Bishop Bridgeman C.E. Primary School
Bolton & Farnworth C of E Primary Multi Academy Trust

We | Work | We | Play | We | Care | We | Pray

SCIENCE CURRICULUM POLICY

At Bishop Bridgeman, we give our children the very best. Through a supportive and purposeful curriculum aligned with National Curriculum objectives we strive to ensure that all our pupils are able to succeed and find their unique talents and strengths.

Our staff are committed to developing in each pupil a love of learning, whilst developing the skills and values to support their all-round development.

Bishop Bridgeman C of E Primary School is a special place where we work, we play, we care and we pray.

Intent

At Bishop Bridgeman Primary School, we provide a knowledge rich curriculum that gives pupils the knowledge and skills needed to take full advantage of opportunities, responsibilities and experiences in later life. Leaders at Bishop Bridgeman have the highest academic ambition for all children and the curriculum is designed to equip pupils with the knowledge and cultural capital needed to succeed.

Leaders have coherently planned and explicitly sequenced the curriculum. The science curriculum has clear end points that state the knowledge and skills that pupils will gain at each stage. When sequencing the curriculum leaders have taken into account prior learning and typical gaps so that pupils gain cumulatively sufficient knowledge and skills. The logical progression that has identified the most useful content in science enables pupils to know more, remember more and be able to do more. Within the planned intent for science, leaders have made explicit links to working scientifically in order to develop pupils' scientific skills and understanding of scientific practise. As a result, each pupil is provided with examples of what 'a good scientist' does at the beginning of and throughout every unit.

Leaders have taken into account findings of the Hart and Risley landmark study (1995) into vocabulary. Key vocabulary has been selected to support pupils develop their conceptual understanding and the work of Isabel Beck (Bringing Words to Life*) informed teachers when making this selection. For each science unit, 2-3 'tier 2' words have been chosen to develop pupils conceptual understanding alongside up to 6 'tier 3' words selected to support subject-specific learning.

Science learning enables children to develop their curiosity and sense of enquiry, extending their knowledge and understanding of the world around them. Through building up a body of key foundational knowledge and concepts, pupils will develop a sense of excitement and curiosity about natural phenomena.

At Bishop Bridgeman, we lay the foundation for a progressively deepening knowledge and understanding of scientific ideas that will be useful to them in later life. The embedding of scientific enquiry skills allows our children to use a variety of approaches to answer relevant scientific questions, bringing more meaning to the world in which they live.

We strive to inspire children by studying the achievements of notable scientists through British history, as identified on the long-term plans, and how they continue to influence the world around us.

Implementation

The science curriculum at Bishop Bridgeman is designed to embed core knowledge and concepts instilling scientific knowledge alongside the skills of scientific enquiry. Teachers have the expertise necessary to support pupils in learning the intended the curriculum and in addressing any gaps in their knowledge.

Teachers present information clearly and check pupils understanding effectively and systematically. The curriculum is designed to allow pupils to transfer key knowledge into long term memory by having regular opportunities to revisit learning.

The intent for science also clearly identifies opportunities for pupils to follow practical methods, processes and skills. Teachers ensure there are regular opportunities for pupils to work scientifically throughout all units of work. Leaders have invested in high quality resources to support pupils scientific enquiry.

Teachers use ongoing assessment to check understanding and inform teaching for example by marking in the moment and providing clear and direct feedback at the point of learning. An assessment system (Insight) is also used to analyse data for key groups and inform priorities for leaders.

Leaders have developed knowledge organisers to support pupils in learning the key knowledge as specified within the subject intent for science. Knowledge organisers ensure that the intended knowledge is presented to children in a clear and structured way to support long term memory. Teachers plan spaced retrieval tasks so that pupils regularly retrieve knowledge to ensure key concepts are embedded in their long-term memory and they are able to apply them fluently.

To ensure a broad and balanced curriculum, children will receive weekly, discreet Science lessons which will provide practical learning experiences and discussion as well as reading and writing to instil the importance of effective communication and expression of findings. To support pupils with their acquisition of knowledge reading is prioritised and cross curricular links are planned such as in maths, where children can in year 3 use their mathematical skills of measurement when accurately measuring shadows within the unit of light.

In order to inspire curiosity and critical thinking, we will develop children's scientific enquiry skills through practical activities involving; observing, measuring, describing, investigating, co-operating, making and testing hypotheses, experimenting, explaining, looking for pattern and relationship and the drawing of conclusions.

All children are made aware of Health and Safety issues when undertaking work in Science. They are encouraged to show respect for living things and the physical environment.

Impact

At Bishop Bridgeman, all children are given equal opportunities to achieve in science through a well-constructed curriculum. Good progress is made in line with the national curriculum objectives and children know more, remember more and are able to do more. This is reflected in their work that is

consistently of a high quality and in the outcomes of national tests and assessments. In 2019, by the end of key stage 2 pupils achieved in line with national averages for science.

Children leave Bishop Bridgeman with a positive attitude and enthusiasm for Science and are well prepared to continue their education. They will have acquired a solid understanding of the world around them and the skills required to become confident problem solvers and critical thinkers. They will be able to make firm connections between knowledge gained and their experiences in life which will inspire them to question and test new concepts.

*Beck, I. L., McKeown, M. G., & Kucan, L. (2002). *Bringing words to life: Robust vocabulary instruction*. New York: Guilford Press.

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