



Intent for Science

Science at Mary Bassett includes elements of biology, chemistry and physics as outlined in the National Curriculum. We recognise that Science has changed our lives and is vital to our children's futures. At Mary Bassett, we focus on building a body of key foundational knowledge and concepts through opportunities that develop a sense of excitement and curiosity about natural phenomena. Children are encouraged to understand how science can be used to explain what is occurring, predict how things will behave and analyse causes.

To support our approach to Science, learning opportunities include the five enquiry types: research, pattern seeking, identifying grouping and classifying, problem solving and comparative and fair testing which broadens children's interests and exposures to science. A focus on teaching relevant and progressive subject vocabulary is essential to enable our pupils to demonstrate clear and precise articulation of the concepts they are taught. In line with other subjects within our curriculum, we encourage respectful discussion within science lessons to support teacher assessment, allow misconceptions to be addressed and for pupils to deepen their understanding of the subject.

Our science curriculum enables all our pupils to achieve well across the whole curriculum, with adaptations made as necessary in order to prepare pupils for the next stages in their education and future life. We aim to create opportunities to weave together the use of cross-curricular skills and knowledge in practical and purposeful projects whenever possible.

Science Progression Map

Key skills	Year 1	Year 2	Year 3	Year 4
Working scientifically	<ul style="list-style-type: none"> • asking simple questions and recognising that they can be answered in different ways • observing closely, using simple equipment • performing simple tests • identifying and classifying • using their observations and ideas to suggest answers to questions • gathering and recording data to help in answering questions. 	<ul style="list-style-type: none"> • asking simple questions and recognising that they can be answered in different ways • observing closely, using simple equipment • performing simple tests • identifying and classifying • using their observations and ideas to suggest answers to questions • gathering and recording data to help in answering questions. 	<ul style="list-style-type: none"> • asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests • making systematic and careful observations and, where appropriate, taking accurate measurements • using standard units, using a range of equipment, including thermometers and data loggers gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • recording findings using simple scientific language, drawings, labelled diagrams, keys, 	<ul style="list-style-type: none"> • asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests • making systematic and careful observations and, where appropriate, taking accurate measurements • using standard units, using a range of equipment, including thermometers and data loggers gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • recording findings using simple scientific language, drawings, labelled diagrams, keys,

			<ul style="list-style-type: none"> bar charts, and tables reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings. 	<ul style="list-style-type: none"> bar charts, and tables reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings.
Plants	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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. 	<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 	

	flowering plants, including trees.		<p>for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant</p> <ul style="list-style-type: none"> 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. 	
Animals including humans	<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 	<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 	<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"> 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

	<p>animals (fish, amphibians, reptiles, birds and mammals, including pets)</p> <ul style="list-style-type: none"> • identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. 	<p>amounts of different types of food, and hygiene.</p>	<p>protection and movement.</p>	<p>producers, predators and prey</p>
<p>Use of everyday materials</p>	<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 	<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. 		

	properties.			
Seasonal changes	<ul style="list-style-type: none"> • observe changes across the four seasons • observe and describe weather associated with the seasons and how day length varies. 			
Living things and their habitats		<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 		<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.

		obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.		
Rocks			<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. 	
Light			<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 	

			<p>surfaces</p> <ul style="list-style-type: none"> • 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 • find patterns in the way that the size of shadows change. 	
<p>Force and magnets</p>			<ul style="list-style-type: none"> • compare how things move on different surfaces • 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 	

			<p>everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials</p> <ul style="list-style-type: none"> • describe magnets as having two poles • predict whether two magnets will attract or repel each other, depending on which poles are facing. 	
States of matter				<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 ($^{\circ}\text{C}$) • identify the part played by evaporation and condensation in the water cycle and

				associate the rate of evaporation with temperature.
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 • 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
Sound				<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