

## **SCIENCE RATIONALE**

### **OVERVIEW**

St. Peter's provides excellent provision for science, which develops and increases pupils' understanding and enjoyment of the subject across the school. We ensure that all pupils develop scientific knowledge, skills and understanding through the appropriate teaching of biology, chemistry and physics. Through effective teaching and learning we will help pupils develop an understanding of the nature, processes and methods of Science. Through our science curriculum, we encourage cross curricular lessons, where children develop those transferable skills. They will experience different types of research, investigation and experimentation which will help them answer scientific questions about the world around them. We ensure that high standards are achieved and that pupils make good progress at every stage.

### **INTENT**

1. We ensure all pupils from EYFS to Year 6 will enjoy learning about the different aspects of science and will develop their enthusiasm for the subject through, creative, exciting, practical, first-hand learning and opportunities to experiment, explore and investigate.
2. Pupils will receive excellent teaching and where appropriate teachers will use their scientific knowledge, skills and understanding and apply them across all subjects of the curriculum.
3. All teachers will ensure that the guidelines for Understanding the World in the Foundation Stage and Science in KS1 and KS2 are taught, thoroughly, systematically and progressively to all pupils.
4. Pupils will have the guidance and support to become scientists by developing their scientific enquiry, problem solving and reasoning skills so that they can apply their scientific thinking across the curriculum.
5. Pupils will be confident in their understanding and application of their basic skills in science and will build upon their prior learning at every stage.
6. Pupils will be encouraged to use their increasing knowledge, skills and understanding of science to investigate, ask questions and solve challenging problems.
7. Pupils will be able to use their skills in scientific methods and scientific enquiry as they explore the areas of science and address increasingly complex problems.
8. We will ensure that science is brought to life in a creative and real-life method so that children understand the importance of science in the world and in their everyday lives.
9. All pupils, particularly those with special needs or disability; those who are 'stuck' or those finding it hard, will be well supported.
10. Pupils will work with proper regard for their own safety and that of others, using safety equipment where necessary.

### **IMPLEMENTATION**

1. Pupils are taught science weekly in KS1 and KS2 and through Understanding the World in the EYFS. Teachers assess children's work through formative and summative judgements by asking questions, observing learners during lessons, observing pupils solving practical problems and listening to pupils' discussions.
2. Pupils work is marked regularly and frequently and pupils will be given appropriate, clear feedback which tells them how well they have done and what they need to do next to improve.
3. Pupils have the opportunity to correct their work and ask any questions that will aid their understanding.
4. Teachers use an appropriate range of teaching and learning strategies in all science lessons to capture pupils' interest and to promote effective learning and progress.
5. Teachers use the National Curriculum guidelines, supported by an appropriate range of teaching and learning resources, to develop the knowledge, skills and understanding of every child, ensuring that all pupils, including those with SEND, achieve high standards for their ability and make appropriate progress.
6. Pupils are encouraged to ask questions, solve problems, discover new information, apply and consolidate their knowledge, skills and understanding through first-hand experience, investigations and practical work.
7. Teachers make use of the immediate and wider environment to help pupils apply their scientific knowledge skills and understanding to see the relevance of science to their own lives. They will set challenging work, tasks and problems to increase children's knowledge, skills and understanding, to extend their thinking and build their self-confidence and enjoyment in the subject.
8. Assessment is based on the key learning, skills, knowledge and understanding as outlined in Development Matters and the National Curriculum programs of study for science.
9. The science leader supports the teaching and learning of science by; providing leadership and direction, monitoring progress and standards across the school, reviewing and revising the science policy, monitoring and supporting teachers in the teaching of science, keeping staff up to date on new developments in science, monitoring the effectiveness of the planning and development of science, auditing, monitoring the effective and appropriate use of resources and obtaining new resources. The science leader also makes staff and children aware of celebrations of science (i.e. World Space Week, British Science Week) and finds enjoyable ways to mark these occasions.

10. Through workshops, visits from professionals and other whole school resources (such as living eggs), pupils have the opportunity to develop their enthusiasm for and understanding of science.

## **IMPACT**

Effective teaching ensures that all pupils become confident scientists at the end of each topic. Pupils can solve problems by applying their knowledge, understanding and skills in science with increasing sophistication. Pupils are able to transfer the skills that they have learnt in other subjects, such as English, maths and geography, and apply them to their science work. Pupils will know how to work scientifically and know how to use scientific enquiry and investigation skills to learn more about the subject. They will know how and when they are building on prior knowledge in the subject, and they will be inspired to learn more.

The majority of pupils at St Peter's achieve the expected standard in science in each year group and some evidence a deeper understanding. Pupils develop a variety of knowledge and skills that prepare them for their next stage of learning including: researching, investigating, asking questions, problem solving and reasoning. They have a shared enthusiasm for the subject as evidenced in pupil-voice interviews, particularly the practical elements of the topic.