

## Willerby Carr Lane Primary School - Science

**Topic: Living Things and their Habitats**

**Year: 6**

**Strand: Biology**

### What should I already know?

- the differences in the life cycles of a mammal, an amphibian, an insect and a bird
- the life process of reproduction in some plants and animals.

### What will I know by the end of the unit?

describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals

- Key features to distinguish between animals:
  - Invertebrate or Vertebrate
  - Mammal/Reptile/Fish/Amphibian/Bird/insects/arachnids/annelids/molluscs/crustaceans/echinoderms.
  - Colour
  - Length
  - Number of legs
  - Number of body segments
  - Distinguishing features
  - Habitat
- Key features to distinguish between plants:
  - Flowering or Non-Flowering
  - Grass/cereal/garden shrub/deciduous/algae/coniferous/fern
  - Colour
  - Height
  - Number of flowers
  - Fruit bearing or not
  - Distinguishing features
  - Usual location
- Microorganisms: are very tiny living things. Microorganisms can be found all around us. They can live on and in our bodies, in the air, in water and on the objects around us. They can be found in almost every habitat on Earth.

give reasons for classifying plants and animals based on specific characteristics.

- Scientists sort and group living things according to their similarities and differences. This is called classification. Scientists who classify living things are called taxonomists.
- Carl Linnaeus:
  - Born in Sweden on 23<sup>rd</sup> May 1707
  - A leading light in the field of Taxonomy
  - Famous for developing the first system to classify animals effectively.

### Vocabulary

annelids	usually elongated segmented invertebrates (such as earthworms and leeches)
bacteria	a very large group of microorganisms.
botany	the study of plants.
Carl Linnaeus	Carl Linnaeus made it his life's work to develop and refine a way to classify and name all life on earth.
classifying	to arrange or organize according to class or category.
coniferous	any of an order (coniferales) of mostly evergreen trees and shrubs having usually needle-shaped or scalelike leaves
deciduous	(of a tree or shrub) shedding its leaves annually.
decomposers	fungi and bacteria that absorb nutrients from nonliving organic material such as corpses, fallen plant material, and the wastes of living organisms, and convert them into inorganic forms.
echinoderms	marine invertebrate, such as a starfish, sea urchin, or sea cucumber.
fern	a flowerless plant which has feathery or leafy fronds and reproduces by spores released from the undersides of the fronds.
herbaceous	in plants, nonwoody.
identification	the act of identifying.
invertebrates	an animal that lacks an internal skeleton. all animals other than fish, amphibians, reptiles, birds, and mammals are invertebrates. approximately 95% of all animals are invertebrates
micro-organisms	any organism of microscopic size
perennials	a plant that lives for many years.
quadrupeds	a four-footed animal.
taxonomy	naming, describing, and classifying organisms into different categories on the basis of their appearance and other diagnostic characteristics as well as their evolutionary relationships
virus	a category of extremely small microscopic parasites of plants, animals, and bacteria. since viruses cannot reproduce without a host cell, they are not strictly speaking living organism

## Investigate!

- Classify animals
- Classify plants
- Microorganisms – grow your own bacteria
- Research Carl Linnaeus

## Common misconceptions

Some children may think:

- all micro-organisms are harmful
- mushrooms are plants.

### Carl Linnaeus

#### The Man Who Named Nature

Carl Linnaeus (*Lin-ay-us*) was born in 1707, over 300 years ago, in Sweden. As a boy, he was very interested in the natural world, especially **BOTANY**, the study of plants. His father Nils taught him that every plant had a name. By the time he was five, Carl had his own small garden and could name all of the plants he had grown.

When he was older, Carl studied medicine, but he was still interested in nature. In Carl's day, the plants and animals had long scientific names in Latin. It was hard to keep track of everything because they were difficult to remember. Carl developed a way to name things with only two categories:

GENUS and SPECIES

**FACT!** Carl Linnaeus named the genus of the potato *Solanum* and the species *tuberosum*.

**What is CLASSIFICATION?**  
Have you ever sorted your toys, books or clothes into different groups? Perhaps you have grouped things together by colour, shape or size – this is the classification (taxonomy).

**CLASSIFICATION** is the study of putting all living things into groups.

**Why are NAMES important?**  
If we don't know the names of all the animals, plants and fungi, we wouldn't know what something was, how, or if something had become extinct – we wouldn't be able to research life on the planet.

**What did LINNAEUS do?**  
Carl Linnaeus created a system called BINOMIAL NOMENCLATURE. Binomial means 'two words' – every plant and animal had to have about was given a GENUS name and a SPECIES name. In Latin, Linnaeus' system has made it easier for scientists all over the world to communicate about life on Earth.

**IMPRESS YOUR FRIENDS!**  
Carl Linnaeus would look at a parasite and see what was different about it. It might be a certain colour, size, texture or be from a certain place. He would use this information in the BINOMIAL name.  
How about this ladybird in America. This is called a ladybird in other countries it's a lady beetle. So how do we know if the same thing? Its BINOMIAL name tells us: *Coccinella septempunctata*  
GENUS: *Coccinella* (co-cin-eh-lia) means BRIGHT RED  
SPECIES: *septempunctata* (sep-tem-punk-ta) means SEVEN POINTS

CAN YOU SEE WHY IT WAS NAMED THIS WAY?

CLASSIFICATION by NUMBERS!

1707 The year Carl Linnaeus was born

40,000 Plant and animal specimens in Linnaeus' collections

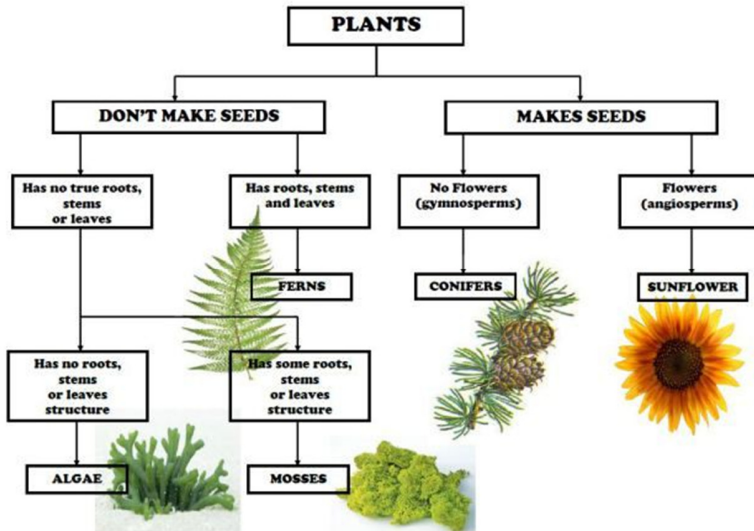
1,600 Books in his library

71 The age of Linnaeus when he died

1758 The year Linnaeus named us *Homo sapiens* (hu-mo sah-pi-ens), which means 'wise man', in his book **SYSTEMA NATURAE**

8.7 million Estimated species on Planet Earth

About 1.5 million species have a **BINOMIAL NAME**. Scientists are working on the rest!



# Classification of Animals

This is the grouping together of animals with similar characteristics. Animals can be classed as either vertebrates or invertebrates.

