

Science Curriculum overview

SY 2022-23

Blue font = the knowledge has been covered before

	Reception	Year One	Year Two	Year Three	Year Four	Year Five	Year Six
Scientific enquiry	ELG: Listening, Attention and Understanding Make comments about what they have heard and ask questions to clarify their understanding. ELG: Fine motor skills Use a range of small tools, including scissors, paint brushes and cutlery. ELG: Building Relationships Work and play cooperatively and take turns with others.	Green fingers Time Travellers Asking simple questions and recognising that they can be answered in different ways	Super Humans Buildings The Magic Toymaker Asking simple questions and recognising that they can be answered in different ways	How Humans Work Shake it Feel the Force Asking relevant questions and using different types of scientific enquiries to answer them	How Humans Work 2022 only Land, Sea and Sky From 2023 Let's Plant It Bright Sparks Making Waves Asking relevant questions and using different types of scientific enquiries to answer them	Space Scientists Being Human Roots, Shoots and Fruits Bake it Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary	Existed, Endangered, Extinct Full Power Fairgrounds Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
		Brainwave: The Brain	From A to B	Feel the Force	How Humans Work	Bake it	Full power

To feel confident to answer simple questions about observable properties of objects and people, animals and plants around them To compare objects in their environment and talk about similarities and differences To ask questions about the world around them, and seek to find their own answers	Green fingers Performing simple tests. using their observations and ideas to suggest answers to questions.	Super Humans Buildings Performing simple tests. using their observations and ideas to suggest answers to questions.	Shake it Setting up simple practical enquiries, comparative and fair tests	2022 only Land, Sea and Sky From 2023 Let's Plant It Bright Sparks Making Waves Setting up simple practical enquiries, comparative and fair tests	Space Scientists Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate	Fairgrounds Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
	Green fingers Time Travellers The Earth: Our Home Identifying and classifying	Super Humans Buildings Live and let live The Magic Toymaker Identifying and classifying	Feel the force Shake it Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers	Let's plant it Land sea and sky Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers	Space Scientists Bake it Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs	Existed, Endangered, Extinct Full power Fairgrounds Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
	Brainwave: The Brain Green fingers Time Travellers The Earth: Our Home Observing closely, using simple equipment	From A to B Buildings Love and let live The Magic Toymaker Observing closely, using simple equipment	How Humans Work Shake it Feel the Force Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions	Let's plant it How Humans Work Shake it Land Sea and sky Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions	Bake it Space Scientists Using test results to make predictions to set up further comparative and fair test	Full power Fairgrounds Using test results to make predictions to set up further comparative and fair test
	Brainwave: The Brain Green fingers Time Travellers The Earth: Our Home Gathering and recording	From A to B Buildings Live and let live The Magic Toymaker	How Humans Work Shake it Feel the Force	How Humans Work 2022 only Land, Sea and Sky From 2023 Let's Plant It Bright Sparks	Roots shoots fruits Space Scientists Being Human Bake it Reporting and presenting findings from enquiries,	Existed, Endangered, Extinct Full power Fairgrounds

	data to help in answering questions	Gathering and recording data to help in answering questions	Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Using straightforward scientific evidence to answer questions or to support their findings.	Making Waves Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Using straightforward scientific evidence to answer questions or to support their findings.	including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations	Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations
			How Humans Work Shake it Feel the Force Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions identifying differences, similarities or changes related to simple scientific ideas and processes Using straightforward scientific evidence to answer questions or to support their findings	How Humans Work 2022 only Land, Sea and Sky From 2023 Let's Plant It Bright Sparks Making Waves Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions Identifying differences, similarities or changes related to simple scientific ideas and processes Using straightforward scientific evidence to	Space Scientists Bake it identifying scientific evidence that has been used to support or refute ideas or arguments	Existed, Endangered, Extinct Full power Fairgrounds identifying scientific evidence that has been used to support or refute ideas or arguments

					answer questions or to support their findings.		
			Bio	ology			
	Reception	Year One	Year Two	Year Three	Year Four	Year Five	Year Six
Humans and animals	ELG: The Natural World Explore the natural world around them, making observations and drawing pictures of plants and animals. Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. ELG: Speaking Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary. To know what an animal is To recognise and name a variety of different animals To know the names of different body parts of humans and animals they have experience of All about mel And Amazing amimals Come outside	Green fingers and The Earth our home Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	Super Humans and Live and Let Live Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	How Humans Work 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 How Humans Work Describe the simple functions of the basic parts of the digestive system in humans	How Humans Work 2022 only 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 How Humans Work 2022 only Describe the simple functions of the basic parts of the digestive system in humans Land, Sea and Sky From 2023 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	Space Scientists and Being Human identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood describe the ways in which nutrients and water are transported within animals, including humans	
Plants	ELG: The Natural World Explore the natural world around them, making observations and drawing	Green fingers and The Earth our home Find out and describe how plants need water,	Live and Let Live Find out and describe how plants need water, light and a suitable		Let's Plant It Identify and describe the functions of different parts of flowering plants:	Space Scientists Describe the life process of reproduction in some plants and animals	

	nictures of plants and	light and a suitable	temperature to grow and		roots stem/trunk leaves		
	animals	temperature to grow and	stay healthy		and flowers	Roots Shoots and Fruits	
	Know some similarities	stav healthy	Stay nearing			Describe the life process	
	and differences between	Stay nearing	Live and Let Live		Investigate the way in	of reproduction in some	
	the natural world around	Green fingers and The	Identify and describe the		which water is	nlants and animals	
	them and contrasting	Earth our home	basic structure of a		transported within plants		
	environments drawing	Identify and describe the	variety of common		transported within plants	Roots Shoots and Erwits	
	on their experiences and	basic structure of a	flowering plants		Lot's Plant It	Describe the life process	
	what has been read in	variety of common	including troos		Evoloro the requirements	of reproduction in some	
	class	flowering plants	including trees		of plants for life and	plants and animals	
	ELC: Speaking	including troop	Live and Let Live		growth (air light water		
	Participate in small group	including trees	Cheantra and describe		growth (all, light, water,		
	Participate in small group,	Crease finances and The	Observe and describe		nutrients from soil, and		
	class and one-to-one	Green fingers and The	now seeds and builds		room to grow) and now		
	discussions, offering their	Earth our nome	grow into mature plants		they vary from plant to		
	own ideas, using recently	Observe and describe			plant		
	introduced vocabulary.	now seeds and builds			Let's Diset It		
		grow into mature plants			Let's Plant It		
	To know what a plant is				Explore the part that		
	To know what a flower is				flowers play in the life		
	To know where you see				cycle of flowering plants,		
	plants				including pollination,		
	To describe different				seed formation and seed		
	plants and flowers						
	-				Explore the part that		
	Como outsido planting				flowers play in the life		
	come outside – planting				cycle of flowering plants,		
	seeds				including pollination,		
					seed formation and seed		
					dispersal		
					Land, Sea and Sky from		
					2023		
					Identify and describe the		
					functions of different		
					parts of flowering plants:		
					roots, stem/trunk, leaves		
					and flowers		
					Investigate the way in		
					which water is		
					transported within plants		
Living things	ELG: The Natural World	Greenfingers and The	Super Humans and Live	How Humans Work and	How Humans Work	Roots, Shoots and Fruits	Existing, Endangered,
Living times	Explore the natural world	Earth our home	and Let Live	Shake it!	2022 only	Identify how animals and	Extinct
	around them. making	Explore and compare the	Identify and name a		Identify that animals.	plants are adapted to suit	Describe the differences
	observations and drawing	differences between	variety of common		including humans, need	their environment in	in the life cycles of a
				1			

pictures of	f plants and	things that are living,	animals including fish,	Identify that animals,	the right types and	different ways and that	mammal, an amphibian,
animals.		dead, and things that	amphibians, reptiles,	including humans, need	amount of nutrition, and	adaptation may lead to	an insect and a bird
		have never been alive	birds and mammals	the right types and	that they cannot make	evolution	
		Greenfingers and The		amount of nutrition, and	their own food; they get		Existing, Endangered,
Summer ac	dventures – life	Earth our home	Super Humans	that they cannot make	nutrition from what they	Being Human	Extinct
cycle of fro	ogs and	Identify and name a	Describe and compare	their own food; they get	eat	identify how animals and	Describe how living thing
butterfly		variety of common	the structure of a variety	nutrition from what they		plants are adapted to suit	are classified into broad
		animals including fish,	of common animals (fish,	eat	Let's Plant It	their environment in	groups according to
		amphibians, reptiles,	amphibians, reptiles,		Construct and interpret a	different ways and that	common observable
		birds and mammals.	birds and mammals		variety of food chains,	adaptation may lead to	characteristics and based
		Greenfingers	including pets)		identifying producers,	evolution	on similarities and
		Describe and compare			predators and prey		differences, including
		the structure of a variety	Super Humans and Live			Being Human	micro-organisms, plants
		of common animals (fish,	and Let Live		Let's Plant It	Recognise that living	and animals
		amphibians, reptiles,	Find out about and		Recognise that living	things produce offspring	give reasons for
		birds and mammals	describe the basic needs		things can be grouped in	of the same kind, but	classifying plants and
		including pets)	of animals, including		a variety of ways	normally offspring vary	animals based on specific
		Greenfingers and The	humans, for survival		Explore and use	and are not identical to	characteristics.
		Earth our Hunan	(water, food and air)		classification keys to help	their parents	
		Find out about and			group, identify and name		Existing, Endangered,
		describe the basic needs	Super Humans		a variety of living things in	Being Human	Extinct
		of animals, including	Notice that animals,		their local and wider	Recognise the impact of	Identify how animals and
		humans, for survival	including humans, have		environment	diet, exercise, drugs and	plants are adapted to suit
		(water, food and air)	offspring which grow into			lifestyle on the way their	their environment in
		Greenfingers and The	adults		Land, Sea and Sky from	bodies function	different ways and that
		Earth our home			2023		adaptation may lead to
		Identify that most living	Super Humans		Recognise that living		evolution
		things live in habitats to	Describe the importance		things can be grouped in		
		which they are suited and	for humans of exercise,		a variety of ways		Existing, Endangered,
		describe how different	eating the right amounts		Explore and use		Extinct
		habitats provide for the	of different types of food,		classification keys to help		Recognise that living
		basic needs of different	and hygiene		group, identify and name		things have changed over
		kinds of animals and			a variety of living things in		time and that fossils
		plants, and how they	Live and Let Live		their local and wider		provide information
		depend on each other	Explore and compare the		environment		about living things that
		The Earth our home	differences between				inhabited the Earth
		Identify and name a	things that are living,		Land, Sea and Sky from		millions of years ago
		variety of common	dead, and things that		2023		
		animals that are	have never been alive		Construct and interpret a		Existing, Endangered,
		carnivores, herbivores			variety of food chains,		Extinct
		and omnivores.	Live and Let Live		identifying producers,		Recognise that living
		Describe how animals	Identify and name a		predators and prey		things produce offspring
		obtain their food from	variety of common				of the same kind, but
		plants and other animals,	animals that are		Land, Sea and Sky from		normally offspring vary
		using the idea of a simple	carnivores, herbivores		2023		and are not identical to
		food chain and identify	and omnivores				their narents

		and name different sources of food The Earth our home Notice that animals, including humans, have offspring which grow into adults	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 Live and Let Live 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	Recognise environme and that the sometime to living the	e that ents can change ihis can es pose dangers hings		Existing, Endangered, Extinct Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function
			Che	mistry			
Properties	ELG: The Natural World	Time Traveller	Buildings and The Magic	Bright Spa	arks	Bake it	Full Power
1. operaes	Understand some	Identify and name a	Toymaker	Notice tha	at light is	Compare and group	Compare and group
	important processes and	variety of everyday	Identify and name a	reflected f	from surfaces.	together everyday	together everyday
	changes in the natural	materials, including	variety of everyday	Compare	and group	materials on the basis of	materials on the basis of
	world, including the	wood, plastic, glass,	materials, including	together a	a variety of	their properties, including	their properties, including
	seasons and changing	metal, water, and rock.	wood, plastic, glass,	everyday i	materials on the	their hardness, solubility,	their hardness, solubility,
	states of matter.	Describe the simple	metal, water, and rock.	basis of w	hether they are	transparency,	transparency,
	ELG: Speaking	physical properties of a	Describe the simple	attracted	to a magnet,	conductivity (electrical	conductivity (electrical
	Participate in small group,	variety of everyday	physical properties of a	and identi	ify some	and thermal), and	and thermal), and
	class and one-to-one	materials	variety of everyday	magnetic	materials	response to magnets	response to magnets
	discussions, offering their		materials			give reasons, based on	give reasons, based on
	own ideas, using recently	Time Traveller		Let's Plan	t It	evidence from	evidence from
	introduced vocabulary.	Identify and compare the	Buildings and The Magic	Notice that	at light is	comparative and fair	comparative and fair
		suitability of a variety of	Toymaker	reflected f	from surfaces.	tests, for the particular	tests, for the particular
	To recognise that	everyday materials,	Identify and compare the	Compare	and group	uses of everyday	uses of everyday
	different everyday objects	including wood, metal,	suitability of a variety of	together a	a variety of	materials, including	materials, including
	are made from different	plastic, glass, brick, rock,	everyday materials,	everyday i	materials on the	metals, wood and plastic	metals, wood and plastic
	materials	paper and cardboard for	including wood, metal,	basis of w	hether they are		
	To describe how different	particular uses	plastic, glass, brick, rock,	attracted	to a magnet,	Bake it	Fairgrounds
	objects look and feel		paper and cardboard for	and identi	ify some	Explain that some	Compare and group
		Time Traveller	particular uses	magnetic	materials	changes result in the	together everyday
	Changes	Compare and group				formation of new	materials on the basis of
	The World around us.	together a variety of	The Magic Toymaker	Land, Sea	and Sky from	materials, and that this	their properties, including
		everyday materials on	Compare and group	2023		kind of change is not	their hardness, solubility,
			together a variety of			usually reversible,	transparency,

		together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials	bicarbonate of soda	give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic
Buildings Be able to compare solids and liquids	Shake it! Compare and group materials together, according to whether they are solids, liquids or gases		Bake it Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating	
Buildings and The Magic Toymaker Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	Shake it! 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)		Bake it 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 Bake it Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution Bake it Use knowledge of solids,	
	Buildings Be able to compare solids and liquids Buildings and The Magic Toymaker Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	Buildings Shake it! Be able to compare solids and liquids and liquids scording to whether they are solids, liquids or gases ses Buildings and The Magic Shake it! Toymaker Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching Shake it! Observe that some materials can be changed by squashing, bending, twisting and stretching Shake it! Observe the temperature at which this happens in degrees Celsius (°C) stretching	Buildings Shake itl Be able to compare solids and liquids Shake itl Compare and group materials together, according to whether they are solids, liquids or gases Shake itl Dobserve that some Find out how the shapes of solid objects made from some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) Shake itl	Buildings Bake it Be able to compare solids and liquids Shale it! Compare and group materials together, according to whether they are solids, liquids or gases Bake it Buildings and The Magic Toymaker Shake it! Buildings and The Magic Toymaker Shake it! Observe that some friod out how the shapes of solid objects made from some materials change state when they are heated or soled, and measure or research the temperature at which this happens in degrees Celsius (*C) Bake it Buildings and The Magic Toymaker Shake it! Observe that some materials change state when they are heated or research the temperature at which this happens in degrees Celsius (*C) Bake it Buildings and The Magic Toymaker Shake it! Observe that some materials, change state when they are heated or research the temperature at which this happens in degrees Celsius (*C) Bake it Building, twisting and stretching State sec. Bake it Kind of change is not usually reversible, including changes State it Kinow that some materials, and that this liquids and the action of acid on bicarbonate of socid and describe how to recover a substance from a solution

					decide how mixtures might be separated, including through filtering, sieving and evaporating Bake it Demonstrate that dissolving, mixing and changes of state are reversible changes	
		Ph	ysics			
Earth and space	Treasure Island Observe and describe weather associated with the seasons and how day length varies Treasure Island and The Earth our home Observe changes across the 4 seasons				Space Scientists Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky Space Scientists Describe the movement of the Moon relative to the Earth Space Scientists Describe the movement of the Earth, and other planets, relative to the Sun in the solar system Space scientists Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object	Fairgrounds Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object
Energy		The Magic Toymaker NC +		Bright Sparks Identify common appliances that run on electricity		

Electricity and		The Magic Toumaker		Pright Sporks		Eairgrounds
Electricity and		ne wagic roymaker		Dirgit Sparks		
electromagnetism		NC+		Construct a simple series		Use recognised symbols
U				electrical circuit,		when representing a
				identifying and naming its		simple circuit in a
				basic parts, including		diagram
				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.		
				Dright Crowles		
				Recognise some common		
				conductors and		
				insulators, and associate		
				metals with being good		
				conductors.		
				Bright Sparks		
				Observe how magnets		
				attract or repel each		
				other and attract some		
				materials and not others		
				Describe magnets as		
				having two poles		
Waves			How Humans Work	Making Waves	Space Scientists	Fairgrounds
			Identify how sounds are	Identify how sounds are	Recognise that light	Recognise that light
			made, associating some	made, associating some	appears to travel in	appears to travel in
			of them with something	of them with something	straight lines	straight lines
			vibrating	vibrating		
			Find patterns between	Find patterns between	Use the idea that light	Fairgrounds
			the pitch of a sound and	the pitch of a sound and	travels in straight lines to	Use the idea that light
			features of the object	features of the object	explain that objects are	travels in straight lines to
			that produced it	that produced it	seen because they give	explain why shadows
			Find patterns between	Find patterns between	out or reflect light into	have the same shape as
			the volume of a sound	the volume of a sound	the eve	the objects that cast
			and the strength of the	and the strength of the	the eye	them
			and the strength of the	and the strength of the		uleni

			vibrations that produced it How Humans Work Recognise that they need light in order to see things and that dark is the absence of light	vibrations that produced it Making Waves Recognise that sounds get fainter as the distance from the sound source increases Making Waves Recognise that they need light in order to see things and that dark is the absence of light How Humans Work 2022 only Identify how sounds are made, associating some of them with something vibrating Find patterns between the pitch of a sound and	Space Scientists Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them	
		Puildings	Faal the Force and Shalin	features of the object that produced it Find patterns between the volume of a sound and the strength of the vibrations that produced it How Humans Work 2022 only Recognise that they need light in order to see things and that dark is the absence of light		Fairgrounds
Forces		Buildings Know how pushes and pulls can move an objects Be able to create push and pulls of different strengths	Feel the Force and Shake it Compare how things move on different surfaces NC+			Fairgrounds Identify the effects of air resistance, water resistance and friction, that act between moving surfaces Fairgrounds

			Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect