



Science at Littledean C of E Primary School

<p>INTENT</p>	<p>At Littledean C of E Primary School, we aim to develop within our children, a sense of excitement and curiosity about natural phenomena and an understanding of how the scientific community contributes to our past, present and future. We want our children to develop a comprehensive knowledge of biology, chemistry and physics, but also adopt a broad range of skills in working scientifically. Our scheme of work is inclusive and meaningful, so that all children may experience the joy of science and make associations between their scientific learning and their lives outside the classroom. Studying science allows children to appreciate how new knowledge and skills can be fundamental to solving arising global challenges.</p> <p>Our curriculum aims to encourage critical thinking and empower children to question the hows and whys of the world around them.</p> <p>Our science scheme of work encourages:</p> <ul style="list-style-type: none"> • A strong focus on developing knowledge alongside scientific skills. • Curiosity and excitement about familiar and unknown observations. • Challenging misconceptions and demystifying truths. • Continuous progression by building on practical and investigative skills across all units of work. • Critical thinking, with the ability to ask perceptive questions and explain and analyse evidence. • Development of scientific literacy, using a wide-ranging specialist vocabulary.
<p>IMPLEMENTATION</p>	<p>Planning</p> <ul style="list-style-type: none"> • Long Term: National Curriculum and Development Matters (EYFS). We have a 2 year rolling programme of topics, with links made between other subject areas where appropriate and meaningful. • We use a spiral curriculum where essential skills and knowledge are revisited with increasing complexity, allowing children to revise and build on their previous learning. <p>Teaching and Learning</p> <ul style="list-style-type: none"> • Children explore knowledge and conceptual understanding through engaging activities and an introduction to specialist vocabulary.

Aspiration - Resilience - Community

	<ul style="list-style-type: none"> • ‘Working Scientifically’ skills are integrated with conceptual understanding rather than taught discretely. This provides frequent, but relevant, opportunities for developing scientific enquiry skills. • Science lessons follow a clear and consistent teaching sequence which builds children’s knowledge and skills in order to be able to answer their stimulus question. • Where appropriate we use a range of resources, visitors, workshops and visits to excite and intrigue our children. • Each class carries out a unit of work related to the local environment or local area within their 2-year plan and cross curricular links are made wherever possible. • Children are introduced to key vocabulary and its meaning and given opportunities to use this within the correct context. • Children have opportunities to present their learning in a variety of ways, including graphs, diagrams, drawings and photos, in order to communicate their scientific knowledge and understanding accurately. <p>Assessment</p> <ul style="list-style-type: none"> • Ongoing assessment during lessons (based on discussions and engagement), along with assessment of tasks completed in class. • End of unit assessment where children will be assessed as either developing, expected or exceeding in relation to the learning objectives covered within the unit of work. • Use of topic related quizzes to check knowledge and understanding. • Monitoring of Subject Leader will include planning scrutinies, book looks, lesson observations and pupil conferencing to ensure appropriate coverage of the curriculum. • Science lessons follow a clear and consistent teaching sequence which builds children’s knowledge and skills in order
<p>IMPACT</p>	<p>Following the high quality teaching of Science children will:</p> <ul style="list-style-type: none"> • Develop a body of foundational knowledge for the Biology topics in the National curriculum: Plants; Animals, Including Humans; Living Things and Their Habitats; Evolution and Inheritance. • Develop a body of foundational knowledge for the Chemistry topics in the National curriculum: Everyday Materials; Uses of Everyday Materials; Properties and Changes of Materials; States of Matter; Rocks. • Develop a body of foundational knowledge for the Physics topics in the National curriculum: Seasonal Changes; Forces and Magnets; Sound; Light; Electricity; Earth and Space. • Be able to evaluate and identify the methods that ‘real world’ scientists use to develop and answer scientific questions. • Identify and use equipment effectively to accurately gather, measure and record data. • Be able to display and convey data in a variety of ways, including graphs. • Analyse data in order to identify, classify, group, and find patterns. • Use evidence to formulate explanations and conclusions. • Demonstrate scientific literacy through presenting concepts and communicating ideas using scientific vocabulary. • Understand the importance of resilience and a growth mindset, particularly in reference to scientific enquiry. • Meet the end of key stage expectations outlined in the National curriculum for Science

This will be monitored in the following ways:

- Through pupil voice children will be able to talk about the skills and knowledge they have acquired, be able to ask and answer question based on what they have learnt and be able to reason scientifically.
- Children will be observed to be engaged practically in Science lessons and will work independently or collaboratively to investigate and experiment.
- Children will complete research independently through projects and homework to further their own enjoyment about the subject or topic.
- Work will show that a range of topics are being covered, cross-curricular links are made (where appropriate) and differentiated work is set as needed.
- The school environment will be Science rich through displays, resources and use of specific vocabulary.
- Assessments and monitoring will show that standards in Science are high and match the standards in other subject areas.