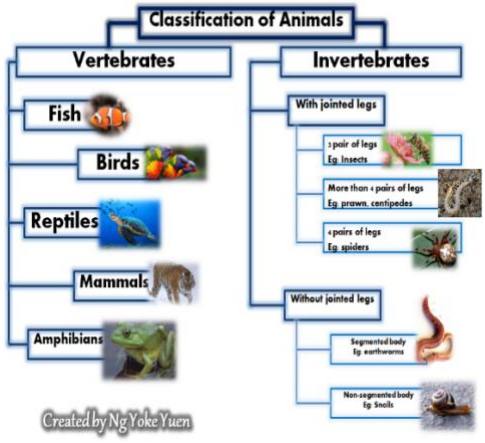
Invertebrates are animals that do not have a skeletal system, as previously stated. As a result, the majority of them lack a hard body structure and thus are unable to grow very large. Blood flows in an open cavity in most invertebrates' circulatory systems. A basic respiratory system is found in most invertebrates, with gills and a trachea being the most prevalent. Most invertebrates have an exterior skeleton to protect their soft, inner body since they lack an internal skeleton. Chitin, a glucose derivative, is commonly used to make this substance. Invertebrates account for more than 97 percent of all animal species on the planet. More than 2 million species of invertebrates have been discovered, with new ones being discovered virtually every day.

Annelids, arthropods, bivalves, coelenterates, echinoderms, squid, sponges, snails, and octopuses are only a few examples. Some invertebrates have qualities and characteristics that are significantly superior to those of vertebrates.

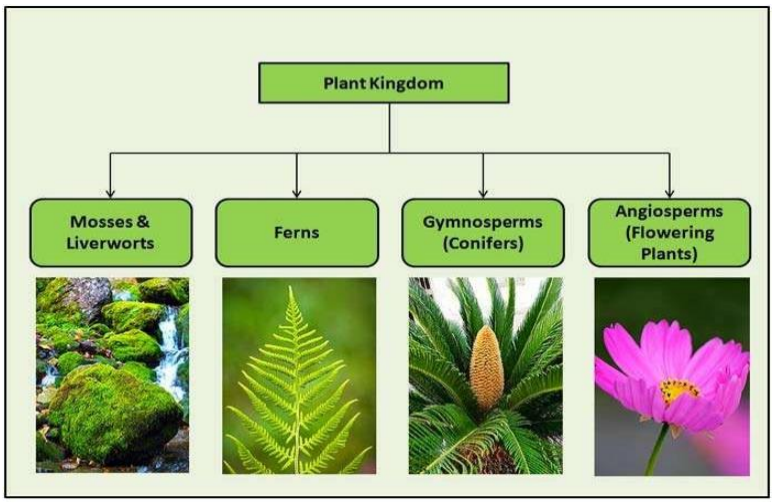
Animal Classification: The Six Different Animal Kingdoms

All living organisms can be placed in one of six different animal kingdom classifications. The characteristics of each animal kingdom are:

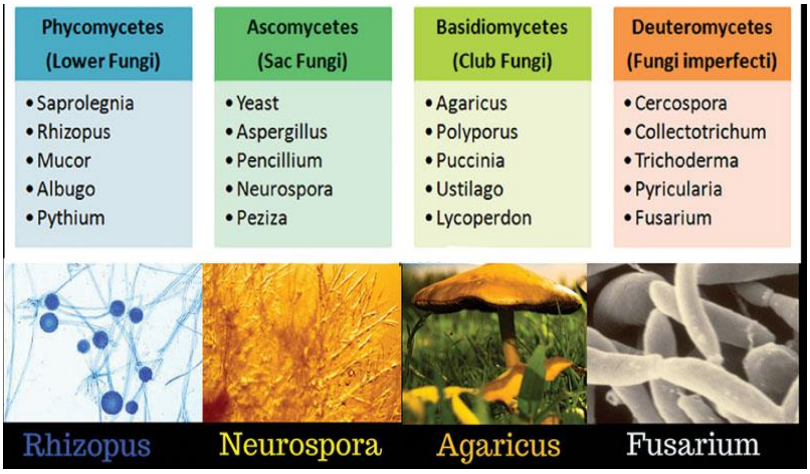
1. **Animal** – A kingdom of complex multi-celled organisms that do not produce their own food. This kingdom contains all living and extinct animals. Examples include elephants, whales, and humans.



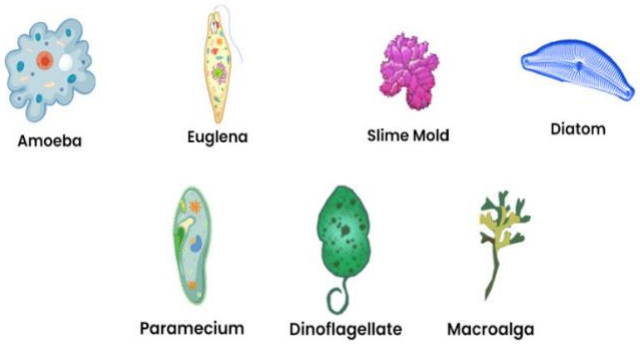
2. **Plants** – Complex and multi cellular autotrophic organisms, meaning they produce their own food through photosynthesis. Examples include trees, flowers, and grass.



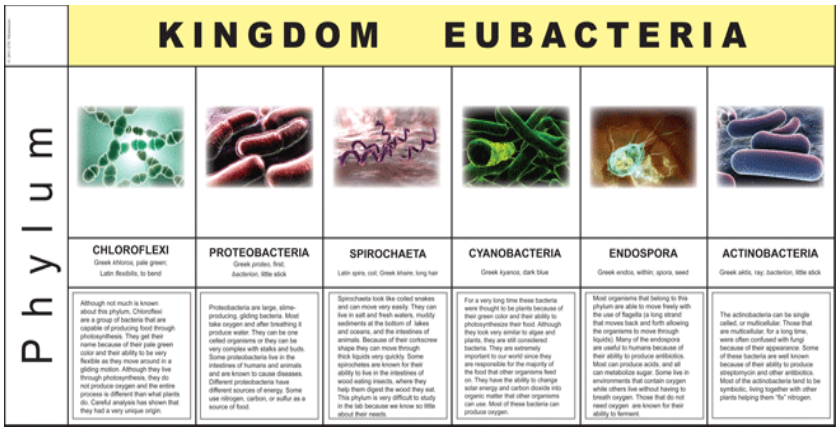
3. **Fungi** – Multi-celled organisms that do not produce their own food, unlike plants. Examples include molds, mushrooms, and yeast.



4. **Protista** – Single celled organisms with more complexity than either eubacteria or archaebacteria. Examples include algae and amoebas



5. **Eubacteria** – Single celled organisms found in everything from yogurt to your intestines. This kingdom contains all bacteria in the world not considered archaebacteria.



6. **Archaebacteria** – The oldest known living organisms. Single-celled and found in hostile and extremely hot areas like thermal vents or hot springs