St. Mary's R.C. Primary School
Science Policy

Vision:

We believe that every child is a gift from God, therefore, we aim to provide an outstanding and happy Catholic education which develops the 'whole child' whilst enabling them to reach their full potential.

Mission statement:

We love God … so we follow the examples of Jesus

We love learning … so we always do our very best in everything

We love each other … so we treat each other as we want to be treated

St Mary's R.C. Primary School Science Policy

INTENT

The 2014 national curriculum for science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific skills required to understand the uses and implications of science, today and for the future. We understand that it is important for lessons to have a skills-based focus, and that the knowledge can be taught through this

We believe that Science includes the gaining of knowledge, concepts, skills and positive behaviours and attitudes. Throughout the year groups, the children will progress by obtaining and developing key knowledge and skills that have been identified in the National Curriculum. We ensure that the Working Scientifically skills and enquiry types are built into each lesson and assessed separately so the children can apply their knowledge of science, and build upon it, in each session. At St Mary's we encourage children to be inquisitive throughout their time at school by beginning to ask good scientific questions.

IMPLEMENTATION

- Teachers create a positive attitude to science in classrooms with photos, key ideas and vocabulary clearly on display on a working wall.
- Science will be taught and planned following the White Rose Hub Science scheme objectives and then using the ASE Plan documents or Twinkl resources to add to resources, by the class teacher in Science blocks.
- Children are encouraged to ask their own questions and this curiosity is celebrated within the classroom.
- Lessons will be well resourced, engaging and will build upon vocabulary and prior knowledge.
- Teachers use questioning in class to test conceptual knowledge and skills, and assess pupils regularly to identify those children with gaps in learning, so that all pupils keep up.
- Working Scientifically skills are embedded in lessons to ensure skills are being developed. Working Scientifically skills are assed both in the weekly lessons and using additional TAPs assessment tasks.

IMPACT

This approach results in engaging, quality Science lessons that the children enjoy. It provides children with the foundations and knowledge for understanding the world we live in

and how Science is all around us. This ensures that the children are motivated learners with sound scientific knowledge and understanding**.**

Teaching and Learning:

To provide adequate time for developing scientific knowledge, skills and understanding, each teacher will provide regular Science lessons. These may vary in length based on the objectives being explored. Teachers will base their planning on the programmes of study and the White Rose Scheme and then using additional ASE documents for their relevant year groups. Teachers will identify the most appropriate teaching strategy to suit the purpose of each particular learning situation. Science lessons will take place on a weekly basis rather than being 'blocked off.' Science lessons have no imposed formal structure but should typically contain the following elements: discussion of enquiry types; use of scientific vocabulary; whole class, group or individual learning; practical, investigative tasks.

Foundation Stage: Science is an integral part of topic learning and should be embedded throughout activities. At this stage, the 'understanding the world' area of learning commands at least one hour of structured time per week and is evident throughout other learning tasks. Cross-curricular links will also be made to other subjects so that pupils can develop and apply their scientific skills.

Key Stage 1: The main focus of science teaching in Key Stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests and finding things out using secondary sources of information. They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about Science should be done through the use of first-hand practical experiences, but there should also be some use of appropriate secondary sources, such as books, photographs and videos. Pupils should read and spell scientific vocabulary at a stage consistent with their current reading and spelling knowledge.

Lower Key Stage 2 – Years 3 and 4: The main focus of Science teaching in Lower Key Stage 2 is to enable pupils to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out. 'Working scientifically' must always be taught through and clearly related to the Science content in the programme of study. Pupils should read and

spell scientific vocabulary correctly and with confidence, using their growing reading and spelling knowledge.

Upper Key Stage 2 – Years 5-6: The main focus of Science teaching in Upper Key Stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At Upper Key Stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer Science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out fair tests and finding things out using a wide range of secondary sources of information. Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings. Pupils should read, spell and pronounce scientific vocabulary correctly. 'Working and thinking scientifically' must always be taught through and clearly related to substantive Science content in the programme of study.

Planning

It is the responsibility of the class teacher to undertake the Science planning for their class, or oversee it where a student may be taking the class. They will use the White Rose Hub Scheme to follow the objectives and use the resources and also use the ASE PLAN resources where needed as additional resources, front covers, enquiry progression and documents in the Science Subject Lead folder to assist planning.

- Long term plans (or yearly plans) are shown on the curriculum overview for each year group found in the subject lead folder, on the website, on the documents from White Rose Hub and ASE Plan documents.

Assessment

It is the responsibility of the class teacher to maintain an overview of each child's progress in Science.

Formative assessment (informal): Informal assessment can be done through pre-assessment tools, retrieval activities, observations of the children, marking their work and questioning children to identify what they have understood. Recordings of significant progress or events can also be evidenced in the lesson evaluation.

Summative assessment (formal): Children will complete the Science end of topic assessments from White Rose Hub to asses their knowledge on that topic. Children's levels are then recorded on INSIGHT Tracker at the end of each half term to track individual progress in relation to specific National Curriculum 2014 objectives. Class teachers should track, monitor and update children's progress on a regular basis using TAPs assessments for assessing WS and throughout the sessions through the use of self and teacher response feedback. Individual progress is reported back to parents through parents' evenings and in the end of year written report..

Marking

Refer to the Whole School Marking Policy.

Health and Safety

The safe use of equipment and consideration of others is promoted at all times. The school's "Health and Safety Policy" should be consulted for details regarding scissors, craft tools, electrical equipment, wet areas, heavy equipment and use of other tools. When planning activities, safety issues should be identified in detail in the weekly plans and acted upon accordingly. Children should be made aware of safety issues and, where appropriate, the reasons behind them. Activities which take place away from the school's premises will require a separate risk assessment form to be filled in.

Monitoring and Evaluation Role of Science coordinator:

- To be enthusiastic about Science and demonstrate good practises.
- To work alongside colleagues in planning where needed (progress and activities).
- To work alongside teachers in the classroom (this will depend on release time and other available help), monitoring the planning and delivery of lessons.
- To coordinate and arrange staff in-service training as required.
- To audit resources, identify needs and order equipment in school after consultation with colleagues.
- To "sample" the work of children across the age range (curriculum monitoring).
- To review and evaluate the effectiveness of teaching and learning of Science, including opportunities for children to develop their spiritual, moral, social and cultural well-being.
- To suggest appropriate assessment activities where needed.
- To provide support to those colleagues who request/require it, including help with planning and organisation.
- To raise the profile of Science and help build cultural capital through use of community/parents etc.

Date: January 2025