Adlington St. Paul's
Science Long Term Plan 2022-2023

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception Topic	Me and My Community	Once Upon a Time	Starry Night Driver: Understanding the world	Dangerous Dinosaurs Driver: Understanding the world	Sunshine and Sunflowers Driver: Understanding the world	Big Wide World Driver: Understanding the world
Reception Mini project	Exploring Autumn	Sparkle and Shine Driver: Understanding the world	Winter Wonderland Driver: Understanding the world	Puddles and Rainbows Driver: Understanding the world	Shadows and Reflections Driver: Understanding the world	Splash! Driver: Understanding the world
Understanding the world	Our reception community including family, school and local and how we are unique and special. Explore the natural changes that happen during the season of autumn, including how the weather changes, why trees lose their leaves and how wild animals prepare for winter.	Celebrations linked to autumn and winter seasons including the importance of light at this time of year	Explore the differences in the world at night, the importance of a good night sleep, and help them to discover what happens in the world while they sleep including learning about nocturnal animals. Learn about the changes that happen during the winter, including the weather associated with winter. Explore places that have snow all year round and the animals that live there.	Children learn about the different animals that roamed Earth millions of years ago and how they are related to animals that live on Earth today. Children learn about the weather that happens during spring and allows them to explore natural phenomena including rainbows and supports them to explore colour in the natural world.	Provides opportunities for outdoor learning and teaches children how to care for plants and animals in the local environment and how to stay safe in the sun. Children learn about natural phenomena including shadows, reflections, and echoes. Explore how shadows are formed and how they can change	Children learn about the global community to which they belong and explore how living things, communities and climates differ around the world. Children learn about water, including floating and sinking, freezing and melting and why it is important for living things to stay hydrated.
Year 1	Childhood History		Bright Lights, Big City		School Days	

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Science Unit	Everyday Materials	Humans	Seasonal changes		Plants	Animals
Key Science Learning	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.	Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	Observe and describe weather associated with the seasons and how day length varies. Observe changes across the four seasons. Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.		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.	Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).
Year 2	Movers and Shakers		Coastline		Magnificent Monarchs	
Science Unit	Humans	Habitats	Uses of Everyday Materials	Plants	Animals	
Key Science Learning	Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. Notice that animals, including humans, have	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. Explore and	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	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.	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. Notice that animals, including humans, have offspring which grow into adults. Identify and name a variety of plants and animals in their habitats, including microhabitats. Find out about and describe	

	offspring which grow into adults.	compare the differences between things that are living, dead, and things that have never been alive. Identify and name a variety of plants and animals in their habitats, including microhabitats. 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	shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	Identify and name a variety of plants and animals in their habitats, including microhabitats.	the basic needs of animals, including humans, for survival (water, food and air).	
Year 3	Through the Ages		Rocks, Relics and Rumbles		Emperors and Empires	
Science Unit	Animals including humans	Rocks and Soils	Forces and Magnets		Plants	Light
Key Science Learning	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	Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. Describe in simple terms how	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		Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. Explore the requirements of	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

	what they eat. Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	fossils are formed when things that have lived are trapped within rock. Recognise that soils are made from rocks and organic matter.	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.		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.	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.
Year 4	Invasion		Misty Mountain, Winding River		Ancient Civilisations	
Science Unit	Animals including humans	Sound	States of Matter	Living Things and Their Habitats	Electricity	
Key Science Learning	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.	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	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	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	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.	

		and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases.	played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	dangers to living things.	
Year 5	Dynamic Dynasties		Sew, Grow, Farm		Ground- breaking Greeks
Science Unit	Forces	Earth and Space	Animals including Humans / Living Things and their Habitats		Properties and Changing Materials
Key Science Learning	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 force to have a greater effect.	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. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	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. Describe the changes as humans develop to old age.		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. 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. 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.
Year 6	Maafa		Frozen Kingdoms		Britain at War

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Science Unit	Living Things and their Habitats	Animals including Humans	Electricity	Light	Evolution and Inheritance
Key Science Learning	Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. Give reasons for classifying plants and animals based on specific characteristics.	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 which nutrients and water are transported within animals, including humans.	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. Use recognised symbols when representing a simple circuit in a diagram.	Recognise that light appears to travel in straight lines. 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. Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Ancient