



Subject area		Science	Subject Leader	Joe Elliott
Date		29/09/21		
Sections		Summary evaluation		
1	Introduction <i>Why do we teach what we teach?</i>	<p>The principal focus of our teaching of Science at The Orchard is to enable our pupils to experience and observe phenomena, looking closely at the natural and humanly-constructed world around them. We want our children to be curious and ask questions about the world around them, and through discreet teaching, be able to explain their discoveries using scientific vocabulary. Ultimately, we want to develop inquiring minds because we want our children to be curious about Science and excited to learn about the world around them.</p> <p>We believe in all year groups, Science can provide children with opportunities to develop and practise many different skills and attributes, including communication skills, collaborative skills, team working and perseverance, as well as analytical, reasoning and problem-solving skills. These skills should be transferrable but children should make clear progress with the skills and the language they use.</p>		
2	Curriculum Intent <i>(Include reference to SEND and disadvantaged pupils)</i>	<p>At The Orchard, we aim to encourage and direct children’s natural curiosity whilst familiarising them with basic scientific vocabulary, helping them begin to make sense of the world around them and gaining some understanding of how things work.</p> <p>During discreet Science lessons, cross curricular lessons and ongoing links, pupils engage with a range of skills, knowledge and experiences to ensure progress is made. We ensure progression through our planning so that our children grow as scientific thinkers and learners, building on their knowledge and understanding and encouraging this application of skills.</p> <p>The Science curriculum is accessible to all children and enables all children to develop their skills and understanding at their pace including SEND and disadvantaged pupils. We believe that by adopting a language-rich environment, all children (including SEND and disadvantaged pupils) will build important cultural capital. Our mastery approach will mean children will practise speaking in full sentences using scientific vocabulary to explain their responses to scientific enquiries. We will repeat and reinforce the use of language so that the children’s learning is engrained in their long-term memory. Our learning intentions are simple and sharply focussed, ensuring that knowledge is taught and repeated until it is mastered. Our learning intention is referred to throughout the lesson so children know what they are learning and can therefore self-assess. We support our children to learn independently with strong emphasis on modelling, providing security, confidence and clarity for what the children need to do to succeed.</p>		
	Implementation	<p>Science is taught both discreetly and in a cross curricular manner, from Reception to Year Two. Early Years present their Science through The Natural World. Children in Reception have the opportunity to access Science related activities throughout their self-initiated learning, but this is initially introduced through teacher led input and small group work.</p> <p>In Years one and two, Science is taught discreetly. Each year group follows The Orchard Science Scheme of Work which ensures that the children continuously develop the knowledge and skills required in Science as set out in the National Curriculum. There is a strong focus throughout the school on developing independent learning and in ensuring that students are given practical experiences whenever possible. We also adopt a mastery approach to learning to promote the embedding of knowledge.</p> <p>Each year group will build on the vocabulary and practise using key vocabulary in full sentences. Books and stories are used as key texts in all year groups to provide a focus for the learning and cross curricular links are made when suitable. These are used to enhance the children’s learning environment and to support their development in both science and in language development, including SEND and disadvantaged pupils. Use of books within science lessons provides stimulating opportunities for developing all children’s thinking and communication skills. Using stories as an introduction improves motivation and concentration and allows all of our children to see a reason for carrying out a scientific investigation.</p> <p>Science workshops with visits from specialist guests are arranged giving opportunities to develop the scientific experience of our students.</p>		

	<p>Whole school activities are planned each year to provide the children with an exciting opportunity to see Science in action. Gardening week provides all year groups with a great opportunity to work practically and scientifically in a stimulating way.</p> <p>Monitoring and evaluation is delivered by subject leaders, team leaders and through teaching staff moderation sessions. Each staff member is trained to speak directly to one another and enquire about the progression in our science teaching and learning. Team leaders should be able to challenge teachers, if it appears that the scheme is not being used effectively to plan and deliver lessons.</p> <p>Whilst we have been unable to observe one another because of our bubble system, plans are now in place for teachers to observe one another to ensure high quality delivery of our Science curriculum.</p>
<p>Impact <i>(Include reference to SEND and disadvantaged pupils)</i></p>	<p>Children are actively engaged in well-planned lessons and show progression of knowledge and skills. Children have transferrable enquiry skills that they apply to their scientific understanding in a range of settings and across all subjects. Pupils demonstrate an inquisitive manner towards Science and links are made where possible throughout the school day. Children can work both independently and collaboratively; they know how to ask questions and will develop research skills as well as using scientific vocabulary.</p> <p>All of our children will be able to access the curriculum and opportunities are made for everyone to make progress. Our SEND and disadvantaged children will be able to explain their observations using the appropriate vocabulary and efforts will be made by our highly trained practitioners to record their observations accordingly.</p> <p>By the end of Year 2, all children will have been provided with the opportunity to work scientifically by asking and answering questions, carrying out investigations and by starting to notice patterns and links between different areas. Our children learn their intended outcomes. They know more and can do more by the time they leave for their next school.</p>
<p>3 Broader curriculum <i>How does this subject promote elements of the broader curriculum, including SMSC, British Values, Eco-Schools, etc.?</i></p>	<p>At The Orchard we aim to develop responsible citizens who take care of their local environment and community. Children are involved in recycling paper and fruit waste and parents are encouraged to recycle clothes in our clothes bank. Pupils understand the importance of looking after the environment, and have enjoyed taking care of the school grounds with their family on Grounds Force Day. Children enjoy planting around the school. The curriculum is enriched by visitors, speakers and special events such as Gardening Week. We encourage children to share their languages, cultures, festivals and experiences from around the world. Annually family members are invited to support their children in caring for the grounds of the school, discussing in class the impact of looking after our environment and why we do this.</p> <p>Children will also learn to make healthy choices about food, drink, physical activities and teeth hygiene. Twice a week, children will take part in a run outside to emphasise the importance of exercise as well as the daily morning exercise routine to start the day.</p>



4	Successes in the subject in the previous year <i>Focus should include the contribution of the subject to meeting whole school priorities.</i>	➤ Implementing schemes of work into planning ensuring good coverage and development of skills through thorough timetabling	
		➤ Children are able to use scientific language in full sentences to explain and reason.	
		➤ The children finished Year two as knowledgeable and motivated scientists. They gained long term knowledge and were able to work scientifically because of this.	
5	Achievement <i>Attainment, progress and the quality of learning for individuals, different groups, including SEND pupils, boys/girls, disadvantaged, CLA. Emphasise key skill development across curriculum.</i>	Strengths	Areas for Development
		➤ Children are enthusiastic about science and keen to explain their responses using the vocabulary.	➤ Continue to emphasise the importance of the children using full sentences and scientific vocabulary to explain answers.
		➤ Strong attainment at the end of Key Stage One, including children with SEND.	➤ Provide opportunities for children to research independently using our range of non-fiction texts.
		➤ Clear progression between year groups using the scheme of work correctly.	➤ Develop the use of IT to improve research opportunities.
6	Teaching <i>Teacher subject knowledge and pupil expectations, engagement, motivation, challenge, progress, independence, reading and literacy skills, assessment and next steps in learning. Marking and feedback.</i>	Strengths	Areas for Development
		➤ Teacher engagement with scheme of work ensuring progression of skills through year group	➤ Ensure that teachers are recapping on prior learning and threading together of different topic areas.
		➤ Evidence of Science being taught throughout the school.	➤ Ensure that teachers are using every available opportunity to think and talk scientifically.
		➤ Teachers are confident in their delivery of science teaching.	➤ Continue to develop assessment opportunities to ensure all of our children are making the required progress.
7	Learning Behaviours <i>Including behaviour in lessons and around the school, attitudes to learning. Pupils' enjoyment and engagement in the subject, views of pupils/parents. Include SMSC.</i>	Strengths	Areas for Development
		➤ Pupils are engaged in science lessons.	➤ Displays of science around the school so we are demonstrating our enjoyment of science at our school.
		➤ Pupils enjoy learning about science	➤ Continue to develop assessment opportunities to ensure all of our children are making the required progress.
		➤ Parents support the children's learning through Groundsforce day, PTA funding and through our clothes bank.	➤ Whole school learning opportunities i.e. workshops and visitors (now that we are able).
8	Leadership/Management <i>How well leaders demonstrate ambition, vision, high expectations, improve teaching and learning, develop staff, sustain improvement. Appropriate curriculum, equal opportunities, parental engagement.</i>	Strengths	Areas for Development
		➤ Teachers and SLT high expectations and engagement with subject	➤ Lead Science CPD course to enhance teaching and learning throughout school
		➤ Curriculum that caters for all pupils	➤ Science leader to observe Pine Class to ensure the children are making effective progress in their science.
		➤ Returning subject leader has good subject knowledge.	➤ Lesson observations and work scrutiny (now that we are able).
9	Overall effectiveness	Overall, pupils enjoy Science. They demonstrate transferrable enquiry skills whilst developing a bank of key vocabulary. Children are able to relate their knowledge and understanding in an applied way to their everyday experiences. Pupils, staff and parents give positive responses to the curriculum and outcomes. Children's learning is embedded through a language-rich environment and practical learning. Our non-fiction texts around the school are celebrated and displayed beautifully, and they are used effectively by class teachers to support teaching and learning.	

10	What is a good learner like on leaving The Orchard?	<p>A good learner knows more and can do more. Learning is embedded in their long-term memory and they are able to talk about their learning confidently and coherently. Our children will have mastered their learning and will be able to apply the same skills in different contexts. Good learners are confident, knowledgeable and motivated scientists by the end of year two, and they are able to explain what they know and what they want to know.</p>
11	Key areas for subject development <i>Especially achievement and quality of teaching</i>	<ul style="list-style-type: none"> ➤ Build re-cap into our lessons regularly and make strong links between and within subjects which will secure knowledge further. ➤ Ensure that we are monitoring progress and attainment with the same level of scrutiny as we do in our core subjects. ➤ Celebrate science around the school and reflect this with displays, visitors and workshops.