

Science Progression Map 2023-2024

	Topic	Birth to 3-Year-Old	EYFS (3 to 5-Year-Old)	Year 1	Year 2	Year 3	Year 4
Asking Simple Questions	Plants	- Encourage toddlers and young children to enjoy and explore the natural world.	- What plants can you see? - Observe and discuss the plants in our local environment.	- What is a plant? - How many different types of plants are there? - How many different types of trees are there?	- What do plants need to survive? - Do plants always come from a seed? - How do plants grow?	- How does water travel up the stem to the flowers? - What is the role of the different parts of a plant?	
	Animals including Humans	- Encourage children's exploration, curiosity, appreciation and respect for living things.	- Use senses to explore the world around you.	- What do animals eat? - How many different animal groups are there?	- What do animals need in order to survive? - What do humans need in order to stay healthy?	- Why is nutrition important? - What would happen if humans did not have a skeleton? - What parts of the body are associated with the skeleton and muscles? - What special functions do parts of the body have?	- What are the functions of the basic parts of the digestive system? - What are the different types of teeth in a human and their simple functions? - What are the differences between the teeth of a herbivore and a carnivore?
	Materials	- Explore materials with different properties.	- Discuss different materials in our local environment. - What does the material feel like?	- What are objects made from? - Use senses to explore everyday materials and their properties.	- Which material is the best to use for a particular purpose? - How can an object be changed?		
	Seasonal Changes	- Encourage children to bring natural materials into the setting, such as leaves and conkers picked up from the pavement or park during autumn.	- Ask questions about what is observed during the seasons as they happen.	- What season is it, currently? - What is the weather like? - How has the weather changed? - How many hours of sunlight are there, currently? - Why does this happen?			

	Living Things and their Habitats		<ul style="list-style-type: none"> - What does habitat mean? - What does microhabitat mean? - How do animals obtain their food from plants and other animals? 		<ul style="list-style-type: none"> - What variety of ways can living things be grouped? - How can environments change? - How can this pose dangers to living things?
	Rocks		<ul style="list-style-type: none"> - How can rocks be grouped based on their appearance and simple properties? - How are fossils formed? - What is soil made from? 		
	Light		<ul style="list-style-type: none"> - Can we see without light? - What is darkness? - How can light be reflected from a surface? - Why is light from the sun dangerous? - How can we protect our eyes from the sun? - How are shadows formed? 		
	Forces and Magnets		<ul style="list-style-type: none"> - How do things move on different surfaces? - How do magnets attract and repel each other? - Why do magnets attract some materials and do not attract others? -What materials are magnetic? 		
	States of Matter		<ul style="list-style-type: none"> - How can materials be grouped together? 		

							<ul style="list-style-type: none"> - How have materials changed state when they are heated or cooled? - What role does evaporation and condensation play in the water cycle?
	Sounds						<ul style="list-style-type: none"> - How are sounds made? -How to vibrations travel from sounds to the ear? --What materials provide the best insulation from sound?
	Electricity						<ul style="list-style-type: none"> - What common appliances run on electricity? - Will a lamp light in a simple series circuit if it is or is not part of a complete loop with a battery? - Name some common conductors and insulators.
Performing Simple Tests	Topic	Birth to 3-Year-Old	EYFS (3 to 5-Year-Old)	Year 1	Year 2	Year 3	Year 4
	Plants	- Observations are used, rather than testing.			- Perform tests to find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	- Perform tests to discover how seeds are formed during the different stages of a plant life cycle. - Find out how water travels up the stem to the flower.	
	Animals including Humans	- Observations are used, rather than testing.					- Perform tests to find out the effects of different substances on teeth.

	Materials	- Use different materials for different purposes during play.	- Explore and experiment with a wide variety of materials. - Perform simple tests to explore questions, for example: 'What is the best material for an umbrella?'	- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. - Identify and compare the suitability of a variety of everyday materials.	
	Seasonal Changes	- Observations are used.			
	Living Things and their Habitats			- Observations are used.	- Observations are used.
	Rocks			- Perform tests to see what happens when rocks are rubbed together. - Identify what happens to different rocks when they are added to water.	
	Light			- Perform tests to looking for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes.	
	Forces and Magnets			- Perform tests to find out how far things move on different surfaces and gathering and recording data to find answers to these questions. - Perform tests to explore the strengths of different magnets	

			<p>and find a fair way to compare them.</p> <ul style="list-style-type: none"> - Identify what materials are magnetic and those that are not. 	
	States of Matter			<ul style="list-style-type: none"> - Perform tests that explore the effects of temperature on substances such as chocolate, butter and cream. - Investigate the effect of temperature on washing drying and snow melting.
	Sounds			<ul style="list-style-type: none"> - Investigate the way vibrations are created using a range of different instruments and find out how pitch and volume of sounds can be changed in a variety of ways. - Find patterns in sounds that are made by different objects such as saucepan lids of different sizes and elastic bands of different thickness.
	Electricity			<ul style="list-style-type: none"> - Investigate simple circuits by trying different components such as bulbs, buzzers, motors and switches and use these switches to create devices. - Perform simple tests to investigate whether bulbs get

							brighter if more cells are added, why metals tend to be good conductors of electricity and why some materials can and others cannot be used to connect a gap in a circuit.
Observing closely, using simple equipment	Topic	Birth to 3-Year-Old	EYFS (3 to 5-Year-Old)	Year 1	Year 2	Year 3	Year 4
	Plants	- Carefully planting, watering and looking after plants they have grown from seeds.	- Observe plants, growing from seeds.	- Identify and describe the basic structure of a variety of common flowering plants, including trees. - Observe the growth of plants/vegetables the children have grown.	- Observe and describe how seeds and bulbs grow into mature plants.	- Observe 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.	
	Animals including Humans	- Using the local environment, explore the world around them.		- Use their observations at first hand or through videos and photographs.	- Use their observations to compare and contrast animals at first hand or through videos and photographs.	- 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.	- 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.
	Materials	- Offer lots of different textures for exploration with fingers, feet and whole body. Such as wet and dry sand,	- Observe different materials during play and when exploring the world around them.	- Distinguish between an object and the material from which it is made.	- Identify and compare the suitability of a variety of everyday materials through use of observations.		

		water, paint and playdough.			- Explore how some objects can be changed by e.g. squashing, bending, twisting and stretching	
Seasonal Changes		- Observe and discuss the weather as the seasons change.		- Observe changes across the four seasons. - Observe and describe weather associated with the seasons and how day length varies.		
Living Things and their Habitats					- Explore things that are living, dead and never lived.	- Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.
Rocks					- 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.	
Light					- Observe 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.	
	Forces and Magnets		<ul style="list-style-type: none"> - 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. 	
	States of Matter			<ul style="list-style-type: none"> - 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 ($^{\circ}\text{C}$). - Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.
	Sounds			<ul style="list-style-type: none"> - Observe patterns between the pitch of a sound and features of the object that produced it. - Observe patterns between the volume of a sound and the strength of the

							<p>vibrations that produced it.</p> <ul style="list-style-type: none"> - Observe how sounds get fainter as the distance from the sound source increases.
	Electricity						<ul style="list-style-type: none"> - Observe how a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. - Observe some common conductors and insulators, and associate metals with being good conductors.
Identification and Classification	Topic	Birth to 3-Year-Old	EYFS (3 to 5-Year-Old)	Year 1	Year 2	Year 3	Year 4
	Plants	<ul style="list-style-type: none"> - Using the local environment, explore the world around them. - Observations will take place. 	<ul style="list-style-type: none"> - Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. 	<ul style="list-style-type: none"> - Identify what plants need in order 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. 		
	Animals including Humans	<ul style="list-style-type: none"> - Identify and classify animals during play, for example farm animals, jungle animals, fish). 	<ul style="list-style-type: none"> - 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). 	<ul style="list-style-type: none"> - Identify and classify animals during the different stages of their life cycle. 	<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, 	<ul style="list-style-type: none"> - Identify 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 	

					protection and movement.	producers, predators and prey.
Materials	<ul style="list-style-type: none"> - Using the local environment, explore the world around them. - Identify materials with different properties. - Identify natural materials, indoors and outside. 	<ul style="list-style-type: none"> - Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. 	<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. 			
Seasonal Changes	<ul style="list-style-type: none"> - Explore the world around them, identify what the weather is like 	<ul style="list-style-type: none"> - Identify and describe weather associated with the seasons. 				
Living Things and their Habitats			<ul style="list-style-type: none"> - 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. 			<ul style="list-style-type: none"> - Identify 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.
Rocks				<ul style="list-style-type: none"> - Identify and group together different kinds of rocks on the basis of their appearance and simple physical properties. 		
Light				<ul style="list-style-type: none"> - Identify that light from the sun can be dangerous and that there are ways to protect their eyes. - Identify that shadows are formed when the light from a 		

			<p>light source is blocked by an opaque object.</p> <ul style="list-style-type: none"> - Identify patterns in the way that the size of shadows change. 	
	Forces and Magnets		<ul style="list-style-type: none"> - Identify how magnets attract or repel each other and attract some materials and not others. - Identify and group together a variety of everyday materials on the basis of whether they are attracted to a magnet and identify some magnetic materials. 	
	States of Matter			<ul style="list-style-type: none"> - Identify and group materials together, according to whether they are solids, liquids or gases. - Identify that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius ($^{\circ}\text{C}$). - Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.
	Sounds			<ul style="list-style-type: none"> - Identify how sounds are made, associating some of

							<p>them with something vibrating.</p> <ul style="list-style-type: none"> - Identify that vibrations from sounds travel through a medium to the ear. - Identify patterns between the pitch of a sound and features of the object that produced it. - Identify patterns between the volume of a sound and the strength of the vibrations that produced it.
	Electricity						<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.
Using observations and ideas, to suggest	Topic	Birth to 3-Year-Old	EYFS (3 to 5-Year-Old)	Year 1	Year 2	Year 3	Year 4
	Plants	- Plants seeds and care for them.		- Through observations, answer questions about plants growing in their habitat.	- Observe similar plants at different stages of growth; setting up a comparative test to show that plants need	- Observe the way in which water is transported within plants. - Observe and explore the part that	

answers to questions				light and water to stay healthy. - Explain how animals obtain their food from plants and other animals.	flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	
	Animals including Humans	- Discuss where some animals live.	- Using observations to compare and contrast animals at first hand or through videos and photographs, suggesting answers to questions they have.	- Explain that humans must maintain a healthy diet, hygiene and exercise to remain healthy.	- Observe how 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. - Observe how humans and some other animals have skeletons and muscles for support, protection and movement.	- Observe what happens to teeth if they are not looked after.
	Materials	- Recognise different materials in the world around them and through play-based activities.	- Discuss a variety of materials and describe their properties, by exploring using their senses.	- Explain the suitability of materials by comparing objects.		
	Seasonal Changes	- Using their senses explore the world around them and through play-based activities.	- Describe the changes in the environment during the seasons.			
	Living Things and their Habitats			- Ask and answer questions about the local environment to identify and study a variety of plants and animals within their habitat and observe how living things depend on each other, for example, plants serving as a source of food and shelter for animals.		- Observe that living things can be grouped in a variety of ways. - 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.
	Rocks			- Observe and group together different kinds of rocks on the basis of their appearance and simple physical properties.	
	Light			- Observe that light from the sun can be dangerous and that there are ways to protect their eyes. - Observe that shadows are formed when the light from a light source is blocked by an opaque object.	
	Forces and Magnets			- Observe 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.	
	States of Matter				- 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) - Observe the part played by evaporation and condensation in the

							water cycle and associate the rate of evaporation with temperature.
	Sounds						<ul style="list-style-type: none"> - Observe the patterns between the pitch of a sound and features of the object that produced it. - Observe the patterns between the volume of a sound and the strength of the vibrations that produced it. - Observe and recognise how sounds get fainter as the distance from the sound source increases.
	Electricity						<ul style="list-style-type: none"> - Observe how a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. - Observe some common conductors and insulators, and associate metals with being good conductors.
Gathering and recording data to help in answering questions	Topic	Birth to 3-Year-Old	EYFS (3 to 5-Year-Old)	Year 1	Year 2	Year 3	Year 4
	Plants	- Observe plants and draw a picture.		- Record how plants have changed overtime, throughout the different seasons. - Timing and observing height of	- Observe and record the growth of a variety of plants as they change over time. - Set up a comparative test and record the	- Recognise and record the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.	

			plants and rate at which they grow.	changes over time, to show what plants need in order to stay healthy.	- Investigate and record the way in which water is transported within plants.	
Animals including Humans	- Explore the world around them through play-based activities.	- Complete a checklist of animals in the local environment.	- Recognise growth, they will learn about life cycles and draw the life cycle of particular animals.	- Recognise 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. - Recognise that humans and some other animals have skeletons and muscles for support, protection and movement.	- Record what happens to teeth if they are not looked after. - Compare the teeth of herbivores and carnivores and suggest reasons for those differences.	
Materials	- Explore the world around them through play-based activities. - Explore materials with different properties. - Explore natural materials, indoors and outside.	- Group materials based on their properties.	- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.			
Seasonal Changes	- Explore the world around them through play-based activities.	- Completing a chart/table about the weather.				
Living Things and their Habitats			- Sort and classify things according to whether they are living, dead or were never alive, and record their findings using charts.		- Raise and answer questions based on observations of animals that have been made. - Sort and classify plants into different categories such as flowering and non-flowering.	
Rocks				- Research and discuss the different kinds of living things which whose fossils are found in		

			<p>sedimentary rock and explore how fossils are formed.</p> <ul style="list-style-type: none"> - Research different soils and identify similarities and differences between them. - Investigate what happens when rocks are rubbed together or what changes occur when they are in water. - Ask and answer questions about the way soils are formed. 	
	Light		<ul style="list-style-type: none"> - Look for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes. 	
	Forces and Magnets		<ul style="list-style-type: none"> - Compare how different things move and group them. - Ask questions and carry out tests to find out how far things can move on different surfaces. - Gather and record data to find answers to questions. 	
	States of Matter			<ul style="list-style-type: none"> - Conduct experiments to group and classify a variety of different materials, explore the effect of temperature on substances and the temperatures at which materials change state.

	Sounds		- Conduct experiments to identify patterns in sounds that are made by different materials and identify materials that can insulate sounds.
	Electricity		- Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.