Knowledge Organiser Classification

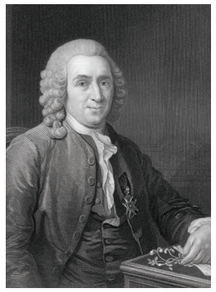
	Glossary	
1	**characteristics**	Special qualities or appearances that make an individual or group of things different to others.
2	**classify**	To sort things into different groups.
3	**taxonomy**	The science of naming and classifying organisms.
4	**taxonomist**	A scientist who classifies different living things into categories.
5	**dichotomous key**	A dichotomous key is a series of questions about the characteristics of living things. A key is used to identify a living thing or decide which group it belongs to. This usually splits into two branches.
6	**hierarchy**	A ranking of categories that narrows from general to specific.
7	**botany**	The study of plants.
8	**vertebrate**	An animal with a backbone.
9	**invertebrate**	An animal without a backbone.
10	**microorganism**	A tiny organism such as a virus, protozoan, or bacterium that can only be seen under a microscope.
11	**microscope**	A piece of equipment that is used to view very tiny (microscopic) things by magnifying their appearance.
12	**bacteria**	A single-celled microorganism.
13	**virus**	A very simple microbe which requires a host to reproduce.
14	**protozoa**	A single-celled organism that can move.
15	**fungi**	Plural of fungus. A single-celled or many-celled organism that reproduces by spores and lives by absorbing nutrients from organic matter.
16	**algae**	An organism belonging to a group that lives mainly in water and includes the seaweeds. Algae differ from plants in not having true leaves, roots, or stems.
17	**angiosperms**	The scientific name for flowering plants.
18	**gymnosperms**	The scientific name for non-flowering plants.
19	**latin**	Latin is used as an international language in the sciences, especially in taxonomic names and descriptions of organisms based on the system of Linnaeus.
20	**biodiversity**	The variety of plant and animal life on Earth.

What is biodiversity?

Life on earth is incredibly diverse. Biological diversity (also known as biodiversity) is the variety of life on earth. Biodiversity includes the vast number of species of plants and animals, the genetic diversity within and between these species and the different biomes and ecosystems of which they are part, including rainforest and desert.

Sadly, much of the Earth's biodiversity is in jeopardy due to human consumption and other activities that disturb and even destroy ecosystems. Pollution, climate change, and population growth are all threats to biodiversity. These threats have caused an extraordinary rise in the rate of species extinction.

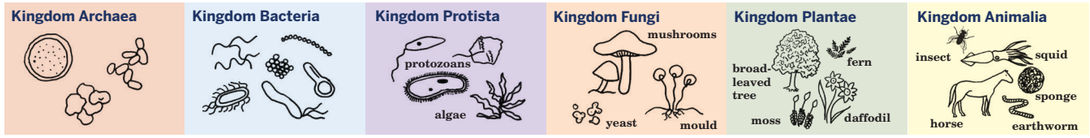
Who is Carl Linnaeus?



In 1735, Swedish Scientist Carl Linnaeus first published a system for classifying all living things. An adapted version of this system is still used today: The Linnaeus System.

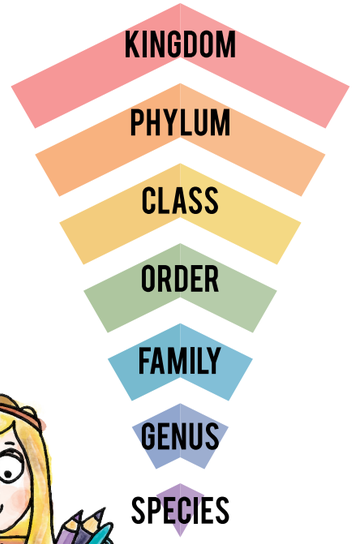
Linnaeus collected and examined over 40,000 specimens of plants, animals and shells. In 1735, he published his first edition of 'Systema Naturae', which described his system for classifying living things.

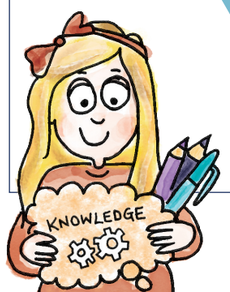
Linnaeus followed a general rule, dividing all living things into two kingdoms — the Kingdom Plantae (plants) and the Kingdom Animalia (animals). In modern science, there are more kingdoms to classify living things as the use of microscopes has found organisms at a cellular level. Here is the six-kingdom system that has been used since the 1990s.



How do we classify living things?

Scientists believe that there could be as many as 10 million different species on Earth. It would be very hard to study the lives and behaviours of all these living things without grouping them together in some way. Taxonomists classify living things by comparing them. They sort and group living things according to characteristics. These are the physical similarities and differences of animals and plants that help us identify a species. Taxonomists group similar things together, they then split the groups multiple times, so they become smaller and smaller. Each group allows scientists to observe and understand their similarities and differences more clearly.





What is the Linnaeus system?

After classifying an organism into a kingdom, living things can then be classified according to phylum, class, order, family, genus and finally species. When the classification reaches species, that is the most specific group. This single organism in this group will have very specific features.

The names of animals are based in Latin and consist of two words. The first word is the genus (*Panthera* – big cat), and the second name is the specific species (*Panthera* ***leo*** — **lion**). The genus is capitalised, and the species is not. Both the genus and species are written in italics. For example: *Panthera leo* (lion).

Here is an example of the classification of lions.