SCIENCE POLICY

St Mary's &
St Benedict's
RC Primary School

Together in God's family, we grow in faith, knowledge & love to reach our full potential, and to become the people that we are created to be.

Policy Agreed: **May 2023**
Review Date: **May 2025**

Our School Ethos

At St. Mary's and St. Benedict's we aim for our curriculum to inspire pupils to be life-long learners with a sense of service to the world that they live in and the people that live in it with them.

We believe our pupils will be life-long learners if they are able to be:

- ✓ confident,
- ✓ independent,
- ✓ curious,
- ✓ open-minded,
- ✓ enthusiastic,
- ✓ observant,
- ✓ co-operative and
- ✓ resilient individuals.

In order to develop these qualities within our pupils we intend for our curriculum to provide opportunities for children to:

- Be curious and ask questions
- Evaluate and reflect
- Work collaboratively
- Apply their learning
- Solve problems whilst developing resilience
- Communicate their learning
- Challenge ideas

Vision for science

At St. Mary's and St. Benedict's, we recognise the importance of science in every aspect of daily life and so we wish:

To increase our pupils' curiosity to gain a deeper understanding of our world.

To develop our pupils' skills associated with science as a process of enquiry.

To encourage our children to have respect for living organisms and their physical environment.

Science Intent

Our intent for science, in our primary school, is to provide a curriculum that is engaging, challenging, and inclusive for all children. We aim to foster a love of science in our pupils by providing them with opportunities to develop curiosity, ask questions, and explore the world around them through practical and hands-on experiences. We will ensure that our curriculum is well-sequenced and builds on prior knowledge, giving children the necessary skills to become confident and competent scientists.

Science Implementation

To ensure the high-quality implementation of our science curriculum, we will:

1. Plan and deliver lessons that are engaging, challenging, and accessible for all pupils. We will encourage children to ask questions, and we will provide time for them to investigate and explore scientific concepts through practical activities.

2. Provide opportunities for pupils to develop scientific skills, such as observing, predicting, measuring, and recording, using a range of equipment and resources. We will also encourage pupils to work collaboratively and communicate their findings effectively.

3. Ensure that our curriculum is well-sequenced and builds on prior knowledge. We will provide regular opportunities for pupils to revisit and consolidate their learning, and we will make sure that we cover the statutory requirements of the National Curriculum.

4. Provide training and support for staff to implement the science curriculum effectively. We will ensure that all staff have the necessary subject knowledge and skills to deliver quality science lessons.

Science Impact

Our science curriculum will have a positive impact on our pupils in several ways:

1. Pupils will develop curiosity and a love of science. They will take an active interest in the world around them and be motivated to learn more about scientific concepts.

2. Pupils' scientific skills will develop, and they will become more confident in applying these skills to explore, investigate and solve problems.

3. Pupils will have a good understanding of scientific concepts, and they will be able to apply this knowledge to make connections across different areas of science.

4. Pupils will make good progress in science, and they will be well-prepared for the next

stage of their education.

Overall, our science curriculum will contribute to the development of well-rounded, knowledgeable, confident and skilled learners who are well-prepared for their future lives as scientists and as citizens in our rapidly changing world.

Specific Nature of Science

The programmes of study describe a sequence of knowledge and concepts. While it is important that pupils make progress, it is also vitally important that they develop secure understanding of each key block of knowledge and concepts in order to progress to the next stage. Children's starting points are identified at the beginning of each science topic and the children are able to convey and record what they know already. At the end of the block, children's knowledge is checked in line with the key knowledge identified prior to the teaching block. Pupils should be able to describe associated processes and key characteristics in common language, but they should also be familiar with, and use, technical terminology accurately and precisely. They should build up an extended specialist vocabulary and teachers ensure that this is developed within each lesson and throughout each science topic. The science curriculum ensures that children are provided with regular opportunities to apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data.

The nature, processes and methods of science 'Working scientifically' specifies the understanding of the nature, processes and methods of science for each year group and this is embedded within lessons and focuses on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions. These types of scientific enquiry include: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources. Pupils are given opportunity to seek answers to questions through collecting, analysing and presenting data.

Sequencing within science

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 KS1 and then the KS2 curriculum.

In KS1 and KS2 the science curriculum is mapped to ensure alignment with the National Curriculum content and programme of study. Key knowledge relates directly and builds towards the achievement of end of phase (KS1, Lower KS2 and Upper KS2) 'end points', informed by the National Curriculum statements. Key skills are also mapped so that these are developed systematically and align directly to the specified working scientifically statements as outlined in the National Curriculum for each phase.

Key knowledge and skills, in line with the National Curriculum are mapped on the whole school 'Science Knowledge and Skills Progression Map' and this shows the key knowledge and skills of each unit and how they build through the school.

Assessment within science

As part of the introduction to each new science topic, teachers review what the children know already. This informs the programme of study so that it takes account of children's starting points.

Lessons are planned to ensure that key knowledge is developed over time, over the course of each science block and in a progressive sequence. Key knowledge is reviewed by the children and checked and consolidated by the teacher at the end of each unit of work, in the form of summative assessment.

Teachers provide children with effective formative feedback, both orally and written, in relation to the aim of the lesson. Where misconceptions arise, these are addressed by the teacher. Accurate spelling of scientific vocabulary is also identified in books.

Ongoing assessment also includes:

- Observing children at work, individually, in pairs, in a group, and in classes
- Questioning, talking and listening to children
- Considering work/materials/investigations produced by children together with discussion about this with them
- End of unit assessments

Inclusion within Science

Provision is made for children with a range of SEND that can be grouped into four broad categories of need, as detailed below:

1. Communication and Interaction

Children and young people in this category have speech, language and communication needs (SLCN) which make it difficult to communicate with others. This may be because they have difficulty saying what they want to, understanding what is being said to them or they do not understand or use social rules of communication.

Children and young people with ASD, including Asperger's Syndrome and Autism, who are likely to have particular difficulties with social interaction may belong to this category.

2. Cognition and learning

Support for learning difficulties may be required when children and young people learn at a slower pace than their peers, even with appropriate differentiation.

Specific learning difficulties (SpLD), affect one or more specific aspects of learning. This encompasses a range of conditions such as dyslexia, dyscalculia and dyspraxia.

3. Social, emotional and mental health difficulties

Children and young people may experience a wide range of social and emotional difficulties which manifest themselves in many ways. These may include becoming withdrawn or isolated, as well as displaying challenging, disruptive or disturbing behaviour.

Other children and young people may have disorders such as attention deficit disorder, attention deficit hyperactive disorder or attachment disorder.

4. Sensory and/or physical needs

Some children and young people require special educational provision because they have a disability which prevents or hinders them from making use of the educational facilities generally provided. These difficulties can be age related and may fluctuate over time.

As a school, St Mary's & St Benedict's RC Primary School is committed to ensuring that all children get access to the full curriculum and we will provide suitable amendments to provision to allow this to happen.

At the bottom of this webpage: https://www.smsb.lancs.sch.uk/send/ there is a comprehensive list of subjects and the SEND adaptations that are suggested for each area. Class staff are required to consider these documents to best meet the needs of pupils with identified needs.

English as an Additional Language (EAL)

At St Mary's & St Benedict's, we believe that:

• EAL children learn to speak, read and write in English through immersion in a broad, rich curriculum

• EAL learners make the best progress within a whole school context, where children are educated with their peers.

• Bilingualism is viewed as a positive and life-enriching asset.

We work with the EAL team at Lancashire County Council, when deemed appropriate, to access specialist teacher support for pupils. This additional input is co-ordinated between pupil's class teacher and the SLT lead for EAL provision.

Able, Gifted and Talented (AGT) pupils

At St Mary's & St Benedict's, we understand that all children require support and challenge in their learning in order to make progress and reach their potential. Subject leaders work with teachers to identify and support these children through our teaching and learning activities, our more able (MA) pupils are given a wide variety of challenges and experiences which develops their resilience, inspires them and deepens their understanding of the tasks.

They are encouraged to develop their abilities to ask questions, explain and reason, persevere, communicate their thoughts and take risks in their learning. We strive to provide creative means to increase their independence and curiosity, leading to an ever-increasing love of learning.