



Year 2 – Living things and their habitats

National Curriculum Objectives:

- Explore and compare the difference 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 micro habitats.
- Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name the different sources of food.

Pupils should be introduced to the idea that all living things have certain characteristics that are essential for keeping them alive and healthy. They should raise and answer questions that help them to become familiar with the life processes that are common to all living things. 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, for example for woodlice under stones, logs or leaf litter). 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. Pupils should compare animals in familiar habitats with animals found in less familiar habitats, for example, on the seashore, in woodland, in the ocean, in the rainforest.

Pupils might work scientifically by: sorting and classifying things according to whether they are living, dead or were never alive, and recording their findings using charts. They should describe how they decided where to place things, exploring questions for example: 'Is a flame alive? Is a deciduous tree dead in winter?' and talk about ways of answering their questions. They could construct a simple food chain that includes humans (e.g. grass, cow, human). They could describe the conditions in different habitats and micro-habitats (under log, on stony path, under bushes) and find out how the conditions affect the number and type(s) of plants and animals that live there

Key Ideas

- Some things are living some were once living but now dead and some things never lived.
- There is variation between living things.
- Different animals and plants live in different places.
- Living things are adapted to survive in different habitats.
- Environmental change can affect plants and animals that live there.

Assessment

- Can they match certain living things to the habitats they are found in?
- Can they explain the differences between living and non-living things?
- Can they describe some of the life processes common to plants and animals, including humans?
- Can they describe how a habitat provides for the basic needs of things living there?
- Can they describe how some animals get their food using basic food chains?
- Can they describe how plants and animals are suited to their habitat?

		<ul style="list-style-type: none"> ● Finding things out using secondary sources of information. ● Can they organise things into groups? <p>Greater Depth</p> <ul style="list-style-type: none"> ● Can they name some characteristics of an animal that help it to live in a particular habitat? ● Can they describe what animals need to survive and link this to their habitats? 	
Prior Learning	Being scientists		Vocabulary
<p>In Early Years:</p> <ul style="list-style-type: none"> ● Explore the natural world around them, making observations and drawing pictures of animals and plants (ELG: The Natural World). ● Comments and questions about the place they live or the natural world. ● Shows care and concern for living things and the environment. ● Can talk about things they have observed such as plants and animals. ● Notices features of objects in their environment. ● Comments and asks questions about their familiar world. 	<ul style="list-style-type: none"> ● Each group chooses a small area of the school grounds and collects and identifies the plants and minibeasts that live there. Construct a food chain that might exist between these organisms. ● Place sizeable pieces of material e.g. wood or brick, over a patch of grass and carefully monitor what happens every few days. ● Find a piece of wild ground with lots of weeds. Remove the tall weeds and keep them cut, what happens to the other plants? 		<p>Living, dead, never alive, habitats, micro-habitats, food, food chain, leaf litter, shelter, sea shore, woodland, ocean, rainforest, conditions, desert, damp, shade</p>
<p>In Year 4:</p> <ul style="list-style-type: none"> ● 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. ● Know and label the features of a river 			

- Recognise that environments can change and that this can sometimes pose danger to living things.

Year 4 – Living Things and Their Habitats

National Curriculum Objectives

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 danger to living things.

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.

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.

Pupils might work scientifically by: using and making simple guides or keys to explore and identify local plants and animals; making a guide to local living things; raising and answering questions based on their observations of animals and what they have found out about other animals that they have researched.

Key Ideas

- Living things can be divided into groups based upon their characteristics.
- Environmental change affects different habitats differently.
- Different organisms are affected differently by environmental change.
- Different food chains occur in different habitats.
- Human activity significantly affects the environment

Assessment

- Can they recognise that living things can be grouped in a variety of ways?
- Can they classify and identify into broad groups?
- Can they explore and use a classification key to group, identify and name a variety of living things? (plants, vertebrates, invertebrates)
- Do they recognise that environments can change and this can sometimes pose a danger to living things?
- Can they explain how environmental changes have an impact on living things?
- Can they record data using diagrams, labels, classification keys, tables, scatter graphs, bar graphs and line graphs?
- Can they explain their findings in different ways (display, presentation, writing)?

Greater Depth

<div></div>			<ul style="list-style-type: none">● Can they give reasons for how they have classified animals and plants, using their characteristics and how they are suited to their environment?● Can they explore the work of pioneers in classification? (e.g. Carl Linnaeus)● Can they name and group a variety of living things based on feeding patterns? (producer, consumer, predator, prey, herbivore, carnivore, omnivore).
Prior Learning	Being scientists		Vocabulary

<p>In Year 2:</p> <p>Explore and compare the difference between things that are living, dead and things that have never been alive.</p> <ul style="list-style-type: none"> • 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 micro habitats. • Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name the different sources of food. 	<ul style="list-style-type: none"> • Research a food chain for a minibeast in the local environment that is easy to find (e.g. woodlice and snails). Each group of children is allocated a small habitat, they monitor the plants and animals that live there over the course of the year and relate any population changes to the seasons and the change in populations of other organisms in the food chain. • Cover a patch of grass with two planks of wood, and a mark a similar area and leave uncovered (before doing this identify the mini beasts and plants that are in the covered patch). Monitor the changes in populations over time and after a period of time remove one of the planks and monitor how it responds and compare it with the covered and uncovered area. • Set up a series of water butts, put different things in each (all the kinds of things you might see in a pond). Monitor what happens in each butt over a year (even better if you carry it on for a few). What are the most important things to add to a pond to help it develop? 	<p>Living, dead, never alive, habitats, micro-habitats, food, food chain, leaf litter, shelter, sea shore, woodland, ocean, rainforest, conditions, desert, damp, shade</p>
<p>In Year 5:</p> <ul style="list-style-type: none"> • Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. 		

- Describe the life process of reproduction in some plants and animals

Year 5 - Living Things and Their Habitats

National Curriculum Objectives:

- Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.
- Describe the life process of reproduction in some plants and animals.

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. Pupils should find out about different types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals.

Pupils might work scientifically by: 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), asking pertinent questions and suggesting reasons for similarities and differences. They might try to grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs. They might observe changes in an animal over a period of time (for example, by hatching and rearing chicks), comparing how different animals reproduce and grow.

Key Ideas

- Some organisms reproduce sexually where offspring inherit information from both parents.
- Some organisms reproduce asexually by making a copy of a single parent.
- Environmental change can affect how well an organism is suited to its environment.
- Different types of organisms have different lifecycles

Assessment

- Can they describe the differences in the life cycles of a mammal, amphibians, an insects and a bird?
- Can they identify the reproductive processes of some animals?
- Can they describe the life cycles of common plants?
- Can they present a report of their findings through writing, display and presentation?

Greater Depth

- Can they observe their local environment and draw conclusions about life-cycles, e.g. plants in the vegetable garden or flower border?
- Can they compare the life cycles of plants and animals in their local environment with the life cycles of those around the world, e.g. rainforests?

Prior Learning	Being scientists	Vocabulary
<p>In Year 4:</p> <ul style="list-style-type: none"> • 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. • Know and label the features of a river • Recognise that environments can change and that this can sometimes pose danger to living things. 	<ul style="list-style-type: none"> • Compare the lifecycles of different mammals, amphibians and birds. • Study an animal in the classroom and track how it changes over time. • Amphibians have a process of metamorphosis. Mammals have similar lifecycles • Explore the different processes of reproduction in these. • How do bulbs reproduce? • Can you complete a full life cycle? (Plant a quick growing plant [beans] and observe how it changes. Harvest the fruit and dry out the seeds. What happens if you plant it? • Invite the children to select an animal of interest. How has it adapted? What are the issues surrounding its survival? How does global warming affect animals like polar bears? • How does deforestation impact food chains and populations? 	<p>Environment, flowering, nonflowering, plants, animals, vertebrates, fish, amphibians, reptiles, mammals, invertebrate, human impact, nature reserves, deforestation. Sexual, asexual, reproduction, cell, fertilisation, pollination, male, female, pregnancy, gestation, young, mammal, metamorphosis, amphibian, insect, egg, embryo, bird, plant.</p>
<p>In Year 6:</p> <ul style="list-style-type: none"> • Classify living things into broad groups according to observable characteristics and based on similarities and differences. • Give reasons for classifying plants and animals based on specific characteristics. • Know how animals and plants are adapted to suit their environment. • Know about reproduction and offspring (recognising offspring normally vary and are not identical to their parents). • Know the ways in which nutrients and water are transported in animals, including humans 		

Year 6 - Living Things and Their Habitats

National Curriculum Objectives:

- 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
- give reasons for classifying plants and animals based on specific characteristics

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 (such as 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.

Pupils might work scientifically by: using classification systems and keys to identify some animals and plants in the immediate environment. They could research unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system.

Key Ideas

- describe how living things are classified
- give reasons for classifying plants and animals

Assessment

- Can they describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences including microorganisms, plants and animals?
- Can they give reasons for classifying plants and animals based on specific characteristics?
- Can they record more complex data and results using scientific diagrams, classification keys, tables, bar charts, line graphs and models?

Greater Depth

- Can they explain why classification is important?
- Can they readily group animals into reptiles, fish, amphibians, birds and mammals?
- Can they sub divide their original groupings and explain their divisions, such as vertebrates and invertebrates?
- Can they find out about the significance of the work of scientists such as Carl Linnaeus, a pioneer of classification?

In KS3:

Cells and organisation:

- cells as the fundamental unit of living organisms, including how to observe, interpret and record cell structure using a light microscope
- the functions of the cell wall, cell membrane, cytoplasm, nucleus, vacuole, mitochondria and chloroplasts

- the similarities and differences between plant and animal cells
- the role of diffusion in the movement of materials in and between cells
- the structural adaptations of some unicellular organisms
- the hierarchical organisation of multicellular organisms: from cells to tissues to organs to systems to organisms.