

TOPIC – LIVING THINGS AND THEIR HABITATS

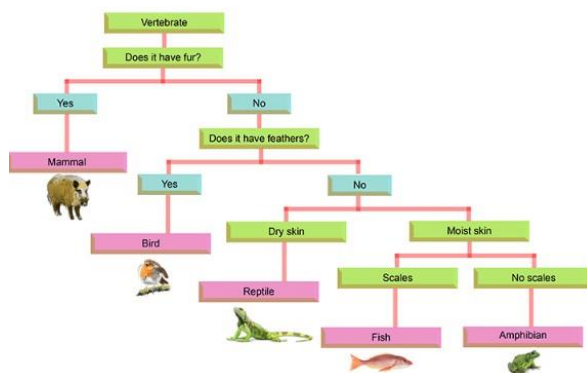
YEAR 6

What should I already know?

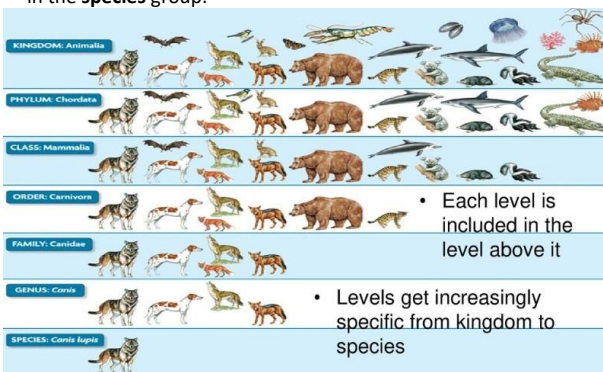
Scientific Learning

- 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 and how changes endanger living things.
- The relationships between **predators** and **prey**.
- How the **life cycles** of mammals, amphibians, insects and birds differ.
- How animals **reproduce** and the difference between sexual and asexual **reproduction** in plants.
- **Food chains** demonstrate the direction in which **energy** travels.

- Living things can be grouped according to different **criteria** (where they live, what type of **organism** they are, what features they have). For example, a camel can belong in a group of **vertebrates**, a group of animals that live in the desert, and a group of animals that have four legs.
- A **classification key** is a tool that is used to group living things to help us identify them using recognizable **characteristics**.



- The Linnaean system, named after Carl Linnaeus, has different levels where the number of living things in each group gets smaller and smaller, until there will just be one type of animal in the **species** group.



Scientific Learning

What are **microorganisms**?

- **Microorganisms** are very tiny **organisms** where a microscope has to be used to see them.
- Examples of **microorganisms** include dust mites, bacteria and fungi, such as mould.
- Some **microorganisms** can be helpful in certain situations. Others can be harmful, and their spread needs to be controlled or contained.

Scientific Enquiry

- Sort **vertebrate** and **invertebrate** animals into groups, describing their key features.
- Explore the different ways in which **vertebrates** can be classified (fish, amphibians, reptiles, birds and mammals)
- Explore the different ways in which **invertebrates** can be **classified** (e.g. arachnids, insects, molluscs).
- Sort plants into flowering and non-flowering
- Sort scenarios where **microorganisms** might be helpful (e.g. yeast in baking) or harmful; (e.g. infectious diseases).
- Use **classification systems** and keys to identify organisms
- Research unfamiliar **organisms** from a broad range of other **habitats** and decide where they belong in the **classification system**.
- Research the work of Carl Linnaeus.

adaptation a change in structure or function that improves the chance of survival for an animal or plant within a given **environment**

carnivore an animal that eats meat

characteristics the qualities or features that belong to them and make them recognizable

classification key a system which divides things into groups or types

criteria a factor on which something is judged

energy the ability and strength to do physical things

environment all the circumstances, people, things and events around them, that influence their life

evolution a process of change that takes place over many generations, where **species** of animals, plants, or insects slowly change some of their physical **characteristics**

food chain a series of living things which are linked to each other because each thing feeds on the one next to it in the series

habitat the natural **environment** in which an animal or plant normally lives or grows

herbivore an animal that only eats plants

invertebrate a creature that does not have a spine, for example an insect, a worm, or an octopus

microhabitat a small part of the **environment** that supports a **habitat**, such as a fallen log in a forest

microorganism a very small living thing which you can only see if you use a microscope

mini beast a small **invertebrate** animal such as an insect or spider

omnivore person or animal eats all kinds of food, including both meat and **plants**

organism a living thing

predator an animal that kills and eats other animals

prey an animal hunted or captured by another for food

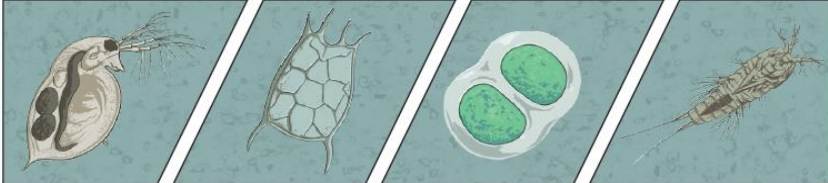
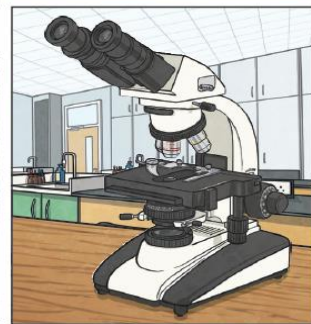
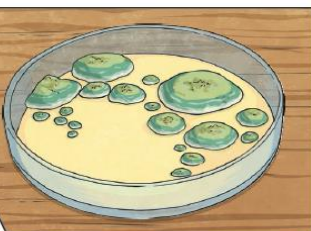
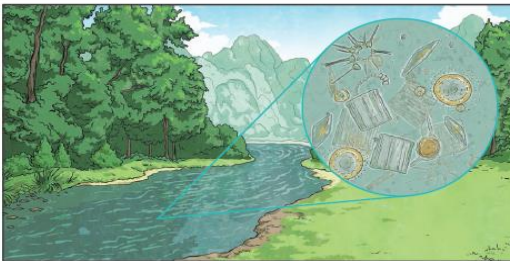
species a class of plants or animals whose members have the same **characteristics** and are able to breed with each other a creature which has a spine

Key Vocabulary	
<b>bacteria</b>	A single-celled <b>microorganism</b> .
<b>microorganism</b>	An organism that can only be seen using a <b>microscope</b> , e.g. <b>bacteria</b> , mould and yeast.
<b>microscope</b>	A piece of equipment that is used to view very tiny ( <b>microscopic</b> ) things by magnifying their appearance.
<b>species</b>	A group of animals that can reproduce to produce fertile offspring.

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

**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.



## 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: Animalia</b>	jackal, clownfish, cat, dog, ladybird, rabbit, fox
<b>Phylum: Chordata</b>	jackal, clownfish, cat, dog, rabbit, fox
<b>Class: Mammalia</b>	jackal, cat, dog, rabbit, fox
<b>Order: Carnivora</b>	jackal, cat, dog, fox
<b>Family: Canidae</b>	jackal, dog, fox
<b>Genus: Canis</b>	jackal, dog
<b>Species: Lupus</b>	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.

