

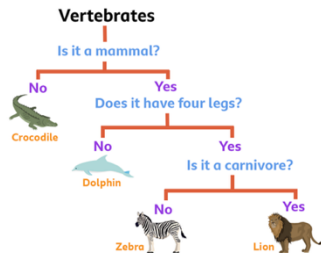
What should I already know?

- Animals and plants are living things.
- Living things can be grouped based on their features.
- Animals can be vertebrates (with a backbone) or invertebrates (without a backbone).
- Living things live in habitats suited to their needs.
- Different living things have different diets (herbivore, carnivore, omnivore).

What I will know by the end of the unit?

What does it mean to classify living things?

- To classify means to sort or group living things based on similarities and differences.
- Scientists group organisms by observable characteristics (things you can see).
- Classification keys help us identify and sort organisms.



What are the main groups of living things?

- **Animals** - vertebrates and invertebrates
- **Plants** - flowering and non-flowering
- **Microorganisms** - bacteria, fungi, viruses, algae

What are microorganisms?

- Microorganisms are tiny living things that are so small you need a microscope to see them.
- Some microorganisms are helpful (e.g. in making bread or medicine).
- Others can be harmful and cause illness, so they need to be controlled or contained.

Who was Carl Linnaeus and why is he important?

- Carl Linnaeus (1707-1778) was a Swedish scientist.
- He created the Linnaean system, still used today to classify living things.
- He gave each species a two-part Latin name (e.g. *Homo sapiens* for humans).
- His system helps scientists all over the world name and organise living things in the same way.



What is the Linnaean classification system?

- The Linnaean system was created by Carl Linnaeus to help scientists group and name living things.
- Every living thing is sorted into groups within groups, from the biggest group to the smallest.
- The smaller the group, the more closely related the living things are.
- There are seven levels of classification: Kingdom → Phylum → Class → Order → Family → Genus → Species



Key Vocabulary

Characteristics	a feature used to identify and classify a living thing
Classify	to group things based on similarities and differences
Classification key	a tool with questions to help identify organisms
Kingdom	the broadest classification group
Linnaean system	the classification system created by Carl Linnaeus
Microorganism	a tiny living thing (e.g. bacteria, fungi, viruses)
Species	the most specific classification - a group that can breed together

<p>Working Scientifically</p>	<p>Questions can help us find out about the world and can be answered using a range of scientific enquiries, including fair tests, research and observation. Ask and answer deeper and broader scientific questions about the local and wider world that build on and extend their own and others' experiences and knowledge.</p> <p>An observation involves looking closely at objects, materials and living things. Accurate observations can be made repeatedly or at regular intervals to identify changes over time, identify processes and make comparisons.</p> <p>Independently decide which observations to make, when and for how long and make systematic and careful observations. Use them to make comparisons, identify changes, classify and make links between cause and effect.</p> <p>The results are information, such as measurements or observations, that have been collected during an investigation. Data can be recorded and displayed in different ways, including tables, bar and line charts, scatter graphs, classification keys and labelled diagrams. Choose an appropriate approach to recording accurate results, including scientific diagrams, labels, timelines, classification keys, tables, models and graphs (bar, line and scatter), linking to mathematical knowledge. A conclusion is an explanation of what has been discovered, using correct, precise terminology and collected evidence. Report on and validate their findings, answer questions and justify their methods, opinions and conclusions, and use their results to suggest improvements to their methodology/ predictions, separate facts from opinions, pose further questions and make predictions for what they might observe.</p>		
<p>Living Things and Their Habitats</p>	<p>Living things are classified into groups, according to common observable characteristics and based on similarities and differences. Classification keys help us identify living things based on their physical characteristics. Scientists classify living organisms into broad groups according to their characteristics. Vertebrates are an example of a classification group. There are a number of ranks, or levels, within the biological classification system. The first rank is called a kingdom, the second a phylum, then class, order, family, genus and species. Use and construct classification systems to identify animals and plants from a range of habitats. Classify living things, including microorganisms, animals and plants, into groups according to common observable characteristics and based on similarities and differences. Research unfamiliar animals and plants from a range of habitats, deciding upon and explaining where they belong in the classification system.</p>		
<p>Possible Activities</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #e0f0e0;"> <th style="text-align: center; padding: 5px;">Investigate!</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;"> <ul style="list-style-type: none"> • 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. • 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. • Use simple computer software programmes to create a branching classification key. • 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. </td> </tr> </tbody> </table>	Investigate!	<ul style="list-style-type: none"> • 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. • 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. • Use simple computer software programmes to create a branching classification key. • 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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