Madron Daniel C of E SCHOOL

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Science Policy

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Date agreed:	**29.03.22**
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Science Policy

1. Rationale

- This policy offers a whole school statement of intent through its aims for Science.
- It sets out an agreed approach to Science in the curriculum, guiding practice, offering a clear framework for teaching and a "toolkit" for future decision making.
- It clarifies our school's intended outcomes for its Science provision.
- It informs and reflects practice by outlining the content covered and methodology used to enable learning in Science.

At Madron Daniel C of E Primary School, we believe that Science is an essential core subject in the National Curriculum that encourages and develops a child's natural curiosity about the world around them. This helps to fulfil our school mission statement which is to educate children for "life in its fullness". Science lessons provide the children with a safe and effective environment in which they can pose scientific questions and test their theories about the world. Children begin to appreciate the way Science will affect their future on a personal, national and global level. We aim to increase the children's knowledge and understanding of the world around them, develop key skills associated with the process of enquiry and develop transferable life-long learning skills. We aim to do this by:

- Developing the children's enjoyment and interest in science and an appreciation of its contribution to all aspects of everyday life.
- Building on the children's curiosity and sense of awe of the natural world.
- Planning a range of investigations and practical activities to give the children a greater understanding of the concepts and knowledge of science.
- Introducing the children to the language and vocabulary of science.
- Developing basic practical skills and their ability to make accurate and appropriate measurements.
- Extending the learning environment for our children via our environmental areas and the locality.
- Promoting a 'healthy lifestyle'.

Intent

At Madron Daniel C of E Primary it is our intention that Science should develop a child's understanding of nature and processes, whilst acquiring specific skills and knowledge enabling them to think scientifically and encouraging a curiosity about the world around them.

Our whole school vision of "together we can make a difference" is at the heart of our Science provision. At Madron Daniel we value the world around us and believe we should provide the children with the skills to nurture and make our world a better place. Appropriate links are made to the wider world, providing context to learning, where the children can consider how they can make a difference to the environment and our unique location by the sea.
Every lesson is taught building on prior knowledge and skills. Each topic within the curriculum then further develops: knowledge, subject specific vocabulary and enquiry skills. Providing opportunities and challenge for every learner is essential in Science, promoting ambition for all and allowing for all children to achieve their potential. Within lessons teachers look for opportunities to broaden enquiry skills to provide the children with new learning experiences, so that they can develop a sense of curiosity, encouraging them to ask questions and to become independent learners in exploring possible answers for their scientific based questions. Curiosity and excitement are essential in Science, this is achieved through carefully planned enquiries, the use of equipment and questions. The children develop a range of scientific vocabulary to help them to effectively communicate their ideas, questions and findings.
We take full advantage of our extensive outdoor space at Madron in delivering science.

2. **Objectives**

The following objectives derived from the above aims form the basis of our decisions when planning a scheme of work:

- To develop a knowledge and appreciation of the contribution made by famous scientists to our knowledge of the world, including scientists from different cultures.
- To encourage children to relate their scientific studies to applications and effects within the real world.
- To develop a knowledge of the science within the programmes of study of the National Curriculum, using appropriate subject specific vocabulary.

- To develop a general sense of enquiry which encourages the children to question and make suggestions, enabling the children to plan, carry out and evaluate simple scientific investigations.
- To encourage the children to predict the likely outcome of their investigations and practical activities through a range of specific investigations and practical work which gives them a worth-while experience to develop their understanding of science.

3. Responsibilities

Specific responsibilities	Who – role?
Leading the Science provision and curriculum	SG (collaborating with EJK @ St Mary's)
Assessing and coordinating training and support for staff	HT
Policy development and review	SG (collaborating with EJK @ St Mary's)
Establishing and maintaining links with parents/carers	All staff

4. Implementation

Where possible, Science is linked to other subjects and topics in the curriculum in order to make the learning meaningful. However, at times there is a need to teach Science in distinct and separate lessons. Teachers use their own flexibility to adapt their teaching to the needs of each cohort and where possible it is planned to be child led. Children are able to ask questions at the start of a topic using the subject specific vocabulary, so that the teacher can assess prior knowledge. Science is coherently planned, linked and sequenced to progressively build children's understanding of scientific concepts. Investigations are carried out at least once per half term where children use their scientific knowledge and understanding to explain their findings. Children explore, discuss, test and develop ideas. Planning for all Science lessons is done using the 2014 National Curriculum, where teachers plan to cover the enquiry types to broaden the skills of the children. This ensures that knowledge, vocabulary, skills and understanding is developed throughout the year (short-term) and across the Key Stage (long-term).

5. Impact

Monitoring takes place collaboratively as a whole staff in designated staff meetings at least twice a year. A sample of books are brought to the meeting to ensure continuity and progression across the school. Monitoring of lessons takes place as part of the whole school monitoring programme. Annual pupil conferencing with the children by subject leader ensures that our Science provision is evaluated and effective throughout the school.

Throughout the school, teachers will assess whether children are working at or below the expected level for their age, based on their understanding and application of the content of the National Curriculum 2014, inputting this data into an Excel tracker. At the end of the year, this data is then collected on our whole school tracking system: INSIGHT. Judgements of attainment are informed through the use of mini quizzes, concept cartoons and concept maps to assess the knowledge skills of the children, throughout the topic. To inform judgements against the working scientifically statements TAPs is used, once during each topic.

Progress and attainment is reported to parents through parents' evenings and end of year reports.

6. Equal Opportunities and Special Needs

Ethnicity, religion and cultural diversity:

Our policy values the different backgrounds of all children in school and, in acknowledging and exploring different views and beliefs, seeks to promote respect and understanding. We encourage respect for all religions and cultures. We do not ask children to represent the views of a particular religious or cultural group to their peers, unless they choose to do so.

Special educational needs and learning difficulties:

The study of science will be planned to give a suitable range of differentiated activities appropriate to their age and abilities. Tasks will be set which challenge all children, including the more able. For children with SEN the task will be adjusted or children may be given extra support. The grouping of children for practical activities will take account of their strengths and weaknesses and ensure that all take an active part in the task and gain in confidence.

Sexual identity and sexual orientation:

We have a clear duty under the Equality Act 2010 to ensure that our teaching is accessible to all children, including those who are lesbian, gay, bisexual and transgender (LGBT).

7. Safeguarding and Child Protection

Any safeguarding issues will be reports to the DSL or DDSL as appropriate.

8. Health and Safety including risk assessments and on line safety

Children are taught to use scientific equipment safely when using it during practical activities. Class Teachers and Teaching Assistants will check equipment regularly and report any damage to the subject lead, taking defective equipment out of action. We accept that we must all plan safe activities for science. When unsure, we can refer to the A.S.E. publication 'Be Safe' kept centrally by the coordinator. If an activity is to be conducted where there is an element of risk, then 'risk assessments' are completed. Children are taught that safety is a priority and they are encouraged to take this into account when planning and carrying out activities.

10. Parental involvement

We are committed to working with our parents to ensure good communication about the areas of Science that we are teaching. Teachers inform parents of the upcoming Science topics, half termly in KS1 and termly in KS2. Topic leaflets include a brief overview of the objectives taught in the topic. Parents evening provides an opportunity for parents to see the learning in the books, which takes place twice a year. The school website and class Facebook pages are also used to show the parents photos of Science lessons, throughout the school year.

11. Governor involvement

Governors evaluate the Science provision through whole school monitoring and pupil conferencing. This policy will be reviewed in 2024.

12. Glossary and extras

Other Related Policies

We recognise that there are clear links between Science and the following policies and staff should refer to these when appropriate:

Sex and Relationship Education
Drug Education
On line-Safety Policies
Child Protection
Equal Opportunities
Inclusion
Behaviour
Health and Safety.
Special Educational Needs
Marking and presentation

Appendix A: Overview of the Science topics taught in each year group.

Appendix B: See attached Key Stage 1 and Key Stage 2 plans for content per year group and supporting documents for teachers.