Science

Year 4 – Autumn 1 – All Living Things/Animals inc Humans (Food Chains)

National Curriculum / End Point Statement

All Living Things

- recognise that living things can be grouped in a variety of ways
- explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment
- recognise that environments can change and that this can sometimes pose dangers to living things.

Animals inc Humans

- construct and interpret a variety of food chains, identifying producers, predators and prey.

- ***Working Scientifically***
- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.

Step 1	Step 2	Step 3	Step 4 (TAPS)	Step 5	Step 6
Recap previous knowledge – Year 1 animals, year 2 habitats and food chains WALT recognise that living things can be grouped in different ways	WALT explore and use classification keys	WALT identify and name a variety of living things in the wider environment	WALT Gather, record and classify data	WALT recognise that environments can change	WALT construct and interpret a variety of food chains
In Focus - https://explorify.uk/en/activities/odd-one-out/living-moving	In Focus - https://explorify.uk/en/activities/odd-one-out/legs-eleven	In Focus - https://explorify.uk/en/activities/odd-one-out/wet-and-wild	In Focus - Can children group living things in different ways?	In Focus - https://explorify.uk/en/activities/what-if/we-did-not-plant-trees	In Focus - https://explorify.uk/en/activities/whats-going-on/muddy-meal

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Success Criteria					
I know how to group living things (mammals, birds, fish, reptiles, amphibians) I can give you some examples of vertebrates I can name some examples of invertebrates I can explain how I have grouped living things. I can group plants into flowering and non-flowering groups	I know what classification means I can use simple keys and guides to identify local plants and animals	I know what classification means I can research and group living things from the rainforest I can describe the similarities and differences of the living things	I can use previous knowledge when working scientifically I can group living things in different ways I can explain how I have grouped living things	I know how environments can change naturally e.g. storm I know how the changes can impact on living things I know how humans can impact positively and negatively on the environment	I know what a food chain is I can explain what producers, predators and prey are I can construct a variety of food chains based in different habitats
Suggested Outcome					
Children could match the animals to their animal group and label common features. They could then group the animals in different ways such as those with wings/no wings, legs/no legs etc. They record examples of groupings and explain their thinking.	Children classify animals in the local environment based on a classification system.	Children research animals and plants found in the rainforest and classify them into groups of their choice.	Children can identify animals and plants and that they can be classified in a number of possible ways including vertebrates and invertebrates/ flowering and non-flowering plants etc.	Children could write a letter to the rest of the school highlighting an environmental issue and how humans have affected the environment. They could give solutions as to how humans can have a positive impact on the environment around them	Children construct food chains that show producer, predator and prey. The food chains can be from a range of habitats.

Vocabulary	NC links
Fern, moss, classification key, non-flowering plants, categorise, environment, nature reserve, ecology, pollution, litter, deforestation, deciduous, evergreen, vertebrate, invertebrate (slugs, snails, worms, spiders, insects) food chain, prey, predator, producer	Animals including humans Year 1 seasonal changes Year 2 food chains and year 3 nutrition Geography – biomes, rainforest deforestation, climate belts

Key Learning
Living things can be grouped (classified) in different ways according to their features. Classification keys can be used to identify and name living things. Living things live in a habitat which provides an environment to which they are suited (Year 2 learning). These environments may change naturally e.g. through flooding, fire, earthquakes etc. Humans also cause the environment to change. This can be in a good way (i.e. positive human impact, such as setting up nature reserves) or in a bad way (i.e. negative human impact, such as littering). These environments also change with the seasons; different living things can be found in a habitat at different times of the year.

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Possible Evidence	Common Misconceptions
• Can name living things living in a range of habitats, giving the key features that helped them to identify them • Can give examples of how an environment may change both naturally and due to human impact • Can keep a careful record of living things found in different habitats throughout the year (diagrams, tally charts etc.) • Can use classification keys to identify unknown plants and animals • Can present their learning about changes to the environment in different ways e.g. campaign video, persuasive letter	Some children may think: • the death of one of the parts of a food chain or web has no or limited consequences on the rest of the chain • there is always plenty of food for wild animals • animals are only land-living creatures • animals and plants can adapt to their habitats, however they change • all changes to habitats are negative.

Notable Scientists
Jacques Cousteau - marine biologist Cindy Looy – plant ecologist, environmental change Joan Beauchamp Procter - zoologist

CPD opportunity
https://www.reachoutcpd.com/courses/

Useful Links
• https://www.bbc.co.uk/bitesize/topics/zbnnb9q • https://app.discoveryeducation.co.uk/learn/channels/channel/f798212b-0893-4cdc-beb9-bbc02112806f

Living things and their habitats

Early learning goal	• 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	• Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. (Y1 - Plants) • Identify and describe the basic structure of a variety of common flowering plants, including trees. (Y1 - Plants) • Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 - Animals including humans) • Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Y1 - Animals including humans) • Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). (Y1 – Animals, including humans) • Observe changes across the four seasons. (Y1 - Seasonal change)
Year 2	• 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. • Notice that animals, including humans, have offspring which grow into adults. (Y2 - Animals including humans)
Year 3	• Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. (Y3 - Plants)
Year 4	• Recognise that living things can be grouped in a variety of ways. • Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. • Recognise that environments can change and that this can sometimes pose dangers to living things. • Construct and interpret a variety of food chains, identifying producers, predators and prey. (Y4 - Animals, including humans)

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Animals, including humans

Early learning goal	• 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	• 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). • Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.
Year 2	• 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. • 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. (Y2 - Living things and their habitats)
Year 3	• Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. • Identify that humans and some other animals have skeletons and muscles for support, protection and movement.
Year 4	• Describe the simple functions of the basic parts of the digestive system in humans. • Identify the different types of teeth in humans and their simple functions. • Construct and interpret a variety of food chains, identifying producers, predators and prey.