

Our Curriculum Story for the teaching and learning of Science



Intent

“Science is magic that works.”

Kurt Vonnegut

At Hatchlands, we aim to provide a high-quality science education that helps children make sense of the world around them. Through learning in biology, chemistry and physics, pupils develop the knowledge and skills they need to understand how things work and why things happen.

Our science curriculum builds strong foundations of knowledge while encouraging children to be curious, ask questions and think deeply about the natural world. Children are supported to explore, investigate and explain what they observe, developing confidence in using science to make predictions, solve problems and understand cause and effect.

Children will learn about:

- Key scientific knowledge and ideas through biology, chemistry and physics
- How science works, including the processes and methods scientists use to explore and answer questions
- The importance of science in everyday life, and how scientific knowledge is used now and will shape the future

Children will learn how to:

- Ask simple, relevant questions and explore them using a range of scientific enquiries
- Plan and carry out investigations, including recognising and controlling variables where appropriate
- Observe closely and use simple equipment to take accurate measurements
- Set up practical investigations, including comparative and fair tests

- Identify similarities, differences and changes linked to scientific ideas and processes
- Use their observations and ideas to suggest answers and explain what they have found
- use their observations and ideas to suggest answers to questions

Link to Drivers	Wellbeing	Environment	Challenge	Ambassadors	Relationships	Equity
	<p>Our intent is for learners to:</p> <p>have a positive attitude to science learning within their classrooms and reinforce an expectation that all children are capable of achieving high standards in science.</p> <p>know about good physical, mental and emotional health.</p>	<p>Our intent is for learners to:</p> <p>have exposure to high quality teaching and learning experiences which allow children to explore their outdoor environment.</p>	<p>Our intent is for learners to:</p> <p>believe <i>“failure is the opportunity to begin again more intelligently.”</i> - Henry Ford.</p> <p>Science in our school is about developing children’s ideas and ways of working that enable them to make sense of the world in which they live through investigation.</p>	<p>Our intent is for learners to:</p> <p>learn about and learn from professionals, as part of the curriculum. This ensures access to positive role models within the field of science.</p> <p>As children discover the positive and negative impacts on the world, we see them inspired to champion their own cause.</p>	<p>Our intent is for learners to:</p> <p>help each other and work with each other to solve problems.</p> <p>By working with each other in group scientific enquiry, children learn self-management and effective communication.</p>	<p>Our intent is for learners to:</p> <p>explore a range of different scientists from various backgrounds so all children have the opportunity to feel they are scientists and capable of achieving.</p> <p>Our science curriculum is planned to be accessible to all regardless of their starting point, gender or disability.</p>

<p>Implementation in the EYFS</p>	<p>In the Early Years Foundation Stage, science is taught through the Understanding the World area of the curriculum. Children are supported to make sense of their physical world and the people and environments around them through rich, hands-on experiences.</p> <p>Learning is carefully planned to encourage children to explore, observe, predict, problem-solve and talk about what they notice. Through play-based activities, practical investigations and adult-guided discussions, children are given opportunities to investigate objects and materials, noticing similarities, differences and changes.</p> <p>Children develop their communication and language skills by listening carefully, observing closely and responding to what they see using simple questions and explanations. This takes place during whole-class discussions, small-group work and one-to-one interactions.</p> <p>Science learning in EYFS is woven into daily provision, both indoors and outdoors, and allows children to share their own ideas, experiences and emerging scientific vocabulary. These carefully structured experiences help children to build curiosity, confidence and strong foundations in scientific thinking, preparing them well for the transition into Year 1.</p>
-----------------------------------	--

<p>Implementation In KS1 and KS2</p>	<p>Planning</p> <p>Science at Hatchlands is carefully planned using the Kapow Primary Science scheme and the National Curriculum. This ensures clear progression, full coverage of key scientific knowledge and consistency across year groups.</p> <p>Where possible, we take a cross-curricular approach to science, helping children make meaningful links with other subjects such as design and technology, computing and mathematics. This supports deeper understanding and allows children to apply</p>	<p>Knowledge Harvests/ Reviews</p> <p>At the start of each science topic, children complete a knowledge harvest to support the retrieval of important knowledge and scientific vocabulary from previous learning. This helps teachers understand what children already know and plan learning that builds effectively on this.</p> <p>Throughout the topic, children are regularly supported to retrieve and revisit key knowledge and scientific vocabulary through discussion,</p>	<p>Enquiry-led learning</p> <p>Children are encouraged to ask their own questions and given opportunities to use their scientific skills and participate in research to discover the answers.</p> <p>Children develop their ability to explain their observations through STEM sentences.</p>
--------------------------------------	--	---	--

	<p>their scientific knowledge in a range of contexts.</p>	<p>questioning and activities. This ongoing retrieval practice helps children to remember more over time and allows teachers to identify where further consolidation or support is needed</p>	
	<p>Problem solving</p> <p>Children are encouraged to develop their problem-solving skills by applying their scientific knowledge and enquiry skills in a range of practical and meaningful contexts.</p> <p>Tasks are carefully selected and adapted to provide appropriate challenge for all learners, supporting children to think critically, test ideas and explain their reasoning.</p>	<p>Experiments and Enquiries</p> <p>Children take part in a range of experiments and enquiries that help them develop important scientific skills, such as observing, comparing and carrying out fair tests.</p> <p>Through these practical experiences, children learn how to ask questions, test ideas and draw conclusions, building confidence and curiosity in science.</p>	<p>Events and visitors</p> <p>Children are offered a wide range of extra-curricular activities, trips and workshops which are purposeful and link with the knowledge being taught in class.</p>

	<p>Working scientifically</p> <p>Skills for working scientifically are carefully embedded into lessons so that children develop these skills progressively and systematically as they move through the school.</p> <p>Teachers model and demonstrate how to use scientific equipment safely and effectively, alongside key working scientifically skills. This helps children build confidence, deepen their understanding and apply their learning accurately in practical situations.</p>	<p>Outdoor learning</p> <p>Teachers make regular use of outdoor learning opportunities to help children develop their understanding of the world around them.</p> <p>By engaging with the local environment, children learn through first-hand experiences, observing, exploring and investigating real-life contexts. This helps to deepen understanding, spark curiosity and make science learning meaningful and memorable.</p>	<p>Data handling and recording</p> <p>Children are regularly given opportunities to explore and talk about data they have collected and to record their experiments, enquiries and findings using a range of simple tables and charts.</p> <p>This helps children to organise information, spot patterns and explain what they have discovered.</p>
			<p>Vocabulary Focus</p> <p>Lessons have a strong focus on key scientific vocabulary, which is introduced at the beginning of each lesson and regularly retrieved and revisited throughout. This supports children to recall and understand the meaning of each word and to use scientific language confidently and accurately when explaining their learning.</p>

<p>Impact</p>	<p>Pupil voice will show:</p> <p>Children are able to recall prior learning and build on this by revisiting science topics in increasing depth throughout their time at Hatchlands.</p> <p>Children move into the next year of learning with the skills and knowledge needed to build confidently on what they already know.</p> <p>Children talk about science with enthusiasm, recalling the experiments and enquiries they have carried out and explaining what they have learned from them.</p> <p>Children confidently use key scientific vocabulary to support and extend their understanding.</p> <p>Children are able to make predictions, explain what they think might happen and draw conclusions from their findings.</p> <p>Children can discuss their work thoughtfully, identifying their strengths and recognising areas for further development.</p>	<p>Children's work in books and displays will show:</p> <p>A varied and engaging science curriculum that develops a wide range of scientific skills.</p> <p>Clear progression of scientific knowledge and skills as children move through the school.</p> <p>Data recorded and presented in a range of formats, such as tables, charts and diagrams.</p> <p>A secure understanding of key scientific ideas and concepts.</p> <p>Learning that is adapted to meet the needs of all children, ensuring appropriate challenge and support.</p> <p>Evidence of exciting experiments and practical enquiries carried out in lessons.</p> <p>Children who are enthusiastic, confident and highly motivated about learning science.</p>
----------------------	--	---

If you were to walk into a Science lesson at Hatchlands you would see:

- ✓ Collaboration and opportunities for children to develop discussions through their learning.
- ✓ Pupils who are polite, well-mannered and considerate to others, working together as a whole class or in small groups.
- ✓ Engaging activities enabling children to deepen their understanding of the world, relationships and health and wellbeing.

- ✓ Engaging experiments enabling children to explore, observe, carry out enquiries and experiment using varied equipment.
- ✓ Respectful pupils who listen to others and cooperate.
- ✓ Excellent learning behaviours and positive attitudes towards themselves, life and learning.

British Values and Spiritual, Moral, Social and Cultural Learning in Science:

British Values

Science lessons at Hatchlands promote **mutual respect and tolerance**, encouraging children to value different viewpoints, work collaboratively and appreciate diversity. Children learn that scientific ideas can be discussed, questioned and developed through respectful dialogue.

Social Development

Children are supported to **share ideas, listen to others and discuss their thinking** during investigations and enquiries. They learn to work together, respect different opinions and develop the communication skills needed for life in school and beyond.

Moral Development

Through science, children learn to be **thoughtful, fair and responsible**, particularly when working with others, using equipment safely and considering the impact of scientific developments on people and the environment. Children are encouraged to understand and respect differences.

Spiritual Development

Science provides opportunities for children to **reflect, wonder and ask big questions** about the world around them. Children experience awe and curiosity as they explore natural phenomena and deepen their understanding of how the world works.

Cultural Development

Children learn that science is a **shared human endeavour**, shaped by people from different cultures and backgrounds. They are encouraged to be open-minded, respectful and appreciative of contributions from around the world.