



# Bewcastle Primary School

## Science Curriculum Statement



<b>Intent</b>	<p>Teaching and learning in Science at Bewcastle School enables all children to develop a growing understanding of the world in which they live. We intend that all children develop a sense of awe and wonder through first-hand learning experiences and investigations.</p> <p>We intend that:</p> <ul style="list-style-type: none"> <li>- Children develop the ability to think independently and apply their knowledge, skills and vocabulary in a variety of contexts, including fieldwork;</li> <li>- Children can raise their own questions or hypotheses, providing reasons for their ideas;</li> <li>- Children are confident and competent to plan and complete scientific investigations; showing initiative, curiosity and the necessary practical skills to keep safe in science;</li> <li>- Children are able to communicate as scientists, both verbally and in written explanations or investigations;</li> <li>- Children understand how science helps them to understand and interpret the world around them, as well as the scientific advances in the past, present and future.</li> </ul>			
	<b>Learning</b>	<b>Vocabulary</b>	<b>Progression</b>	<b>Continuing Professional Development</b>
	<p>We intend that children at Bewcastle School will have a range of high-quality, purposeful scientific learning experiences that allow them to become confident and competent scientists. We intend that:</p> <ul style="list-style-type: none"> <li>• opportunities are given to develop children’s confidence in questioning, investigation and recording skills;</li> <li>• children are able to work confidently, independently and collaboratively;</li> <li>• children are encouraged to see the links between concepts</li> <li>• children develop and show originality, imagination and innovation in their application of skills.</li> </ul>	<p>At Bewcastle School we intend to expose, explore and model to all pupils, the specific scientific vocabulary needed to become a confident scientist. Pupils are expected to use scientific vocabulary to discuss, reason, explain, predict and hypothesise.</p>	<p>Teachers plan lessons using the Cornerstones Curriculum that ensures all pupils have covered all of the National Curriculum Objectives by the end of each key stage. To ensure a clear sequence of learning teachers adapt the curriculum accordingly.</p>	<p>At Bewcastle School, we intend that all staff have access to high quality CPD through attendance at webinars, face to face training sessions, sharing subject knowledge, staff meetings, professional dialogue, own research and enquiry and cluster support.</p>
<b>Implementation</b>	<b>Inclusive Quality First Teaching</b>	<b>Science Curriculum</b>	<b>Resources and Learning Environment</b>	<b>Communicating as a scientist</b>
	<p>Inclusive Quality First Teaching</p> <p>Through differentiation and regular assessment and monitoring, all children will be given well matched learning activities. Children who have a secure understanding of a topic will be given the opportunity to apply their understanding through next step questions, to deepen their thinking and expand their understanding. Children requiring more support will be identified quickly so as to identify gaps in knowledge and misconceptions early. This will be addressed through high-quality teaching providing personalised support and guidance within lessons.</p> <p>Teaching and learning is supported by:</p> <ul style="list-style-type: none"> <li>- Personalised learning activities (to consolidate or challenge, adult support, carefully chosen resources);</li> </ul>	<p>Science teaching and learning is centred on the National Curriculum, supported by the Cornerstones Curriculum. The Essentials of the science curriculum (including Early Years) is to develop</p> <ul style="list-style-type: none"> <li>-Children’s ability to think independently and raise questions about working scientifically and the knowledge and skills that it brings.</li> <li>-Children’s confidence and competence in the full range of practical skills, taking the initiative in, for example, planning and carrying out scientific investigations.</li> <li>-Children’s scientific knowledge and understanding which is demonstrated in written and verbal explanations, solving challenging problems and reporting scientific findings.</li> </ul>	<p>Each classroom has space to display key vocabulary, resources and pupil’s work. The Cornerstones Curriculum provides high quality resources such as:</p> <ul style="list-style-type: none"> <li>- Presentations</li> <li>- Videos</li> <li>- Texts etc.</li> </ul> <p>All children have access to tablets for independent research. There a wide range of science resources available to all age groups to support scientific enquiry and exploration. These support learning in relation to chemistry, physics and biology, as well as maths and computing. The outdoor learning</p>	<p>Children will represent and communicate their scientific thinking, concepts and learning in a variety of ways. This can include (but is not limited to):</p> <ul style="list-style-type: none"> <li>- Science books</li> <li>- Printed activities</li> <li>- Fieldwork studies/ recounts/ reports</li> <li>- Diagrams/ data tables/ graphs (linking to maths learning)</li> <li>- Sharing in class/ talking to partners/ shared class investigations.</li> </ul> <p>Science Across the Curriculum</p> <p>A secure understanding of science provides a foundation for understanding the world. Examples include:</p>

	<ul style="list-style-type: none"> <li>- Knowledge Organisers that outline key teaching points and the required vocabulary.</li> </ul>	<ul style="list-style-type: none"> <li>-High levels of originality, imagination or innovation in the application of skills.</li> <li>-The ability to undertake practical work in a variety of contexts, including fieldwork.</li> <li>-A passion for science and its application in past, present and future technologies.</li> </ul> <p>Due to mixed age classes, we have a rolling science curriculum. Curriculum sequencing ensures a balance of objectives are taught, whilst allowing for consolidation and repetition of fundamentals.</p>	<p>environment is also utilised to support teaching and learning. The outdoor environment includes a wildlife and a vegetable garden.</p>	<ul style="list-style-type: none"> <li>- PE: animals including humans (diets and exercise)</li> <li>- Geography: rocks and soils</li> <li>- DT: electricity</li> <li>- Maths: statistics</li> <li>- Computing: statistics, electricity</li> </ul>
<b>Impact</b>	<b>Knowledge and skills</b>	<b>Pupil Voice</b>	<b>Cultural Capital</b>	<b>SMSC</b>
	<p>Children will demonstrate that they have ‘mastered’ scientific concepts: ‘mastering’ science means pupils acquiring a deep, long-term, secure and adaptable understanding of the subject. Through this, children will: - will develop curiosity, interest and enjoyment in science;</p> <ul style="list-style-type: none"> <li>-become confident in setting their own hypotheses and justifying their conclusions with confidence and scientific accuracy;</li> <li>-develop the ability to think and record logically and clearly, using their mathematics skills;</li> <li>-use scientific vocabulary accurately, effectively and confidently</li> </ul>	<p>Children will be confident to share their ideas, opinions and critique of what they have been learning in Science. They will be confident to talk about their Scientific knowledge to a wide range of people including their fellow pupils and adults such as the governing body. Learning walks with pupils allow them the unique opportunity to share and discuss what it is like to learn to read and read to Bewcastle School.</p>	<p>Children will have been exposed to a rich scientific learning journey that allows them to explore, interpret and analyse the world around them. Beginning in the Early Years, where children are provided with opportunities to develop, use and apply an increasing vocabulary, children learn to explore the world around them, thus providing the firm foundations for scientific enquiry and knowledge as they progress through the school. In KS1 and KS2, first-hand scientific enquiries, fieldwork studies, educational visits to museums etc support children’s scientific understanding. In an ever-changing world, where science and technology are at the forefront of many worldwide priorities, an exciting, relevant and coherent science curriculum allows children to see the importance that this subject plays in the wider world.</p>	<p>The cornerstones curriculum underpins the SMSC values for:</p> <ul style="list-style-type: none"> <li>-Developing awe and wonder</li> <li>-Discussion of moral dilemmas</li> <li>-Considering scientific developments</li> <li>-Debating environmental issues</li> </ul>