# Lowerhouse Junior School
# Key Learning in Science – Environment

| Key Learning: Environment (Living Things and Their Habitats) | | |
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| **Key Learning** | **Notes and Guidance (Non-statutory)** | **Working Scientifically (Featured skills)** |
| **LKS2: Year 4 - Living things and their habitats**<br>▪ **recognise that living things can be grouped in a variety of ways**<br>▪ **explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment**<br>▪ **construct and interpret a variety of food chains, identifying producers, predators and prey (NB: this point also in 'Animals – Teeth, eating and digestion')**<br>▪ **Recognise that environments can change and that this can sometimes pose dangers to living things.**<br><br>▪ Use and make identification keys for plants and animals. | **LKS2: Year 4 - Living things and their habitats**<br>*Pupils should use the local environment throughout the year to raise and answer questions that help them to identify and study plants and animals in their habitat. They should identify how the habitat changes throughout the year. Pupils should explore possible ways of grouping a wide selection of living things that include animals and flowering plants and non-flowering plants, Pupils could begin to put vertebrate animals into groups such as fish, amphibians, reptiles, birds, and mammals; and invertebrates into snails and slugs, worms, spiders, and insects.*<br>***Note:** Plants can be grouped into categories such as flowering plants (including grasses) and non-flowering plants, such as ferns and mosses. Pupils should explore examples of human impact (both positive and negative) on environments, for example, the positive effects of nature reserves, ecologically planned parks or garden ponds, and the negative effects of population and development, litter or deforestation.* | **LKS2: Year 4 - Living things and their habitats**<br>• *Using and making simple guides or keys [sorting, grouping, comparing, classifying] to explore and identify local plants and animals.*<br>• *Making a guide [sorting, grouping, comparing, classifying] to local living things.*<br>• *Raising and answering questions based on their observations of animals and what they have found out about other animals that they have researched.* |
| **UKS2: Year 5 - Living things and their habitats**<br>**Observing life cycles** | **UKS2: Year 5 - Living things and their habitats** | **UKS2: Year 5 - Living things and their habitats** |

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| ▪ **Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.**<br>▪ **Describe the life process of reproduction in some plants and animals.**<br>◦ Plants produce pollen from the stamen (male part of a plant) which is transferred to the stigma and then the ovary (female parts of the plant).<br>◦ Fertilisation occurs in the ovary of the flower.<br>◦ Seeds are formed as a result of fertilisation.<br>(NB in the original version of Inspiring Science plant lifecycles were identified in the 'PLANTS' units. In the updated version we have mirrored the NC2014 and put plant lifecycles here with 'Living Things and their Habitats'.<br>NB Pupils will have been introduced to pollination and seed dispersal in YR3). | *Pupils should study and raise questions about their local environment throughout the year. They should observe life-cycle changes in a variety of living things, for example plants in the vegetable garden or flower border, and animals in the local environment. They should find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane Goodall.*<br>*Pupils should find out about different types of reproduction, including sexual and asexual reproduction in plants and sexual reproduction in animals.* | • *Observing and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times).*<br>• *Asking pertinent questions and suggesting reasons for similarities & differences.*<br>• *They might try to grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs.*<br>• *Observe changes in an animal over a period of time (for example, by hatching and rearing chicks).*<br>• *Comparing how different animals reproduce and grow.* |
| **UKS2: Year 6 - Living things and their habitats**<br>**Classification**<br>▪ **Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals.**<br>▪ **Give reasons for classifying plants and animals based on specific characteristics.**<br>◦ Living things can be grouped into micro-organisms, plants and animals.<br>◦ Vertebrates can be grouped as fish, amphibians, reptiles, birds and mammals.<br>◦ Invertebrates can be grouped as snails and slugs, worms, spiders and insects.<br>Plants can be grouped as flowering plants (incl. trees and grasses) and non-flowering plants (such as ferns and mosses). | **UKS2: Year 6 - Living things and their habitats**<br>*Pupils should build on their learning about grouping living things in Year 4 by looking at the classification system in more detail. They should be introduced to the idea that broad groupings, such as micro-organisms, plants and animals can be subdivided. Through direct observations where possible, they should classify animals into commonly found invertebrates (e.g. insects, spiders, snails, worms) and vertebrates (fish, amphibians, reptiles, birds and mammals). They should discuss reasons why living things are placed in one group and not another.*<br>*Pupils might find out about the significance of the work of scientists such as Carl Linnaeus, a pioneer of classification.* | **UKS2: Year 6 - Living things and their habitats**<br>• *Using classification systems and keys to identify some animals and plants in the immediate environment.*<br>*Researching unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system.* |

| Key Learning (Key Stage 1) | Notes and Guidance (Key Stage 1) (Non-statutory) | Working Scientifically (Key Stage 1) (Featured skills) |
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| Pupils should be taught to:<br>**KS1: Year 2 - Living things and their habitats**<br>▪ **Explore and compare the differences between things that are living, dead, and things that have never been alive.**<br>▪ **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.**<br>▪ **Identify and name a variety of plants and animals in their habitats, including micro-habitats.**<br>▪ **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.**<br>▪ Different kinds of plants and animals live in different kinds of places.<br>▪ There are different kinds of habitat which need to be cared for.<br>▪ Habitats provide the preferred conditions for the animals/plants that live there (compare local habitats and less familiar examples).<br><br>(see also **Year 2 – Animals, 'Survival and Growth'** as this could be done in the same term as this Living Things in their Habitat' unit). | **KS1: Year 2 - Living things and their habitats**<br>*Pupils should be introduced to the idea that all living things have certain characteristics that are essential for keeping them alive and healthy.*<br>*They should raise and answer questions that help them to become familiar with the life processes that are common to all living things.*<br>*Pupils should be introduced to the terms 'habitat' (a natural environment or home of a variety of plants and animals) and 'micro-habitat' (a very small habitat, e.g. for woodlice under stones, logs)*<br>*They should raise and answer questions about the local environment that help them to identify and study a variety of plants and animals within their habitat and observe how living things depend on each other, for example plants serving as a source of food and shelter for animals.*<br>*Pupils should compare animals in familiar habitats with animals found in less familiar habitats, for example, on the seashore, in woodland, in the ocean.* | Pupils might work scientifically by:<br>**KS1: Year 2 - Living things and their habitats**<br>• *Sorting and classifying things according to whether they are living, dead or were never alive, and recording their findings using charts.*<br>• *Describing how they decided where to place things.*<br>• *Exploring questions such as: 'Is a flame alive? Is a deciduous tree dead in winter?*<br>• *Talking about ways of answering their questions.*<br>• *Constructing a simple food chain that includes humans (e.g. grass, cow, human).*<br>• *Describing the conditions in different habitats and micro-habitats (under log, on stony path, under bushes).*<br>• *Finding out how the conditions affect the number and type(s) of plants and animals that live there.*<br><br>(see also **Year 2 – Animals, 'Survival and Growth'** as this could be done in the same term as this Living Things in their Habitat' unit) |