

Science Knowledge Progression Map

Animals including humans

<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>
<ul style="list-style-type: none"> • identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals • identify and name a variety of common animals that are carnivores, herbivores and omnivores • describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) • identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. 	<ul style="list-style-type: none"> • notice that animals, including humans, have offspring which grow into adults find out about and • describe the basic needs of animals, including humans, for survival (water, food and air) • describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. 	<ul style="list-style-type: none"> • identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat • identify that humans and some other animals have skeletons and muscles for support, protection and movement. 	<ul style="list-style-type: none"> • 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.

Living things and their habitats

<u>Year 2</u>	<u>Year 4</u>
<ul style="list-style-type: none">● explore and compare the differences 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 microhabitats● 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.	<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● recognise that environments can change and that this can sometimes pose dangers to living things.

Materials

Year 1 Everyday materials	Year 2 Uses of everyday materials	Year 3 Magnets	Year 4 States of matter
<p>Pupils should be taught to:</p> <ul style="list-style-type: none">• distinguish between an object and the material from which it is made• identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock• describe the simple physical properties of a variety of everyday materials• compare and group together a variety of everyday materials on the basis of their simple physical properties.	<p>Pupils should be taught to:</p> <ul style="list-style-type: none">• identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses• find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	<p>Pupils should be taught to:</p> <ul style="list-style-type: none">• compare how things move on different surfaces notice that some forces need contact between two objects, but magnetic forces can act at a distance• observe how magnets attract or repel each other and attract some materials and not others• compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials• describe magnets as having two poles predict whether two magnets will attract or repel each other, depending on which poles are facing.	<p>Pupils should be taught to:</p> <ul style="list-style-type: none">• compare and group materials together, according to whether they are solids, liquids or gases• observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)• identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Plants

<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>
<p>Pupils should be taught to:</p> <ul style="list-style-type: none">• identify and name a variety of common wild and garden plants, including deciduous and evergreen trees• identify and describe the basic structure of a variety of common flowering plants, including trees.	<p>Pupils should be taught to:</p> <ul style="list-style-type: none">• observe and describe how seeds and bulbs grow into mature plants• find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	<p>Pupils should be taught to:</p> <ul style="list-style-type: none">• identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers• explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant• investigate the way in which water is transported within plants• explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

Light

Year 3

- Recognise that they need light in order to see things and that dark is the absence of light
- Notice that light is reflected from surfaces
- Recognise that light from the sun can be dangerous and that there are ways to protect their eyes
- Recognise that shadows are formed when the light from a light source is blocked by a solid object.
- Find patterns in the way that the size of shadows change.

Electricity

Year 4

- 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.

Forces

Year 3

- Compare how things move on different surfaces.
- Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance.
- Observe how magnets attract or repel each other and attract some materials and not others.
- Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.
- Describe magnets as having 2 poles.
- Predict whether 2 magnets will attract or repel each other, depending on which poles are facing.

Rocks

Year 3

- 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.

Sound

Year 4

- 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.