



Intent, Implementation, and Impact statement for learning in Science

Intent

At Kettlefields Primary School, our intent for the Science curriculum is to inspire a passion for scientific inquiry and foster a deep understanding of the natural world among our pupils. We aim to cultivate enthusiastic and curious learners who can think critically and creatively, apply their knowledge to real-world problems, and engage with scientific principles innovatively. Our curriculum is designed to ensure that all pupils:

- **Develop a Secure Understanding of Scientific Concepts:** We cover the key domains of science—including biology, chemistry, and physics—through a carefully sequenced curriculum that builds knowledge progressively from Reception to Year 6.
- **Engage in Hands-On Learning Experiences:** We prioritise practical experiments and investigations that allow pupils to explore scientific concepts through first-hand experience, fostering a sense of wonder and stimulating inquiry.
- **Make Connections to Everyday Life:** We strive to link scientific learning to real-life contexts, encouraging pupils to see the relevance of science in their daily lives and community.

- **Encourage Collaboration and Communication:** By fostering a collaborative learning environment, pupils are encouraged to work together, share ideas, and communicate their findings, enhancing their understanding and teamwork skills.
- **Achieve Personalised Learning Opportunities:** We are committed to adapting our teaching to the needs of all pupils, ensuring that every child, regardless of their starting point, can access and enjoy the science curriculum.

Implementation

Our Science curriculum is implemented through a coherent framework that ensures consistency and depth across all year groups. Key elements include:

- **Structured Curriculum Design:** Our scheme of work is aligned with the National Curriculum, ensuring comprehensive coverage of scientific disciplines. Each unit is underpinned by key scientific concepts, questions, and vocabulary that are revisited consistently.
- **Innovative Teaching Strategies:** We employ a variety of teaching techniques, including direct instruction, inquiry-based learning, and real-world challenges. This variety caters to different learning styles and maintains high levels of engagement.
- **Use of Quality Resources:** Pupils have access to a variety of resources, including scientific equipment, digital tools, and age-appropriate literature that support their learning. Field trips and guest speakers from the scientific community further enrich their experiences.
- **Assessment for Learning:** Regular assessments are used to gauge understanding and inform teaching. Assessment in various forms are used at the end of each unit to evaluate progress and ensure pupils are meeting age-related expectations.
- **Professional Development for Staff:** Ongoing training and collaboration among staff ensure that teachers are equipped with subject knowledge and pedagogical skills to deliver an outstanding science curriculum. Continuous professional development is encouraged, fostering a culture of learning.

Impact

The impact of our Science curriculum at Kettlefields Primary School is measured through various means:

- **Pupil Progress and Outcomes:** Data collected through assessments indicates that pupils make significant progress in their scientific knowledge and skills, with a high percentage achieving or exceeding age-related expectations by the end of Key Stage 2.
- **Pupil Engagement and Attitudes:** Feedback from pupil surveys and observations shows that students demonstrate a strong enthusiasm for science. They express confidence in their abilities to engage in scientific discussions, ask questions, and conduct experiments.

- **Life Skills Development:** Pupils are encouraged to develop critical thinking, problem-solving, and collaborative skills that are not only essential in science but are transferable to other curriculum areas and their future lives.
- **Community and Parental Involvement:** We actively engage parents and the wider community in our science learning journey, including calendar events which enhance the support for pupil learning and showcase their achievements.
- **Quality of Teaching and Learning:** Regular monitoring of teaching practices indicates a high level of effectiveness in science lessons. Lesson observations and peer reviews reveal that teachers exhibit strong subject knowledge and employ effective strategies to inspire pupils.

Through our approach to the Science curriculum, we ensure that all pupils at Kettlefields Primary School are not only equipped with essential scientific knowledge but are also prepared to be informed and responsible citizens.