Subject: Science
Year 2: Living things and their habitats
NC/PoS:

- 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.

Prior Learning (what pupils already know and can do)
Before starting this unit, check the children can recall the following key facts from unit *Science, Year 1, Animals, including humans, Sensitive bodies*:

- There are five main senses: sight, smell, hearing, taste and touch.
- The eyes are used for sight, the nose for smell, the ears for hearing, the tongue and mouth for taste and the skin for touch.

Know that we need to look after our world (animals and plants) Know that plants are important in keeping them healthy. Know that different animals are found in different environments (farmyard, forest) Know the basic needs of animals (air, water, food, shelter) Know plants and animals found in local environment. Know that living things grow and have life cycles. Know plants need light, water, air, nutrients and space.

End Goals (what pupils MUST know and remember)

- Know the difference between living (grow), dead (no longer alive) and never been alive (does not grow)
- Know the 5 things all living things need – food, water, shelter, warmth, and space
- Name different habitats for plants and give an example – ocean (seaweed), woodland (bluebell, nettle), coastal (beach grass)
- Name habitats for animals and give examples – ocean (clownfish, turtle, shark), woodland (mouse, badger, caterpillar, bluetit), coastal (crab, seagull, limpet)
- Know animals obtain food from other animals and plants
- Know how to explain a simple food chain and name various sources of food (grass, snail, bird)

Key Vocabulary: living things, dead, alive, movement, respiration, sensitivity, growth, reproduction, excretion and nutrition, habitat, natural environment,
food chain, producer, consumer, energy, nutrients

Session 1:
Use resources from Kapow Lesson 1: Life processes
Check the children can recall the following key facts from unit *Science, Year 1, Animals, including humans, Sensitive bodies*:
Children revisit: We need to look after our world (animals and plants) and that plants are important in keeping people healthy. Different animals are found in different environments (farmyard, forest) and the basic needs of animals are air, water, food, shelter. Living things grow and have life cycles and plants need light, water, air, nutrients and space
LO: To identify some of the characteristics of living things.
Display the *Presentation: Life processes* and use slides 1–6 to reveal how the life processes

apply to both plants and animals.
Arrange the children into groups of five and assign each group one of the six life processes (MRS GREN: movement, reproduction, sensitivity, growth, excretion and nutrition/respiration- the process of releasing energy from food). Inform the children that they will work in their group to practise and perform a short presentation about their assigned life process.
Demonstrate how to plan a presentation using the *Presentation: Group plan*, explaining:

1. One group member should write their assigned life process in the box at the top.
2. The group should work together to choose an action representing the life process (i.e. rubbing their stomachs to represent nutrition).
3. The presentation has five parts; each child should perform a different part.
4. Once the groups have chosen who will perform each part, they should write their names in the numbered boxes.

Session 2:
Use resources from Lesson 2: It feels good to be alive
Recap and recall: What are the six life processes?
The groups perform their short presentations prepared during last lesson.
LO: To recognize the difference between things that are alive, were once alive or have never been alive.
Working scientifically LO: To classify objects into groups
Children learn: that dead things are things which are no longer alive e.g. a picked flower and that examples of things that have never been alive are rocks. Living things all use the life processes the children presented at the start of the lesson (MRS GREN)
Suggested resources:
https://www.bbc.co.uk/bitesize/topics/zx882hv dead, living, non-living
Sorting out photographs for things living, dead, never alive.
Cover misconceptions: is a flame alive?
Vocabulary: living things, dead, alive, movement, respiration, sensitivity, growth, reproduction, excretion, nutrition

Session 3:
Use resources from Kapow Lesson 3: Introduction to habitiats
Recap and recall: Use *Presentation: Odd one out* and ask the children to identify the image that is the odd one out. (The dead leaf because it used to be alive when it was attached to a living tree; the ice cubes and fire have never been alive.)
LO: To identify plants and animals in different habitats.
Children learn a habitat is a natural environment in which a particular animal or plant lives and that a microhabitat is a small, specialized habitat within a larger habitat.
Suggested resources:

- Link: BBC Bitesize - Coastal habitats.
- Link: BBC Bitesize - Woodland habitats.
- Link: BBC Bitesize - Ocean habitats.

Only focus on these three habitats. Can use some of the Kapow resources, but by the end of the lesson the children should be able to identify the following and record in their books.
Coastal habitat: Sandy with rock pools
Woodland habitat: Cool and shady with lots of trees
Ocean habitat: A large amount of saltwater
Vocabulary: habitat, natural environment, coastal, ocean, woodland

Session 4:
Use resources from Kapow Lesson 4: Woodland habitats
Recap and recall: Use the *Presentation: What's for dinner?* To recap and recall omnivores, carnivores and herbivores from Year 1
LO: To identify how a habitat provides animals and plants with what they need to survive.
Working scientifically LO: To carry out research to find answers to questions.
Children identify plants/ animals in specific habitats.
Watch the *Pupil video: Woodland habitats,* which describes woodland conditions and how the habitat provides the basic needs of the plants and animals that live there, i.e. shelter and food.

- **Name some plants and animals in the woodland habitat.**
- **What are the conditions like in the woodland habitat?** (Cool and shady with plenty of trees.)
- **How does the woodland habitat provide food for the animals that live there?** (Seeds from trees provide food for birds and squirrels; rotten wood and dead leaves provide food for insects; insects are prey for animals such as hedgehogs and mice.)

Children use the link: Woodland Trust to complete a fact file about a woodland animal. The children can write their factfile in their Science book (the resource sheet can be used as a scaffold for those that need it)
Vocabulary: carnivore, diet, habitat, herbivore, mammal, omnivore, predator, shelter, woodland

Session 5:
Use resources from Kapow lesson 5: Rainforest and ocean habitats
Recap and recall: Hand out the *Resource: Habitats – teach me, tell me cards* (pre-cut, one question and answer strip per child) from *Lesson 3: Introduction to habitats*. Pupils teach each other all about the different habitats.
LO: To recognise how animals and plants depend on each other.
Children learn that plants provide shelter, and all animals obtain their food from plants and/or other animals. All food chains start with a plant (producer) and a food chain shows how each living thing gets food and how nutrients and energy are passed along the chain. Consumers eat plants or other animals to get energy.
Display the *Presentation: Producer, prey, predator* and ask pairs to discuss what they can see. Explain that plants are called producers because they produce their own food for energy.
Questions

- **What is prey?** (Prey refers to an animal killed and eaten by other animals, e.g. a turtle.)
- **What is a predator?** (A predator is an animal that kills and eats other animals, e.g. a shark.)

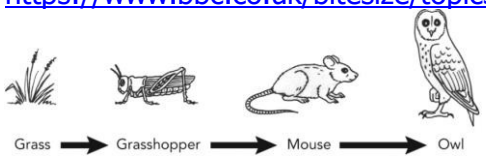
Display slide 2 of the *Presentation: Rainforest and ocean habitats.* Only focus on the ocean habitat. **Name the animals in the image.** (Shark, jellyfish, turtle, stingray, seahorse, starfish, clownfish and crab.) **How do living things in the ocean depend on each other?** (Click on the boxes to reveal some examples.)
Vocabulary: depend, habitat, nutrition, predator, prey, producer, shelter

Week 6:
Use Kapow lesson 6: Food chains
Recap and recall: Name animals that live in the following habitats: woodland, coastal and ocean.
LO: To recall how animals get their food from plants and other animals.
Use the *Presentation: Food chains* and look at the Woodland food chain and the Ocean food chain. Ask the children:

- **How do plants get their food?** (They mostly make their own food using the Sun.)
- **How does each animal get their energy?**
- **Which animal is a predator?**
- **Which animal is the prey?**

Children use slide 4 to create their own food chain in their books using words or pictures (depending on ability).
Vocabulary: food chain, producer, consumer, energy, nutrients, predator, prey

Suggested resources:
https://www.youtube.com/watch?v=8L2MZdOIZrs the food chain BBC Teach
https://www.bbc.co.uk/bitesize/topics/zx882hv/articles/z3c2xnb food chain



Link to career scientist:
https://pstt.org.uk/application/files/6116/2851/6247/Ecological_entomologist_-_Dr_Ben_Woodcock.pdf
Environmentalist, climate scientist, wildlife biologists, conservationists

Scientists who have helped develop understanding in this field: British ecologist Arthur Tansley who drew attention to the importance of transfers of materials between organisms and their environment.