

## Science – Year 4

### Living Things and their habitat *Are some animals more alike than others?*

NC objectives - areas of study	End point of area of study	Vocabulary		
<p>recognise that living things can be grouped in a variety of ways</p> <p>explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</p> <p>recognise that environments can change and that this can sometimes pose dangers to living things.</p>	<p>Children are able to recall the different animal groups and key facts about them- reptiles, amphibians, birds, fish, mammals. They can group and classify them according to their observable features and knowledge about their diets and skeletons. Using the local environment, children are able to explore living things in the school grounds and identify them using classification keys. They will then create their own classification keys to identify different plants and animals, understanding the kinds of questions that need to be asked. They understand how habitats are vital for the survival of different animals and the devastation caused by environmental changes.</p>	Basic	Adventurous	Technical
		<p>Environment, human impact, nature reserves, Habitat, hibernate</p>		<p>Classification, classification keys, environment, human impact, positive, negative, migrate, Deforestation, predator, producer, prey</p>

## Knowledge

### Substantive Knowledge

Retrieval- this unit of learning builds upon the pupil's knowledge from Year 2 Living things and their habitat and Animals including humans. pupils know if something is living and can identify how some animals are suited to their environment or micro-habitat. They know the different diets of animals and how energy is transferred in a simple food chain.

- Lesson 1- retrieval of knowledge ks1
- LO To know the different species of animal.
- **classification, classification keys,**

### Disciplinary Knowledge

**Working as Biologists, children retrieve knowledge about different groups of animals, their diets and skeleton. Using this information they are able to work as zoologists to explore and investigate further.**

#### Use of evidence

Children use the school grounds to explore what is living there. Using classification keys, they can identify different insects and plants. Asking relevant questions, they can create their own classification keys using their knowledge of the world around them and first-hand experiences. They create classification keys demonstrating their understanding of plants, animals and questioning.

- 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
- Children can sort different species of animal and explain their key features for grouping in different ways.

- Lesson 2 retrieval of knowledge ks1 and from previous learning about teeth and diet.

- herbivore, carnivore, omnivore,

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- LO To know that animals can be herbivores, carnivores or omnivores.

- Know that herbivorous animals eat plants; a carnivorous animal eats other animals; omnivorous animals eat both animals and plant
- Know that a cat is an example of a carnivore; that a rabbit is an example of a herbivore; know that many humans are examples of omnivores (though not vegetarians)

- Lesson 3

- To know living things can be grouped in different ways.

- classification, classification keys,

- Know that living things are divided into kingdoms: the animal kingdom, plants,
- Know that a species is a group of living things have many similarities that can reproduce together produce offspring

Are we helping the environment by having some animals in captivity?

- Lesson 4

- LO To know that some groups of animals have similarities.

- classification, classification keys,

- herbivore, carnivore, omnivore,

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- Know that fish, amphibians, reptiles, birds and mammals are similar in that they have internal skeletons and organs; these are known as vertebrates, which means they are animals that have a backbone
- Know that fish are different to other animals in having gills so that they can breathe underwater and have scaly skin
- Know that amphibians are different to other animals in that they begin their lives with gills but then develop lungs and breathe on land

## Similarities and differences

Asking questions about the world around them they are able to identify similarities and differences between animals and where they are best suited to living. They make observations over the year if possible of micro habitats and how it changes throughout the year. They can compare different habitats in the school grounds and record their findings using tables, tally charts, bar graphs and labelled diagrams. They report their findings orally and in writing and draw conclusions from what they have discovered.

- Know that reptiles are different to other animals in that they breathe air and have scaly skin
- Know that birds are different to other animals in that they have feathers and wings
- Lesson 5
- LO To know that mammals are different to other animals.
- **classification, classification keys,**
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- Know that mammals are different to other animals in that they have fur/hair and they feed milk to their young .
- Lesson 6
- LO To know common plants and trees.
- **classification, classification keys, environment, habitat,**
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- Know a rose bush, grass, dandelion by sight
- Know an ash tree, birch tree and conifer tree by sight
- Pupils can identify and name common plants and trees in the local environment- this could be mastered to include trees and plants in the local woods.

What would it be like without seasons?

- Lesson 7
- LO To know animals can be grouped in different ways.
- **classification, classification keys,**
- **herbivore, carnivore, omnivore, producer, predator, prey**
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- Know that animals can be grouped based on their physical characteristics (e.g. vertebrates and invertebrates) and based on their behavior (e.g. herbivores, carnivores and omnivores)
- Lesson 8
- LO To know how to use a classification key.
- **classification, classification keys,**
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- Know that a classification key uses questions to sort and identify different living things
- Know how to use a classification key to identify living things

- Lesson 9
- LO To know how to create a classification key.
- **classification, classification keys,**

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- Know how to create a classification key to sort plants on the school premises

Is it fair to group living things based on characteristics?

- Lesson 10
- LO To know the ways in which environments change.
- **environment, habitat, human impact, positive, negative, migrate,**

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- Know that changes to the environment can make it more difficult for living things to survive and reproduce; in extreme cases this leads to extinction, where an entire species dies
- Know that human activity – such as climate change caused by pollution - can change the environment for many living things, endangering their existence

- Lesson 11
- LO To know the dangers to animals when environments change.
- **environment, habitat, human impact, positive, negative, migrate,**

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- Know that many species of living things have already been made extinct as a result of human activity
- Retrieval-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 the polar bear is a famous example of climate change endangering the existence of a species; as the climate changes and gets warmer, the sea ice on which polar bears live reduces in amount making it harder for them to survive and reproduce
- Explore the work of other scientists and endangered species- for example the Weedy Sea dragon in Australia.

- Lesson 12
- LO To know about the work of David Attenborough.
- **Activist, conservationist, environment, habitat, human impact,**

- Know that David Attenborough is a famous scientist who studies the life of animals today.
- Know about the work of David Attenborough in regards to saving the environment and reasons for that.

Would we know less about animals without the work of David Attenborough?

### 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.