Year 4 Living things and Habitats

Background knowledge
Thisunit can be done outdoors wherever possible using local habitats such as the forest school, other school areas and the parks. There are also other wetland trust areas available for visits if required. The key skills should be taught in the context of the school grounds and other environments that can be visited. Where possible data loggers and thermometers should be used to take accurate measurements of different habitats. Hamilton trust resources are invaluable for supporting here Living things can be grouped (classified) in different ways according to their features. Classification keys can be used to identify and name living things. Living things live in a habitat which provides an environment to which they are suited (Year2 learning). These environments may change naturally e.g. through flooding, fire, earthquakes etc. Humans also cause the environment to change. This can be a good way (i.e. positive human impact such as setting up nature reserves) or in a bad way (i.e. negative human impact such as littering). These environments also change with the seasons; different living creatures can be found in a habitat at different times of the year. There is a clear link to food chains here which is covered in the digestion topic (See Summer b) Common misconceptions • The death of one part of a food chain or web has no or limited consequences on the rest of the chain. • There is always plenty of food for wild animals. • Animals are only land- living creatures. • Animals and plants can adapt to their habitats, however they change. • All changes to habitats are negative.

What children should know/can do

I can identify things that are living, dead and never alive.
I can describe how a specific habitat provides for the basic needs of things living there. (plants and animals)
I can match living things to their habitat.
I can describe how animals find their food.
I can name some different sources of food for animals.
I can explain a simple food chain.
I know the term habitat and micro habitat.
I know the term vertebrate and invertebrate.

National Curriculum objectives	Children's objectives
Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help, group and identify a variety of living things in their local and wider environment. Recognise that environments can change and this can sometimes pose dangers to living things.	I can group living things in different ways. I can use classification keys to group, identify and name living things. I can create classification keys to group, identify and name living things (for others to use.). I can describe how changes to an environment can endanger living things.
Science Enquiry Asking relevant questions and using different types of scientific enquiries to answer them Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers	I can ask relevant questions and know how to find out the information. I can make careful and accurate observations of habitats and the organisms living there. I can use equipment including thermometers and data loggers to make measurements of the conditions found in habitats. I can use a simple key to identify organisms.

Assessment

1. What is a habitat and a micro habitat?
2. Can you describe some of the features of a habitat you found in the school grounds?

3. What is an organism? Name several animals and plants. How are they different?
4. Why have you grouped the organisms in this way?
5. Can you place an organism into the correct place on a key
6. How do you know the organism goes here on the key?
7. Can you give 3 facts about the organism you researched?
8. Can you state the organisms living in a specific habitat?
9. What would be the effect of changing the school grounds on wildlife?

Working towards	Expected	Exceeding
I know what a habitat is. I can state some of the conditions I would find in a habitat and name some of the organisms living there. I can group living organisms in different ways with support. I can produce and use a simple classification key to identify organisms with support. I can find out simple information about an organism using the internet. I can start to recognise the effect a change in conditions can have on the organisms living in a habitat.	I know what the terms habitat, micro-habitat and organism mean. I can make careful observations using a range of equipment. I can state the conditions I would find in a habitat and name some of the organisms living there. I can group living organisms in different ways. I can produce and use a simple classification key to identify organisms. I can think of questions I would like to find out and research an organism using the internet. I know what effect a change in conditions can have on the organisms living in a habitat.	I know what the terms habitat, micro-habitat and organism mean and give examples. I can make careful observations using a range of equipment confidently. I can state the conditions I would find in a habitat and give reasons why certain organisms live there. I can group living organisms in different ways explaining my reasons for doing so. I can confidently produce and use a simple classification key to identify organisms. I can think of questions I would like to find out and research an organism in detail using the internet. I know what effect a change in conditions can have on the organisms living in a habitat and say what could be done to improve them.

Key vocabulary	
Habitat- environment in which organisms live. Micro – habitat- a small habitat with its own features. Organism; a living thing.	Observe – to look at something closely Measure – to find out the amount of something. Classify; to group organisms according to their different features.

Animal: an organism that can't make its own food. Plant; an organism that can make its own food. Vertebrate; animals with backbones. Invertebrate; animals without back bones. Key; the way that scientists identify organisms by sorting them by their common features.	

Suggested activities

Useful for recording learning ideas and assessment https://www.ase.org.uk/resources/y4-living-things-and-their-habitats-chaya

Hamilton Trust resources on this topic https://www.stem.org.uk/resources/elibrary/resource/33364/living-things-and-their-habitats-habitats

Objectives	Lesson Objectives	Working scientifically	Suggested Main activity
• To recognise that living things can be grouped in a variety of ways	• To know there are different types of animals • To identify differences and similarities	• Identifying differences, similarities or changes related to simple scientific ideas and processes	Choose 2 animals - list similarities and differences (100 sci lessons) Using different animal pics, sort in different ways (See game – free download https://www.outstandingscience.co.uk/index.php?action=view_page&page=view_unit&unit=4a)
• To recognise that living things can be grouped in a variety of ways	• To know there are different types of non-flowering plants	• Identifying differences, similarities or changes related to simple scientific ideas and processes	• Observe and classify samples of different plants including mosses, conifers ferns and horsetails (see 100 curric science lessons)
• To recognise that living things can be grouped in a variety of ways	• To develop an awareness of the importance of careful; observation and recording in the life of the scientist • To understand the depth of variety in flowering/nonflowering plants, identify differences and similarities	• Recording findings using simple scientific language, drawings, labelled diagrams, bar charts and tables	Investigate the observational drawings of Beatrix Potter of mushrooms (Google) 100 Lit hours Have a go at sketching or photographing different varieties of the same plant eg mushrooms (be careful of allergies), melons, apples etc
• To know that living things can be grouped in a variety of ways	• To name some common flowers • To use a simple identification guide 'key'	• Gathering, recording, classifying and presenting data in a variety of ways to help answer questions	Use a key to identify different plants/animals etc (100 sci lessons p40) and tes (https://www.tes.com/teaching-resource/classification-keys-7126592) for resources/activities/ideas Make up own key to group plants/leaves

			See http://www.nhm.ac.uk/content/dam/nhmwww/take-part/identify-nature/tree-identification-key.pdf for complicated example!
● Know that animals can be grouped in a variety of ways	● Know that animals can be grouped into those with and without backbones ● To know and use the term vertebrate and invertebrate ● To know the 5 different groups of animals with backbones and be able to name their features	Talking about criteria for grouping, sorting and classifying and use simple keys Identify similarities, differences or changes related to different ideas	Research different vertebrate or invertebrate groups and make up factfile for each
● Know that animals can be grouped in a variety of ways	● Name some common birds/common invertebrates	Talking about criteria for grouping, sorting and classifying and use simple keys	Classify some common birds/ invertebrates using a key Present information using writing and drawing
● Recognise that living things can be grouped in a variety of ways	● To develop an understanding of why it is helpful to have a shared system of classification ● To know some facts about major scientists	Talking about criteria for grouping, sorting and classifying To know about some important scientists	Look at the work of Carl Linnaaeus Children look at a woodlouse through a visualiser (or video clip) Explain that there are 45 different species of woodlouse, many have different 'local' names. Look at 2 different images of different species of woodlouse. Ch identify features of each and compare. Use woodlouse ID guide to id which type they have (100 sci hrs CDROM activity) Carl Linnaeus was the first man to classify humans by same system as animals despite criticism by church of humans being linked to animals. Research life of Linnaeus https://www.linnean.org/learning/who-was-linnaeus Binomial nomenclature is how living things are referred to firstly by the genus and then the species
● To know examples of changes to habitats and how they affect the animals and plants living there	● To begin to understand that local actions affect global environments	Asking relevant questions	See 'changing environments on 100 sci hours CD ROM Planning and carrying out a small change that will have a positive impact on environment eg making insect habitats/ organise an anti litter campaign or recycling event (see friends of the earth/RSPB etc etc ideas) See STEM Hamilton Trust for bug hotel ideas https://www.stem.org.uk/resources/elibrary/resource/33364/living-things-and-their-habitats-habitats for design sheets
● To know examples of changes to habitats and how they affect the animals and plants living there	To begin to reflect on the impact of human activity on the environment	● Gathering, recording, classifying and presenting data an a variety of ways to help answer questions	Look at current issue regarding environment, either local or international, eg plastics, global warming etc. See Young People's Trust for the Environment site for examples (http://ypte.org.uk/learn) Write letters of support for campaign outlining problem and what might be done about
●			Further activities Investigate how animals are adapted to their environment and how if the environment changes how they might struggle to survive (food chains - see unit on digestion))