

## Whole School Curriculum Overview for Science 2022-2023

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Nursey</b>	<b>Marvellous Me</b>	<b>Festivals</b>	<b>Under the Sea</b>	<b>In the Garden</b>	<b>Who do you want to be?</b>	
	Humans	Sound Light Electricity	Living things and their habitats	Animals, excluding humans Plants	Materials, including changing materials Forces	
<b>Reception</b>	<b>Myself and my family</b>	<b>Celebrations</b>	<b>Where we live</b>	<b>Animal Adventures</b>	<b>Transport and Travel</b>	<b>Toys</b>
	Humans Seasonal Changes	Sound Materials, including changing materials	Living things and their habitats Seasonal Changes	Animals, excluding humans Living things and their habitats	Forces Earth and Space Light	Materials, including changing materials Seasonal Changes
<b>Year 1</b>	<b>The World Around Me</b>		<b>London</b>		<b>Food and Farming</b>	
	Animals, including humans	Animals, including humans Seasonal Changes	Everyday Materials	Everyday Materials Seasonal Changes	Plants	Plants Seasonal Changes
<b>Year 2</b>	<b>Victorians and the UK</b>		<b>Pole to Pole</b>		<b>Explorers</b>	
	Uses of everyday materials	Uses of everyday materials	Living Things and their habitats	Living Things and their habitats	Plants	Animals, including humans
<b>Year 3</b>	<b>Stone Age to Iron Age</b>		<b>Mexico</b>		<b>Europe</b>	
	Rocks	Forces and magnets	Animals, including humans	Light	Plants	Plants
<b>Year 4</b>	<b>Romans and Natural Disasters</b>		<b>Africa</b>		<b>The UK</b>	
	States of Matter	Electricity	Living things and their habitats	Sound	Animals, including humans	Animals, including humans
<b>Year 5</b>	<b>Invaders and Settlers</b>		<b>Achievement and Legacies</b>		<b>Rivers</b>	
	Properties and changes of materials	Forces	Earth and Space	Living Things and their habitats	Animals, including humans	Animals, including humans
<b>Year 6</b>	<b>World War II</b>		<b>Evolution and Exploration</b>		<b>Empire and Enslavement</b>	
	Light	Electricity	Evolution and inheritance	Evolution and inheritance	Animals, including humans	Living Things and their habitats

## Summary of Science in EYFS

	Nursery	Reception
<b>Animals, excluding humans</b>	<ul style="list-style-type: none"> <li>Explore the surrounding natural environment</li> <li>Explore natural objects from the surrounding environment</li> <li>Explore the plants in the surrounding natural environment</li> <li>Explore the animals in the surrounding natural environment</li> </ul>	<ul style="list-style-type: none"> <li>Name and describe animals that live in different habitats</li> <li>Describe different habitats</li> </ul>
<b>Humans</b>	<ul style="list-style-type: none"> <li>Learn about the life cycles of humans</li> <li>Learn about how to take care of themselves</li> <li>Learn about their senses</li> </ul>	<ul style="list-style-type: none"> <li>Describe people who are familiar to them</li> <li>Learn about how to take care of themselves</li> </ul>
<b>Living things and their habitats</b>	<ul style="list-style-type: none"> <li>Explore the surrounding natural environment</li> <li>Explore natural objects from the surrounding environment</li> <li>Explore the plants in the surrounding natural environment</li> <li>Explore the animals in the surrounding natural environment</li> </ul>	<ul style="list-style-type: none"> <li>Explore the plants in the surrounding natural environment</li> <li>Explore the animals in the surrounding natural environment</li> <li>Explore plants and animals in a contrasting natural environment</li> </ul>
<b>Plants</b>	<ul style="list-style-type: none"> <li>Grow plants</li> </ul>	
<b>Seasonal changes</b>		<ul style="list-style-type: none"> <li>Play and explore outside in all seasons and in different weather</li> <li>Observe living things throughout the year</li> </ul>
<b>Materials, including changing materials</b>	<ul style="list-style-type: none"> <li>Explore a range of materials</li> <li>Shape and join materials</li> <li>Combine and mix ingredients</li> <li>Change materials by heating and cooling, including cooking</li> </ul>	<ul style="list-style-type: none"> <li>Explore a range of materials, including natural materials Make objects from different materials, including natural materials</li> <li>Observe, measure and record how materials change when heated and cooled</li> <li>Compare how materials change over time and in different conditions</li> </ul>
<b>Electricity</b>	<ul style="list-style-type: none"> <li>Identify electrical devices</li> <li>Use battery-powered devices</li> </ul>	
<b>Light</b>	<ul style="list-style-type: none"> <li>Explore light sources</li> <li>Shine light on or through different materials</li> </ul>	<ul style="list-style-type: none"> <li>Explore shadows</li> <li>Explore rainbows</li> </ul>
<b>Forces</b>	<ul style="list-style-type: none"> <li>Feel forces</li> <li>Explore how things work</li> </ul> <p>Explore how objects/materials are affected by forces</p>	<ul style="list-style-type: none"> <li>Explore how to change how things work Explore how the wind can move objects</li> </ul> <p>Explore how objects move in water</p>
<b>Sound</b>	<ul style="list-style-type: none"> <li>Listen to sounds</li> <li>Make sounds</li> </ul>	<ul style="list-style-type: none"> <li>Listen to sounds outside and identify the source</li> <li>Make sounds</li> </ul>
<b>Earth and space</b>		<ul style="list-style-type: none"> <li>Learn about the Solar System and stars</li> <li>Learn about space travel</li> </ul>

**Summary of Science Year 1-Year 6**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Animals, including humans</b>	<ul style="list-style-type: none"> <li>• What are the names for all the parts of our bodies?</li> <li>• How does my height change over the year?</li> <li>• Do people with bigger feet need larger gloves?</li> <li>• Why do we have two eyes?</li> <li>• How can we sort food using our senses?</li> <li>• What can our hands do?</li> <li>• What can worms sense?</li> <li>• How can we organise all the zoo animals?</li> <li>• What's special about amphibians?</li> <li>• What birds can we identify on our local bird walk?</li> <li>• How can we look after the puppy?</li> <li>• Whose poo is this?</li> </ul>	<ul style="list-style-type: none"> <li>• Which offspring belongs to which animal?</li> <li>• How does a tadpole change over time?</li> <li>• Do snails have noses?</li> <li>• What food do you need in a healthy diet and why?</li> <li>• Do bananas make you run faster?</li> </ul>	<ul style="list-style-type: none"> <li>• How many bones are in the human body and what are they called?</li> <li>• How do the skeletons of different animals compare?</li> <li>• Do children with longer legs run faster?</li> <li>• How many different ways can you classify a range of foods?</li> <li>• What nutrients are contained in fast food?</li> </ul>	<ul style="list-style-type: none"> <li>• What are the names for all the organs in the digestive system?</li> <li>• What journey does food make through your body?</li> <li>• How can we organize teeth into groups?</li> <li>• Can you classify the diet of animals based on the teeth they have in their skulls?</li> <li>• In our class, are omnivores taller than vegetarians?</li> <li>• What does my tooth decay experiment tell us about oral hygiene?</li> <li>• What did Marie Daly discover about foods high in fat?</li> <li>• Can you identify the producers, predators and prey within a habitat?</li> <li>• What food chains can you describe in the nature area?</li> </ul>	<ul style="list-style-type: none"> <li>• Can you compare the gestation periods of different animals?</li> <li>• How does the height and weight of male and female babies change over time?</li> <li>• Does age have a significant effect on reaction time?</li> <li>• What happens to your body during puberty?</li> <li>• What changes occur to humans as they move into old age?</li> <li>• Can you identify all the stages in the human life cycle and put it on a timeline?</li> </ul>	<ul style="list-style-type: none"> <li>• Which organs of the body make up the circulation system, and where are they found?</li> <li>• How does blood flow?</li> <li>• What can your heart rate tell you?</li> <li>• How can your lifestyle affect how your body functions?</li> </ul>
<b>Living things and their habitats</b>  <b>Evolution and inheritance (Year 6)</b>		<ul style="list-style-type: none"> <li>• Can you identify items in and around school as living, dead or never been alive?</li> <li>• How many plants and animals can you identify in our local habitat?</li> <li>• Which microhabitat do woodlice prefer?</li> <li>• How does the habitat of the arctic compare with the habitat of the rainforest?</li> <li>• What living things depend on the rainforest for their habitat and how do they depend on each other?</li> <li>• What is a food chain?</li> <li>• How do the clownfish and sea anemone depend on each other?</li> <li>• How is the jelly fish suited to living in the sea?</li> <li>• Is coral alive?</li> <li>• How many food chains can we identify on the coral reef?</li> </ul>		<ul style="list-style-type: none"> <li>• How many ways can we group living things?</li> <li>• How does the variety of invertebrates in the nature area change over the year?</li> <li>• After bird watching, can we make our own classification keys? How does human activity affect bird life?</li> <li>• Can we use classification keys to identify trees in our local area?</li> <li>• Why are people cutting down rainforests and polluting oceans? How can we have a positive impact on environments?</li> </ul>	<ul style="list-style-type: none"> <li>• Can you compare this collection of animals based on similarities and differences in their life cycles?</li> <li>• How do birds change over time?</li> <li>• Do plants reproduce in the same way as humans?</li> <li>• Is there a relationship between a mammal's size and its gestation period?</li> <li>• How have naturalists and animal behaviourists helped in our understanding of living things?</li> </ul>	<ul style="list-style-type: none"> <li>• How many key features of animals, plants and microorganisms can you identify?</li> <li>• How would you make a classification key for vertebrates/ invertebrates or microorganisms?</li> <li>• Do all fruits grow mould in the same way over time?</li> <li>• What do different types of microorganisms do? Are they always harmful?</li> <li>• How have animals adapted to suit their environment?</li> <li>• Is there a pattern between the size and shape of a bird's beak and the food it will eat?</li> <li>• How does inheritance work?</li> <li>• What do fossils tell us about life on earth millions of years ago?</li> </ul>
<b>Plants</b>	<ul style="list-style-type: none"> <li>• How does my sunflower change each week?</li> <li>• Which variety of potato grows best in our outdoor area?</li> <li>• What wildflower is most common on our local walk?</li> <li>• How many trees can we identify on our local walk?</li> <li>• Which tree has the biggest leaves?</li> <li>• Is there a pattern in where we find moss growing in the school grounds?</li> <li>• What are the names for all the parts of a plant / tree?</li> </ul>	<ul style="list-style-type: none"> <li>• Can we identify and group different seeds and bulbs?</li> <li>• What happens to my seed after I have planted it?</li> <li>• Can seeds grow anywhere?</li> <li>• How does a cactus survive in a desert?</li> <li>• Do bigger seeds grow into bigger plants?</li> </ul>	<ul style="list-style-type: none"> <li>• What's inside a flower?</li> <li>• What are different ways seeds disperse?</li> <li>• What happens to celery when it is left in a glass of coloured water?</li> <li>• What does a plant need to survive?</li> <li>• How do the needs of different plants vary?</li> </ul>			
<b>Seasonal changes</b>	<ul style="list-style-type: none"> <li>• How many ways can we group the autumn leaves?</li> <li>• In which months does it rain the most?</li> <li>• How does a tree change over a year?</li> <li>• How would you identify and record the weather over a week?</li> <li>• How does the day length vary with the seasons?</li> <li>• Does the wind always blow the same way?</li> </ul>					

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Materials, including changing materials</b>	<ul style="list-style-type: none"> <li>• What are everyday materials made from?</li> <li>• How can we sort everyday objects?</li> <li>• What are the best materials to build a house with?</li> <li>• What happens to materials if we bury them?</li> <li>• What did Ole Kirk Christiansen invent?</li> <li>• Which material is best for lining a dog's basket?</li> </ul>	<ul style="list-style-type: none"> <li>• How many different objects can you find made from _____ in our school?</li> <li>• Which material would be most suitable for a rain coat?</li> <li>• Which materials are suitable to block out light from your bedroom?</li> <li>• Who was John McAdam and what did he invent?</li> <li>• Which material would stretch enough for a super hero costume?</li> <li>• Can you change the shape of these objects?</li> <li>• Can you use different forces to make a 3D sculpture?</li> </ul>	<ul style="list-style-type: none"> <li>• How would you group and describe these rock samples?</li> <li>• How are rocks formed?</li> <li>• Is there a pattern in where we find volcanoes on planet Earth?</li> <li>• Who was Mary Anning and what did she discover?</li> <li>• What is soil? Which soil absorbs the most water?</li> </ul>	<ul style="list-style-type: none"> <li>• Can you group these materials and objects into solids and liquids?</li> <li>• How does temperature effect my gas rocket?</li> <li>• Is custard a liquid?</li> <li>• What is the best temperature for melting chocolate?</li> <li>• How does water change in the water cycle?</li> <li>• Where does water go?</li> </ul>	<ul style="list-style-type: none"> <li>• Which material is best for my shelter?</li> <li>• Which materials will keep hot liquids hot?</li> <li>• Can you investigate how jelly dissolves?</li> <li>• Can all solutions be separated by filtering?</li> <li>• Can you clean the dirty water?</li> <li>• Can you identify and classify these reactions and changes into reversible and irreversible?</li> <li>• What new materials have been produced by chemists?</li> </ul>	
<b>Electricity</b>				<ul style="list-style-type: none"> <li>• How would you group these electrical devices based on where the electricity comes from?</li> <li>• Can you identify electrical dangers?</li> <li>• Is it a circuit?</li> <li>• Which materials are electrical insulators and which are electrical conductors?</li> <li>• Who were Hertha Ayrton and Joseph Swan. What did they discover?</li> </ul>		<ul style="list-style-type: none"> <li>• Which switch is best for sending Morse code?</li> <li>• How does the length of pencil lead affect how bright a bulb is?</li> <li>• Can fruit and vegetables act as batteries and light an LED?</li> <li>• How has electricity changed the way we live?</li> </ul>
<b>Light</b>			<ul style="list-style-type: none"> <li>• How would you organise these light sources into natural and artificial?</li> <li>• Which surface is the best at reflecting light</li> <li>• Which pair of sunglasses will be best for protecting eyes?</li> <li>• How does the distance between the shadow puppet and the screen affect the size of the shadow?</li> <li>• How does my shadow change over a day?</li> </ul>			<ul style="list-style-type: none"> <li>• What is a reflection?</li> <li>• How does light travel in a periscope?</li> <li>• Why do shadows have the same shape as the objects that cast them?</li> <li>• Can you identify all the colours of light that make white light when mixed together?</li> </ul>
<b>Forces and magnets</b>			<ul style="list-style-type: none"> <li>• How does the toy car move on different surfaces?</li> <li>• Can you think of a way to test how powerful a magnet is?</li> <li>• Which materials are magnetic?</li> <li>• What happens when you try to put one magnet near another magnet?</li> <li>• Can you design your own game using magnets?</li> </ul>		<ul style="list-style-type: none"> <li>• Why do planets have craters?</li> <li>• How does the surface area of a parachute affect the time it takes to fall to the ground?</li> <li>• Do all objects fall through water in the same way?</li> <li>• Which type of shoe sole creates the largest force of friction when sliding over a surface?</li> <li>• How do levers help us?</li> <li>• What do pulleys do?</li> </ul>	
<b>Sound</b>				<ul style="list-style-type: none"> <li>• How does sound reach our ears?</li> <li>• Is there a pattern between the pitch of a sound and the features of a musical instrument?</li> <li>• How does the volume of a drum change as you move further away from it?</li> <li>• Which material is best to use for muffling sound in ear defenders?</li> <li>• How does the length of string affect my plastic cup telephone?</li> </ul>		
<b>Earth and space</b>					<ul style="list-style-type: none"> <li>• What shape is the Earth?</li> <li>• Can you make a model of the solar system, so that both the sizes of the planets and their distances from each other and the Sun are all to scale?</li> <li>• Is there a pattern between the size of a planet and the time it takes to travel around the Sun?</li> <li>• How does the length of daylight hours change each season?</li> <li>• How do shadows change across a day?</li> <li>• How have our ideas about the solar system changed over time?</li> <li>• Can you observe and identify all of the phases in the cycle of the moon?</li> </ul>	

