



# ***Living things and their habitats***

**Year: 4**  
**Term: Summer**

Prior Knowledge
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)
Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). (Y1 – Animals, including humans)
Identify and name a variety of plants and animals in their habitats, including microhabitats. (Y2 - Living things and their habitats)

## **Classifying living things**

Things can be either living or non-living, not living and dead. (Only living things can die). Plants and animals are classified into groups according to their features.

Characteristics of living things: **MRS NERG**

- **Movement** – *All living things move* – Animals move around to get from place to place; plants grow and turn towards the light.
- **Respiration** – *All living things respire* – Plants and animals use oxygen in the air to turn the food they eat into energy.
- **Sensitivity** – *All living things are sensitive* – Every living thing can detect changes in their surroundings.
- **Nutrition** – *All living things need nutrition* – Food is eaten to provide energy to live; green plants make their own food using sunlight
- **Excretion** – *All living things excrete* –Waste products are removed from the body; both plants and animals have to get rid of gas and water
- **Reproduction** – *All living things reproduce* –Animals have young; plants produce seeds from which more plants grow.
- **Growth** – *All living things grow* – Animals grow from babies into adults; seeds grow into plants.

## **Grouping animals**

The animal kingdom is divided into two groups:

- **Vertebrates** - with backbones, have firm body because of muscles attached to their skeleton
- **Invertebrates** - without backbones, soft inner bodies which are held in shape by a flexible covering of outer cells or by a hard covering called an exoskeleton

## **Vertebrates**

Vertebrates can be organised into five groups:

- Fish
- Amphibians
- Reptiles
- Birds
- Mammals

Fish	Breathes with gills/may lay eggs in water (not all fish lay eggs)/ has fins and scales/its body temperature changes
Amphibians	Born with gills then develops lungs/ lays eggs in water/damp skin/body temperature changes
Reptiles	Breathes with lungs/lays eggs on land/ dry scaly skin/body temperature changes
Birds	Breathes with lungs/lays eggs with hard shells/has feathers/ steady body temperature.
Mammals	Breathes with lungs/babies are born live/body hair or fur/steady body temperature/feeds babies milk

## **Invertebrates**

Invertebrates can be organised into three groups:

- ☐ Insects
- ☐ Arachnids

Molluscs	
Insects	3 body sections/6 legs
Arachnids	2 body sections/8 legs
Molluscs	Slimy foot/Often have a shell

### Plants

Plants can be organised into two groups:

- Flowering plants
- Non-Flowering plants

Flowering plants can be organised into four groups:

- Grasses
- Cereals
- Garden Shrubs
- Deciduous Trees (Lose their leaves)

Non-flowering plants can be organised into three groups:

- Algae
- Coniferous (Evergreen)
- Trees/ Ferns

### Changing habitats

What is a habitat	Where a plant or animals lives
How can habitats change?	The seasons can change habitats with the weather and plant life in the habitat changing. Humans can change habitats, for example by dropping litter or chopping down trees. Identify how a habitat can change throughout the year.
Human impact on habitats	Can be both positive and negative. For example: positive effects of nature reserves, ecologically planned parks, or garden ponds, and the negative effects of population and development, litter or deforestation.

### Classifying animals and plants

What is classifying?	Grouping things that are similar.
How can we group?	We can create branched diagrams to help us.

Children must have the opportunity to explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.

### Diagrams and symbols

#### Branching database – dichotomous key

Minibeasts

YES  
Does it have 6 legs?  
YES  
Is its body in two main parts?  
YES  
ladybird  
NO  
earwig  
NO  
Does it have pinchers?  
YES  
woodlouse  
NO  
spider

NO  
Does it have antennae?  
YES  
earthworm  
NO  
snail

dichotomous, (pronounced die-cot-o-mus) means divided into two branches

#### Sorting Minibeasts – as questions and answers

- 1.) Does it have legs?  
Yes – go to 2  
No – go to 3
- 2.) Does it have 6 legs?  
Yes – go to 4  
No – go to 5
- 3.) Does it have antennae?  
Yes – It is a snail  
No – It is an earthworm
- 4.) Does it have pinchers?  
Yes – It is an earwig  
No – It is a ladybird
- 5.) Is its body in two main parts?  
Yes – It is a spider  
No – It is a woodlouse

### Key skills

- **Gathering, recording, classifying and presenting** data in a variety of ways
- **Identify** the differences, similarities or changes related to simple scientific ideas and processes
- **Use** straightforward scientific evidence to answer questions
- **Record** findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and table
- **Reporting** on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.

### Key vocabulary

Prior vocabulary

habitat, microhabitat, nocturnal, adaptation, hunt, food chain, hibernate, conservation,

growth, absorbent, birth, decay, reproduction, dead, life cycle, source, nutrients, environment, food chain, energy

Working scientifically vocabulary - observe, test, magnifying glass, object, record, equipment, prediction, measurement,

enquiry, dependent variable, independent variable, fair test, similar, theory, hypothesis

Respiration – the act of breathing	Sensitivity – every living thing can detect changes in their surroundings
Nutrition – the process of eating and using the nutrients within food for living and growing	Excretion – to get rid of something from the body
Reproduction – the process by which living things create young or offspring	Vertebrates – a group of animals with a backbone
Invertebrates – a group of animals without a backbone	Gills – the organ which fish breathe through
Fins – thin, vertical part sticking out of the body of a fish that helps balance and movement	Scales – small, flat pieces that cover the skin of a fish
Kingdom – The large group in which every animal belongs	Classify - to sort or group living things according to their type and features

**Future Learning:**

Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. (Y5 - Living things and their habitats)

Describe the life process of reproduction in some plants and animals. (Y5 - Living things and their habitats)

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. (Y6 - Living things and their habitats)

Give reasons for classifying plants and animals based on specific characteristics. (Y6 - Living things and their habitats)

**Deepening and broadening the knowledge and understanding for GDS learners:**

- defines the terms vertebrate and invertebrate
- identifies the characteristics of: fish, amphibians, reptiles, birds and mammals
- groups vertebrate animals into fish, amphibians, reptiles, birds and mammals
- groups invertebrate animals into snails and slugs, worms, spiders and insects
- groups plants into categories such as flowering (including grasses) and non-flowering, such as ferns and mosses
- uses a complex classification key to help group, identify and name a variety of living things, *e.g. a branching diagram with a larger number of items or items where it is more difficult to observe the differences (because the items are similar in appearance)*
- devises a complex classification key to help group, identify and name a variety of living things, *e.g. a branching diagram with a larger number of items or items where it is more difficult to observe the differences (because the items are similar in appearance) or where the items are not common to them*
- describes the possible long term outcome that change may have on an environment, *e.g. certain animals/plants may become extinct*
- describes ways in which human and natural impact to an environment can be prevented or lessened
- explains how some 'natural changes' to the environment are possibly due to human activity, *e.g. the effects of global warming*

**Key Outcomes**

**1. Can I explain the importance of an animal's habitat?**

*Children will select a habitat in the local environment to explore and investigate why it so important to the wildlife that live in it.*

**2. How can I classify animals in different ways?**

*Children will group living things in different ways and give reasons for their classifications. They will know main differences between warm and cold-blooded animals, be able to explain the features of a bird that makes it unique from other animals and explain how fish are different from amphibians and reptiles.*

**3. What are the differences between vertebrates and invertebrates?**

*Children will explore the main features of vertebrates and invertebrates and classify animals into vertebrate and invertebrate groups and make a scientific drawing.*

**4. Can I explore and use classification keys to classify and group plants and animals?**

*Children use simple classification keys to identify and research living things in the local area then create their own simple keys to group plants and explain the reason for these features e.g. flowering/non-flowering.*

**5: What impact do humans have on habitats?**

*Children will research and present their findings about the positive and negative human impact on the environment over time (e.g. negative: use of palm oil and deforestation on orangutans, positive: 'rewilding' for conserving bees )*

**6: What can we do to improve local habitats?**

*Children will investigate and use data to understand the negative impact humans are having on habitats (e.g. the importance of bees as pollinators and explore some of the threats they face). They will plan, design and present ways in which people can positively impact the local environment.*