Science – Year 2

Living Things and their Habitat

Is a tree alive?

NC objectives - **areas of study**	End point of area of study	Vocabulary		
		Basic	Adventurous	Technical
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.	Pupils name and identify what living things require to be alive. They can identify objects as living, dead or never been alive. They can talk about the different habitats and how they provide for their inhabitants and how animals are suited to their habitat. They build upon their knowledge of plants, naming different plants and trees in each habitat and microhabitat. Making observations, they are able to explain how animals get their energy from plants and other animals and being to create simple food chains. Children name different sources of food.	living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, water, air, survive, survival, names of local habitats (e.g. pond, woodland etc.), names of micro-habitats (e.g. under logs, in bushes etc.), conditions, light, dark, shady, sunny, wet, damp, dry, hot, cold,	**Consolidation and application of vocabulary from previous learning in Y2.** *light, shade, Sun, warm, cool, water, space, grow, healthy, bulb, germinate, shoot, seedling (Y2 - Plants)* *offspring, reproduction, growth, baby, toddler, child, teenager, adult, old person, names of animals and their babies (e.g. chick/chicken, cat/kitten, caterpillar/butterfly) (Y2 - Animals, including humans)*	names of living things in the habitats and micro-habitats studied

Knowledge

Substantive Knowledge

- Retrieval- this unit builds upon prior knowledge from learning about plants in the local environment and work on animals including humans.
- Know that dandelions, rose bushes, grass, ash trees, birch trees and conifers trees are examples of plants.
- Know that trees can be deciduous or evergreen.
- Know that a trout is an example of fish, a frog is an example of an amphibian; a lizard is an example of a reptile; a robin is an example of a bird; a rabbit and a human are examples of a mammal
- Know that herbivorous animals eat plants; a carnivorous animal eats other animals; omnivorous animals eat both animals and plants

Disciplinary Knowledge

Working as Biologists, they will explore the work of marine biologists and conservationists. Consolidation of what working as a Biologist means- Why is what we have learned today important to our understanding of the study of the life of plants and animals?

Scientific concepts to explore through living things and their habitat

- Lesson 1
  Living, dead, never been alive.
- LO To know the features of living things.
- Know that living things move, grow, consume nutrients and reproduce; that dead things used to do these things, but no longer do; and that things that never lived have never done these things. Sorting and classifying things according to whether
- they are living, dead or were never alive, and recording their findings using charts. They should describe how they decided where to place things, exploring questions for example: 'Is a flame alive? Is a deciduous tree dead in winter?' and talk about ways of answering their questions. Children could go outside to identify things found on the school grounds which are living or dead.
- Lesson 2
- LO To know how animals are suited to their environment.
- **Suited, suitable, basic needs, food**

  Retrieval/ collect prior knowledge- can children match animals and insects to their habitat? Why are they suited to this habitat? Begin to discuss how they have what they need to survive in that habitat- eg food.

  Name different types of habitat and the kinds of animals that might live in each one- match animals to the habitat- seashore, woodland, rainforest, ocean, polar regions for example.

  Lesson 3

  LO To know how animals are suited to their environment.

  Suited, survive, survival

  Name environments studied

  Research through reading and films, key information about different animals and how they are suited to their habitat.
- Know that polar bears are an example of an animal adapted to its environment – thick fur for warmth and oily paw pads to ensure that they don't freeze to the ice
- Know that sharks are another example – smooth skin and streamlined shape for quick swimming; and gills for breathing underwater
- Use concept cartoons to illicit understanding of pupils as they explain who in each scenario is correct about where the animals natural habitat might be.
- Lesson 4
- LO To know how plants are suited to their environment.
- **Damp, dry, wet, suited**
- Know that cacti are an example of a plant adapted to its environment – thick skin keeps a store of water safe; sharp spikes keep animals from stealing the water
- Know that pine trees are adapted to their environment in that they have thick bark and pine cones to protect against cold winters
- Lesson 5
- LO To know the name of plants and animals in micro-habitats.
- **Micro-habitat, conditions, light, shady, dark**

Similarities and differences- pupils identify characteristics of living things through observation and research. They are able to name different animals, their habitats and what is needed for survival. They make comparisons between animals and their habitats and discuss the similarities and differences. Children ask and answer questions using evidence found to support their further questioning.

Use of evidence

Children make careful observations of animals in the local area and school grounds, identifying their habitat and why it is suitable for the survival of that animal. They use magnifiers and other equipment to help them. Identifying habitats, they name the plants and animals living there. Gathering this evidence first hand they record findings using tables, bar graphs and drawings to support their explanations and answering of questions.

- Look outside in two different microhabitats- under log/ rock and in a flower bed for example. Record what they find on a table.
- Know that woodlice live under logs – an example of a microhabitat - as they need somewhere dark and damp so that they do not dry out
- Know that frogs can live in ponds – an example of a microhabitat - as they water in which to lay their eggs (frogspawn)
- Introduce children to the idea of a choice chamber, using their observations, which insects do they think they would find in each part? Justify giving reasons and explanations from what hey found in the microhabitats.
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- Lesson 6
- LO To know how a food chain works.
- **Food, food chain**
- 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.
- Give children images of a flower, caterpillar and a bird and order themselves according to what they eat. Repeat with different animals. Explain that this way of displaying the information is called a food chain. Model how to draw the arrows to complete a food chain. Provide information about what different animals eat for the children to create further food chains.

Concepts

Biology	Chemistry	Physics	

SKILLS

1. Compare	2. Explore	3. Identify	4. describe	5. classify
6. Question	7. observe	8. test	9. record	10. research

ASSESSMENT

KNOW MORE, REMEMBER MORE, DO MORE...

In this unit of learning, progress has been made when a learner knows more. This 'distance travelled' from the starting point is evidenced through them remembering more and doing more: in books, low stakes quizzes, retrieval, use of mind maps, answering the big question and being able to feel more confident about this unit.