

Caroline Haslett Primary School - Science Topic: Living things and their habitats Year 4

What should I already know?

- Animals can be grouped into **vertebrates** (and then further into fish, reptiles, amphibians, birds and mammals) and **invertebrates**
- Animals can be grouped into **carnivores**, **herbivores** and **omnivores**
- The differences between the teeth of **carnivores** and **herbivores**.
- The names of some common wild and garden plants and **deciduous** and **evergreen** trees.
- Examples of **habitats** (including **microhabitats**) and the animals and plants that can be found there.
- Living things depend on each other to survive.
- How land use has changed over time and the effects this has on the **environment** (e.g. **urban** development)

Vocabulary

biomes	a natural area of vegetation and animals
carnivore	an animal that eats meat
classification key	a system which divides things into groups or types
criteria	a factor on which something is judged
deciduous	trees that lose leaves in the autumn every year
environment	all the circumstances, people, things, and events around them that influence their life
evergreen	a tree or bush which has green leaves all the year round
excretion	the process of eliminating waste from the body
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
life processes	There are seven processes that tell us that living things are alive
microhabitat	a small part of the environment that supports a habitat , such as a fallen log in a forest
minibeast	a small invertebrate animal such as an insect or spider
nutrition	the process of taking food into the body and absorbing the nutrients in those foods
omnivore	person or animal eats all kinds of food, including both meat and plants
organism	a living thing
reproduction	when an animal or plant produces one or more individuals similar to itself
respiration	process of respiring; breathing ; inhaling and exhaling air
sensitivity	responding to the external environment
urban	belonging to, or relating to, a town or city
vegetation	plants , trees and flowers
vertebrate	a creature which has a spine

What will I know by the end of the unit?

How can living things be grouped?

- All living things, which can also be called **organisms**, have to do certain things to stay alive. These are the **life processes**:

- movement
- respiration
- sensitivity
- growth
- reproduction
- excretion
- nutrition



- 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.

What is a classification key?

- A **classification key** is a tool that is used to group living things to help us identify them.



How can environments change?

- **Habitats** can change throughout the year and this can have an effect on the plants and animals that live there.
- Humans can have positive and negative effects on the environment:
 - positive effects: nature reserves, ecological parks
 - negative effects: litter, **urban** development

Investigate!

- Complete Venn diagrams to show if living things can be grouped into two or more groups .
- Use **criteria** to sort living things in a Carroll diagram.
- Sort **vertebrate** and **invertebrate** animals into groups, describing their key features. Use a **classification key** to identify which group of **vertebrates** animals belong to and then create your own.
- Sort plants into groups (e.g. flowering plants and non-flowering plants) and then create a **classification key** to help others identify plants.
- Carefully observe **minibeasts** in a **microhabitat** and use a **classification key** to identify them.
- Use simple computer software programmes to create a branching **classification key**.
- Explore examples of human impact (both positive and negative) on **environments**.

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Working scientifically	<p>An observation involves looking closely at objects, materials and living things.</p> <p>Ask relevant scientific questions, independently, about the world around them and begin to identify how they can answer them.</p> <p>Observations can be made regularly to identify changes over time. Begin to choose which observations to make and for how long and make systematic, careful observations and comparisons, identifying changes and connections.</p> <p>Gather, record, classify and present observations and measurements in a variety of ways (pictorial representations, timelines, diagrams, keys, tables, charts, labelled diagrams, and graphs).</p> <p>Use scientific vocabulary to report and answer questions about their findings based on evidence collected. Draw simple conclusions and identify next steps, improvements and further questions.</p> <p>Results are information, such as data or observations, that have been found out from an investigation.</p> <p>A conclusion is the answer to a question that uses the evidence collected.</p>
Living things and their habitats	<p>Scientists classify living things according to shared characteristics. Animals can be divided into six main groups: mammals, reptiles, amphibians, birds, fish and invertebrates. These groups can be further subdivided. Classification keys are scientific tools that aid the identification of living things. Compare, sort and group living things in a variety of ways based on observable features and behaviour. Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>Habitats change over time, either due to natural or human influences. Natural influences include extreme or unseasonable weather. Human influences include habitat destruction or pollution. These changes can pose a risk to animals and plants that live in the habitat. Humans can affect habitats in negative ways, such as litter, pollution and land development, or positive ways, such as garden ponds, bird boxes and wildflower areas.</p> <p>Explain how unfamiliar habitats, such as a mountain or ocean, can change over time and what influences these changes.</p> <p>Describe how environments can change due to human and natural influences and the impact this can have on living things.</p>