



Science: Intent, Implementation & Impact Statement



This document outlines: the intent and rationale behind the science curriculum, how to deliver it and how to measure pupil progress.

Intent

School Curriculum Intent:

For our learners our curriculum provides:

- a value-based curriculum, building from a foundation of Christian values developed at the Infant School (C of E), and enhanced at the Junior School (Community), to prepare our learners to be inclusive, respectful of themselves and others, and enable them to contribute fully within our modern, multi-cultural, British society;
- responsible citizens, successful learners and confident individuals;
- opportunities to enrich the life of our learners and provide vibrant experiences to make learning real, to open their minds to wider worlds beyond their own, and to enable them to empathise with each other, and others in different circumstances, from different backgrounds, places and times;
- Activities are adapted and made accessible to all learners. Technology and collaborative learning are included to ensure access for all.
- a linked, language-rich curriculum to develop deep understanding and cultural capital;
- development of characteristics to enable them to contribute fully within their school and wider community, now and into the future; by exploring their immediate local environment.
- skills to develop positive relationships, and high expectations of behaviour; enabling everyone to be the best possible versions of themselves;
- a range of knowledge and skills to be equipped for the next stage of education.

We use Science Bug's scheme of work as this provides exciting lessons, with a focus on easily manageable hands on science. It's designed to spark imagination, fuel curiosity and nurture and inspire confident scientists, focusing on key science concepts.

We want pupils to develop the confidence to think critically, ask questions and be able to explain and analyse scientific data and evidence.

Studying science is essential for pupils to gain a deeper knowledge of the world around them. Science Bug's primary science scheme aims to support pupils to develop highly structured domain knowledge of the national curriculum for each arm of the scientific disciplines- biology, chemistry and physics.

We aim to provide a stimulating science curriculum that develops pupil's natural curiosity, showing pupils there is a wealth of scientific knowledge out there that can be learned as well as developed through enquiry.

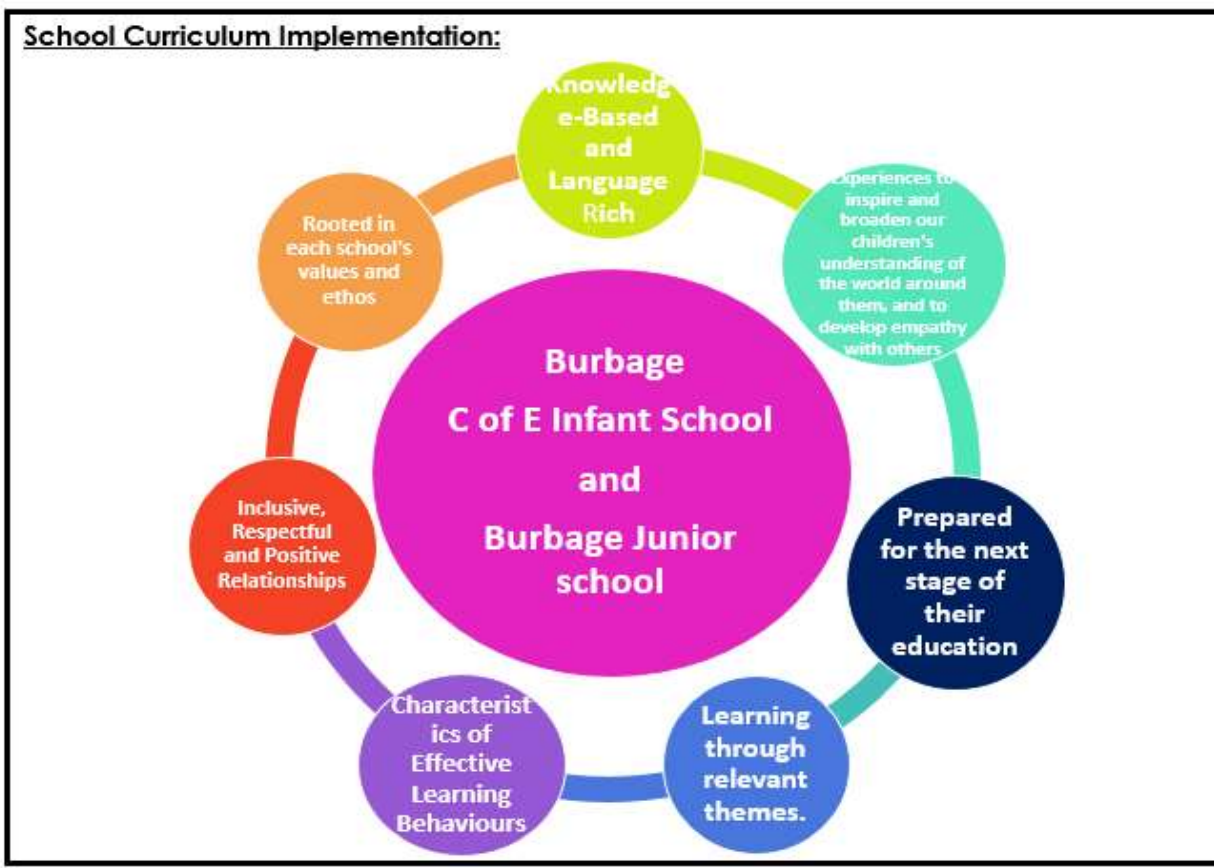
The importance of working scientifically is threaded through the whole curriculum- focussing on the variety of ways that scientists collect evidence and find things out. It is built on a robust teaching and learning cycle to ensure all pupil progress in their learning.

All pupils will be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity of natural phenomena. Science Bug takes every opportunity to take pupils outside to see the variety of living things around them, taking full advantage of the local environment.

Science bug provides an ambitious curriculum for all learners, including those with SEND. This research based scheme is designed to make learning last in the long term memory, allowing pupils to use their working memory to explore and ask questions.

Science Bug scheme is language rich, emphasising the importance of using scientific vocabulary. In addition to this, we use knowledge organisers to promote this scientific vocabulary, which is re-visited and reflected on frequently. Summative and formative assessments are used to inform teaching, allowing misconceptions to be addressed in a timely manner.

Implementation



In science lessons children develop an understanding of science through teaching using real-life examples. They are encouraged to use prior knowledge and skills to carry out an investigation or to apply to a situation.

Children are encouraged to think like a scientist, to become independent inquisitive learners who are prepared to “think outside the box” and challenge their own thoughts and beliefs. Collaborative learning enables children to work and discuss ideas together. Adaptions and expectations are adjusted based on the needs of the child. This ensures that the science curriculum is accessible to all learners. Children present their learning in a variety of ways and are encouraged to look back to initial ideas and recognise what they have learned. The scheme ensures that children are reflective learners. This ensures that the children, with the new knowledge that they have learned, are able to correct their own misconceptions and add detail to their findings.

“I used to think this....., now I think this.....”

Unit overviews and learning expectations set the scene for what children will have learnt by the end of a unit. The Science Bug Scheme follows the spiral curriculum model where previous skills and knowledge are regularly returned to and built upon. The aim is that the children will become critical and analytical thinkers who are able to make informed and balance judgements based on their previous knowledge. Children will be supported to recognise cross curricular links. Maths regularly intertwines with scientific evidence and results. Children will be prompted to make connections across the curriculum and from past science experiences.

Throughout the scheme children will work collaboratively to investigate new scientific concepts. They are encouraged to come up with solutions to answer scientific questions and reflect on the outcomes of experiments. The children will become independent and resourceful learners who can plan and explore lines of scientific enquiry.

Children will begin to think like scientist and understand how to gather and record evidence in order to prove a scientific theory.

Impact

<div> <div>Prepared for the next stage of their education</div> </div>	School Curriculum Impact:
	Pupils who take responsibility for their own actions and make a positive contribution to society.
	Knowledge of British and global society beyond their own through the curriculum.
	Able to use technology effectively and safely.
	Excellent behaviour and attendance.
	Healthy lifestyle choices- safe, healthy and fulfilling lives.
	All children to make good progress from their starting point.
	Pupils who enjoy learning and can independently explore and enquire.

Specialists and non-specialists understand how the intent, implementation and impact of science curriculum can be supported through Science Bug.



By using Science Bug we are able to ensure that children have had experience of all of the expectations outlined in the National Curriculum for science and they are able to meet the end of KS expectations.

Formative and summative assessment is at the heart of the Science Bug teaching and learning cycle:

- Unit overviews and learning expectations set the scene for what children will have learnt by the end of a unit.
- ‘Knowledge capture’ activities help you assess children’s knowledge at the start of a unit.
- Regular opportunities for children to reflect on their learning allows for formative assessment throughout, which allows teachers identify and address any misconceptions.
- End of unit summative written and practical activities to assess children’s progress and any gaps in knowledge.

At the end of each unit summative written and practical activities are used to assess children’s understanding. A short quiz is provided for the end of every unit and this data can then inform both pupils and teachers of which knowledge needs further reinforcement. Teachers can then interweave this in following units, either in science or in using a cross-curricular approach.