

Policy for		 
<b>Science</b>		
Date of Policy:	Spring 2018	Committee: Curriculum and standards
Next Review:	Spring 2020	

## **Together we Achieve, Together we Believe, Together we Care**

**Achieve:** Together we will be the very best that we can be.

**Believe:** Together we will live, share, experience and celebrate our Catholic faith.

**Care:** Together we will be a safe, caring community where we value ourselves, respect and care for others and all of God's creation.

### **1 Introduction**

- 1.1 This policy outlines the purpose, nature and management of the Science curriculum in our school. It is in line with the National Curriculum (2014) and Science provision is an integral part of the School Improvement Plan (SIP).
- 1.2 The policy has been developed by the staff as a whole and all teachers, where it is applicable, as part of the statutory requirement of the government.
- 1.3 The Catholic values we uphold at St Modwen's School should influence the attitude of the staff when teaching Science.

**St Modwen's is a Catholic School and seeks to develop the unique nature of all the members of its community by upholding the Gospel values of love, tolerance, respect, understanding and forgiveness.**

**As a community, the school recognises the equality of all people in the sight of God and each should be treated with the respect and dignity such worth dictates.**

**Safeguarding: All staff plan their learning for pupils in this subject by adhering to the guidelines laid out in 'Keeping Children Safe in Education 2016'. All staff are trained and told to adhere to the 'Guidance for Safer Working Practice for the Protection of Children and Staff in Education Settings October 2015'**

**This Policy covers all offline and online activity by the same principles and is used in conjunction with our related policies for Equal Opportunities, Disability Access Arrangements, SEN and Inclusion, Racial Equality and Harassment, Catholic Life (including Prevent strategies and SMSC) and the schools' Positive Behaviour Policy/Code of Conduct.**

### **2 Rationale**

- 2.1 A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics.
- 2.2 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 year. Insecure, superficial understanding will not allow genuine progression: pupils may struggle at key points of transition, build up misconceptions and/or have significant difficulties in understanding higher-order content.

- 2.3 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. Pupils should build up an extended specialist vocabulary. They should also apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data.
- 2.4 Working scientifically specifies the understanding of the nature, processes and methods of science for each year group. It should not be taught as a separate strand. Working scientifically should be embedded within the content of biology, chemistry and physics, focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions.
- 2.5 The National Curriculum for Science reflects the importance of spoken language in pupils' development across the whole curriculum – cognitively, socially and linguistically. The quality and variety of language that pupils hear and speak are key factors in developing their scientific vocabulary and articulating scientific concepts clearly and precisely.

### **3 Aims**

- 3.1 The aims of the National Curriculum for Science 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 knowledge required to understand the uses and implications of science, today and for the future.
- 3.2 The aims of the Science policy within our school are to:
  - Deliver high quality, interesting and engaging Science lessons.
  - Use scientific concepts to develop and consolidate cross curricular skills in English, Maths and Computing.
  - Develop and extend children's scientific concept of their world and encouraging them to ask deeper questions about the world around them.
  - Enable children to become effective communicators of science ideas, facts and data whilst becoming experts at analysing the data they collect.
  - Ensure that all pupils are appropriately challenged to make at least good progress in Science.
  - Deliver clear and accurate teacher explanations and skilful questioning.

- Develop skills of investigation; observation, measuring, predicting, hypothesising, experimenting, communicating and interpreting.

#### **4 Entitlement**

- 4.1 The teaching of Science in this school is available for all pupils in ways appropriate to their abilities irrespective of race, gender and disability in order for each to achieve his or own full potential.
- 4.2 S.E.N. provision will be made where necessary to enable individual pupils to progress and demonstrate achievement. Such material should be presented in contexts suitable to the pupil's age. The responsibility for this provision lies with individual class teachers.
- 4.3 Teachers will employ Assessment for Learning (AfL) to challenge all pupils, including those with SEND, using questions and language powerfully. Lessons have clear learning objectives; we differentiate work appropriately, and we use assessment to inform the next stage of learning.

#### **5 Implementation**

- 5.1 The aims of Science within St Modwen's School and the requirements of the National Curriculum are met through the implementation of the themes of work outlined in each year group's overview in the Focus Learning Challenge Curriculum. These can be found in the Staff Shared area.
- 5.2 At St Modwen's we employ a variety of teaching styles to cater for the variety of learning styles of children. Our principle aim of each lesson is to develop children's knowledge, skills and understanding in Science. We aim to develop mastery within each year group's expectations.
- 5.3 Delivery throughout the whole school is in line with the recommendations outlined in the National Curriculum and Early Years Foundation Stage documentation.
- 5.4 Monitoring of pupil understanding will be based upon the content laid out in the National Curriculum. Children will be assessed at the end of each topic and assessments will be teacher based rather than test based.
- 5.5 The monitoring and evaluation of this policy will be the responsibility of the Science co-ordinator who is responsible to the Head teacher and the Governors for the development of the subject throughout the school. This can be achieved in a variety of ways:
- Involvement in long and medium term planning across the school in this subject;
  - Work with colleagues to provide support as appropriate;
  - Regular monitoring of resources;

- Reviewing of assessment outcomes to evaluate the quality of learning;
  - Checking that within a Key Stage there is coverage of the full Science curriculum in planning;
  - Ensuring that the time spent in teaching and learning matches national expectations.
- 5.6 This document will be subject to review every two years. The SCO is responsible for the review and will then present ideas to the whole staff. The Governing Body will be fully involved in the process.
- 5.7 Science should be taught, in some context, for at least two hours per week, using a balance of pupil-led and teacher-led activities.
- 5.8 Lessons are planned using the following documents:
- Focus Learning Challenge Curriculum
  - Year group overview
  - Year group milestones (What does 'Secure' look like documentation)
- 5.9 Every lesson will be planned onto the termly planning document which can be found on the staff shared area. Working scientifically links must be made clear on the lesson plan. Scientific vocabulary will be identified and referred to throughout the lesson. Lesson plans will be uploaded to the Staff Shared area for monitoring.
- 5.10 Staff must use the Focus Learning Challenge Curriculum to plan from and enhance where necessary.
- 5.11 Every Science lesson is differentiated.
- 5.12 Science is taught across the curriculum, with skills being developed in Mathematics, Computing and DT.
- 5.13 Where ever possible, staff should look at planning school trips that complement the science topics that they're covering once a year.
- 5.14 A range of resources will be used as often as possible, including books related to the topic being taught.

## **6 Resources**

- 6.1 Children will have opportunities to use any of the resources housed in the Science trays in the KS1 and KS2 concourse that may aid or enhance learning.
- 6.2 St Modwen's will continue to update and replace resources as appropriate, endeavouring to provide a range of stimulating and interesting equipment, which is accessible by all pupils.

- 6.3 Opportunities for children to engage in outside learning and making use of the outdoor environment when appropriate – specifically in EYFS.

## **7 Health and Safety**

- 7.1 It is the duty of all staff to take reasonable care for the health and safety of themselves and others who may be affected by their errors or omissions.
- 7.2 Class teachers take responsibility to plan safe activities in Science. Safety issues are identified for all activities which form part of the science scheme of work and staff will ensure that these are followed.
- 7.3 All staff should refer to the relevant risk assessment stored in the appropriate file in the medical room before any science activity is undertaken. Where there is any doubt about an activity, this will be referred to the science co-ordinator who will make a risk assessment, seeking further guidance if necessary.
- 7.4 Any risks associated with lessons must be highlighted in planning and appropriate precautions taken.
- 7.5 Attention is drawn of those teachers who may have a child with Hearing or Visual Impairment to the provision that needs to be made.

## **8 Assessment**

- 8.1 Assessment is an integral part of the development of skills and attitudes for life-long learning.
- 8.2 The class teacher will assess and monitor children's progress in line with school practices. Staff will email the assessment map after each topic.
- 8.3 The SCO will monitor this data on a half termly basis .
- 8.4 Teachers provide high quality feedback to pupils (verbal and written) which clearly identifies how they can improve. All marking must be clearly linked to the WALT and WILF and follow the school's marking scheme. Teachers must also circle any errors in work, such as spelling of key scientific vocabulary. Children must respond to pink written tasks on a regular basis.
- 8.5 Staff can create their own summative assessments, and should refer to the 'What a secure child looks like' documentation to reaffirm their judgements.
- 8.6 Parents will be informed annually in a written report about the progress their child has made in Science and the ways in which they have responded to investigation work.

## **9 Roles and Responsibilities**

### **9.1 The Head Teacher**

- Setting a budget;
- Monitoring development;
- Discussing specific targets with the Science Co-ordinator;
- Delegating responsibility;
- Overall responsibility to give children their entitlement;
- Overall responsibility to deliver the National Curriculum.

### **9.2 The Science Co-ordinator**

- Managing the budget and resources;
- Reviewing and developing the school policy;
- Identifying needs in order to put policy into practice;
- Monitoring and assessing;
- Identification and provision of INSET;
- Liaison with external agencies;
- Informing and supporting staff;
- Carry out planning trawls and provide staff feedback;
- Conduct Pupil Interviews, assessing children's knowledge, understanding and enjoyment of Science.

### **9.3 Class Teacher**

- Putting the policy into practice;
- Developing children's abilities to work as Scientists by providing information to work with;
- Encourage children to use, manage and respect resources;
- Ensuring progression in scientific skills, knowledge and understanding;
- Differentiating the Science curriculum for the children in the class;
- Sharing with other teachers;
- Ensuring that each child gets his or her own entitlement;
- Monitoring progress;
- Reporting to parents;
- Planning for assessment and health and safety;
- Planning in opportunities for children to be able to take ownership of their investigations – pupil led learning;
- Maintaining a thinking and creative Science Area in the classroom;
- Completing summative assessment using totals document;
- Marking work and implementing active feedback.

### **9.4 The Pupil**

- Engaging in differentiated tasks appropriate to their individual needs;

- Responding appropriately to feedback offered;
- Development of independent learning strategies which draw upon previous experiences and learning outcomes;
- Using and expressing opinions using appropriate scientific vocabulary.
- Taking responsibility for completing homework.

#### **9.5 The Home Environment**

- Encouraging and supporting the completion of homework (where applicable).
- Supporting the school in extracurricular science activities, including school trips and clubs.

#### **10 Storing and Managing Information**

- 10.1 All planning documents are kept electronically on the shared area, protected by a username and password.