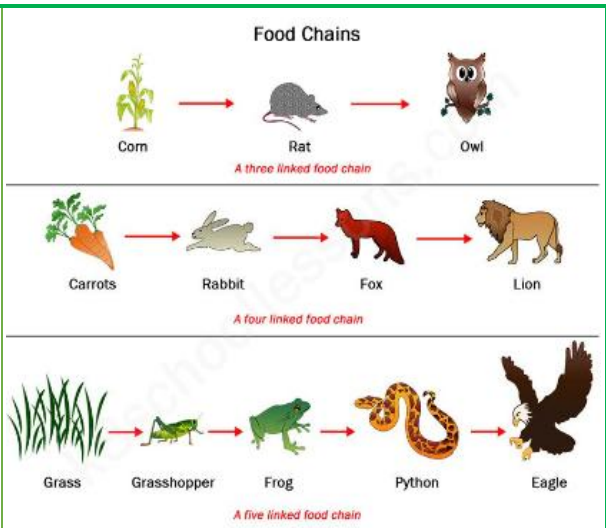
Science

Living Things and their Habitats Y2

Remember when
Name of some common garden and wild plants and types of trees. (Y1)
Animals need water, air and food to survive. (Y2)
Grouped animals by reptiles, fish, birds, amphibians, mammals, vertebrates, warm or cold-blooded.
Grouped animals by what they eat: carnivores, herbivores and omnivores (Y1)
Animals have offspring which grow into adults. (Y2)

Sticky knowledge
Objects are either living, dead or have never been alive.
An object made of wood is dead. Man-made objects have never been alive.
Living things include plants, seeds, animals.
A habitat is a place where living things find all of the things they need to survive.
Animals and plants live in a habitat which they are best suited to.
A habitat helps animals to move and find food, water and shelter.
Microhabitats are small areas within a habitat. e.g. in a woodland- bark of the tree, leaf litter, leaves
Micro-habitats have different conditions (light/dark, damp/dry). The plants and animals that live here depend on each other for food and shelter.
A food chain shows the way animals and plants get their food.
Animals within a food chain depend on each other.
If the food chain is broken, other plants and animals may not survive.



Key vocabulary
animal
carnivore
food chain
habitat
herbivore
minibeasts
microhabitats
offspring
omnivore
plant
source
species
survive
source
vegetation

National Curriculum
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
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 micro-habitats
Describe how animals obtain their food from plants and other animals.
Understand a simple food chain and identify and name different sources of food.

Common Misconceptions
Some children may think:

- an animal's habitat is like its 'home'
- plants and seeds are not alive as they cannot be seen to move
- fire is living
- arrows in a food chain mean 'eats'.
- plants eat food

	Focus / title	Lesson outline
Lesson 1 LO: To know what is living, dead or has never been alive. Enquiry type: Grouping and classifying.	SK: Objects are either living, dead or have never been alive. Dead things include dead animals, plants and parts of animals and plants that are no longer attached, shells and feathers.	Explain that living things carry out life process (e.g. respiration, excretion etc). Dead things were once living (plants and animals) but are no longer alive (e.g. wooden objects were once part of a living thing). Things that were never alive are made of materials such as plastic/metal/glass etc. that do not come from plants or animals. ARE - Group various objects into living, dead or never alive. Understand the difference between these categories; in particular, dead and never alive. LA – Group discussion around images that need sorting. Adults to prompt pupils to think about life processes to support them (i.e. Does it need air? Do plants eat food?)

	An object made of wood is dead. Objects made of rock, metal and plastic have never been alive Skill: identifying and classifying	GD – Explain the difference between something that is dead and something that was never alive. Complete a table to show whether various things carry out life processes (need air, food, produce offspring etc.)
Lesson 2 LO: To know that animals and plants live in different habitats. Enquiry type: Grouping and classifying.	SK: A habitat is a place where living things find all the things they need to survive. Habitats can be different sizes. Animals and plants live in a habitat which they are best suited to. A habitat helps animals to move and find food, water and shelter. Skill: identifying and classifying	What is a habitat? How many can you name? What types of plants and animals live there? Discuss facts stated in SK. Would a desert animal be able to survive in the arctic? Ensure children have an understanding that animals live in a habitat that suits their needs (food/water/temperature etc). ARE - Sorting animals into their habitats: ocean, woodland, hot desert, Arctic. Discuss characteristics of each habitat. LA – Sort animals and as a group. Think of general facts about each habitat. GD – Explain key characteristics of each habitat (climate, plants and animals etc) and begin to reason about how they are suited to live there.
Lesson 3 LO: To compare the habitats of different types of animals and plants. Enquiry type: Research	SK: A habitat is a place where living things find all the things they need to survive. Habitats can be different sizes. Animals and plants live in a habitat which they are best suited to. A habitat helps animals to move and find food, water and shelter. Skill: asking simple questions and recognising that they can be answered in different ways	Recap habitats and key characteristics (e.g. animals/ plants that live there, climate etc). Discuss facts about each habitat to build up an understanding of how each habitat is different and provides for different needs and different types of animals and plants. Link to different climates around the world by comparing desert and arctic. LA – adult support to read facts. Cutting and sticking activity. ARE – Sort facts related to each habitat. GD – Sort facts independently and write out under correct habitat. Extension/plenary: How are the animals suited to their habitat?
Lesson 4 LO: To understand how animals and plants are suited to their environment. Enquiry type: Research	SK: Animals and plants live in a habitat which they are best suited to. A habitat helps animals to move and find food, water and shelter. Skill: asking simple questions and recognising that they can be answered in different ways	Mind map how a camel is suited to its environment (long eyelashes, hump to store fat etc) LA – Adult led activity – Watch the video together. Read and match simple facts to camel (e.g. nostrils, hump etc) with support where necessary. ARE – Use video source to mind map how animals survive in the desert. Information sheet provided to support video content. GD – Independent research about how camels survive in the desert - using videos, info sheets & QR codes. Write own findings.
Lesson 5 LO: To understand how animals and plants are suited to their environment. Enquiry type: Research	SK: Animals and plants live in a habitat which they are best suited to. A habitat helps animals to move and find food, water and shelter. Skill: asking simple questions and recognising that they can be answered in different ways	Mind map how a polar bear is suited to its environment that helps it to survive in the Arctic. Peg clues to polar bear teddy to visualize how it is suited to its environment (Class task) Compare how camels and polar bears are suited to their specific environments. Could they swap places? Why not?

Lesson 6 LO: To compare herbivores, omnivores and carnivores. Enquiry type: Grouping and classifying	SK: A herbivore eats plants A carnivore eats meat An omnivore eats both plants and meat Skill: identifying and classifying	Discuss key vocabulary: herbivore, carnivore, omnivore (SK facts). Can pupil's name some? Show pupil's various animals and ask them whether they are herbivores, omnivores or carnivores. LA – Visual aid to support with vocabulary. Adult support to read information provided. ARE - Sort animals into herbivores, carnivores and omnivores on a Venn diagram. Use information sheet provided about their diet to help them to sort them correctly. GD – After sorting, add own animals to the Venn diagram based on existing knowledge of different animal's diets. NB: Ensure that the animals are different to those sorted in Year 1.
Lesson 7 LO: To know how animals and plants work together. Enquiry type: Research	SK: All living things (or things that were once living) have a part to play in food chains. Without them, other animals and plants may not be able to survive. Skill: asking simple questions and recognising that they can be answered in different ways	Recap what animals need to survive. Where do they get their food/water/shelter from? Describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. Without each other what would happen? ARE/GDS - 3 pictures of animals/plants provided (e.g. oak tree, squirrel & fox) - Explain how they all depend on each other. Repeat for different habitats. LA – Use word bank and writing frame provided.
Lesson 8 LO: To understand animal food chains. Enquiry type: Research	SK: A food chain shows the way animals and plants get their food. Animals within a food chain depend on each other. Skill: using their observations and ideas to suggest answers to questions	What is a food chain? Discuss SK facts. Look at examples of different food chains. What do they all start with? (producer) What is a producer? (it produces it's own food – a plant) How do each of these plants/animals depend on each other? ARE - Using images provided, create food chains. Name different sources of food for a variety of animals. Use vocabulary: producer, consumer, prey and predator to label images. LA – Key vocabulary provided. Name different sources of food. GD – Label all images with correct vocabulary. Use food chains to determine where herbivores, carnivores and omnivores are found within the food chain. What pattern do they notice? Why is that?
Lesson 9 LO: To know which animals and plants live in rockpools/ coral reefs and why. Enquiry type: Observation/ Research (depending on which activity you do)	SK: Microhabitats are small areas within a habitat. e.g. in a woodland- bark of the tree, leaf litter, leaves Micro-habitats have different conditions (light/dark, damp/dry). The plants and animals that live here depend on each other for food and shelter. Skill: asking simple questions and recognising that they can be answered in different ways	Introduction to microhabitats. Discuss SK facts. Can you name any microhabitats? What types of animals live there? Children to visit The Deep/hire the loan box to experience rockpooling. Loan box could also be used to explore coral reefs as microhabitats. Loan Boxes | The Deep Staff to record experience and discuss what they have seen with the children. Why do these animals live here? Write down children's comments on post-its to be put into books.
Lesson 10 LO: To know which animals and plants live in woodland microhabitats and why. Enquiry type: Research	SK: Microhabitats are small areas within a habitat. e.g. in a woodland- bark of the tree, leaf litter, leaves Micro-habitats have different conditions (light/dark, damp/dry). The plants and animals that live here depend on each other for food and shelter. Skill: Identify and classify	Recap what a microhabitat is. Name some examples, the condiitons and the animals that live there. Discuss microhabitats within a woodland (leaf pile, under a log etc) Find out: The microhabitat name, the conditions of the microhabitat, animals/minibeasts that live there and why is it suitable to them. Mixed ability groups – Collect natural materials (leaves, twigs) and use craft materials (tissue paper, card etc) to create a large-scale model of various microhabitats found in the woodland. Cut out images of insects/animals and place them on the model to show which microhabitat they are found in. Label each microhabitat. Pupils give a short presentation of their microhabitats by explaining the conditions in each.

Lesson 11 LO: To know which animals and plants live in the microhabitats around school and why. Enquiry type: Observation	SK: Microhabitats are small areas within a habitat. e.g. in a woodland- bark of the tree, leaf litter, leaves Micro-habitats have different conditions (light/dark, damp/dry). The plants and animals that live here depend on each other for food and shelter. Skill: gathering and recording data to help in answering questions.	Discuss minibeasts pupils can already name. Predict which bugs they might find on the school grounds. Which ones do you think there will be the most of? Where might you find them? Go on a bug hunt around the school grounds to find microhabitats in our local areas. Keep a tally of bugs seen. Return to the classroom and work out average findings for each insect. Use class data to create a bar chart to show the number of minibeasts found. LA – Simple scale for block diagram (going up in 1s). Adult support where needed. ARE – Scale of 2's GD – Using scales were not all numbers are displayed.
Lesson 12 LO: To be able to recall what we have learned Enquiry type: Research	SK: [All SK from this unit] Skill: asking simple questions and recognising that they can be answered in different ways	Create a consolidation of what children have learned during this unit. This can be displayed in different ways – presentations, mind maps, pictures, gathering physical evidence, oral notes. Teachers to decide which style of presentation is best for their classes.

Working towards	**End of unit assessment** Working at Age related expectations	Working at a greater depth