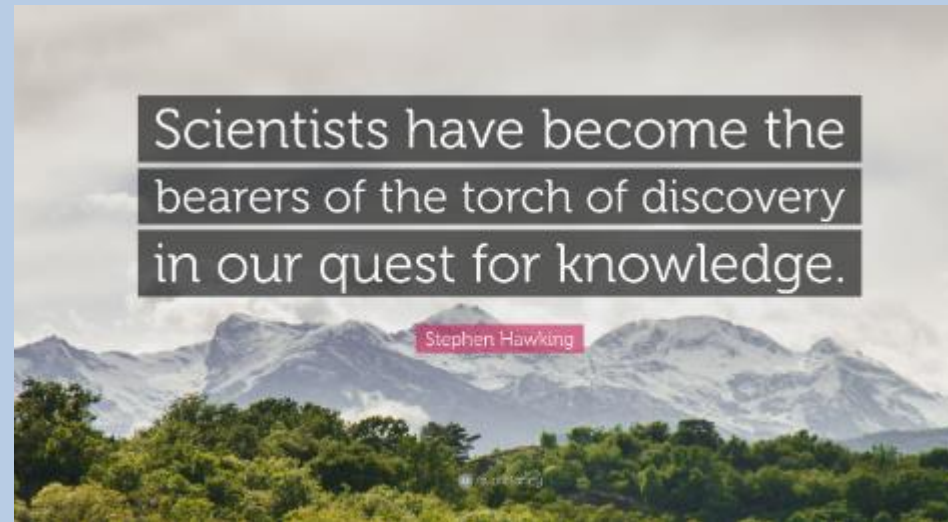




Science Overview

Learning: For a better future



Science Rationale: Science, directly and indirectly, influences all aspects of everyday life. From the food we eat to the way we get around, science is everywhere. Once you begin to see all the opportunities to learn, the relationship between science and critical-thinking skills become apparent. Beginning when children are very young, science helps shape their development. As they learn to ask questions, make predictions, observe, test, and then communicate their findings, they are developing critical science skills.

Intent: We aim to give all children a strong understanding of the world around them whilst acquiring specific skills and knowledge to help them think scientifically, gain an understanding of scientific processes and gain an understanding of the uses and implications for science. This is both for now and for the future

	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn 1 Looking After Our planet	All about me	Friends and Family	What is Planet Earth?	A World of Water	Surviving the Sahara.	Remarkable Rainforests	Polar Peaks	Blue Planet
	<p><i>The Natural World</i> <i>Materials</i> <i>Pushes and Pulls</i> Use all their senses in hands-on exploration of natural materials.</p> <p>Explore collections of materials with similar and different properties: different types of leaves</p> <p>Explore and talk about different forces they can feel :snap a twig etc</p>	<p><i>The Natural World</i> Identify and name different habitats: woods and garden</p> <p>Identify and name living things within the locality – exploring the natural world around them – close observation Growing up Harvest- growing crops</p> <p>Understand the effect of changing seasons on the natural world</p>	<p><i>The Natural World</i> Seasonal Changes Children will learn that there are four seasons. They will observe the seasonal changes that occur during Autumn and Winter. They will tie in their seasonal understanding with their learning of hot/cold regions around the world.</p>	<p><i>The Natural World</i> Living Things and their Habitats Children will learn all about different habitats, building upon their knowledge of animal groups in year 1. They will describe how animals obtain their food and explore differences between things that are living, dead and things that have never been alive.</p>	<p><i>The Natural World</i> Animals including Humans (Sc3 2.2a) Children will identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food. This will tie into their unit of learning looking at survival in an extreme environment. This will build upon the year 2 unit of learning 'Disaster at Sea'</p>	<p><i>The Natural World</i> Living Things and their Habitats Animals including Humans (Sc4 2.2c) Children will be studying the Amazon Rainforest and developing their understanding of habitats and food chains. They will identify, group and classify living things.</p>	<p><i>Materials</i> Properties and Changes of Materials Children will compare and group everyday materials and explore their properties and uses. They will describe reversible changes.</p>	<p><i>The Natural World</i> Living Things and their Habitats Children will learn about animal and plant classifications and link to biomes/ecosystems. Children will reactivate their previous learning about habitats and develop their skills of classifying groups of animals and plants.</p>

<p style="text-align: center;">Autumn 2 Exploration and discovery</p>	<p style="text-align: center;">Let's Go</p>	<p style="text-align: center;">Let's go Shopping</p>	<p style="text-align: center;">Dinosaur Discovery</p>	<p style="text-align: center;">Epic Explorers</p>	<p style="text-align: center;">Ancient Egyptians</p>	<p style="text-align: center;">Marvellous Mayans</p>	<p style="text-align: center;">Pole to Pole</p>	<p style="text-align: center;">Battle of Britain</p>
	<p style="text-align: center;"><i>Materials</i> <i>Pushes and Pulls</i> Talk about the differences between materials and changes they notice</p> <p>Explore how things work: What does a car/lorry need to work on a ramp?</p> <p>Explore and talk about different forces they can feel: magnets</p>	<p style="text-align: center;"><i>The Natural World</i> Identify and name living things within the locality – exploring the natural world around them – close observation</p> <p>Understand the effect of changing seasons on the natural world</p>	<p style="text-align: center;"><i>The Natural World</i> Animals including Humans (Sc1 2.2a, b & c) Children will identify, name, describe and compare a variety of common animals. They will learn how scientific discoveries have helped shape our knowledge and understanding of animals today.</p>	<p style="text-align: center;"><i>The Natural World</i> Animals including Humans (Sc2 2.3a) Children will learn that animals have offspring which grow into adults. This will tie into learning about the lives of famous epic explorers.</p>	<p style="text-align: center;"><i>The Natural World</i> Animals including Humans (Sc3 2.2b) Children will learn about the human skeletal system and the function of muscles. This will link with their Ancient Egyptian unit of learning and the Egyptians fascination with the human body/process fo mummification.</p>	<p style="text-align: center;"><i>Energy</i> Sound Mayans used all kinds of instruments and enjoyed creating music. Children will develop their understanding of sounds, pitch and volume by conducting investigations and experiments.</p>	<p style="text-align: center;"><i>Materials</i> Properties and Changes of Materials Continuing their exploration of materials, children will move on to learning about mixtures, solutions and irreversible changes.</p>	<p style="text-align: center;"><i>Energy</i> Light Children will build upon their learning from year 3 and recap how light travels, investigate whether the shape of a shadow can change and how we see. The science unit of learning links with the blackout aspect of WWII.</p>
<p style="text-align: center;">Spring 1- Counties Countries and continents</p>	<p style="text-align: center;">Go Wild</p>	<p style="text-align: center;">Up, Up and Away!</p>	<p style="text-align: center;">Our Town, My Street</p>	<p style="text-align: center;">An Island Home</p>	<p style="text-align: center;">London, Our Capital</p>	<p style="text-align: center;">Get to Know Greece</p>	<p style="text-align: center;">Across Our Continent</p>	<p style="text-align: center;">North American Road Trip</p>
	<p style="text-align: center;"><i>The Natural World</i> <i>Pushes and Pulls</i> Begin to understand the need to respect and care for the natural environment and all living things: animals</p> <p>Explore and talk about different forces they can feel: float and sink</p>	<p style="text-align: center;"><i>The Natural World</i> <i>The Universe</i> <i>Energy</i> Explore the solar system and stars</p> <p>Explore the natural world: shadows and the sun and rainbows</p>	<p style="text-align: center;"><i>The Natural World</i> Plants Children will identify, name and describe the structure of a variety of common and wild flowering plants and trees.</p> <p>Seasonal Changes Children will observe and describe the seasonal changes that occur during Spring and compare these with Autumn and Winter.</p>	<p style="text-align: center;"><i>Materials</i> Uses of Everyday Materials Children will identify, compare and investigate the suitability of a variety of everyday materials. They will look at travel between islands and can use this a basis for discussion about the use of everyday materials.</p>	<p style="text-align: center;"><i>Energy</i> Light Children will be introduced to the topic of light for the first time. They will look at how light travels, shadow are formed and develop their understanding of Sun safety.</p>	<p style="text-align: center;"><i>Energy</i> Electricity Children will name common electrical appliances, construct simple circuits and learn about the effects of lights and switches in a circuit. They will also associate metal with being good conductors and name examples of some common insulators.</p>	<p style="text-align: center;"><i>The Natural World</i> Living Things and Their Habitats Children will use their understanding of life cycles from EYFS and year 3 and compare the life cycles of a mammal, amphibian, insect and a bird. They will describe the life process of reproduction in some plants..</p>	<p style="text-align: center;"><i>The Natural World</i> Animals including Humans Children will learn about healthy lifestyles and the impact of diet, drugs and exercise on the way their bodies function. They will learn about the cardiovascular system and build upon their knowledge of human anatomy and the function of the digestive system.</p>

<p>Spring 2- Marvellous Men and women</p>	<p>Ready Steady Grow</p>	<p>Changes</p>	<p>Kings and Queens</p>	<p>Disaster at Sea</p>	<p>Scavengers and Settlers</p>	<p>Ancient Greece</p>	<p>Saxons and Scots</p>	<p>Slavery Through the Ages</p>
	<p><i>The Natural World</i> Plant seeds and care for growing plants</p> <p>Understand the key features the life cycle of a plant and an animal</p> <p>Begin to understand the need to respect and care for the natural environment and all living things: animals</p>	<p><i>The Natural World</i> Materials</p> <p>New Life- eggs and chicks Changes in materials: Explore a range of materials including natural materials.</p> <p>Observe measure and record how materials when heated and cooled.</p> <p>Understand the effect of changing seasons on the natural world</p>	<p><i>Materials</i> Everyday Materials Children will identify, name and describe a variety of common everyday materials. Materials will be grouped and compared on the basis of their physical properties.</p>	<p><i>The Natural World</i> Animals including Humans (Sc2 2.3b & c) Children will learn all about the basic needs of animals, including humans and link this to their unit of learning of survival. They will also explore diet and exercise as part of a healthy lifestyle.</p>	<p><i>Materials</i> Rocks Children will link their understanding of rocks to the uses during the Stone Age and beyond. They will be able to explain the process of fossilisation and build upon their knowledge of dinosaurs and fossils from year 1.</p>	<p><i>The Natural World</i> Animals including Humans (Sc4 2.2 a &b) Children will learn that Hippocrates is known as the Father of Medicine and study the human digestive system and how to keep their teeth healthy.</p>	<p><i>The Universe</i> Earth and Space Children will build on their learning from KS1 by looking at the movement of Earth and other planets, relative to the Sun in the Solar System. Children will describe the movement of the Moon and it's phases and use the idea of the Earth's rotation to describe day and night.</p>	<p><i>The Natural World</i> Evolution Children will recap their knowledge from KS1 about animals and their offspring. They will learn that some living things have changed over time and build upon their understanding of fossils. Children will look at how plants have adapted to their environment and that adaptation may lead to evolution.</p>
<p>Summer 1 Active planet</p>	<p>Once Upon a Time</p>	<p>Plants and Flowers</p>	<p>Wonderful Weather</p>	<p>African Adventure</p>	<p>Fantastic Forests</p>	<p>Raging Rivers</p>	<p>Tectonic Trouble</p>	<p>Cornish Commerce</p>
	<p><i>Pushes and Pulls</i> Materials</p> <p>Explore and talk about different forces they can feel: Magnet trains and wands</p> <p>What can we make from paper? Where does paper come from?</p>	<p><i>The Natural World</i> Life Cycles-plants, butterflies,</p> <p>Caring for growing plants</p> <p>Identify and name living things within the locality – exploring the natural world around them – close observation</p>	<p><i>The Natural World</i> Seasonal Changes Children will observe and describe the seasonal changes that occur during the four seasons. These changes will be compared to prior learning of seasons.</p>	<p><i>The Natural World</i> Living Things and their Habitats Children will build upon their understanding of habitats by looking at plants and animals in Africa.</p>	<p><i>The Natural World</i> Plants Children will be studying a forest biome and build upon their knowledge of plants from KS1 by looking at how a healthy plant can be maintained. They will identify the structure of plants, explore the requirements for healthy growth, investigate water transportation within plants and explore pollination, seed formation and seed dispersal. This builds upon their knowledge of desert biomes in Yr 3 Aut 1.</p>	<p><i>Materials</i> States of Matter Children study the Water Cycle, define solids, liquids and gases and observe how some materials change state when they are heated or cooled. Their scientific knowledge will feed into the unit of learning on rivers.</p>	<p><i>Pushes and Pulls</i> Forces Children will develop their understanding of forces from year 3 by learning about resistance and friction. They will learn more about gravity and recognise that some mechanisms (levers, pulleys and gears) allow a smaller force to have greater effect.</p>	<p><i>Working Scientifically</i> Children will have the opportunity to revisit prior knowledge and consolidate new learning by conducting investigations and experiments from a range of scientific units.</p>
<p>Summer 2 Changing Britain</p>	<p>Here Comes the Sun</p>	<p>Treasure and the Seaside</p>	<p>Seaside Detectives</p>	<p>Amazing Armada</p>	<p>What Did the Romans Do For Us?</p>	<p>Once Upon a Mine</p>	<p>Vikings</p>	<p>Cousin Jacks</p>
	<p><i>Pushes and Pulls</i> Explore how things work</p> <p>Explore and talk about different forces they can feel: ice melting</p>	<p><i>The Natural World</i> Materials Pushes and Pulls</p> <p>Looking after marine life (link back to habitats in Aut 1) Identify and name living things within the locality – exploring the natural world around them – close observation</p>	<p><i>The Natural World</i> Animals including Humans (Sc1 2.2d) Children will identify, name, draw and label the basic parts of the human body. They will also learn about the five senses. This science unit will link to the SRE teaching.</p>	<p><i>The Natural World</i> Plants Children will build upon their knowledge of plants from EYFS and year 1 by learning about how seeds/bulbs grow into healthy plants. They will also look at the needs of a plant and what a plant will need to stay healthy.</p>	<p><i>Pushes and Pulls</i> Forces and Magnets Children will compare how things move on different surfaces and know that some forces need contact between two objects but magnetic forces can act at a distance. Children will explore magnetism and predict</p>	<p><i>Working Scientifically</i> Children will consolidate their knowledge of states of matter and continue to develop their working scientifically skills.</p>	<p><i>The Natural World</i> Animals, Including Humans Children will describe the changes as humans develop in the uterus and right the way up to old age. Children will build upon their previous learning of life cycles. This will also link with their SRE</p>	<p><i>Energy</i> Electricity Children will build upon their year 4 learning of constructing simple circuits with switches and buzzers and naming common electrical appliances by considering how to vary the brightness of the light within</p>

		<p>Floating and sinking</p> <p>Preserving the planet :Recycling- Reduce, Reuse, Recycle</p> <p>Understand the effect of changing seasons on the natural world</p>			<p>whether two magnets will attract or repel depending on which poles are facing.</p>		<p>unit of learning 'Changing Me'</p>	<p>a circuit and changing the volume of a buzzer. They will compare and assess the circuits made and begin to use recognised symbols to represent a simple circuit.</p>
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Big Ideas: The Natural World, Pushes and Pulls, The Universe, Energy, Materials

Drivers: Communication,

Interleaving; History, Geography