

## SCIENCE CURRICULUM POLICY

At St James Primary School we have aspirations for every single child to succeed. Through our Christian vision we thoroughly believe that all children have the potential to thrive regardless of their starting points, personal context and characteristics. Our children learn through a supportive and purposeful curriculum, linked tightly to national curriculum objectives, that demonstrates that "With God there is no limit to what you can do. There is no obstacle you can't overcome. Through Him all things are possible." (Matthew 19:26) Our staff are committed to developing a love of learning, whilst developing the skills and values to support the all-round development of every pupil. St James C of E Primary School is a special place where we dream, believe, learn and achieve.

Our curriculum is made up of planned activities that we as a school deliver in order to promote learning, personal growth and development. It includes not only the formal requirements of the National Curriculum, but an exciting range of opportunities to enrich the learning experience. We aim to teach our children to grow into confident, responsible role models, who can collaborate and co-operate with others whilst developing the knowledge, skills and understanding within subjects, as well as a positive attitude to use throughout their lives.

### Intent

We believe that Science enables children to develop their curiosity and sense of enquiry, questioning their understanding of the world around them and extending their knowledge. Through building up a body of key foundational knowledge and exploring scientific concepts, pupils will develop a sense of excitement and wonder about natural phenomena.

At St James, we lay the foundation for a progressively deepening knowledge and understanding of scientific ideas that will be useful to children in later life. The embedding of scientific enquiry skills allows our children to use a variety of approaches to answer relevant scientific questions, bringing more meaning to the world in which they live. To ensure progression for our children with SEND, we focus on specific 'Essential Knowledge' objective for each topic, so we can ensure that they develop knowledge and are able to achieve individually in an inclusive environment.

We strive to inspire children by studying the achievements of notable scientists through history and how they continue to influence the world around us. We also try to provide a range of enriching activities, where possible, such as science visitors and trips.

### Implementation

Science teaching at St James will reflect the philosophy of the National Curriculum, covering both scientific knowledge and scientific enquiry skills.

Work is planned to ensure progression of content and skills across each phase, appropriate to the children's ages and abilities. For each topic, teachers use intent documents, which include Statutory and Non-Statutory National Curriculum objectives, a sequence of lessons and have 'Essential Knowledge' identified, to ensure planning is progressive, inclusive and comprehensive. Teachers will use formal as well as on-going teacher assessment to adapt their planning where appropriate to meet the needs of all pupils.

Children are taught National Curriculum topics across phases due to the structure of classes at St James CEP:

- KS1 Cycle A: Plants, Animals including Humans, Everyday Materials, Seasonal Changes.
- KS1 Cycle B: Living Things and Their Habitats, Plants, Animals including Humans, Uses of Everyday Materials.
- LKS2 Cycle A: Plants, Animals including Humans, Rocks, Light, Forces and Magnets.
- LKS2 Cycle B: Animals including Humans, Living Things and Their Habitats, States of Matter, Sound, Electricity.
- UKS2 Cycle A: Animals including Humans, Evolution and Inheritance, Light, Electricity, Living Things and Their Habitats.
- UKS2 Cycle B: Living Things and Their Habitats, Animals including Humans, Properties and Changes of Materials, Earth and Space, Forces.

To ensure a broad and balanced curriculum, children will receive weekly, discreet Science lessons, which will include practical learning experiences. Lessons also allow children to use skills across the curriculum such as reading, writing and maths skills. We create cross-curricular links with other subjects to ensure lessons are purposeful and relevant to the world in which they live. Children will utilise discussion in their lessons to explore their own and other's thinking and clarify misconceptions. This also allows them to instill the importance of effective communication and expression of findings.

In order to inspire curiosity and critical thinking, we will develop children's scientific enquiry skills through practical activities including, observing changes over time, looking for naturally occurring patterns or relationships, identifying, classifying and grouping, researching using secondary sources, comparative and fair testing, investigating models, making things and developing systems.

All children are made aware of Health and Safety considerations when undertaking work in Science. All investigations are carefully planned by staff to ensure safety is paramount and that any risks are assessed beforehand. They are also encouraged to show respect for living things and the physical environment.

For each topic, children are provided with a 'Knowledge Organiser', these are one of the strategies use in school to improve long-term memory. They are used in class and at home to develop the retention of scientific knowledge and understanding and are regularly referred to throughout the year. Children are encouraged to revisit previous learning in other ways, such as quizzes and vocabulary games, to further embed their learning.

### **Impact**

Children at St James have a positive attitude and enthusiasm for Science. By the time they leave school, they will have acquired a solid understanding of the world around them and the skills required to become confident problem solvers and critical thinkers, appropriate to their abilities and needs. They will be able to make firm connections between knowledge gained in school and their experiences in life, which will inspire them to question and investigate new concepts.

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**Next Review Date:** September 2022