



### Classifying animals

We first group animals into vertebrates and invertebrates.

#### Vertebrates

Vertebrates are animals with a backbone.

They can be divided into 5 groups:

Mammals, Fish, Amphibians, Reptiles, Birds

**Can you remember the characteristics of each of these vertebrate groups?**

#### Invertebrates

Invertebrates are animals without backbones.

Some of the main invertebrate groups include:

Arthropods, Molluscs, Cnidarians, Sponges,

Echinoderms, Annelid.

**Why not research the characteristics of some other invertebrate groups?**

#### Arthropods:

Arthropods have an exoskeleton, a segmented body and jointed limbs.

**Types of arthropod include:**

#### Insects

They have an **exoskeleton**.

They have six legs.

They have three body parts: the head, thorax and abdomen.

They have a pair of antennae.

Most insects hatch from eggs.

Some examples of insects are beetles, ants, bees.

#### Arachnids

They have an exoskeleton.

They have eight legs

They have two body parts: head and abdomen.

Some examples of are arachnids are spiders and scorpions

#### Crustaceans

They are often aquatic animals.

They have a hard shell to protect their body.

They have two pairs of antennae.

They have a pair of mandibles used for eating.

Some examples of crustaceans are crabs, lobsters, woodlice.

**What do these arthropods have in common?**

**What are the differences?**

### Micro-organisms

Many micro-organism are very beneficial and have important roles in ecosystems. Some cause disease these are called germs.

#### **Fungi**

Can be single celled or complex multicellular organisms. They can live on land or in soil and water. Some cause disease in plants and animals e.g Athletes foot. Yeast is a fungi we use to make bread.

#### **Bacteria**

Made of just one cell. E.Coli is a bacteria that can cause food poisoning. But there are many beneficial bacteria. We have bacteria in our gut that help digest food.

#### **Viruses**

Single celled organisms. Scientists don't consider viruses to be truly alive because they cannot reproduce by themselves.

Smallest microbe and can even infect bacteria and fungi. The flu, common cold and Covid-19 are caused by viruses.

**Can you list and describe two of each?**

### Plants

Plants can be divided into flowering and non-flowering plants. Flowering plants produce flowers.

Flowering plants rely on pollination and use seeds to reproduce.

Non-flowering plants use either seeds or spores to reproduce.

**Can you find plants in the local environment and classify them?**

### Classification

Classification and taxonomy help us understand which species are related and identify new species of animal.

**How can classification be useful for everyday life?**

#### **Carl Linnaeus:**

Carl Linnaeus was a Swedish botanist and taxonomist who lived from 1707-1778. He devised a classifying system for all living things called the Linnaean System. The system allowed for all living organisms to fall into specific subdivisions, with each stage of the system getting more specialised and specific. Every species has a scientific name which is in Latin. Linnaeus did this so that no matter where you are from or what language you speak, scientists will understand which species others are referring to. E.g Homo sapien is the scientific name for human.



**Can you write your own Biography for Carl Linnaeus?**

## Jane Goodall

Jane Goodall is a famous primatologist and conservationist. A primatologist is someone who studies non-human primates. Jane is famous for her studies on chimpanzees. She discovered that chimpanzees have emotions, use tools and eat meat. Jane has also worked as an activist and created The Jane Goodall Institute to help protect and conserve the environment. She also founded Roots and Shoots to help young people protect the environment.



### Experiments and investigations you could try at home

- Make your own micro-zoo
- Yeast investigation
- Make your own spore viewing box
- Local bug hunt/nature scavenger hunt
- Design your own nature scavenger hunt

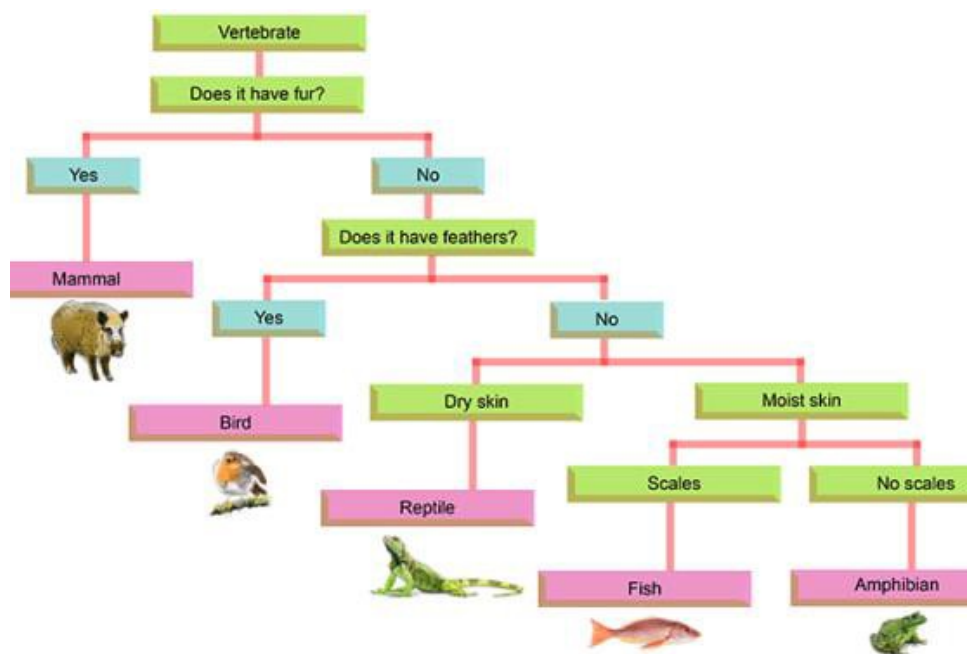
### Some websites to explore

[www.wildlifewatch.org.uk](http://www.wildlifewatch.org.uk)

<https://kids.nationalgeographic.com/animals> [www.rootsnshoots.org.uk](http://www.rootsnshoots.org.uk)

[www.janegoodall.org](http://www.janegoodall.org)

**Classification Keys:** We use classification keys to sort and identify different living things. We follow a series of questions which lead us to the correct classification of the organism. Here is an example of a simple classification key.



Could you make your own classification keys for different plants, animals or local wildlife?

## Key Vocabulary

**Organism:** A living thing.

**Species:** A group of animals that can reproduce to have offspring.

**Zoologist:** A person who studies animals.

**Classification:** To group similar species together.

**Taxonomy:** The science of classification.

**Micro-organisms/Microbe:** A microscopic organism (cannot be seen with the naked eye).

**Germs:** Disease causing micro-organisms.

**Multicellular organism:** A living thing made up of more than one cell.

