SCIENCE OVERVIEW – YEAR 2, SPRING TERM

Prior Learning (acquired knowledge).

Animals, including humans	Living Things and their Habitats.
EYFS: Make healthy choices about food, drink, activity and toothbrushing. Know and talk about different factors that support overall wellbeing. Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things. Year 1: Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).	EYFS: Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes. Year 1: Seasonal changes. See knowledge gained in the 'Animals, Including Humans' unit.

National Curriculum Objectives

Animals, including humans	Living Things and their Habitats.
• Notice that animals, including humans, have offspring which grow into adults. • Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). • Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene	•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.

Lesson Content

Animals, including humans	Living Things and their Habitats.
Animals and their offspring	Alive, dead and never alive.
Stages of human life.	Habitats
Lifecycles (frogs and butterflies)	Adaptations
What do humans and animals need to survive?	Investigating plants and animals in microhabitats
Healthy eating	Food chains
Hygiene and exercise	Food sources (including how food gets from the farm to the supermarket).

Key Vocabulary

Animals, including humans	Living Things and their Habitats.	Working Scientifically
fish, amphibians, reptiles, birds, mammals, pets. human, body, senses, tongue, taste, nose, smell, eyes, vision, skin, touch, ears, hearing. head, leg, eyes, neck, knees, heair, arms, face, mouth, elbows, ears, teeth, young, healthy, grow, offspring, adult, omnivores, meat, plants, herbivore, carnivore, food, eat, survive, exercise.	pond, garden, field, park woodland, sea shore, river, ocean, forest, rainforest, stones, rocks, logs, leaf litter, habitat, micro-habitat, living, dead, not living, alive, healthy, food, food chain, depend, source of food, shelter, grow, growth, healthy.	experience, observe, changes, patterns, grouping, sorting, classifying, compare, identify, name, data, measure, record, equipment, questions, test, investigation, explore, magnifying glass, same, different.

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Important Figures

(Animals) Florence Nightingale Pioneer of modern nursing in GB, Elizabeth Garrett Anderson - First British female physician and surgeon, Steve Irwin -Wildlife expert, Robert Winston Human Scientist.
(Living Things) Rachel Carson- Marine Pollution, Liz Bonnin Conservationist.

Application of Knowledge.

Animals	Living Things
Activities	
• Ask people questions and use secondary sources to find out about the life cycles of some animals. • Observe animals growing over a period of time e.g. chicks, caterpillars, a baby. • Ask questions of a parent about how they look after their baby. • Ask pet owners questions about how they look after their pet. • Explore the effect of exercise on their bodies. • Classify food in a range of ways, including using the Eatwell Guide. • Investigate washing hands, using glitter gel.	• Explore the outside environment regularly to find objects that are living, dead and have never lived. • Classify objects found in the local environment. • Observe animals and plants carefully, drawing and labelling diagrams. • Create simple food chains for a familiar local habitat from first-hand observation and research. • Create simple food chains from information given e.g. in picture books (Gruffalo etc.).
Possible Evidence	
• Can describe, including using diagrams, the life cycle of some animals, including humans, and their growth to adults e.g. by creating a life cycle book for a younger child • Can measure/observe how animals, including humans, grow. • Show what they know about looking after a baby/animal by creating a parenting/pet owners' guide • Explain how development and health might be affected by differing conditions and needs being met/not met	• Can sort into living, dead and never lived • Can give key features that mean the animal or plant is suited to its micro-habitat • Using a food chain can explain what animals eat • Can explain in simple terms why an animal or plant is suited to a habitat e.g. the caterpillar cannot live under the soil like a worm as it needs fresh leaves to eat; the seaweed we found on the beach cannot live in our pond because it is not salty

Common Misconceptions	
Animals	**Living Things**
• an animal's habitat is like its 'home' • all animals that live in the sea are fish • respiration is breathing	• an animal's habitat is like its 'home' • plants and seeds are not alive as they cannot be seen to move • fire is living

• breathing is respiration	• arrows in a food chain mean 'eats'.

Working Scientifically

Units should contain as many opportunities for practical investigation as possible allowing pupils to develop their ability to work scientifically. Investigative sessions should allow opportunities for children to conduct the following process:

Asking Questions	**Asking simple questions and recognising that they can be answered in different ways** • While exploring the world, the children develop their ability to ask questions (such as what something is,how things are similar and different, the ways things work, which alternative is better, how things change and how they happen). Where appropriate, they answer these questions. • The children answer questions developed with the teacher often through a scenario. • The children are involved in planning how to use resources provided to answer the questions using different types of enquiry, helping them to recognise that there are different ways in which questions can be answered.
Making Observations	**Observing closely, using simple equipment** • Children explore the world around them. They make careful observations to support identification, comparison and noticing change. They use appropriate senses, aided by equipment such as magnifying glasses or digital microscopes, to make their observations. • They begin to take measurements, initially by comparisons, then using non-standard units.
Engaging in Practical Enquiry.	**Performing simple tests** • The children use practical resources provided to gather evidence to answer questions generated by themselves or the teacher. They carry out: tests to classify; comparative tests; pattern seeking enquiries; and make observations over time. **Identifying and classifying** • Children use their observations and testing to compare objects, materials and living things. They sort and group these things, identifying their own criteria for sorting. • They use simple secondary sources (such as identification sheets) to name living things. They describe the characteristics they used to identify a living thing.
Recording and Presenting Evidence	**Gathering and recording data to help in answering questions** • The children record their observations e.g. using photographs, videos, drawings, labelled diagrams or in writing. • They record their measurements e.g. using prepared tables, pictograms, tally charts and block graphs. • They classify using simple prepared tables and sorting rings.
Answering Questions and Concluding.	**Using their observations and ideas to suggest answers to questions** • Children use their experiences of the world around them to suggest appropriate answers to questions. They are supported to relate these to their evidence e.g. observations they have made, measurements they have taken or information they have gained from secondary sources. **Using their observations and ideas to suggest answers to questions** • The children recognise 'biggest and smallest', 'best and worst' etc. from their data.

Working Scientifically - The Big Questions:

Comparative and fair testing	**Identifying, Grouping and Classifying.**	**Observing overtime**	**Pattern Seeking**	**Research.**
Do amphibians have more in common with fish or reptiles? Do bananas make us run faster?	Which offspring belongs to which animal? 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?	How does the school pond change over the year? How much food and drink do I have over a week?	What conditions do woodlice prefer to live in? Which age group of children wash their hands the most in the day? Which habitat do worms prefer – where can we find the most worms?	What do you need to do to look after a pet dog/cat/lizard and keep it healthy? What food do you need in a healthy diet and why? How does the habitat of the Arctic compare with that habitat of the rainforest?

Assessment

Formative assessment to be completed with each lesson and graded on Insight. End of unit test to be completed as a summative assessment