

I N T E N T	<p><b>Our vision for our children as scientists...</b></p> <p>All children will be able to think independently and use specific skills, knowledge and vocabulary to raise questions and work scientifically. Their scientific knowledge and understanding will give them the confidence and competence in a full range of practical skills such as planning and carrying out scientific investigations. The children will be able to undertake practical work in a variety of contexts, including fieldwork. Our children will have a passion and understanding for science and its application to allow them to grow well in their present and future world.</p>
I M P L E M E N T A T I O N	<p><b>Our journey...</b></p> <p>Scientific enquiry skills are embedded in each topic the children study and these topics are revisited and developed through our spiral curriculum method. Rather than blocking topics, subject areas are interleaved throughout the 3 terms, based on the theory of Ebbinghaus' curve of forgetting. This method allows children to build upon the learning and skill development of the previous years and increases their enthusiasm for the topics, whilst embedding a greater depth of knowledge into the long-term memory. With a spiral curriculum in mind, in 2018 we began to develop our science curriculum based on Chris Quigley's greater depth in science curriculum. The curriculum content has been planned using these milestones over a 2 year cycle, meeting our schools mixed year group structure.</p> <p><b>In a science lesson, this is what you will see...</b></p> <p>Our spiral curriculum model begins within Early Years Profile, where the Understanding the World area of learning is closely linked to KS1 science outcomes. These scientific areas of learning are linked closely to the core literacy text which are used as topic starters in the early years.</p> <p>Children are taught in mixed year groups and in mixed ability groups. Children are encouraged to ask their questions and are given opportunities to use their scientific skills and research to discover answers. Teachers will plan engaging lessons involving high-quality resources to aid understanding of conceptual knowledge. As the children's knowledge and understanding increases, and they become more proficient in selecting, using scientific equipment, collating and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence. Working scientifically is embedded into lessons to ensure skills are being developed and new vocabulary and challenging concepts are introduced. Outcomes in lessons will be based on the Chris Quigley PoP tasks, which provide our teachers with a comprehensive list of outcomes based upon the national curriculum and gives clear guidance to how the children can progress through having a good understanding or a deep understanding of a topic.</p> <p>Teachers find opportunities to develop children's understanding of their surroundings by accessing outdoor learning and enrichment activities with experts.</p>
I M P A C T	<p><b>We know our children are achieving because...</b></p> <p>Through the use of the spiral curriculum method children are able to revisit specific topics throughout their primary school career. This enables children to consistently re-apply their understanding and progress, know more, remember more and understand more.</p> <p><b>If learners need support we have these systems in place...</b></p> <p>Teachers use precise questioning in class to test conceptual knowledge and skills, and assess children regularly to identify those children with gaps in learning so that all children keep up. Teachers will use formative assessment of children's responses to scientific questioning and theory during their science lessons and discussions within all subject areas. Half termly discussions of pupils progress, along with book looks, will provide a summative assessment of the overall provision and pupil progress. Teachers will use this information to inform future learning. Consolidation weeks are implemented into our mid-term planning to address misconceptions and any gaps in learning.</p>