

Classification of Living Organisms

Linnaeus classification system

Kingdom - the highest rank in the classification system (taxonomy)

Phylum

Class

Order

Family

Genus

Species

When Carl Linnaeus developed his system of classification (in 1735), there were only two kingdoms, _____ and _____. But the use of the **microscope** led to the discovery of new organisms and the identification of differences in cells. A two-kingdom system was no longer useful.

Today the system of classification includes six kingdoms.

The **Six Kingdoms**:

Plants, Animals, Protists, Fungi, Archaeobacteria, Eubacteria.

How are organism placed into their kingdoms?

- _____
- _____
- _____

Plants

You are probably quite familiar with the members of this kingdom as it contains all the plants that you have come to know - [flowering plants](#), mosses, and ferns. Plants are all _____ and consist of _____ cells. In addition plants are _____, organisms that make their own food. With over 250,000 species, the plant kingdom is the second largest kingdom. Plant species range from the tiny green mosses to [giant trees](#).

Animals

The [animal](#) kingdom is the largest kingdom with over 1 million known species.

Sumatran Tiger

Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Carnivora
Family: Felidae
Genus: Panthera
Species: tigris

Humans

Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Primates
Family: Hominidae
Genus: Homo
Species: sapiens

All animals consist of many complex cells. They are also [heterotrophs](#). Members of the animal kingdom are found in the most diverse environments in the world.

Archaeobacteria

In 1983, scientists took samples from a spot deep in the Pacific Ocean where hot gases and molten rock boiled into the ocean from the Earth's interior. To their surprise they discovered _____ (one cell) organisms in the samples.

Archaeobacteria are found in extreme environments such as [hot boiling water](#) and thermal vents under conditions with no _____ or highly acidic environments.

Finding Archaeobacteria: The hot springs of Yellowstone National Park, USA, were among the first places Archaeobacteria were discovered.

Eubacteria

Like archaeobacteria, [eubacteria](#) are complex and _____ celled. Most bacteria are in the EUBACTERIA kingdom. They are the kinds found everywhere and are the ones people are most familiar with.

Eubacteria are classified in their own kingdom because their chemical makeup is different.

Most eubacteria are helpful. Some produce vitamins and foods like _____. However, some eubacteria, Streptococci, can give you strep throat!

Fungi

Mushrooms, mold and mildew are all examples of organisms in the kingdom [fungi](#).

Most fungi are _____ and consists of many complex cells.

[Fun Facts about Fungi](#)

Some fungi taste great and others can kill you!

Fungi are organisms that biologists once confused with plants, however, unlike plants, fungi cannot _____ food. Most obtain their food from parts of plants that are decaying in the soil.

Protists

Slime molds and algae are protists.

Sometimes they are called the odds and ends kingdom because its members are so different from one another. [Protists](#) include all microscopic organisms that are not _____, not _____, not _____ and _____ fungi.

Most [protists](#) are _____. You may be wondering why those protists are not classified in the Archaeobacteria or Eubacteria kingdoms.

It is because, unlike bacteria, protists are _____ cells.

These delicate looking diatoms are classified in the protist kingdom.