

HAWTHORN PARK COMMUNITY PRIMARY SCHOOL

Where Care and Learning Count

Headteacher: Mrs Jeni Houghton

Science Knowledge Organiser

Area: Living Things and their habitats

Year Group: 4

Statutory guidance:

By the end of this unit pupils will be able to:

- 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 this can sometimes pose dangers to living things

Notes and guidance (non-statutory)

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 Vocabulary

1. organisms	This is another word that can be used to mean 'living things'.
2. life processes	The things living things do to stay alive.
3. respiration	A process where plants and animals use oxygen gas from the air to help turn their food into energy.
4. sensitivity	The way living things react to changes in their environment.
5. reproduction	The process through which young are produced.
6. excretion	The process by which living things get rid of waste products.
7. nutrition	Food which provides living things with energy to live and stay healthy.
8. habitat	The specific area or place in which particular animals or plants may live.
9. environment	An environment contains many habitats and these include areas where there are both living and non-living things.
10. endangered species	A plant or animal where there are not many of their species left and scientists are concerned that the species may become extinct.
11. extinct	When a species has no more members alive on the planet, it is extinct.
12. classification	This is where plants or animals are placed into groups according to their similarities.
13. vertebrates	Animals with a backbone.
14. invertebrates	Animals without a backbone.
15. specimen	A particular plant or animal that scientists study to find out about its species.
16. characteristics	The distinguishing features or qualities that are specific to a species.

Key Assessment Questions

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:

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).