Year 4 Living Things And Their Habitats

Expected	Do not need to report GD at KS2 but these are some ideas for extending children's understanding.
● groups a wide selection of living things in a variety of different ways and explains the criteria used, e.g. sorts plants by type of leaf, prickly and not prickly or by shape of leaf ● begins to group vertebrate animals into fish, amphibians, reptiles, birds and mammals ● begins to group invertebrate animals into snails and slugs, worms, spiders and insects ● begins to group plants into categories such as flowering (including grasses) and non-flowering, such as ferns and mosses ● uses a 'spotters guide' to identify and name a variety of living things in a specific environment, e.g. the school grounds ● uses a simple classification key to help group, identify and name a variety of living things, e.g. a branching diagram ● devises a simple (up to 6 items) classification key to help group, identify and name a collection of common living things, e.g. a branching database of leaves, flowers, mini-beasts ● recognises that some environments change due to human impact, e.g. litter or deforestation and some change due to natural impact, e.g. floods or earthquake ● describes some of the changes to an environment as a result of human or natural impact ● realises that some of the changes to the environment are temporary and some are permanent ● describes the effect that the changes to the environment have on the plants and animals that live there, including humans ● gives examples of the positive human impact on an environment, e.g. animals/plants in a nature reserve ● gives examples of the negative human impact on an environment, e.g. building on ground that once provided an environment for animals/plants	● defines the terms vertebrate and invertebrate ● identifies the characteristics of: fish, amphibians, reptiles, birds and mammals ● groups vertebrate animals into fish, amphibians, reptiles, birds and mammals ● groups invertebrate animals into snails and slugs, worms, spiders and insects ● groups plants into categories such as flowering (including grasses) and non-flowering, such as ferns and mosses ● uses a complex classification key to help group, identify and name a variety of living things, e.g. a branching diagram with a larger number of items or items where it is more difficult to observe the differences (because the items are similar in appearance) ● devises a complex classification key to help group, identify and name a variety of living things, e.g. a branching diagram with a larger number of items or items where it is more difficult to observe the differences (because the items are similar in appearance) or where the items are not common to them ● describes the possible long term outcome that change may have on an environment, e.g. certain animals/plants may become extinct ● describes ways in which human and natural impact to an environment can be prevented or lessened ● explains how some 'natural changes' to the environment are possibly due to human activity, e.g. the effects of global warming

Enquiry Opportunities					
These are suggestions for enquiry activities. Please ensure that you are covering all types over the year. Focus on one scientific skill per enquiry. Children do not need to write up each stage of the investigation. Focus on just the skill being taught.			Year 4 Working Scientifically Statements From Insights ● Makes systematic and careful observations over time, looking at similarities and differences. ● Asks questions surrounding patterns found in data ● Gathers, records, classifies and presents data in a variety of ways to help in answering questions. ● Sets up simple practical enquiries, comparative and fair tests. ● Uses secondary sources with adult support to help clarify results seen.		
Identifying and Classifying	Comparative Testing	Fair Testing	Pattern Seeking	Research	Observation Over Time
Can we use the classification keys to identify the animals (that we caught pond dipping)?	How does the average temperature of pond water change in each season?	Does the amount of light affect how many woodlice move around?	How has the use of insecticides affected bee population? Do animals with … have …? Do plants with … have …?	Research and be able to name plants and animals in wider environment (e.g. polar, desert, jungle Research global environmental issues and the impact on living things. E.g. Why are people cutting down the rainforests and what effect does that have?	How does the variety of invertebrates in the Wildlife Area change over the year? Observe one tree etc in the Wildlife Area over time - different times of fay/ weather/ times of the year.

Prior Knowledge	Previous Lesson Topics

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<td rowspan="5">

Comments and questions about the place they live or the natural world.
Shows care and concern for living things and the environment.
Can talk about things they have observed such as plants and animals.
Notices features of objects in their environment.
Comments and asks questions about their familiar world.
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.

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<td colspan="2">Year 2:
1. Living dead never alive - characteristics of life
2. Different types of habitats, where in the world, what habitats provide, needs of animals based on their properties
3. Microhabitats, suitability of habitats, needs of the animals, adaptations - small, dark, wet
Hunting for bugs in wildlife area
4. Suitability of animals and plants to habitats - adaptations of polar bear, camel, cactus - parts of the animals for a purpose
5. Letter to scientist - why moving an animal to a different habitat can’t work - adaptations
6. Effects of animals/ interconnectedness - animals effect on their habitat

1. Nocturnal or Diurnal Animals- adaptations of animals to suit their habitat, lifestyle and nocturnal life - eye experiment
2. Life cycle of humans and different types of animals (bird/ mammal) - order and understand the stages
3. Detailed book about life cycle of ladybirds or bees
4. Needs of humans and animals to survive - water, food, air, shelter - characteristics of life</td>
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<tr>
<td>Year 4
National Curriculum Statements</td>
<td>Future Learning</td>
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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. Changes can be natural e.g. flooding, earthquake or by humans and can be positive or negative.
To construct and interpret a variety of food chains, identifying producers, predators and prey.

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<td rowspan="3">In Year 5 pupils will be taught to:

To 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.

In Year 6 pupils will be taught to:

To describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. Give reasons for classifying plants and animals based on specific characteristics.

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<td>Year 4 Insight Statements</td>
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Recognises that living things can be grouped in a variety of ways.

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Uses classification keys to help group, identify and name a variety of living things in their local and wider environment.
Recognises that environments can change and that this can sometimes pose dangers to living things.

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<tr><td>Common Misconceptions</td><td>Competitions</td><td>Scientists</td><td>Books</td></tr>
<tr><td>Some children may think:

the death of one of the parts 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.

</td><td>Explorers Against Extinction - Sketch for Survival
https://explorersagainstextinction.co.uk/initiatives/sketch-for-survival/sketch-for-survival-2021/
Nancy Rothwell Specimen Drawing
https://www.rsb.org.uk/get-involved/rsb-awards/nancy-rothwell-award</td><td>Required:
Prem Singh Gill - polar scientist studying seals

Suggested:
Jaques Cousteau - Marine Biologist
Cindy Looy - Environmental Change and Extinction
Joean Beauchamp - Procter Zoologist
Lorenzo Langstroth - Inventor of the Beehive
Seirian Sumner - Ecologist who studies focus on bees and wasps
Carl Linnaeus (1707 – 1778) – Developed a method for classifying all living things on the planet.</td><td>The Vanishing Rainforest (Richard Platt)
The Morning I Met a Whale (Michael Morpurgo)
Journey to the River Sea (Eva Ibbotson)</td></tr>
<tr><td colspan="2">Scientific Vocabulary</td><td>School Resources</td><td>Cross-curricular Links</td></tr>
<tr><td colspan="2" rowspan="2">Year 2:
living, dead, never been alive, move, grow, feed, have offspring/ young/ babies, pond, woodland, meadow, seashore, rainforest, habitat, micro-habitat, damp/ wet/ dry, dark/ light, hot/ warm/ cool/ cold, comparatives e.g. hotter, suited/ suitable, needs, depend, food, food chain, shelter
Adults Use Language: life process, reproduce, conditions, sources of food</td><td></td><td rowspan="3">

Children to research an endangered animal and find the difference between populations at two points in time.
Give children a series of time graphs showing population of an animal over a period of time and

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<tr><td>Outdoor Learning and Resources</td></tr>
<tr><td colspan="2">Wildlife Area</td></tr>
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Year 4: classification keys, environment, fish, amphibians, reptiles, birds, mammals, vertebrates, invertebrates, examples of positive and negative impacts		climate statistics e.g. level of rainfall and temperature in that period of time. Children to interpret the data and see if climate changes have affected anima's populations. ● Orangutan advert.