

Subject Key Summary Points

| Subject | Science |
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| Overall Curriculum | <p>At Low Trenchard School, we believe that science is a body of knowledge built up through experimental testing of ideas. Science is also a practical way of finding reliable answers to questions we may ask about the world around us. 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, as well as using and applying processing skills.</p> |
| Pedagogy | <p>Planning for science is a process in which all teachers are involved to ensure that the school gives full coverage of, 'The National Curriculum programmes of study for Science 2014' and, 'Understanding of the World' in the Early Years Foundation Stage.</p> <p>Science teaching at Low Trenchard School involves adapting and extending the curriculum to match all pupils' needs. Where possible, Science will be linked to class themes as well as taught as discrete units and lessons where needed to ensure coverage. Teachers plan to suit their children's interests, current events, their own teaching style, the use of any support staff and the resources available. We encourage teachers to take the opportunity to learn in the natural world and use its timings to engage children's curiosity in Science, making links to previous learning whilst responding to the spontaneous questions children have about the world around them. We believe it is possible to follow a structured, thorough curriculum and teach inspired and timely lessons simultaneously with good planning.</p> <p>Teachers and teaching assistants support pupils to develop a solid understanding of things occurring around them in their day-to-day lives. Children are encouraged to be creative and inquisitive as they participate in activities. Pupils are encouraged to use their natural questions that arise while taking part in exploratory play in specific scientific areas as well as areas that link across the EYFS framework.</p> <p>Support and scaffolding is provided in all Science lessons and is done in various ways, such as:</p> <ul style="list-style-type: none"> • setting challenging age-related knowledge, quizzes and vocabulary based on a cohesive whole school plan which ensures appropriate prior skills, knowledge and understanding; • small, differentiated target steps for all children to move through at a pace that suits their needs; • timely support and intervention; systematically and effectively checking pupils' understanding throughout lessons; • ensuring that marking and constructive feedback is personal, frequent and of a consistently high quality – enabling pupils to understand how to improve and develop their work - with planned in time for children to respond to feedback; |
| Assessment | <p>Assessment is regarded as an integral part of teaching and learning and is a continuous process. It is the responsibility of the class teacher to assess all pupils in their class. Pupil's work will be assessed in line with the Trust Assessment Policy. Teachers will formatively assess during lessons and teaching sequences as well as summatively assess at the end of units using Rising Stars Assessment tests. All classes take part in a whole school assessment activity every term which focuses on a different aspect of Working Scientifically to align the progression of skills across the Key Stages. Science attainment is reported to parents at the end of each academic year.</p> |
| Culture | <p>Science is valued as an important key subject that sits centrally in the curriculum, linking to learning in Maths, DT, Art observation, Geography, ICT, History. It is central to the questioning and observations children make in everyday conversation and themes such as checking how reliable evidence is, arguing a rational point, thinking about what knowledge is, creating a fair test, observing how something could be unreliable or relating knowledge to how the world works. The</p> |

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| | <p>Science curriculum is apparent in the school's culture and traditions: looking after ourselves, eating healthily, keeping our environment clean, recycling our waste, watering our school plants and caring for our school animals. The culture of our school is based on a respect and keenness to learn about and care for the world around us. This is also evident in enrichment activities such as trips to local Scientific areas of interest eg Eden or mining/Environmental days planting/animal care/research projects.</p> |
| Systems | <p>During Key Stage one, pupils observe, explore and ask questions about living things, materials and the world around them. They begin to work together to collect evidence to help them answer questions, find patterns, classify and group objects, research using a variety of sources and carry out fair testing. Pupils use reference materials to find out more about scientific ideas. They share their ideas and communicate them using scientific language, drawings, charts and tables. Science lessons in Key Stage one are either taught discretely or where possible connected to other curriculum areas. The resources used include TigTag, Explorify, and TAPS Working Scientifically focused assessment activities.</p> <p>Children are encouraged to extend the scientific questions that they ask and answer about the world around them. Pupils carry out a range of scientific enquiries including: observations over time, pattern seeking, classifying, grouping and researching using other sources (including computing resources). Children in Key Stage Two learn to plan science investigations by only changing one variable to make it a fair test. As well as the above resources, Research projects are supported by Babcock sets of pre-ordered themed books, and Headstart strand and progress assessment materials are used at the end of each unit.</p> |
| Policy | <p>Low Trenchard School understands the need for all pupils to develop their scientific ability as an essential component relating to all subjects and as a subject in its own right. A good understanding of scientific knowledge and conceptual understanding helps to support pupils work across the curriculum. The policy for Science outlines how this is achieved with progression across the whole school, including assessment.</p> |

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| Perceptions | <p>The monitoring of the standards of children’s work and the quality of learning and teaching Science is the shared responsibility of the S.L.T and the subject leader. The work of the subject leader also involves supporting colleagues in the teaching of Science, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. A named member of the school governing body is briefed to overview the teaching of Science in the school. Monitoring shows the following of systems is good and teachers are planning and executing effective and inspiring Science lessons. The areas to work on are encouraging the increasing independence of children to pursue questioning and investigating to a greater degree of accuracy. Across the school children need to develop clearer independent thinking when designing investigations. Knowledge of certain physics subject areas also need training and careful signposting for staff to create clear explanations and avoid misconceptions. Gaps of knowledge are also evident and need to be clearly identified and planned for.</p> <p>At the last Science pupil conferencing:</p> <p>Brief summary of key findings:</p> <ul style="list-style-type: none"> • Science is a subject many of the children really enjoy. • Learners are confident in talking about what they are learning and particularly practical science that they have completed. • We need to ensure children grasp the learning and not just view practical science as an activity, what is the science? • Children thrive on practical science. • Learning dispositions and VL threaded through. • The more real, visual and practical the better. • Children have some strategies to support them through challenges and new learning. Learning walls, support mats and KO are valued and vital to learning more and remembering more. • Development of the importance of KO/concept maps and link making needed. • Development of link making/transferring of skills and subject knowledge between subjects. • Children are developing aspirations for their future and many can see a real life value in science. |
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