Science Long Term Plan 2023-24



Term	*Autumn 1	Autumn 2	Spring 1	Spring 2	*Summer 1	Summer 2
Year 1	MATERIALS AND STATES OF MATTER 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. Explore and compare the differences between things that are living, dead and have never been alive Weather and Seasons Observe changes across the four seasons and describe the weather associated with each one.		Animals including Humans Identify and name a variety of common animals. Distinguish between carnivores, herbivores and omnivores. Weather and Seasons Observe changes across the four seasons and describe the weather associated with each oneSpring		Plants Identify and name a variety of common wild and garden plants. Identify and describe the basic structure of a plant. Weather and Seasons Observe changes across the four seasons and describe the weather associated with each one. Summer	
Year 2	- Autumn/Winter LIVING THINGS AND THEIR HABITATS 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 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.	MATERIALS AND STATES OF MATTER 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.	ANIMALS INCLUDING HUMANS (1) 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. Notice that animals, including humans, have offspring which grow into adults.	PLANTS 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.	ANIMALS INCLUDING HUMANS (continued) 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.	
Year 3	LIGHT AND DARK Recognise that they need light in order to see things and that dark is the absence of light	ROCKS Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties	FORCES, MAGNETS AND ELECTRICITY Compare how things move on different surfaces	ANIMALS INCLUDING HUMANS Identify that animals and humans need the right types / amount of nutrition, and that they cannot make	PLANTS Identify and describe the function flowering plants: roots, stem/	·

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	Notice that light is reflected from surfaces Recognise that light from the sun can be dangerous and that there are ways to protect 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	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.	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.	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 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.
Year 4	SOUND 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 pitch and features of the object that produced it Find patterns between 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.	MATERIALS AND STATES OF MATTER 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.	ELECTRICITY 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.	LIVING THINGS AND THEIR HABITATS 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	ANIMALS INCLUDING HUMANS 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.
Year 5	ANIMALS INCLUDING HUMANS Describe changes as humans develop to old age Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function Describe the ways in	EARTH AND SPACE Pupils should be taught to: describe the movement of the Earth, and other planets, relative 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	PROPERTIES AND CHANGES OF MATERIALS Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets	LIVING THINGS AND THEIR HABITATS 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.	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 Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller

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	teration and an arrangement	and the the state of the state of the	War that are a sale data dilate di		f	
	which nutrients and water are	use the idea of the Earth's rotation	Know that some materials will dissolve		force to have a greater effect.	
	transported within animals, including	to explain day and night and the	in liquid to form a solution, and describe			
	humans.	apparent movement of the sun	how to recover			
		across the sky.	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			
			Give reasons, based on evidence from			
			comparative and fair tests, for the			
			particular uses of everyday materials,			
			including metals, wood and plastic			
			moraling 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.			
V	ELECTRICITY	EVOLUTION AND INHERITANCE	LIGHT	ANIMALS INCLUDING HUMANS		LIVING THINGS AND THEIR
Year	Associate the brightness of a lamp or	Recognise that living things have	Recognise that light appears to travel in	Identify and name the main parts of		HABITATS
6	the volume of a buzzer with the	changed over time and that fossils	straight lines	the human circulatory system, and		Describe how living things are
	number and voltage of cells used in	provide information about living	Use the idea that light travels in straight	describe the functions of the heart,		classified into broad groups
	the circuit	things that inhabited the Earth	lines to explain that objects are seen	blood vessels and blood		according to common
	Compare and give reasons for	millions of years ago	because they give	recognise the impact of diet, exercise,		observable
	variations in how components	Recognise that living things	out or reflect light into the eye	drugs and lifestyle on the way their		characteristics and based on
	function, including the	produce offspring of the same	out of reflect light into the eye	bodies function		similarities and differences,
	brightness of bulbs, the loudness of	kind, but normally offspring		describe the ways in which nutrients		including microorganisms,
	buzzers and the on/off position of	vary and are not identical to their	Explain that we see things because light	and water are transported within		plants and
	switches	parents	travels from light sources to our eyes or	animals, including humans		animals
	Use recognised symbols when	Identify how animals and plants	from light	animais, including numans		Give reasons for classifying
	representing a simple circuit in a	are adapted to suit their	sources to objects and then to our eyes			plants and animals based on
		environment in different	Use the idea that light travels in straight			specific characteristics.
	diagram.		lines to explain why shadows have the			specific characteristics.
		ways and that adaptation may lead	same shape as			
		to evolution.	the objects that cast them.			