Policy:	Science

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Key changes/notes:
There are no changes from the previous version of this policy.

Statutory Requirement:	No
Proposed Renewal Cycle:	Two years
Proposed annual review authority:	Governing Body
Policy Section:	Governance

Let the children come to me and do not hinder them, for the kingdom of God belongs to such as these." (Luke 18:16) This policy is based upon our Christian values of thankfulness, respect, honesty, love and resilience.

INTENT

Our Science curriculum is designed with the intent that each child at St Mary's CE (VA) Primary School will become competent scientific thinkers and investigators, who will encounter awe and wonder through first-hand scientific investigative experiences and approaches, which activate learning for all children. With great emphasis on providing children with a high-quality science education that offers the foundations for understanding the world through the specific disciplines of Biology, Chemistry and Physics, our curriculum design for Science across the school promotes specific competences including knowledge, enquiry and the working scientifically based skills. Creative pathways to learning are planned for so that children can make links to prior learning and develop depth in key skills within Science that are rich, stimulating, challenging, and real life with the aim of enabling children to master learning with skills, knowledge and experiences that will remain with them for the rest of their lives. We should all champion primary science and our intent is to make sure that every child has a positive experience throughout their time with us.

Our Science curriculum is designed to allow each pupil to ….

Achieve the best possible standards and achievements, whatever their starting point.

Have high levels of engagement, enjoyment and personal development in Science.

Accesses a rich, broad and wondrous Science curriculum that allows high levels of personalisation that plays to their strengths and develops specialisms.

Connects and builds on prior knowledge leading to progression and depth.

IMPLEMENTATION

- The schools Medium term planning and coverage of key scientific skills will be used by teachers to plan, this will drive the journey of Science for every year group, building on from prior learning and develop progressively key skills and developing depth.

- Provide opportunities for children to develop the process skills associated with science education as well as develop a greater knowledge and understanding of life processes and living things, materials and their properties and physical processes as described in the National Curriculum for science.

- Promoting enjoyment and enthusiasm for learning through real, first –hand and rich science experiences so that all children explore, question, predict, plan, carry out and make observations and conclusions about their scientific tests.

- Allowing children to discuss and present their work using scientific language, observations, diagrams, jottings and charts

- To foster positive attitudes such as curiosity, perseverance, willingness to use and appraise evidence, willingness to tolerate uncertainty, critical reflection and enthusiasm.

- Developing an understanding of the importance of Science in everyday life.

In Key Stage 2, Science will be taught to all children by a specialist science teacher. In Key Stage 1, this lesson will be delivered by class teachers.

Each class in both Key Stage 1 and Key Stage 2 will provide children a weekly Science lesson, which will be 2 hours in duration. Good Science teaching builds progressively on pupils existing ideas. In order for effective delivery of science education, across weekly lessons there should develop opportunities for:

Finding out children's ideas using a variety of elicitation opportunities.

Analysing children's ideas.

Providing opportunities for testing ideas, thereby possibly changing them.

Providing opportunities for developing process skills so that testing is scientific.

Learning opportunities for all children will be matched to ability, this will be achieved through a range of adapted learning opportunities throughout all lessons, matched to the children's relative starting points, working interdependently to support each other through peer learning and challenging children with open-ended investigative

opportunities. We use classroom assistants to support children across all ability groups and to ensure that learning is matched to the needs of individuals. Cross curricular opportunities will be taken where possible.

CONTINUITY AND PROGRESSION

In Foundation Stage pupils will work from the Knowledge and Understanding of the world planning from the Early Years scheme of work. This planning aims to develop in pupils the crucial knowledge, skills and understanding that help them make sense of the world. It provides opportunities for pupils to carry out activities based on first hand experiences that encourage exploration, observation, problem solving, prediction, critical thinking, decision making and discussion. It provides the foundations for the science KS 1 and then the KS 2 curriculum.

The scheme of work for KS 1 and 2 continues building on concepts and process skills in a spiral way, ensuring that all knowledge and understanding programmes of study are covered at least once in Key Stage 1 and at least twice at Key Stage 2, and that all the process skills programmes of study are constantly being visited and developed as each science unit of work is taught.

THE CONTRIBUTION OF SCIENCE TO OTHER CURRICULUM AREAS

English

Science contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. Some of the texts that the children study in the English lesson are of a scientific nature. The children develop oral skills in science lessons through discussions (for example the environment) and through recounting their observations of scientific experiments. They develop their writing skills through writing reports and projects and by recording information.

Mathematics

Science contributes to the teaching of mathematics in a number of ways. The children use weights and measures and learn to use and apply number. Through working on investigations they learn to estimate and predict. They develop the skills of accurate observation and recording of events. They use numbers in many of their answers and conclusions.

Computing

Children use computing in Science lessons where appropriate. They use it to support their work in science by learning how to find, select, and analyse information on the Internet. Children use ICT to record, present and interpret data and to review, modify and evaluate their work and improve its presentation.

Personal, social and health education (PSHE) and British values

Science makes a significant contribution to the teaching of personal, social and health education. This is mainly in two areas. Firstly, the subject matter lends itself to raising matters of citizenship and social welfare. For example, children study the way

people recycle material and how environments are changed for better or worse. Secondly, children benefit from the nature of the subject in that it gives them opportunities to take part in debates and discussions. They organize campaigns on matters of concern to them, such as helping the poor or homeless.

Science promotes the concept of community or fellowship.

Spiritual, moral, social and cultural development

Science teaching offers children many opportunities to examine some of the fundamental questions in life, for example, the evolution of living things and how the world was created. Through many of the amazing processes that affect living things, children develop a sense of awe and wonder regarding the nature of our world. Science raises many social and moral questions. Through the teaching of science, children have the opportunity to discuss, for example, the effects of smoking and the moral questions involved in this issue. We give them the chance to reflect on the way people care for the planet and how science can contribute to the way we manage the earth's resources. Science teaches children about the reasons why people are different and, by developing the children's knowledge and understanding of physical and environmental factors, it promotes respect for other people.

ASSESSMENT

Assessment in inextricably linked to planning and all assessments in Science are used to inform future planning in order to impact on future teaching and learning. In Science, elicitation activities are carried out prior to, during and after teaching in a variety of ways to inform planning or how far ideas have progressed after a period of teaching. Formative assessment is continually on going in the form of marking pupils work and making notes on weekly planning in order to inform planning for the next lesson. These assessments are linked to the key learning objectives for the lesson.

In early years profiles are kept up to date with summative assessments of pupils achievements.

For each Keystage 1 and Keystage 2 unit of work teachers make a judgement of pupils attainment. For Keystage 2 this is based on before and after tests and pupil achievement in each lesson. These assessments also inform future teaching. A minimum of 1.5 hours per week will be spent on science at Key Stage 1 and a minimum of 2.5 hours at Key Stage 2.

St Mary's CE (VA) Primary School uses Sonar to record achievement, and ensure continuity of learning – for example, planning for pupils who are working at greater depth.

FEEDBACK

We acknowledge that feedback to pupils is one of the most important ways of ensuring how a child knows how to improve their work, and resolve misconceptions. Strong feedback allows a child to make accelerated progress, and achieve well. Feedback in Science is in line with our marking policy.

HEALTH AND SAFETY

When working with Science equipment and materials during practical activities teachers should ensure that children understand the hazards and learn how to control them, ensuring the safety of themselves and others.

MONITORING AND REVIEW

It is the responsibility of the Science subject leaders and Senior Management Team to monitor the standards of children's work and the quality of teaching in Science. The Science subject leaders are also responsible for supporting colleagues in the teaching of Science, for being informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school.