Year 6 Living Things and Habitats

Expected	Do not need to report GD at KS2 but these are some ideas for extending children's understanding.
● explains what a classification system is and why classification is used ● groups animals and plants according to certain observable characteristics or similarities and differences, e.g. animals that have wings, plants that produce flowers ● knows that the broad groups can be subdivided, e.g. animals into invertebrates/invertebrates ● uses a classification system or key (e.g. a branching tree) to help identify animals or plants common to their immediate environment ● recognises the significance of the work of scientists in this field, e.g. Carl Linnaeus ● identifies and explains some of the specific characteristics used to classify plants and animals, e.g. all mammals produce milk but not all have a covering of hair (dolphins) ● explains why it is necessary to classify plants and animals (it is the way scientists categorise and organise all of life. It can help to distinguish how similar or different living organisms are to each other).	● decides which group a variety of unfamiliar animals or plants belong to ● identifies the further subdivision of broad groups e.g. invertebrates could be divided into; insects, molluscs, crustaceans, corals, arachnids, worms etc

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 6 Working Scientifically Statements From Insights
	● Recognises things change over time, and can ask pertinent questions and suggest reasons for similarities and differences over time. ● Asks questions about patterns in data and be able to explain why something has happened. ● Uses prior knowledge to make appropriate predictions.

			● Reports and presents findings from enquiries. ● Forms suitable conclusions in oral and written forms such as displays and other presentations. ● Develops and uses keys and prior knowledge to classify and describe objects. ● Takes measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeated readings when appropriate. ● Uses secondary sources to help interpret results seen. ● Makes their own decisions and selects the most appropriate type of scientific enquiry to use. ● Recognises how to set up a comparative and fair test.		
Identifying and Classifying	Comparative Testing	Fair Testing	Pattern Seeking	Research	Observation Over Time
How did Carl Linneus group plants? Classify plants into flowering, mosses, ferns, conifers Create a branching database/dichotomous key to classify a set of living things.	Which is the most common invertebrate in our Wildlife Area? How does the temperature affect how much gas is produced by yeast?		Do all flowers have the same number of petals?	Research characteristics of vertebrate/ invertebrate/flowering plants. What do different types of microorganisms do? Are they always harmful?	What happens to a piece of bread if you leave it on the windowsill for two weeks?

Prior Knowledge	Previous Lesson Topics
● Comments and questions about the place they live or the natural world. ● Shows care and concern for living things and the environment.	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

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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.
Recognise that living things can be grouped in a variety of ways.

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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 - bees

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

Year 4:
1. Classification Keys
2. Sort animals in the wildlife area and record data
3. Design an environment - how do changes in the environment affect what lives there
4. Water Cycle - evaporation and condensation connected to temperature

Year 5:
1. Differences in the life cycles of a mammal, amphibian, insect and bird
2. Animal reproduction
3. Plant Reproduction Including Dissection
4. Report on Attenborough and Thunberg.
5. Wildlife documentary comparing lifecycles of plants and animals in different ecosystems.
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<td>Year 6 National Curriculum Statements</td>
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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

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In Key Stage 3 children will learn about:

the dependence of almost all life on Earth on the ability of photosynthetic organisms, such as plants and algae, to use sunlight in photosynthesis to build organic molecules that are an essential energy store and to maintain levels of oxygen and carbon dioxide in the atmosphere
the adaptations of leaves for photosynthesis.
the interdependence of organisms in an ecosystem, including food webs and insect pollinated crops
the importance of plant reproduction through insect pollination in human food security

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- 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.
- 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.

</td><td>Year 6 Insight Statements

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

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- how organisms affect, and are affected by, their environment, including the accumulation of toxic materials.

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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:

- All microorganisms are harmful
- Mushrooms are plants

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https://www.linnean.org/learning/content/special-species
Great Bug Hunt
https://www.insectweek.co.uk/news/great-bug-hunt-2020-winners
Design a Bug
https://playmonster.co.uk/pages/my-living-world-design-a-bug-competition?_pos=1&_sid=c7a8dceb4&_ss=r
Nancy Rothwell Specimen Drawing
https://www.rsb.org.uk/get-involved/rsb-awards/nancy-rothwell-award</td><td>Required:
Carl Linnaeus—created a modern systems of naming organisms

Suggested:
Libby Hyman Classification Invertebrates</td><td>Beetle Boy (M G Leonard)
Insect Soup (Barry Louis Polisar)
Fur and Feathers (Janet Halfmann)</td></tr>
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Vocabulary	School Resources	Cross-curricular Links
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 Year 4: classification keys, environment, fish, amphibians, reptiles, birds, mammals, vertebrates, invertebrates, examples of positive and negative impacts Year 5: life cycle, reproduction, sexual, assexual, germination, pollination, seed formation, seed dispersal, pollen, stamen, stigma, plantlets (e.g. spider plant), runners (e.g. strawberry plant), insect, bird, eggs, live young Year 6: organism, microorganism, fungus, mushroom, arachnid, mollusc, crustacean	Magnifying glasses Classification Keys Outdoor Learning and Resources Wildlife Area	• Find out about the significance of the work of Carl Linnaeus who developed the binomial system for classification. Children sort and group living things using Venn / Carroll diagrams and create classification keys. • Conduct a survey of minibeasts in their local area. Choose appropriate ways to record findings.