# LIVING THINGS and their habitats

Y6

## Q: What characteristics can be used to classify living things?

### What you should already know...



-Animals and plants can be classified into different groups based on their characteristics.

-Animals can be grouped into vertebrates (with a backbone) and invertebrates (without a backbone).

-They can then be subdivided into further groups, for example mammals, fish, reptiles etc. (vertebrates) or spiders, snails, worms etc. (invertebrates).

-Plants are commonly grouped into flowering plants and non-flowering plants. They too can be sub-divided beyond these broad classifications.

### Linnaeus Classification

#### Carl Linnaeus

Carl Linnaeus was a Swedish scientist, botanist and zoologist who is known as the 'father of taxonomy.'

He created something called the binomial nomenclature, which was a way of classifying plants and animals (taxonomy).

He classified man among the primates, which brought him criticism at the time!

He was made a noble by the Swedish King. He lived from 1707-1778. Parts of his system are still used today.
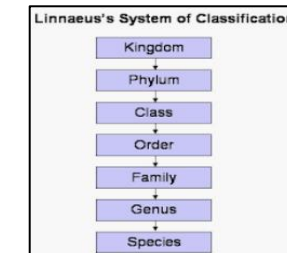
#### Classification System

Linnaeus gave each organism a two part Latin scientific name, based on their genus and species. A genus is a group made up of several species.
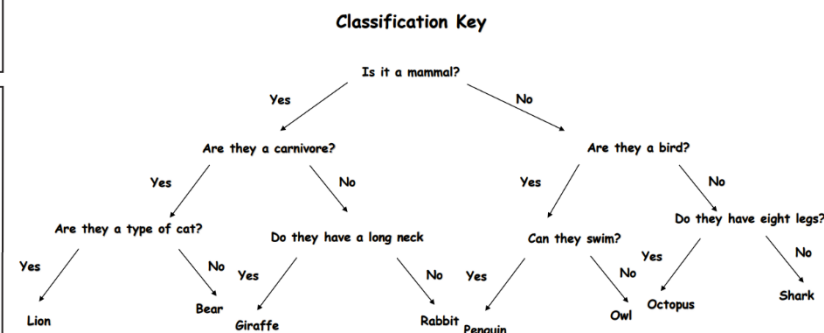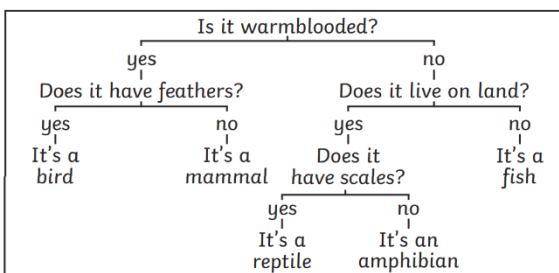
For example, the genus 'Pan' is made up of the chimpanzee (pan troglodytes) and the bonobo (pan paniscus).

His scientific process involved observing, recording the information and making conclusions.

Linnaeus's System of Classification
- Kingdom
- Phylum
- Class
- Order
- Family
- Genus
- Species

### Classification of Animals

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

Classification Key

Is it a mammal?
- Yes — Are they a carnivore?
  - Yes — Are they a type of cat?
    - Yes — Lion
    - No — Bear
  - No — Do they have a long neck?
    - Yes — Giraffe
    - No — Rabbit
- No — Are they a bird?
  - Yes — Can they swim?
    - Yes — Penguin
    - No — Owl
  - No — Do they have eight legs?
    - Yes — Octopus
    - No — Shark

### Key vocabulary

| Organism | An organism is any living thing. Such as animals, plants, or single-celled life form. |
|---|---|
| micro-organism | An organism that can only be seen using a microscope. |
| taxonomist | A scientist who classifies different living things into categories. |
| bacteria | A single-celled microorganism. |
| microscope | A piece of equipment that is used to view very tine (microscopic) things by magnifying their appearance. |

### Classification in Local Habitats







#### Garden

Vertebrates: Mammals = cats, dogs, rabbits, foxes. Birds = sparrow, robin, crow. Amphibians = frogs, toads.

Invertebrates: Insects = bee, wasp, fly, Spiders, Worms = earthworm, Snails = garden snail, Crustaceans = woodlouse.

#### Seaside

Vertebrates: Mammals = Beach mice, Birds = seagulls, pigeons, Reptiles = sea turtles, Fish = cod, haddock.

Invertebrates: Crustaceans = crabs, lobsters, prawns, Echinoderms = starfish, sea cucumbers, sea urchins.

#### Forest

Vertebrates: Mammals = badger, deer, squirrel, boar, pine marten. Birds = woodpecker, owl, warbler. Reptiles: adder, lizard, slowworm.

Invertebrates: Spiders: harvestman, woodlouse spider, Insects: Ants, crickets, grasshoppers.

### Human Classification (using The Linnaeus Classification – from vague to specific)

Domain: Eukarya ➡ Kingdom: Animals ➡ Phylum: Chordates ➡ Class: Mammals ➡ Order: Primates ➡ Family: Hominids ➡ Genus: Homo ➡ Species: Homo Sapiens