



Science Curriculum Overview 2020-2021

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Focus:	Understanding the World Development Milestones					
Nursery	All about me	Celebrations	Traditional tales	Settings/ animals	Plants/ changes	Holidays/Journeys
Concepts and Key Skills	Ourselves & Settling into our surroundings People and their Communities <ul style="list-style-type: none"> Show interest in the lives of people who are familiar to them. The World <ul style="list-style-type: none"> Comment and ask questions about aspects of their familiar world such as the place where they live or the natural world. 	Birthdays & growing older bonfire night/ Are we all the same?/ differences People and their Communities <ul style="list-style-type: none"> Show interest in the lives of people who are familiar to them. The World <ul style="list-style-type: none"> Comment and ask questions about aspects of their familiar world such as the place where they live or the natural world. 	Building confidence The World <ul style="list-style-type: none"> Talk about some of the things they have observed such as plants, animals, and found objects. Talk about why things happen and how things work. 	Dinosaurs/ Jungle/ Zoo/ Farm/ Antarctica/ space/ fantasy/ paradise/ beaches/ what lives here? How can we describe these settings? The World <ul style="list-style-type: none"> Talk about some of the things they have observed such as plants, animals, and found objects. Talk about why things happen and how things work. 	Environment/ seasons/ changes from baby to now/ family/ growing plants/ trees/ animals (baby & adult)/ chicks, hatching eggs The World <ul style="list-style-type: none"> Develop an understanding of growth, decay and changes over time. Show care and concern for living things and the environment. 	World/environments The World <ul style="list-style-type: none"> Develop an understanding of growth, decay and changes over time. Show care and concern for living things and the environment.



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Focus:	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Development Milestones					
	Understanding the World					
Reception	All about me	<u>Looking after ourselves/ Around the world/Celebrations</u>	<u>Superheroes/ Transport</u>	<u>Growing/changing</u>	<u>Scientific enquiry/habitats</u>	<u>Hot & Cold</u>
	<p>Body parts/ senses/ family & friends/ pets</p> <p>The World</p> <ul style="list-style-type: none"> Looks closely at similarities, differences, patterns and change. 	<p>Hygiene/ washing hands/ showering/ brushing teeth/ eating lunches (school dinners)/ Exercise/ healthy eating/ Are we all the same? / different</p> <p>The World</p> <ul style="list-style-type: none"> Looks closely at similarities, differences, patterns and change. 	<p>Looking after the environment</p> <p>The World</p> <ul style="list-style-type: none"> Know about similarities and differences in relation to places, objects, materials and living things. 	<p>Life cycles of animals/ plants & trees/ humans / growing plants/ different habitats & animals that live there/ Insects/ Animals/ (growing butterflies)/ planting seeds</p> <p>The World</p> <ul style="list-style-type: none"> Know about similarities and differences in relation to places, objects, materials and living things. 	<p>Changes/ melting & freezing/ floating & sinking/ magnetism/ materials/ properties/ scientific experiments/ light & dark/ Electricity/ habitats/ what animals live where?</p> <p>The World</p> <ul style="list-style-type: none"> Talk about the features of immediate environment and how environments might vary from one another. Make observations of animals and plants and explain why somethings occur and talk about changes. 	<p>hot & cold countries/ building habitats</p> <p>The World</p> <ul style="list-style-type: none"> Talk about the features of immediate environment and how environments might vary from one another. Make observations of animals and plants and explain why somethings occur and talk about changes.



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	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn 1	Plants	Plants	Plants	Materials- States of Matter	Living Things and their Habitats	Evolution and Inheritance
Concepts and skills taught:	<ul style="list-style-type: none"> Identify and name common wild and garden plants (including deciduous and evergreen) Identify and describe basic structure of a variety of common flowering plants 	<ul style="list-style-type: none"> Observe and describe how seeds and bulbs grow Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy 	<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 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 	<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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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
Autumn 2	Working Scientifically	Animals and Humans	Animals including Humans	Sound	Animals including Humans	Living Things and their Habitats
Concepts and skills taught:	<ul style="list-style-type: none"> Identify and classify properties of materials Pose own scientific questions Answer own scientific questions 	<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"> 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 	<ul style="list-style-type: none"> describe the changes as humans develop to old age 	<ul style="list-style-type: none"> Pupils should be taught to: describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals give reasons for classifying plants and animals based on specific characteristics



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	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Spring 1	Materials- Everyday Materials	Materials- Uses of Materials	Materials- Rocks	Animals including Humans	Materials- Properties and Changes in Materials	Animals Including Humans
Concepts and skills taught:	<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 	<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 	<ul style="list-style-type: none"> 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 	<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 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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



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Spring 2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Spring 2	Animals including Humans	Working Scientifically	Forces and Magnets	Electricity	Working Scientifically	Light
<p>Concepts and skills taught:</p> <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"> • To pose own scientific questions • To conduct research • To select appropriate materials • To understand the importance of diet and environment on a living thing 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Materials and Forces • Classifying separation techniques • Dissolving and what effects the rate of dissolving • Air resistance 	<ul style="list-style-type: none"> • 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 	



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	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Summer 1	Light and Dark	Electricity	Light	Working Scientifically	Forces	Electricity
Concepts and Skills taught	<ul style="list-style-type: none"> Investigate how your senses can help you see in the dark Identify sources of light Classify natural light and man-made light. Explain why certain sources of light are used (purpose) Compare different sources of light. Explain night and day Identify nocturnal animals observe reflections and explain why reflections happen. Investigate what objects light can travel through 	<ul style="list-style-type: none"> Understand that electricity is a power source Classify electrical appliances into mains and battery electricity Understand how and why to keep safe around electricity Create a working circuit Recognise the purpose of a switch in a circuit. Understand why you need a complete circuit to create an output Investigate materials that are conductors and insulators 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> States of Matter and Sound Investigate insulators and conductors of heat Investigate how sound travels and insulating sound 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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
Summer 2	Seasonal Changes	Living things and their habitats	Working Scientifically	Living things and their Habitats	Earth and Space	Working Scientifically
Concepts and Skills taught:	<ul style="list-style-type: none"> observe changes across the 4 seasons observe and describe weather associated with the seasons and how day length varies 	<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 	<ul style="list-style-type: none"> Pattern seeking Explore animals Exploring rocks and volcanoes To conduct research on a particular topic. 	<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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Explore and create methods record findings research own ideas



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		identify and name different sources of food.				
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