

Ashtree Primary School and Nursery Medium Term Plan for Science

Year 5 Summer Term – Living Things and their Habitats Unit

Prior Knowledge – Y4

- Step 1 - To recognise that living things can be grouped in a variety of ways – **vertebrates, invertebrates, mammals, reptiles, fish, birds, insects, amphibians**
- Step 2 - describe some of the characteristics of the vertebrate (fish, mammals, amphibians, reptiles and birds) groups (e.g. warm-blooded, have fur, lay eggs)
- Step 3 - Explore and use classification keys to help group, identify and name a variety of living things (including animals and plants) in their local and wider environment
- Step 4 - Identify that some animals feed on other animals and some on plants
- Step 5 - recognise that a food chain must always start with a green plant (a producer), recognise that green plants are the ultimate source of food for all animals, use and understand the terms: **producer, predator and prey**
- Step 6 - construct and interpret a variety of food chains, identifying producers, predators, and prey
- Step 7 - explain that different organisms are found in different habitats because of differences in environmental factors
- Step 8 - describe how humans can cause changes to environments – pollution, deforestation, air quality, building (roads, houses)
- Step 9 - recognise that environments can change and that this can sometimes pose dangers to living things.
- Also see Year 3 Plants MTP for prior learning of plant reproduction**

Key Knowledge

- Step 1 - sequence the life cycles of a variety of plants and animals - **Live young, hatch, tadpole, caterpillar, butterfly, ladybird, pupae, larvae, chrysalis**
- Step 2 - recognise the similarities in the life cycles of plants, animals and humans - **Live young, hatch, tadpole, caterpillar, butterfly, ladybird, pupae, larvae, chrysalis**
- Step 3 - name the parts of a flower , describe the functions of some parts of a flower, describe the main functions of parts of a plant involved in reproduction - **pollen, stamen, stigma, pollination**
- Step 4 - describe the processes of **sexual** and **asexual reproduction** in plants
- Step 5 - compare methods of **seed dispersal**
- Step 6 - name the parts of the human reproductive system, describe the simple functions of parts of the human reproductive system, know that most animals reproduce by sexual reproduction

Prior Skills – Y4 uses observable and other criteria to group, sort and classify in different ways (including simple keys and branching databases), **asks relevant questions and uses different types of scientific enquiries to answer them, uses straightforward scientific evidence to answer questions or to support their findings, records and presents findings using drawings, labelled diagrams, keys, tally charts, Carroll diagrams, Venn diagrams, bar charts and tables**, uses relevant scientific language to discuss their ideas and communicate their findings, recognises when and how secondary sources (e.g. books, internet, experts, diagrams) might help answer questions that cannot be answered through practical investigations, looks for changes, patterns, and relationships.

Key Vocabulary **Live young, hatch, tadpole, caterpillar, butterfly, ladybird, pupae, larvae, chrysalis, reproduction, asexual, sexual, life cycle, pollination, seed dispersal, pollen, stamen, stigma**

Key Skills

- Step 1** - beginning to use and develop keys and other information to identify, classify and describe living things and materials
- Step 2** - uses their scientific experiences to explore ideas and raise different types of questions
- Step 3** - **records and presents findings using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs**
- Step 4** - **reports on findings from enquiries**, using relevant scientific language and conventions, **in oral and written explanations such as displays and other presentations**
- Step 5** - beginning to use and develop keys and other information to identify, classify and describe living things and materials
- Step 6** - beginning to use and develop keys and other information to identify, classify and describe living things and materials

Curriculum Enhancements

Use a butterfly farm to see the life cycle of a butterfly, making notes including diagrams and photographs to describe the different processes seen.

Suggested Activities

Step 1 - explain that living things need to reproduce if the species is to survive

Step 2 compare internal and external fertilisation in animals

Step 2 - explain what is unusual about the life cycle of a kangaroo or koala

Step 6 - compare gestation periods (pregnancy) of different animals

Curriculum links

PSHE – Growing up

Possible Misconceptions

- all plants start out as seeds
- all plants have flowers
- plants that grow from bulbs do not have seeds
- only birds lay eggs
- That a butterfly forms a cocoon when metamorphosing (moths use cocoons, butterflies use a chrysalis)
- That larvae and pupae are the same thing - The larva is a worm-like creature, which emerges from an egg. As the egg hatches, the larval stage begins. Therefore, the larvae are also considered as a young or a baby insect. The body of the larva is covered by a thin cuticle. The stage in which the caterpillar forms a vessel around it is called the 'pupa'. The pupa is an inactive and motionless or a transformative stage that occurs after the larval stage.

This will lead to . . .

In Year 6 – Living Things and their Habitats, the children will learn,

Step 1 - recognise that there is a wide variety of living things, understand why **classification** is important – **classification key, characteristic**

Step 2 - identify vertebrates and invertebrates, name and describe the five vertebrate groups - **classified, classification key, characteristic**

Step 3 - understand there are living things that are too small to be seen and these can affect our lives – **Micro-organism, microbe, fungus, bacteria, virus**

Step 4 - recognise that there are many micro-organisms, some which can cause illness or decay, recognise that there are useful micro-organisms which can be used in food production - **Micro-organism, microbe, fungus, bacteria, virus**

Step 5 - describe how micro-organisms feed, grow and reproduce like other organisms, describe evidence, from investigations, that **yeast** is living - **Micro-organism, microbe, fungus, bacteria, virus**

Step 6 - explain how micro-organisms can move from one food source to another or from one animal to another - **Micro-organism, microbe, fungus, bacteria, virus**