

# HAWTHORN PARK COMMUNITY PRIMARY SCHOOL

Where Care and Learning Count

Headteacher: Mrs Jeni Houghton

Science Knowledge Organiser

Area: Living things and their habitats

Year Group: 6

## Statutory guidance:

### By the end of this unit pupils will be able to:

- Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals
- Give reasons for classifying plants and animals based on specific characteristics

## Notes and guidance (non-statutory)

Pupils should build on their learning about grouping living things in year 4 by looking at the classification system in more detail. They should be introduced to the idea that broad groupings, such as micro-organisms, plants and animals can be subdivided. Through direct observations where possible, they should classify animals into commonly found invertebrates (such as insects, spiders, snails, worms) and vertebrates (fish, amphibians, reptiles, birds and mammals).

They should discuss reasons why living things are placed in one group and not another.

Pupils might find out about the significance of the work of scientists such as Carl Linnaeus, a pioneer of classification.

Pupils might work scientifically by: using classification systems and keys to identify some animals and plants in the immediate environment. They could research unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system.

## Key Vocabulary

1. <b>characteristics</b>	Special qualities or appearances that make an individual or group of things different to others.
2. <b>classify</b>	To sort things into different groups.
3. <b>taxonomist</b>	A scientist who classifies different living things into categories.
4. <b>key</b>	A <b>key</b> is a series of questions about the <b>characteristics</b> of living things. A <b>key</b> is used to identify a living thing or decide which group it belongs to by answering 'yes' or 'no' questions.
5. <b>bacteria</b>	A single-celled <b>microorganism</b> .
6. <b>microorganism</b>	An organism that can only be seen using a <b>microscope</b> , e.g. <b>bacteria</b> , mould and yeast.
7. <b>microscope</b>	A piece of equipment that is used to view very tiny ( <b>microscopic</b> ) things by magnifying their appearance.
8. <b>species</b>	A group of animals that can reproduce to produce fertile offspring.

## Classification

In 1735, Swedish Scientist Carl Linnaeus first published a system for **classifying** all living things. An adapted version of this system is still used today: The Linnaeus System.

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.

<b>Domain: Eukarya</b>	jackal, clownfish, cat, dog, ladybird, daisy, rabbit, fox
<b>Kingdom: Animals</b>	jackal, clownfish, cat, dog, ladybird, rabbit, fox
<b>Phylum: Chordata</b>	jackal, clownfish, cat, dog, rabbit, fox
<b>Class: Mammals</b>	jackal, cat, dog, rabbit, fox
<b>Order: Carnivore</b>	jackal, cat, dog, fox
<b>Family: Canidae</b>	jackal, dog, fox
<b>Genus: Canis</b>	jackal, dog
<b>Species: Lupus</b>	dog

## Key Assessment Questions

Can they 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?  
 Can they give reasons for classifying plants and animals based on specific characteristics?  
 Can they record more complex data and results using scientific diagrams, classification keys, tables, bar charts, line graphs and models?

### Greater Depth:

Can they explain why classification is important?  
 Can they readily group animals into reptiles, fish, amphibians, birds and mammals?  
 Can they sub divide their original groupings and explain their divisions, such as vertebrates and invertebrates?  
 Can they find out about the significance of the work of scientists such as Carl Linnaeus, a pioneer of classification?