



Science Curriculum Policy

Intent

Science has always been celebrated at Baguley Hall Primary school. Through weekly lessons, organised science weeks and days, children have the opportunity to experiment and explore all aspects of science in the world around them. Pupils have developed a sense of excitement and curiosity about natural phenomena through enthralling workshops led by visitors. Additionally, we have made use of our edible playground in lessons, and further afield on outdoor trips in order to increase the science capital of all our children. This has been additional to a combination of carefully planned weekly lessons and hands on activities which have further enriched learning.

Topics are informed by the national curriculum and are sensitive to children's interests, as well as current events in the world today. The Science curriculum at Baguley Hall is carefully planned and structured to ensure that current learning is linked to previous learning and that the school's approaches are informed by current pedagogy. In line with the national curriculum 2014, the curriculum at Baguley Hall aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Implementation

Science is taught in flexible blocks throughout the year on a two-year cycle or one- year cycle depending on the form entry, this way we can ensure children achieve depth in their learning and coverage. Children are taught Science in key stages: KS1, LKS2 and UKS2. This ensures that all children receive a quality and focussed Science curriculum. Teachers identify the key knowledge and skills of each topic and consideration has been given to ensure progression across topics throughout each year group across the school. By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Cross curricular outcomes in Science are specifically planned for to allow children to develop the knowledge they have gathered by experiencing the 'skill'. There are strong links between the science curriculum and opportunities for extended, knowledge-based writing, enabling further contextual learning as well as links to our modern world. The local area is also fully utilised to achieve the desired outcomes, with extensive opportunities for learning outside the classroom embedded in practice. Planning is informed by and aligned with the national curriculum. Consideration is given to how greater depth will be taught, learnt and demonstrated within each lesson, as well as how learners will be supported in line with the school's commitment to inclusion. Outcomes of work are regularly monitored to ensure that they reflect a sound understanding of the key identified knowledge.

The Early Years Foundation Stage (EYFS) follows the 'Development Matters in the EYFS' guidance which aims for all children in reception to have reached a good level of development in Understanding of the World, which links to science and the world around the child. The EYFS curriculum is taught through the three characteristics of effective learning: playing and exploring, active learning and creating and thinking critically.

Impact

Outcomes in Science books, evidence a broad and balanced Science curriculum and demonstrate the children's acquisition of identified key knowledge. Children review learning objectives at the end of every lesson and are actively encouraged to identify their own target areas, with support from their teachers. Children also record what they have learned comparative to their starting points at the end of every topic through thought showers and KWL tables.

Emphasis is placed on analytical thinking and questioning which helps pupils gain a coherent knowledge and understanding of the United Kingdom and that of the wider world. Through this study, pupils learn to ask perceptive questions, analyse statistics, gather evidence and develop their Scientific knowledge and understanding by both learning and experiencing.

Teaching and Learning

The programmes of study are carefully mapped out through the topics covered in each year group. Pupils develop a secure understanding of each key block of knowledge and concepts in order to progress to the next stage. Insecure understanding is encouraged at the beginning of each unit before new learning is attempted, this eliminates any misconceptions whilst reinforcing and refreshing previous learning and essential vocabulary.

Pupils at Baguley Hall are encouraged to describe processes and key characteristics in common language; however,



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they are also introduced to technical terminology in each lesson which enables its use accurately and precisely, building up an extended specialist vocabulary. They also apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data.

'Working scientifically' specifies the understanding of the nature, processes and methods of science for each year group which is taught within each strand and is embedded within the content of biology, chemistry and physics, focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions. These types of scientific enquiry are observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources. Pupils seek answers to questions through collecting, analysing and presenting data.

Assessment

Assessment for learning is continuous throughout the planning, teaching and learning cycle. Key scientific knowledge is taught to enable and promote the development of children's science enquiry skills. Assessment is supported by use of the following strategies:

- Observing children at work, individually, in pairs, in a group and in class during whole class teaching.
- Using differentiated, open-ended questions that require children to explain and unpick their understanding.
- The use of Knowledge organisers or 'sticky knowledge' is used in every lesson, so that children can guide their own learning as well as understand key vocabulary for each topic that they study.
- Providing effective feedback, including interactive marking through green pen questions where appropriate, to engage children with their learning and to provide opportunities for self-assessment, consolidation, depth and target setting.
- Book moderation and monitoring of outcomes of work, to evaluate the range and balance of work and to ensure that tasks meet the needs of different learners, with the acquisition of the pre-identified key knowledge of each topic being evidenced through the outcomes.

Equal Opportunities and Inclusion

At Baguley Hall Primary school 'Putting children first,' is our motto and we are committed to providing a teaching environment which ensures all children are provided with the same learning opportunities regardless of social class, gender, culture, race, special educational need or disability. Teachers use a range of strategies to ensure inclusion and also to maintain a positive ethos where children demonstrate positive attitudes towards others. Peace Mala and RRS is reflected in all that we do, not just in learning but in the way that we act every day. Support for specific individuals is well considered and planned for, with consideration given to how greater depth and further challenge can be provided for and demonstrated by children who require further challenge. All pupils are entitled to access the science curriculum at a level appropriate to their needs.

To ensure inclusion, teachers use a range of strategies in line with the school's inclusion planning key. Independent tasks, as well as teaching, are also well-adapted to ensure full accessibility and reasonable adjustments are made when needed, as well as to provide appropriate challenge to different groups of learners. The school makes full use of additional adults who are deployed effectively to ensure that identified children are able to make progress in each curriculum area, according to their full potential. Teaching takes account of children's own interests to ensure topic relevance to all individual learners.

"Success comes from curiosity, concentration, perseverance and self-criticism." Albert Einstein

"Look up at the stars and not down at your feet. Try to make sense of what you see, and wonder about what makes the universe exist. Be curious." Stephen Hawking

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