Science Long Term Overview

Year Group	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn 1 focus	**Seasons**	**Living things ad their habitats**	**Plants**	**Electricity**	**Living things and their habitats**	**Electricity**
Knowledge and skills covered	Children will: observe changes across the four seasons observe and describe weather associated with the seasons and how day length varies.	Children will: identify things that are living, dead and never lived. know how a specific habitat provides for the basic needs of animals living there Identify and name-animals in a range of habitats. match living things to their habitat. know how animals find their food. name some different sources of food for animals.	Children will: 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.	Children will: 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	Children will: 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.	Children will: Revision: Y4 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

				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.		Use recognised symbols when representing a simple circuit in a diagram Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches
Autumn 2 focus	**Animals, including humans**	**Uses of everyday materials**	**Animals, including humans**	**Living things and their habitats**	**Properties and changes of materials**	**Animals, including humans**
Knowledge and skills covered	Children will: identify and name a variety of common animals including fish, amphibians,	Children will: identify and compare the suitability of a variety of everyday materials,	Children will: identify that animals, including humans, need the right types and amount of nutrition, and that	Children will: recognise that living things can be grouped in a variety of ways	Children will: compare and group together everyday materials on the basis of their properties,	Children will: Identify and name the main parts of the human circulatory system.

	reptiles, birds and mammals Children will identify and name a variety of common animals that are carnivores, herbivores and omnivores	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.	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.	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.	including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating	know the function of the heart, blood vessels and blood. know the impact of diet, exercise, drugs and lifestyle on health. know the ways in which nutrients and water are transported in animals, including humans. have a simple understanding of Menstruation
Spring 1 Focus	**Everyday materials**	**Plants**	**Rocks**	**Animals, including humans**	**Properties and changes of materials**	**Living things and their habitats**

Knowledge and skills covered	Children will: 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.	Children will: observe and describe how seeds and bulbs grow into mature plants	Children will: 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.	Children will: 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.	Children will: give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic demonstrate that dissolving, mixing and changes of state are reversible changes explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.	Children will: Group leaves by observable characteristics recognise that living things can be be grouped in a variety of ways understanding branching databases / exoskeletons describe and give reasons for classifying plants and animals based on their similarities and differences Make prediction on a fair test – Bread experiment define and carry out a fair test Give reasons why a particular invertebrate belongs to a certain group describe and investigate helpful and harmful microorganisms Describe how living things are

						classified into broad groups according to common observable characteristics based on similarities and differences Report and present findings using appropriate scientific language
Spring 2 focus	**Plants**	**Plants**	**Plants**	**Sound**	**Forces**	**Evolution and Inheritance**
Knowledge and skills covered	Children will identify and describe the basic structure of a variety of common flowering plants, including trees.	Children will: find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	Children will: 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	Children will: 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	Children will: explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object identify the effects of air resistance, water resistance and friction, that act between moving surfaces	Children will: know how the Earth and living things have changed over time. know how fossils can be used to find out about the past. know about reproduction and offspring (recognising that offspring normally vary and are not identical to their parents).

			vary from plant to plant	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.	recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	know how animals and plants are adapted to suit their environment. link adaptation over time to evolution. know about evolution and can explain what it is.
Summer 1 focus	**Plants**	**Animals, including humans**	**Forces and magnets**	**States of matter**	**Animals Including Humans**	
Knowledge and skills covered	Children will identify and name a variety of common wild and garden plants, including deciduous and evergreen trees	Children will: 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	Children will: 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	Children will: 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	describe the changes as humans develop to old age	

		humans of exercise, eating the right amounts of different types of food, and hygiene.	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.	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.		
Summer 2 focus	**Animals including humans**	**Living things and their habitats**	**Light**		**Earth and space**	**Light**
Knowledge and skills covered	Children will: Ask simple questions and recognise that they can be	Children will: identify that most living things live in habitats to which they are suited and describe how	Children will: recognise that they need light in order to see things and that		Children will: describe the movement of the Earth, and other planets, relative	Children will: explain that light travels in straight lines from light sources to our eyes, and from

	answered in different ways Identify, name, draw and label basic parts of the human body and say which part of the body is associated with each sense ledge and skills covered	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 different sources of food.	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 an opaque object find patterns in the way that the size of shadows change.		to the Sun in the solar system describe the movement of the Moon relative to the Earth describe the Sun, Earth and Moon as approximately spherical bodies use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	light sources to objects to objects and then to our eyes Identify different types of scientific enquiries to answer their own questions understand how mirrors reflect light, and how they can help us to see objects use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye investigate how refraction changes the direction in which light travels and how light enables us to see colours investigate why shadows have the same shape as the object that casts them

						Take accurate measurements and record data on a graph