
Science

Intent

At Hyde Park Schools, we know that science holds a prominent place in every child's education, and in their everyday life. Science underpins our understanding of the world and is an integral part of our lives, which makes it vital that children at our school develop a lifelong love for the subject. While broadening children's understanding in science, we will promote collaboration, exploration, curiosity, discovery, and investigation. Science at Hyde Park Junior School encourages children to be critical and reflective learners and inspires them to take risks and ask questions. We want our pupils to develop an innate sense of curiosity around the world they live in and how things happen, this curiosity links closely with our school values.

The Science curriculum is coherently planned and sequenced to engage our learners and provide them with the knowledge and skills needed for future learning and the next phase in their education. We know that a child's ability to learn is rooted in securely gaining knowledge and then being able to apply and extend that knowledge, as well as the ability to use and apply any associated skills with fluency and accuracy.

Our science curriculum will develop both children's knowledge in scientific concepts alongside key investigative skills. It is our intention that scientific knowledge is delivered through practical lessons which give children the opportunity to develop their investigative skills. 'Working scientifically' is described separately in the science programme of study but must always be taught through and clearly related to the teaching of substantive science content. This allows children to develop a deeper understanding and fluency which can lead to mastery of the subject. Our science curriculum is tailored to our school and, although aligned with, goes beyond the National Curriculum.

We are determined to provide the best Science educational opportunities for all children at Hyde Park Schools.

Implementation

High quality CPD and a commitment to learning from research and best practice lies at the heart of our curriculum implementation and allows teachers and teaching assistants to deliver an interesting and ambitious science curriculum. All teaching and teaching assistants are provided with opportunities to develop their own subject knowledge and pedagogy to ensure the curriculum can be delivered effectively with maximum impact.

Vocabulary is often a barrier to learning in science, and hence is taught explicitly in science lessons and reviewed regularly. Key vocabularies are displayed in the classroom. We ensure that all children can access the learning, by clear coverage of prior knowledge, skills and learning and, within each lesson, consistent scaffolding, chunking of new learning, opportunities for talk and feedback. Opportunities for depth are provided through questioning, reasoning, going deeper tasks and reading beyond the curriculum. This can be during whole class teaching or as an additional task in a Science lessons.

Formative assessment is used routinely within science lessons, in order to quickly address children's misconceptions and extend their understanding. Summative assessments are used termly to track how pupils are progressing against the curriculum, with regard to scientific enquiry skills and scientific

knowledge. Lessons allow pupils to practise our core values within their learning being brave, curious, optimistic, kind, inclusive, enterprising, and confident learners.

The curriculum provides children with deep learning experiences that are successively built on across the years, providing children with a sequential understanding of how Science ideas develop and increase knowledge. Repetition also plays an important role in securing knowledge and fluency. Therefore, subject areas are often revisited in successive years to allow knowledge and skills to become sticky. The curriculum provides diverse and rich opportunities from which children can learn and develop a range of transferable skills, such as data handling and Maths or basic micro-biology and baking. Examples include an expert, enrichment or experience all used to gain further knowledge to what has already been taught within the classroom.

We feel it is important to use the children's own communities, heritage, and traditions as a starting point for engaging interest. Our curriculum incorporates strong links to our rich geographical and historical areas. As evidenced by the visits we have with Plymouth University to support our science. We want our children to enjoy science and realise how scientific knowledge can improve their understanding of the world, create opportunities for employment and increase the choices that they will have in life.



Impact

Pupils leave Hyde Park Schools with a secure mastery of scientific concepts and a fluency of enquiry skills. They enjoy science and are ready to engage with the curriculum for the next phase of their learning. Through their scientific knowledge they are beginning to have a deeper understanding of naturally occurring phenomena and the world in which they live.

We aim for all our children to leave Hyde Park Schools; brave, curious, optimistic, kind, enterprising, inclusive and confident Scientists, with the motivation and passion to continue to learn and empowered and enabled to make the most of their lives.

Year 1 Progression

	AUTUMN 1	AUTUMN 1	AUTUMN 2	SPRING	SUMMER 1	SUMMER 2
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Unit of Work	Materials Linked to Geography Unit on weather and linked to seasons unit	Seasons (Project completed throughout the	Animals including humans (Linked to geography unit) year)	Animals –Pets	Plants Seeds to be planted in Spring Two) Linked to Geography Unit)	Completing the Unit on seasons and creating the book
Key Concept	Use of materials are linked to their properties.	How weather patterns are related to seasonal changes	Living things grow and change	Understanding what a pet is	Plants are living things that grow and change. Children will have already made some observations about plants when tracking seasonal changes over the year.	To compare weather patterns based on seasonal changes
 Key Question	<i>How do we know when to use different materials for?</i>	<i>What's through our window?</i>	<i>How do living things grow and change?</i>	<i>Why do people have pets and what makes a good pet?</i>	<i>Why do we need to grow plants?</i>	<i>What's through our window?</i>
 Key Vocabulary	material, properties, stretchy, waterproof, absorbent, rough, smooth, fabrics, natural, man-made	season, autumn, winter, spring, summer, daylight, day length weather, sunlight, cloudy, frosty, thunder, storms,	bird, mammal, amphibian fish, reptile, omnivore , herbivore , carnivore , human, body parts, senses	pets, house trained, pet owner, diet, exercise	plant, flower, seeds, roots, stem, branch, leaves, petals, fruit,	season, autumn, winter, spring, summer, daylight, day length weather, sunlight, cloudy, frosty, thunder, storms





Key Skills

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| <ul style="list-style-type: none">• Raise a range of simple scientific questions.• Respond to prompts by making some simple suggestions about how to find an answer.• Use simple scientific vocabulary to describe their ideas and observations• Recognise how simple scientific ideas can help us in real life.• Present evidence collected in simple ways. | <ul style="list-style-type: none">• Ask simple scientific questions. Use their senses and simple equipment to make simple observations. Present evidence collected in simple ways: talking, drawing, simple charts• Use simple scientific vocabulary to communicate changes in the seasons. Explain what they have learnt at the end of a unit in simple terms. | <ul style="list-style-type: none">• Ask simple scientific questions.• Respond to prompts by making some simple suggestions about how to find an answer or make an observation.• Recognise basic features of living things. Sort and group living things. Use simple scientific vocabulary to describe their ideas and observations• Present evidence collected in simple ways: talking, drawing, simple charts, diagrams | <ul style="list-style-type: none">• Raise simple scientific questions.• Draw on their everyday experiences to help answer questions raised.• Classify pets according to their characteristics.• Use simple scientific vocabulary to describe their ideas and observations• Explain what they have learnt at the end of a unit in simple terms. | <ul style="list-style-type: none">• Raise a range of simple scientific questions.• Draw on their everyday experiences to help answer questions. Say what changed when they made their observations. Use simple scientific vocabulary to describe their ideas and observations• Present evidence collected in simple ways. | <ul style="list-style-type: none">• Ask simple scientific questions. Use their senses and simple equipment to make simple observations. Present evidence collected in simple ways: talking, drawing, simple charts• Use simple scientific vocabulary to communicate changes in the seasons. Explain what they have learnt at the end of a unit in simple terms. |
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Year 2

Progression

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1 and 2
Unit of Work	Materials (Linked to History Unit)	Sound (Linked to geography project)	Living Things and their Habitats. (Linked to Geography Unit)	Animals including humans	Plants
Key Concept	Use of materials are linked to their properties.	Sounds can be made in lots of different ways and travels from its source in all directions.	All living things have certain characteristics that are essential for keeping them alive.	Growth and survival	Plants need certain things to help them grow and plants thrive in different habitats. Changes in the environment can affect plants.
 Enquiry Question	<i>How do the properties of materials determine what they are used for?</i>	<i>How does sound affect our lives?</i>	<i>How do living things depend on each other?</i>	<i>Why do we need to be careful about what we eat and why do we need to exercise?</i>	<i>Why are plants important for humans to survive and thrive?</i>
 Vocabulary	Recap on vocabulary from Year 1 hard, soft, rigid, flexible, fireproof, transparent, opaque translucent, non- reflective suitable, unsuitable	sound, high, low, loud, soft quiet, silence, direction, vibrate	living, dead, not alive, habitat, microhabitat, offspring, pond, woodland, forest, food chain, basic needs	offspring, adult, growth, survival, diet, food types, exercise, hygiene, healthy, medicine	Recap on vocabulary from Year 1: plant, flower, seeds, roots, stem, branch, leaves, petals, fruit, and introduce: bulb, shoot, seedling, soil, earth, growth, fully grown, wither, survive



Key Skills

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| <ul style="list-style-type: none">• Raise a range of simple scientific questions. Make some suggestions about how to find things out or how to collect data to answer a question they are investigating. Identify things to observe that are relevant to the questions they are investigating. Use simple scientific vocabulary to describe their ideas and observations. Identify how knowledge gathered about materials is helpful in everyday life• Present their ideas and evidence in different ways. | <ul style="list-style-type: none">• Raise a range of simple scientific questions. Make some suggestions about how to find things out or how to collect data to answer a question they are investigating. Identify things to measure or observe that are relevant to the question they are investigating. Perform simple tests to explore and answer questions raised. Use simple scientific vocabulary to describe their ideas and observations. Present their ideas and evidence in different ways.• | <ul style="list-style-type: none">• Raise a range of simple scientific questions. Make some suggestions about how to find things out or how to collect data to answer a question they are investigating. Sort and group living things based on their features. Draw on their observations, evidence and ideas to offer answers to questions. Use simple scientific vocabulary to describe their ideas and observations. Present their ideas and evidence in different ways. | <ul style="list-style-type: none">• Raise a range of simple scientific questions. Make some suggestions about how to find things out or how to collect data to answer a question they are investigating. Use simple scientific vocabulary to describe their ideas and observations.• Compare and contrast foods and sort by a given and own criteria.• Present their ideas and evidence in different ways. | <ul style="list-style-type: none">• Raise a range of simple scientific questions.• Be able to measure and observe growth of plants over time using equipment provided• Draw on their observations, evidence and ideas to offer answers to questions.• Present their ideas and evidence in appropriate ways, including diagrams, charts, photos which are annotated. |
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