TAXONOMY

HOW WE CLASSIFY LIVING THINGS

WHAT IS TAXONOMY?

Taxonomy is the science of naming, describing, and classifying living things. Scientists use taxonomy to organise the millions of plants, animals, and microorganisms that live on Earth. This system helps us understand how living things are related to each other

WHY IS TAXONOMY IMPORTANT?

Taxonomy helps scientists identify and study different species. It also helps us learn about the history of life on Earth and how species have changed over time. By understanding the relationships between living things, scientists can work to protect endangered species and their habitats.

THE LEVELS OF CLASSIFICATION

Living things are classified into different groups based on shared characteristics. These groups are arranged in a hierarchy, which means they are ranked from the broadest category to the most specific. The main levels of classification are:

1. **Kingdom** – This is the largest group. For example, animals belong to the animal kingdom, and plants belong to the plant kingdom.
2. **Phylum** – This group sorts organisms based on their body structure. For example, animals with backbones belong to a group called Chordata.
3. **Class** – This level includes organisms that are more similar to each other. For example, mammals belong to the class Mammalia.
4. **Order** – This group narrows the classification further. For example, cats and dogs belong to different orders.
5. **Family** – This level groups organisms that are even more closely related. For example, lions, tigers, and domestic cats all belong to the same family, Felidae.
6. **Genus** – This is a group of very closely related species. For example, lions and tigers belong to the genus Panthera.
7. **Species** – This is the smallest group. A species is a group of organisms that can reproduce and have offspring. For example, humans belong to the species Homo sapiens.

BINOMIAL NOMENCLATURE

Scientists use a special naming system called binomial nomenclature to give each species a unique name. This name has two parts: the genus and the species. For example, the scientific name for

humans is *Homo sapiens*. This system allows scientists around the world to communicate clearly about species, no matter what language they speak.

HOW DO SCIENTISTS DECIDE ON CLASSIFICATION?

Scientists look at many features when classifying living things. They examine physical traits, like body structure, as well as genetic information. Advances in technology, such as DNA analysis, have helped scientists make more accurate classifications.

FIND OUT MORE…

How to classify plants and animals Year 6 - BBC Bitesize

EXAMPLE QUESTIONS:

1. What is taxonomy, and why is it important?
2. List the seven main levels of classification in the correct order, starting with the broadest.
3. What does the term "binomial nomenclature" mean, and how are species named using this system?
4. How do scientists decide how to classify living things? Name two features they examine.
5. What is the smallest level of classification, and what defines it?