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Science Curriculum *Statement*

Intent

At St William of York, Science is at the heart of helping children understand the world around them. We want our pupils to develop a sense of wonder, awe, and curiosity about the natural world. Our Science curriculum aims to nurture young scientists who are inquisitive and curious with the knowledge and skills to understand scientific concepts. We encourage and celebrate the uniqueness of each child, recognising that every pupil can succeed in Science through carefully sequenced learning that builds on prior knowledge. We aim to inspire scientists of the future and empower our children to think critically about the world and their place within it.

Implementation

We follow the **White Rose Science** schemes of learning, which provide comprehensive coverage of the National Curriculum for Science at Key Stages 1 and 2. This curriculum ensures careful progression of both substantive knowledge (scientific facts and concepts) and disciplinary knowledge (working scientifically skills) across all year groups.

Curriculum Structure:

- Carefully sequenced lessons that build on prior knowledge from Reception through to Year 6
- Coverage of all National Curriculum programmes of study including: Animals including humans, Living things and their habitats, Plants, Materials, Electricity, Rocks, States of matter, Earth and space, Light, Sound, Forces and magnets, and Evolution and inheritance
- Knowledge organisers introduced at the beginning of each topic to outline key vocabulary, concepts, and prior learning

• Progressive development of working scientifically skills across eight key areas: asking questions, planning, making observations, taking measurements, gathering and recording data, presenting findings, answering questions and making conclusions, and evaluating (KS2)

• Clear vocabulary progression, with scientific terms introduced systematically and revisited throughout the schemes

Learning Through Discovery:

• Hands-on practical investigations that encourage pupils to explore, question, and discover scientific concepts

• Enquiry-based learning where children develop their understanding through observation, pattern-seeking, comparative and fair testing, and research

• Opportunities for children to ask their own questions and plan investigations to answer them

• Real-world contexts that help children see the relevance of Science in everyday life and future careers

• Use of high-quality scientific equipment including thermometers, data loggers, and other specialist tools to develop measurement skills

Partnership with the Ogden Trust:

• Access to high-quality professional development for staff through Ogden Trust training programmes

• Enhanced resources and materials that support practical, investigative Science

• Focus on inspiring young minds through scientific enquiry and questioning, particularly in physics

• Enrichment opportunities including science events, visiting speakers, and links with STEM professionals

• Support in developing a culture of curiosity and excitement about Science across the school

Teaching Approaches:

• Knowledge organisers used to introduce key concepts, vocabulary, and activate prior knowledge

• Explicit teaching of scientific vocabulary, with words modelled and used consistently by teachers and pupils

• Regular opportunities to work scientifically through planning investigations, making predictions, taking accurate measurements, and drawing conclusions

• Recording of findings using scientific diagrams, labels, tables, charts, and graphs with increasing complexity

• Cross-curricular links that connect Science to other subjects including Mathematics, Design Technology, and Geography

• Regular assessment for learning to identify and address misconceptions

Inclusion

Science is for everyone. In keeping with our mission to respect and rejoice in the uniqueness of each child, we ensure all pupils can access and excel in Science through:

• **Practical, hands-on learning:** Concrete experiences and manipulatives support all learners, particularly those with SEND, in understanding abstract concepts

• **Multi-sensory approaches:** Visual aids, practical demonstrations, and opportunities to touch, observe, and explore scientific phenomena

• **Scaffolded support:** Knowledge organisers, vocabulary support, writing frames, and model examples help all children access the curriculum at their level

• **Flexible grouping:** Opportunities for collaborative work, peer support, and independent investigation

• **Alternative recording methods:** Verbal explanations, photographs, diagrams, and digital recordings alongside written work

• **Challenge for all:** Open-ended investigations and deeper questioning stretch higher attainers while core concepts remain accessible to all

• **Adaptive questioning:** Carefully planned questions that allow all children to participate and demonstrate their scientific thinking

• **Celebration of different strengths:** Recognition that some children excel at practical skills, others at recording, and all have valuable contributions to make

Impact

The impact of our Science curriculum is evident in:

Knowledge and Understanding:

- Pupils demonstrate secure knowledge of scientific concepts appropriate to their age and stage
- Children can use scientific vocabulary accurately and confidently in their explanations
- Pupils make connections between different areas of Science and can apply their knowledge to new contexts
- Children build on prior learning effectively, showing clear progression from Year 1 through to Year 6

Working Scientifically Skills:

- Pupils ask thoughtful, relevant scientific questions and can identify how to answer them
- Children plan and carry out investigations with increasing independence, recognising when tests need to be fair
- Pupils make systematic observations and take accurate measurements using appropriate equipment
- Children record their findings using scientific methods including diagrams, tables, charts, and graphs
- Pupils draw conclusions based on evidence and can identify patterns in results
- Children evaluate their investigations and suggest improvements

Engagement and Attitudes:

- Pupils demonstrate curiosity, excitement, and enthusiasm for Science
- Children show wonder and awe at the natural world and scientific phenomena
- Pupils are confident to question, explore, and make mistakes as part of their scientific learning
- Children can discuss the work of famous scientists and understand Science as a career pathway
- Pupils demonstrate a sense of responsibility towards the environment and understand the impact of human actions on the natural world

• Learning in Science remains a happy and positive experience, with all children able to succeed and make progress