

Science Curriculum Intent, Implementation, and Impact Statement

Intent

At Inkpen Primary School, our science curriculum is designed to inspire curiosity and excitement about the world around us. We believe that science is not only a body of knowledge but also a way of thinking. Through our science curriculum, we aim to nurture inquisitive minds and develop pupils' skills in scientific enquiry, enabling them to ask questions, investigate, and make informed decisions based on evidence.

We have high expectations for all pupils, ensuring they gain a strong foundation in key scientific concepts and the skills necessary to explore and understand the natural world. The KAPOW scheme underpins our science curriculum, providing a structured and coherent progression of knowledge and skills from EYFS to the end of Key Stage 2.

A key focus of our science curriculum is on **recall and retention** of knowledge. We recognise that building long-term memory is essential for deep understanding and future learning. By embedding regular opportunities for recall and revisiting prior knowledge, we ensure that pupils retain and build upon what they have learned.

Our intent is to:

- Develop **scientific knowledge and conceptual understanding** in the disciplines of biology, chemistry, and physics.
- Equip pupils with the **skills of scientific enquiry**, enabling them to explore the world through observation, experimentation, and questioning.
- Ensure that pupils can **recall key knowledge** over time and apply this knowledge to new and unfamiliar contexts.
- Foster an appreciation for the **importance of science in everyday life**, encouraging children to see the relevance of science in both their current and future lives.

Implementation

Our science curriculum is delivered through the KAPOW scheme, which provides a comprehensive, well-structured progression of learning. This ensures that children build on their knowledge and skills year-on-year, leading to deeper understanding and retention.

Key aspects of our implementation include:

- **Structured Learning Progression:** KAPOW provides a clear sequence of lessons, ensuring that scientific knowledge and skills are developed progressively. Each topic is carefully mapped to revisit key concepts, ensuring that prior learning is consolidated and retained.
- **Emphasis on Recall and Retention:** To enhance recall, we begin each science lesson with retrieval tasks such as quizzes, recap questions, or flashcards. These activities are designed to help pupils recall previous learning, making connections between past and current lessons. Regular low-stakes assessments further support the retention of key concepts.
- **Hands-On Enquiry-Based Learning:** Our curriculum emphasises practical, hands-on investigations where pupils apply scientific methods. Through these enquiries, children are encouraged to predict, observe, experiment, and draw conclusions. This approach allows pupils to see the real-world application of scientific knowledge while developing critical thinking and problem-solving skills.
- **Use of Knowledge Organisers:** Knowledge organisers are used at the beginning of each science unit to outline key facts, vocabulary, and concepts. These are revisited throughout the unit, supporting recall and helping pupils structure their knowledge. They also serve as a tool for home learning and review.
- **Cross-Curricular Links:** Science lessons are often linked with other subjects such as mathematics, literacy, and computing, allowing pupils to apply their knowledge in a variety of contexts and deepen their understanding.
- **Inclusive Practice:** Science is for everyone. Lessons are adapted to meet the needs of all learners, including pupils with SEND and those identified as higher attainers. We provide additional scaffolding, support, and enrichment activities to ensure that every child can access the curriculum and make progress.
- **CPD and Subject Knowledge Enhancement:** Staff engage in continuous professional development through training on the KAPOW scheme and science-specific CPD. This ensures that teachers are confident in delivering high-quality lessons and keeping up-to-date with best practices in science education.

Impact

The impact of our science curriculum at Inkpen Primary School is seen in the depth of pupils' scientific knowledge, their ability to recall and apply this knowledge, and their enthusiasm for the subject. The Kapow! scheme has contributed to a consistent and progressive learning experience across all year groups.

Key impacts include:

- **Improved Recall and Retention:** The focus on regular retrieval practice has resulted in pupils retaining key scientific concepts over time. Pupils can confidently recall and articulate their understanding of scientific knowledge and apply it to new situations.
- **Progression in Scientific Enquiry Skills:** Through the structured, enquiry-based approach of KAPOW, pupils have developed strong scientific enquiry skills. They can ask relevant questions, make predictions, carry out experiments, and evaluate their findings. This has led to improved critical thinking and problem-solving abilities.
- **Increased Engagement and Enjoyment:** The practical and hands-on nature of science lessons has fostered a high level of engagement and enthusiasm. Pupils enjoy their science learning, showing curiosity and excitement about the world around them.
- **Strong Outcomes:** Pupils demonstrate strong outcomes in science, meeting or exceeding national expectations by the end of Key Stage 2. This is reflected in both their ability to meet age-related expectations and their readiness for the next stage of learning.
- **Application of Knowledge Across Subjects:** The cross-curricular approach has enhanced pupils' ability to make connections between science and other areas of learning. This has deepened their understanding of how science relates to the wider world, including its applications in technology, engineering, and everyday life.
- **Confidence in Communication:** Pupils are able to confidently discuss scientific ideas and explain their reasoning using accurate vocabulary and concepts. This reflects their growing confidence in understanding and communicating their learning.

By implementing the KAPOW scheme, we have created a science curriculum that not only builds strong foundations of knowledge but also equips our pupils with the skills and curiosity to continue exploring science beyond the classroom.