



Radleys Primary School



Science Intent

At Radleys Primary School, we strive to provide a high-quality and engaging science education that develops children's understanding of the world through firm foundational knowledge of physics, chemistry and biology.

Through our teaching of science, we intend to:

- Deliver a dynamic curriculum that inspires and promotes curiosity of our children.
- Enable children to acquire key scientific knowledge through practical experiences.
- Ensure that our children are confident and inquisitive scientists, who are not afraid to ask questions.
- Develop independent and resilient learners.
- Increase children's knowledge and understanding of the changing world, through enquiry-based learning.
- Increase children's knowledge and understanding of the many scientific concepts including Plants, Animals (including humans), Living Things and Their Habitats, Seasonal Changes, Forces, Light, Sound, Earth and Space, States of Matter and Electricity.
- Develop the use of scientific vocabulary by encouraging discussion within lessons. Scientific language is to be taught and built upon as topics are revisited in different year groups and across key stages.
- Enable every child to reach their full learning potential by recognising and catering for their individual needs and learning styles.
- Instil in children a love for learning and for our children to see and experience the awe and wonder of the science around them, promoting a love of learning.
- Model effectively so that children develop the ability to ask and answer scientific questions, research effectively, observe closely, take accurate measurements, analyse and interpret their data, present their findings / results in different ways, draw conclusions and evaluate the effectiveness of their approaches.

Science Implementation

- The Science curriculum at Radleys Primary School is designed to provide children with learning opportunities that reflect the breadth and balance of contexts outlined in the National Curriculum, as well as well-planned repetition to ensure secure foundation of Working Scientifically skills.
- The National Curriculum programme of study document is used to ensure that all statutory objectives are taught in depth / revisited and that regular opportunities are created for children to apply their scientific knowledge and understanding to other areas of the curriculum.
- A child-led approach allows our children to make decisions and mistakes; learn from them; improve their skills of planning, measurement and conclusion.
- Our long-term plans are reviewed yearly and units of work are carefully mapped out, for all year groups, to enable purposeful links to be made to current topics, seasons and/or quality reading texts.
- Teachers, through use of their science knowledge organisers, carefully consider both the prior and future learning within each unit of work, for all children, and subsequently plan lessons to address any gaps in learning / common misconceptions or to further challenge thinking.
- Referring to the science knowledge organisers, teachers consider and plan in key questions and model scientific vocabulary within each lesson.
- To assist with high-quality planning and clear sequencing of lessons, teachers refer to a progression of skills document, which shows clear criteria for depth of understanding through differentiation.
- Medium and short-term planning shows how statutory objectives are differentiated to provide scaffold to support learning and challenge to add depth to learning to create an ambitious curriculum but also one that enables all children to access.



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- Opportunities for both verbal and written explanations are planned for within lessons, matching the needs of each individual's learning style. Floor books are used in science lessons to record and assess children's understanding of scientific concepts and key enquiry skills.
- Assessment of science knowledge and working scientifically skills is undertaken in many ways. Pre and post-assessment questions are used for each unit, observations are recorded when children work practically, key questions and discussions are regularly planned into lessons through the use of Explorify and end of topic tests are completed.
- Children in EYFS explore scientific concepts through active exploration and their everyday play-based learning. Children are taught key concepts and applications using a hands-on, practical approach. EYFS practitioners provide opportunities for children to apply their understanding to various situations.
- Our Radleys Science Ambassadors ensure that the voice of the children remains at the heart of our curriculum.
- Once a year, our whole school participates in a 'Science day'. A theme runs across the school, with children investigating a Science/STEM question. This enables children to immerse themselves in science and its vocabulary. They will learn about scientists, make real life links and work through the steps of a scientific investigation.

Science Impact

The curriculum design, provision and planning will lead to outstanding progress for all children, regardless of their starting points, over time.

Learning is progressive and builds on prior knowledge and understanding and supports children in producing outcomes of the highest quality. Teaching and learning is adapted to cater for the needs of all children; providing support for children with special educational needs and enrichment and challenge for more able children.

Through use and modelling of a wide and increasingly scientific vocabulary, children will be able to describe ideas, objects and phenomena.

'In the moment marking' ensures that any misconceptions are addressed within the lesson and that instant and purposeful feedback is given to move learning forwards.

Monitoring of science is an ongoing cycle, which is used productively to provide the best possible curriculum for our children.