Living things and their Habitats Scientific enquiry

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Investigations		How are plants and animals reliant on one another to survive? (Investigate food chains and break in it or over abundance of one animal). STEM – video clip starter		What is the common link between chocolate biscuits and orangutans? (Stem.org. uk resources– palm oil/deforestation).	Explore similarities and differences in life cycles of vertebrates. Compare process of reproduction in animals and plants. (Dissect a flower to learn about reproduction in plants)	Explore why certain animals do not just fit into one group – duck-billed platypus How does blood travel through our bodies?
Working scientifically • **Research**		How does the habitat of the Arctic compare with the habitat of the rainforest? How do the conditions in each, affect how living things are adapted to live there?		Does the amount of light affect how many woodlice move around?	What are the differences between the life cycle of an insect, amphibian, bird and a mammal?	What do different types of microorganisms do? Are they always harmful?
Working scientifically • **How scientific ideas have changed over time**		How has the Arctic changed over time: A what is the evidence? B)what is the cause?		How did Jane Goodall learn about the habits and behaviours of chimpanzees and why does she still need to work to protect their habitat?	How did the experiments and ideas of Jan Ingenhousz help improve our understanding of plants?	How did Carl Linnaeus' ideas help us to group plants?
Working scientifically • **Identifying and classifying**		How would you group these plants and animals based on what habitat you would find them in? How would you group things to show which are living, dead, or have never been alive?		Can we use the classification keys to identify all the animals that we caught pond dipping?	Can you identify all the stages in the human life cycle? Compare this collection of animals based on similarities and differences in their lifecycle.	How would you make a classification key for vertebrates/invertebrates or microorganisms?
Working scientifically		What conditions do woodlice prefer to live in?		How has the use of insecticides affected bee population?	Is there a relationship between a mammal's size and its gestation period?	Is there a pattern between the size and shape of a bird's beak and the food it will eat?

• **Pattern seeking**		Which habitat do worms prefer – where can we find the most worms? Was there more than one species of worm? Were there more immature worms than adults?				Do all flowers have the same number of petals? What seems to be the most common number?
Working scientifically • **Observing over time**		How does a tadpole change over time?		How does the variety of invertebrates on the school field change over the year?	How do brine shrimp change over their lifetime? How does a bean change as it germinates? How does our compost heap change over time?	What happens to a piece of bread if you leave it on the windowsill for two weeks? Why?
Working scientifically • **Comparative tests**		Do amphibians have more in common with reptiles or fish? Is there the same level of light in the evergreen wood compared with the deciduous wood?		In our class, are omnivores taller than vegetarians?	Which seed shape takes the longest time to fall?	Which is the most common invertebrate on our school playing field?
Working scientifically • **Fair tests**				Does the amount of light affect how many woodlice move around?	How does the level of salt affect how quickly brine shrimp hatch? -Sea monkeys Why does a penguin huddle maintain so much heat? Investigate (STEM)	How does the temperature affect how much gas is produced by yeast?
Specialist Vocabulary		Living, dead, never alive, alive, habitats, micro habitats, food, food chain, healthy, shelter, seashore, woodland, ocean, rainforest, conditions,		Environment, flowering, non-flowering, plants, animals, vertebrate, human impact, positive impact, negative impact.	Life cycles, mammal, amphibian, insect, bird, life process of reproduction, animal naturalists, animal behaviourists, reproduction,	Micro-organisms, classification, invertebrates, vertebrates, scientists
Equipment to be used		Pots/petri dishes to transfer worms/ woodlice		Pots/petri dishes to transfer insects Torches Measuring tapes	Bean. Soil, plant pot A variety of seeds Stopwatch Lilies, tulips and daffodils	Variety of flowers/ different /similar number of petals Yeast, bread, insect view finder /microsope