

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 :

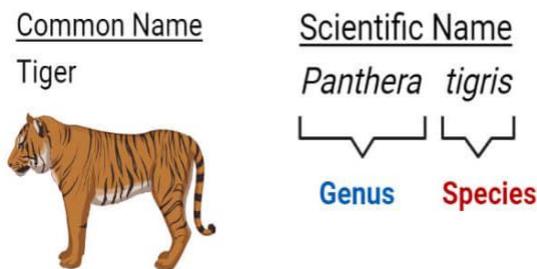
1. Studying the different animals becomes easy when they are placed under different groups.
2. When few representative animals of the particular group are being studied then the idea about other animals belonging to that group also becomes clear.
3. Animal evolution becomes easier to follow after studying 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*.

Binomial Nomenclature



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.

CLASSIFICATION OF THE CHICKEN

- Kingdom **Animalia** (the animals)
- Phylum **Chordata**
- Subphylum **Vertebrata** (animals with backbones)
- Class **Aves** (Birds)
- Order **Galliformes**
- Family **Phasianidae**
- Genus **Gallus**
- Species - *G. domesticus*

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.

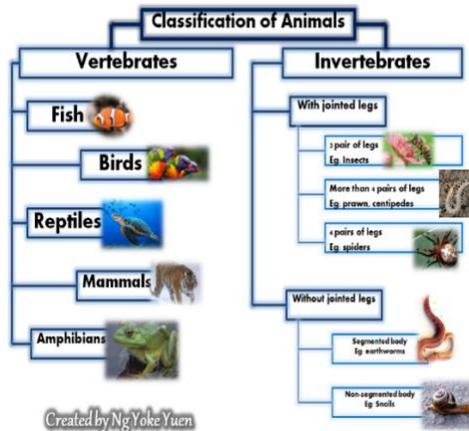
Invertebrates are animals that do not have a skeletal system, as previously stated. As a result, the majority of them lack a hard body structure and thus are unable to grow very large. Blood flows in an open cavity in most invertebrates' circulatory systems. A basic respiratory system is found in most 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.

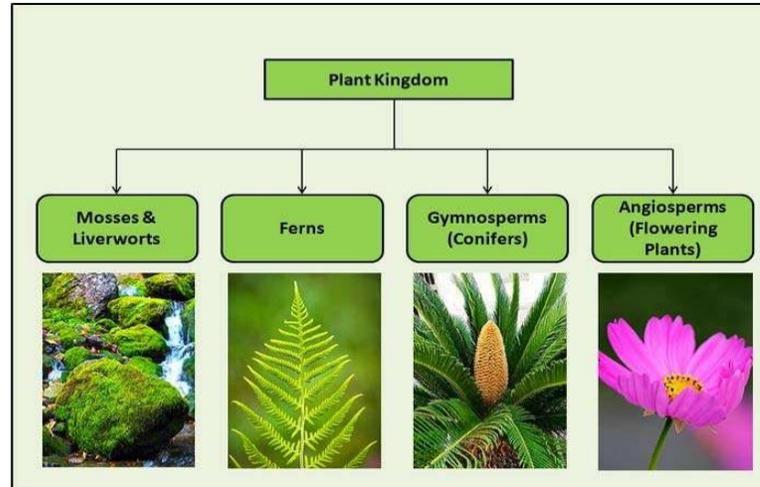
Animal Classification: The Six Different Animal Kingdoms

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.



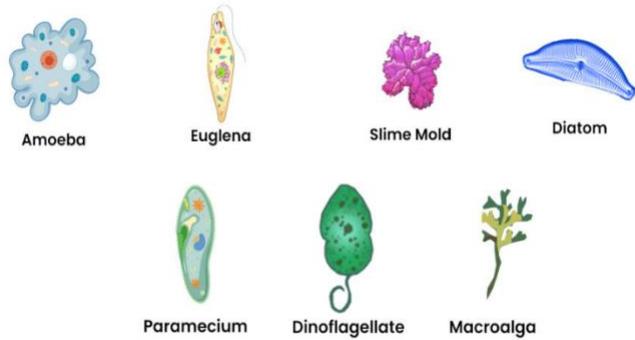
2. **Plants** – Complex and multi cellular autotrophic organisms, meaning they produce their own food through photosynthesis. Examples include trees, flowers, and grass.



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

Phycomycetes (Lower Fungi)	Ascomycetes (Sac Fungi)	Basidiomycetes (Club Fungi)	Deuteromycetes (Fungi imperfecti)
<ul style="list-style-type: none"> • Saprolegnia • Rhizopus • Mucor • Albugo • Pythium 	<ul style="list-style-type: none"> • Yeast • Aspergillus • Pencillium • Neurospora • Peziza 	<ul style="list-style-type: none"> • Agaricus • Polyporus • Puccinia • Ustilago • Lycoperdon 	<ul style="list-style-type: none"> • Cercospora • Collectotrichum • Trichoderma • Pyricularia • Fusarium
Rhizopus	Neurospora	Agaricus	Fusarium

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 archaeobacteria.

KINGDOM EUBACTERIA						
P h y l u m						
	CHLOROFLEXI Greek chloros, pale green; Latin flexilis, to bend	PROTEOBACTERIA Greek proteo, first	SPIROCHAETA Latin spiro, coil; Greek cheiro, long hair	CYANOBACTERIA Greek kyanos, dark blue	ENDOSPORA Greek endos, within; spora, seed	ACTINOBACTERIA Greek aktis, ray; bacterion, little stick
	Although not much is known about the phylum, Chloroflexi are a group of bacteria that are capable of producing fuel through photosynthesis. They get their name because of their pale green color and their ability to be very flexible as they move around in a gliding motion. Although they live through photosynthesis, they do not produce oxygen and the entire process is different than what plants do. Careful analysis has shown that they had a very unique origin.	Proteobacteria are large, slime-producing, gliding bacteria. Most take oxygen and after breathing it produce water. They can be one-celled organisms or they can be very complex with stalks and frills. Some proteobacteria live in the intestines of humans and animals and are known to cause diseases. Different proteobacteria have different sources of energy. Some use nitrogen, carbon, or sulfur as a source of food.	Spirochetes look like coiled snakes and can move very easily. They can live in salt and fresh water, muddy sediments at the bottom of lakes and oceans, and the intestines of animals. Because of their cork-screw shape they can move through thick liquids very quickly. Some spirochetes are known for their ability to live in the intestines of wood-eating insects, where they help them digest the wood they eat. This phylum is very difficult to study in the lab because we know so little about their needs.	For a very long time these bacteria were thought to be plants because of their green color and their ability to photosynthesize their food. Although they live very similar to algae and plants, they are still considered bacteria. They are extremely important to our world since they are responsible for the majority of the food that other organisms feed on. They have the ability to convert solar energy and carbon dioxide into organic matter that other organisms can use. Most of these bacteria can produce oxygen.	Most organisms that belong to the phylum are able to move freely with the use of flagella to long strands that move back and forth allowing the organisms to move through liquids. Many of the endospores are useful to humans because of their ability to produce antibiotics. Most can produce acids, and all can metabolize sugar. Some live in environments that contain oxygen while others live without having to breathe oxygen. Those that do not need oxygen are known for their ability to ferment.	The actinobacteria can be single-celled, or multicellular. Those that are multicellular for a long time were often confused with fungi because of their appearance. Some of these bacteria are well known because of their ability to produce penicillin and other antibiotics. Most of the actinobacteria tend to be symbiotic, living together with other plants helping them "fix" nitrogen.

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

Kingdom Archaeobacteria

The archaeobacteria kingdom consists of organisms that are:

- unicellular
- prokaryotic
- autotrophic or heterotrophic
- able to reproduce asexually

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