

## Living things and their habitats

### Year 6 Science Summer

#### What we should know at the end of the unit:

Animals can be grouped into carnivores, herbivores and omnivores. They can also be grouped into vertebrates and invertebrates. Organisms can be classified and we can use a classification key to identify them. Examples of habitats (including microhabitats) and the organisms that can be found there. Living things depend on each other to survive. How environments are changing. The relationships between predators and prey. Food chains demonstrate the direction in which energy travels.

#### What we are going to learn (LOs)

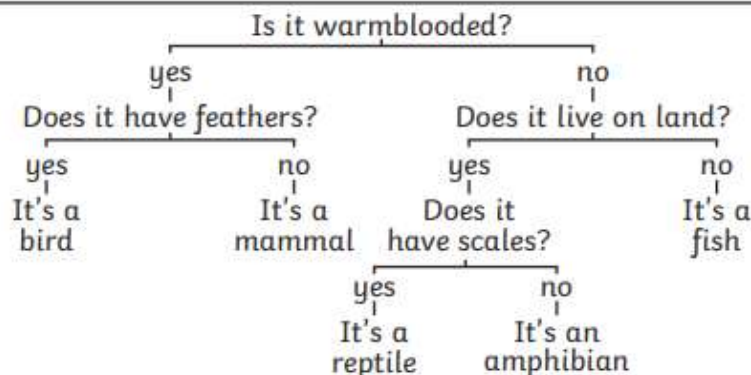
To demonstrate understanding of the process of classification.  
To apply the process of classification to plants.  
To explore the classification of animals and recognise the main groups of vertebrates  
To explore the classification of the main groups of invertebrates.  
To apply classification concepts to living things in the school grounds.  
To recognise that micro-organisms are groups of living things and explain what they are.

## Key vocabulary

|                        |  |
|------------------------|--|
| <b>characteristics</b> | Special qualities or appearances that make an individual or group of things different to others.   |
| <b>classify</b>        | To sort things into different groups.  |
| <b>taxonomist</b>      | A scientist who classifies different living things into categories.  |
| <b>key</b>             | A key is a series of questions about the characteristics of living things.<br>A key is used to identify a living thing or decide which group it belongs to by answering 'yes' or 'no' questions. |
| <b>bacteria</b>        | A single-celled microorganism.   |
| <b>microorganism</b>   | An organism that can only be seen using a microscope, e.g. bacteria, mould and yeast.  |
| <b>microscope</b>      | A piece of equipment that is used to view very tiny (microscopic) things by magnifying their appearance.   |
| <b>species</b>         | A group of animals that can reproduce to produce fertile offspring.  |
| <b>criteria</b>        | A factor on which something is judged  |
| <b>food chain</b>      | A series of living things which are linked to each other because each thing feeds on the one next to it in the series  |

| Helpful Microbes                | Harmful Microbes  |
|---------------------------------|---|
| <b>Bacteria</b> – cheese        | <b>Bacteria</b> – salmonella is a bacterium that can lead to food poisoning |
| Yeast – wine                    | Virus – chicken pox and flu are examples of viral diseases                  |
| <b>Bacteria</b> – yoghurt       | Fungi – athlete's foot  |
| Yeast – bread dough             | <b>Bacteria</b> – plaque  |
| Penicillium fungi - antibiotics | Fungi - mould   |

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



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### 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.



**Domain: Eukarya**

jackal, clownfish, cat, dog, ladybird, daisy, rabbit, fox

**Kingdom: Animalia**

jackal, clownfish, cat, dog, ladybird, rabbit, fox

**Phylum: Chordata**

jackal, clownfish, cat, dog, rabbit, fox

**Class: Mammalia**

jackal, cat, dog, rabbit, fox

**Order: Carnivora**

jackal, cat, dog, fox

**Family: Canidae**

jackal, dog, fox

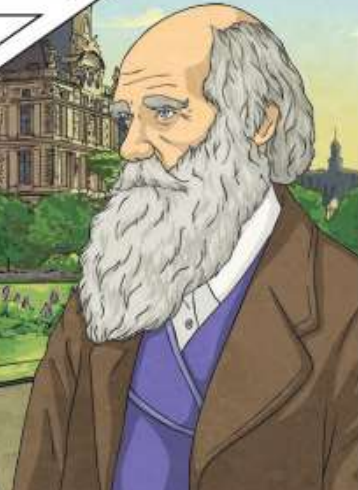
**Genus: Canis**

jackal, dog

**Species: Lupus**

dog

Each group allows scientists to observe and understand the **characteristics** of living things more clearly. They group similar things together then split the groups again and again based on their differences.



### Microorganisms

**Microorganisms** are viruses, **bacteria**, moulds and yeast. Some animals (dust mites) and plants (phytoplankton) are also **microorganisms**.

**Microorganisms** are very tiny living things that can only be seen using a **microscope**. They can be found in and on our bodies, in the air, in water and on objects around us.

