

Year 4 programme of study

Living things and their habitats

Statutory requirements

Pupils should be taught 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 that 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.

Animals, including humans

Statutory requirements

Pupils should be taught to:

describe the simple functions of the basic parts of the digestive system in humans

identify the different types of teeth in humans and their simple functions

construct and interpret a variety of food chains, identifying producers, predators and prey.

Notes and guidance (non-statutory)

Pupils should be introduced to the main body parts associated with the digestive system, for example, mouth, tongue, teeth, oesophagus, stomach and small and large intestine and explore questions that help them to understand their special functions.

Pupils might work scientifically by: comparing the teeth of carnivores and herbivores, and suggesting reasons for differences; finding out what damages teeth and how to look after them. They might draw and discuss their ideas about the digestive system and compare them with models or images.

Sound

Statutory requirements

Pupils should be taught to:

identify how sounds are made, associating some of them with something vibrating

recognise that vibrations from sounds travel through a medium to the ear

find patterns between the pitch of a sound and features of the object that produced it

find patterns between the volume of a sound and the strength of the vibrations that produced it

recognise that sounds get fainter as the distance from the sound source increases.

Notes and guidance (non-statutory)

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Pupils should explore and identify the way sound is made through vibration in a range of different musical instruments from around the world; and find out how the pitch and volume of sounds can be changed in a variety of ways.

Pupils might work scientifically by: finding patterns in the sounds that are made by different objects such as saucepan lids of different sizes or elastic bands of different thicknesses. They might make earmuffs from a variety of different materials to investigate which provides the best insulation against sound. They could make and play their own instruments by using what they have found out about pitch and volume.

Rocks

Statutory requirements

Pupils should be taught to:

compare and group together different kinds of rocks on the basis of their appearance and simple physical properties

describe in simple terms how fossils are formed when things that have lived are trapped within rock

recognise that soils are made from rocks and organic matter.

Notes and guidance (non-statutory)

Linked with work in geography, pupils should explore different kinds of rocks and soils, including those in the local environment.

Pupils might work scientifically by: observing rocks, including those used in buildings and gravestones, and exploring how and why they might have changed over time; using a hand lens or microscope to help them to identify and classify rocks according to whether they have grains or crystals, and whether they have fossils in them. Pupils might research and discuss the different kinds of living things whose fossils are found in sedimentary rock and explore how fossils are formed. Pupils could explore different soils and identify similarities and differences between them and investigate what happens when rocks are rubbed together or what changes occur when they are in water. They can raise and answer questions about the way soils are formed.

Statutory requirements

Pupils should be taught to:

identify common appliances that run on electricity

construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers

identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery

recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit

recognise some common conductors and insulators, and associate metals with being good conductors.

Notes and guidance (non-statutory)

Pupils should construct simple series circuits, trying different components, for example, bulbs, buzzers and motors, and including switches, and use their circuits to create simple devices. Pupils should draw the circuit as a pictorial representation, not necessarily using conventional circuit symbols at this stage; these will be introduced in year 6.

Note: Pupils might use the terms current and voltage, but these should not be introduced or defined formally at this stage. Pupils should be taught about precautions for working safely with electricity.

Pupils might work scientifically by: observing patterns, for example, that bulbs get brighter if more cells are added, that metals tend to be conductors of electricity, and that some materials can and some cannot be used to connect across a gap in a circuit.