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| **Parklands Primary School - Science** |
| **Topic: Living Things and their Habitats** | **Year 6** |

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| **What should I already know?** | What Should I Know? |
| * 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.
* How **organisms** have **adapted** and **evolved** over time.
 | * 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.
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| **Scientific Enquiry** |
| * Sort **vertebrate** and **invertebrate** animals into groups, describing their key features.
* Use a **classification key** to identify which group of **vertebrate** animals belong to

 and then create your own.* Explore the different ways in which **invertebrates** can be **classified** (e.g. arachnids, insects, molluscs).
* Describe some **organisms** that may be difficult to **classify** (e.g. platypus) and explain why.
* 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 some **organisms** in the immediate **environment**. Record these in a variety of ways (e.g. Venn and Carroll diagrams, tables)
* 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.
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| **What I should know by the end of the unit.**  |
| * what a vertebrate and an invertebrates is.
* the features of a mammal.
* the features of a bird and reptile.
* the features of an amphibian and fish.
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| adaptation a change in structure or function that improves the [chance](https://www.collinsdictionary.com/dictionary/english/chance) of [survival](https://www.collinsdictionary.com/dictionary/english/survival) for an animal or plant within a given **environment**carnivore an animal that eats meatcharacteristics the qualities or [features](https://www.collinsdictionary.com/dictionary/english/feature) that [belong](https://www.collinsdictionary.com/dictionary/english/belong) to them and make them recognizableclassification key a system which divides things into groups or typescriteria a [factor](https://www.collinsdictionary.com/dictionary/english/factor) on which something is judged energy the ability and strength to do physical thingsenvironment all the [circumstances,](https://www.collinsdictionary.com/dictionary/english/circumstance) 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](https://www.collinsdictionary.com/dictionary/english/insect) slowly change some of their physical **characteristics**food chain a [series](https://www.collinsdictionary.com/dictionary/english/series) of [living](https://www.collinsdictionary.com/dictionary/english/living) things which are [linked](https://www.collinsdictionary.com/dictionary/english/link) to each other because each thing [feeds](https://www.collinsdictionary.com/dictionary/english/feed) on the one next to it in the series | habitat the [natural](https://www.collinsdictionary.com/dictionary/english/natural) **environment** in which an animal or plant normally lives or growsherbivore an animal that only eats plantsinvertebrate a [creature](https://www.collinsdictionary.com/dictionary/english/creature) that does not have a [spine,](https://www.collinsdictionary.com/dictionary/english/spine) for [example](https://www.collinsdictionary.com/dictionary/english/example) an insect, a [worm,](https://www.collinsdictionary.com/dictionary/english/worm) or an [octopus](https://www.collinsdictionary.com/dictionary/english/octopus)microhabitat a small part of the [**environment**](https://www.collinsdictionary.com/dictionary/english/environment) that supports a **habitat**, such as a fallen [log](https://www.collinsdictionary.com/dictionary/english/log_1) in a forestmicroorganism 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 spideromnivore person or animal eats all [kinds](https://www.collinsdictionary.com/dictionary/english/kind) of food, including both [meat](https://www.collinsdictionary.com/dictionary/english/meat) and **plants**organism a living thingpredator an animal that kills and eats other animalsprey an animal hunted or captured by another for foodspecies a class of plants or animals whose members have the same **characteristics** and are able to breed with each othervertebrate a creature which has a spine |



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| Question 1: Which of these is **not** a vertebrate? | Start of unit: | End of unit: |
| bird |  |  |
| mammal |  |  |
| reptile |  |  |
| insect |  |  |
| amphibian |  |  |

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| Question 2: Give an example of amicroorganism. | Startofunit: | Endofunit: |
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| Question 3: Name one thing that makes these animals similar and one thing that makes them different. | Start of unit: | End of unit: |
| similar different |  |  |

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| Question 4: Give an example of when microorganisms are helpful. | Start of unit: | End of unit: |
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| Question 5: Give an example of when microorganisms are harmful. | Start of unit: | End of unit: |
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| Question 6: Give an example how food is preserved to stop it from going mouldy. | Start of unit: | End of unit: |
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| Question 7: What is Carl Linnaeus famous for and why is his work important? | Start of unit: | End of unit: |
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| Question 8: Use the classification key to identify which plant these leaves have come from. | Start of unit: | End of unit: |
| How many leaves on each branch?Multiple leaves A single leafAre there ten or more leaves on the branch? Does it have a smooth or uneven edge? Yes No Smooth UnevenAsh Beech Oak Do the leaves meet at a single point on the branch or are they spread out along it? Single Spread out point  Horse Chestnut Elder      |  |  |

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| Question 9: This is a holly leaf. Choose a leaf from the ones above that it is similar to and give reasons why. | Start ofunit: | End ofunit: |
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| Question 10: Create your own classification key to sort the following animals. It has been started for you. | Start of unit: | End of unit: |
| Does it have a spine?Yes (vertebrate) No (invertebrate) |  |  |