Science • Living Things and Their Habitats

Crucial Knowledge

- We classify to understand similarities and differences between different living things.
- Living things can be grouped according to characteristics.
- Plants and animals are two main groups but there are other livings things that do not fit into these groups e.g. micro-organisms such as bacteria and yeast, and toadstools and mushrooms.
- Plants can make their own food whereas animals cannot.
- Animals can be divided into two main groups – those that have backbones (vertebrates) and those that do not (invertebrates).
- Vertebrates can be divided into five small groups – fish, amphibians, reptiles, birds and mammals.
- Invertebrates can be divided into a number of groups including insects, spiders, snails and worms.
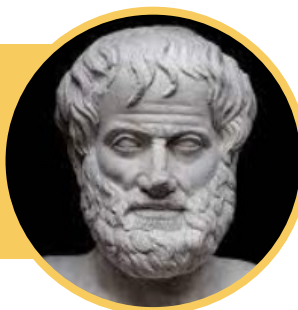- Plants can be divided broadly into two main groups – flowering plants and non-flowering plants.

Important People

A **taxonomist** is a scientist who classifies different living things into categories. Earliest traces of taxonomy can be found in China around 3000BC. **Shen Nung,** was a legendary Emperor of China known as the Father of Chinese medicine. He classified plants, minerals and animals while making medicine.

Aristotle (384 – 322 BC) In western scientific taxonomy the Greek philosopher was the first to attempt to classify all living things.
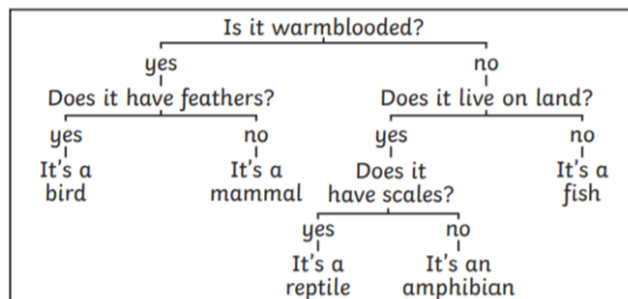
Carl Linnaeus, a Swedish scientist, published a system for classifying all living things in 1735. An adapted version of this system is still used today.

Diagrams / Images

Scientists, called Taxonomists, sort and group living things according to their similarities and differences.

Is it warmblooded?

- yes → Does it have feathers?
  - yes → It's a bird
  - no → It's a mammal
- no → Does it live on land?
  - yes → Does it have scales?
    - yes → It's a reptile
    - no → It's an amphibian
  - no → It's a fish

Living things can be **classified** by these eight levels. The number of living things in each level gets smaller until the one animal is left in its species level. This is how a dog would be classified.

Domain: Eukarya	jackal, clownfish, cat, dog, ladybird, daisy, rabbit, fox, human
Kingdom: Animals	jackal, clownfish, cat, dog, ladybird, rabbit, fox, human
Phylum: Chordata	jackal, clownfish, cat, dog, rabbit, fox, human
Class: Mammals	jackal, cat, dog, rabbit, fox, human
Order: Carnivora	jackal, cat, dog, fox
Family: Canidae	jackal, dog, fox
Genus: *Canis*	jackal, dog
Species: *Lupus*	dog

Key Vocabulary

characteristics - special qualities or appearances that make an individual or group of things different to others.

classify – to sort things into different groups.

key - a series of questions about the characteristics of living things. A key is used to decide which group a living thing belongs to by answering 'yes' or 'no' questions.

vertebrates - An animal with a backbone

invertebrates – An animal without a backbone.

bacteria – a single cell microorganism.

microorganism – An organism that can only be seen using microscope.

species – A group of living things that are able to reproduce.

We Are Building Our Knowledge From
- Living Things and Their Habitats (Y4)
- Evolution and Inheritance (Y6)