

Science

Year 6 – Aut 1 – Living Things and Their Habitats

National Curriculum / End Point Statement					
<p>Living Things and their Habitats</p> <ul style="list-style-type: none"> describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals give reasons for classifying plants and animals based on specific characteristics <p>Working Scientifically</p> <ul style="list-style-type: none"> planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary taking measurements, using a range of scientific equipment, with increasing accuracy and precision recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and bar and line graphs using test results to make predictions to set up further comparative and fair tests reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of results, in oral and written forms such as displays and other presentations identifying scientific evidence that has been used to support or refute ideas or arguments. 					
Step 1	Step 2	Step 3	Step 4 (TAPS)	Step 5	Step 6
Reactivate previous knowledge – Year 2 animals, Year 4 – classifying living things WALT classify living things	WALT describe how living things are classified into broad groups	WALT give reasons for classifying plants and animals based on specific characteristics	WALT Report and present findings using correct scientific language	WALT describe common characteristics of microorganisms	WALT classify micro-organisms
In Focus - https://explorify.uk/en/activities/odd-one-out/living-moving	In Focus - https://explorify.uk/en/activities/odd-one-out/terrific-tree-dwellers	In Focus - https://explorify.uk/en/activities/odd-one-out/making-tracks	In Focus - https://explorify.uk/en/activities/zoom-in-zoom-out/brown-and-humpy	In Focus - https://explorify.uk/en/activities/odd-one-out/small-but-powerful	In Focus - https://explorify.uk/en/activities/the-big-question/can-microorganisms-be-good-for-you
Success Criteria					
I can classify I can create a classification system I can explain why things are placed into one group and not the other.	I can classify living things I can observe characteristics to help with classification I can describe how I have classified living things. I can tell you why we classify plants and animals	I can classify animals and plants I can explain why I have placed the living thing into one group and not the other I can classify animals and plants from a range of habitats I can tell you why we classify plants and animals	I can present what I have found out I can research I can report my findings to others	I know what a microorganism is I can give an example of some microorganisms	I can explain how microorganisms fit within the classification system
Suggested Outcome					

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<p>Children could use dolly mixtures to create a classification system based on characteristics of sweets. Discuss how this can apply to living things.</p> <p>https://di4c76y7libwww.cloudfront.net/documents/UKS2_Science_Yr_6_Spring1_Class_Connoisseurs_Session_3_Resources.pdf</p>	<p>Children can observe characteristics and use keys/classification to group living things.</p> <p>https://di4c76y7libwww.cloudfront.net/documents/UKS2_Science_Yr_6_Spring1_Class_Connoisseurs_Session_4_Resources.pdf</p>	<p>Children can classify plants and animals and know why it is done. They can justify why one living thing should be placed into one group and not another.</p>	<p>Children will be able to explain all of the key characteristics of that group and how they differ from other groups. Able to justify why their chosen animal belongs to one invertebrate group and not another. E.g. a ladybird is an insect as it has an exoskeleton, a three-part body and three pairs of jointed legs.</p>	<p>https://www.ase.org.uk/resource/s/search/7-11-14/topic/microbes-42?search_api_views_fulltext=microorganisms&sort_hef_combined=search_api_combined_1+ASC&type%5B%5D=journal_article&type%5B%5D=journal_issues&type%5B%5D=journals&type%5B%5D=publication&type%5B%5D=resources</p> <p>Children know what a microorganism is and how they fit into the classification system. The resources from ASE are very good.</p>	<p>Children could classify various microorganisms that were looked at during the last lesson and begin to classify them. See ASE resources for support.</p>
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Vocabulary	NC links
characteristics, classifying, microorganisms, vertebrate, invertebrate, fish, amphibian, reptile, bird, mammal, insects, spider, snail, worm	Evolution and inheritance, Fossils and Rocks in year 3 Animals including Humans

Key Learning
<p>Living things can be formally grouped according to characteristics. Plants and animals are two main groups but there are other living things that do not fit into these groups e.g. micro-organisms such as bacteria and yeast, and toadstools and mushrooms. Plants can make their own food whereas animals cannot.</p> <p>Animals can be divided into two main groups: those that have backbones (vertebrates); and those that do not (invertebrates). Vertebrates can be divided into five small groups: fish; amphibians; reptiles; birds; and mammals. Each group has common characteristics. Invertebrates can be divided into a number of groups, including insects, spiders, snails and worms.</p> <p>Plants can be divided broadly into two main groups: flowering plants; and non-flowering plants.</p>

Possible Evidence	Common Misconceptions
<ul style="list-style-type: none"> • Can give examples of animals in the five vertebrate groups and some of the invertebrate groups • Can give the key characteristics of the five vertebrate groups and some invertebrate groups • Can compare the characteristics of animals in different groups • Can give examples of flowering and non-flowering plants • Can use classification materials to identify unknown plants and animals • Can create classification keys for plants and animals • Can give a number of characteristics that explain why an animal belongs to a particular group 	<p>Some children may think:</p> <ul style="list-style-type: none"> • all micro-organisms are harmful • mushrooms are plants.

Notable Scientists
Carl Linnaeus – Classification

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Libby Hyman – Classification of invertebrates

CPD opportunity

<https://www.reachoutcpd.com/courses/upper-primary/classification/>

Useful Links

- <https://www.bbc.co.uk/bitesize/topics/zn22pv4>
- <https://app.discoveryeducation.co.uk/learn/channels/channel/f798212b-0893-4cdc-beb9-bbc02112806f>
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Living things and their habitats

Early learning goal	<ul style="list-style-type: none">• Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes.
Year 1	<ul style="list-style-type: none">• Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. (Y1 - Plants)• Identify and describe the basic structure of a variety of common flowering plants, including trees. (Y1 - Plants)• Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 - Animals including humans)• Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Y1 - Animals including humans)• Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). (Y1 – Animals, including humans)• Observe changes across the four seasons. (Y1 - Seasonal change)
Year 2	<ul style="list-style-type: none">• Explore and compare the differences between things that are living, dead, and things that have never been alive.• Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.• Identify and name a variety of plants and animals in their habitats, including microhabitats.• Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.• Notice that animals, including humans, have offspring which grow into adults. (Y2 - Animals including humans)
Year 3	<ul style="list-style-type: none">• Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. (Y3 - Plants)
Year 4	<ul style="list-style-type: none">• Recognise that living things can be grouped in a variety of ways.• Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.• Recognise that environments can change and that this can sometimes pose dangers to living things.• Construct and interpret a variety of food chains, identifying producers, predators and prey. (Y4 - Animals, including humans)
Year 5	<ul style="list-style-type: none">• Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.• Describe the life process of reproduction in some plants and animals.