



## Scoil Chéile Chríost Rathmore NS

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Registered Charity Number: 20124151

Principal: Ms. Lucy Travers

Deputy Principal: Ms. Caitríona Lancaster

## Science Policy

### **Introductory Statement:**

This policy was formulated following a consultative process which took place over a period of months in 2005. The Principal and teachers were involved in drafting this policy. The policy was reviewed in September 2012 and again in October 2015 as part of Croke Park time. In 2024, this policy was reviewed by staff and ratified by the Board of Management.

This Science policy is based on the 1999 primary curriculum. However, teachers are now being introduced to the *Primary Curriculum Framework for Primary and Special Schools*. This Framework supports high-quality learning, teaching, and assessment which places the children at the centre of the learning process. As development of this new curriculum unfolds, new curriculum specifications will be developed for the five curriculum areas. We, the teachers of Rathmore N.S, will endeavour to engage with changes as they occur, in order to best meet the needs of our students.

### **Rationale:**

This policy was devised:

- To provide clear guidelines for teachers
- To ensure consistency throughout the school
- To conform with legislation

### **Vision and Aims:**

We seek to assist the children in our school in achieving their potential

### **Aims of Science Education:**

- To develop knowledge and understanding of scientific and technological concepts through the exploration of human, natural and physical aspects of the environment

- To develop a scientific approach to problem-solving which emphasises understanding and constructive thinking
- To encourage the child to explore, develop and apply scientific ideas and concepts through designing and making activities
- To foster the child's natural curiosity, so encouraging independent enquiry and creative action
- To help the child to appreciate the contribution of science and technology to the social, economic, cultural and other dimensions of society
- To cultivate an appreciation and respect for the diversity of living and non-living things, their interdependence and interactions
- To encourage the child to behave responsibly, to protect, improve and cherish the environment and to become involved in the identification, discussion, resolution and avoidance of environmental problems and so promote sustainable development
- To enable the child to communicate ideas, present work and report findings using a variety of media.
- To continue our participation in the Green School Programme and retain our flags. We are currently working towards our 7<sup>th</sup> Green Flag—Global Citizenship, Marine Environment.

## **Content of Plan**

### **Curriculum:**

#### **1. Science Programme: Junior - Second Class**

Skills Development

##### **Working scientifically**

- Questioning
- Observing
- Predicting
- Investigating and experimenting
- Estimating and measuring
- Analysing - Sorting and classifying
- Recording and communicating

##### **Designing and making**

- Exploring
- Planning
- Making
- Evaluating

The science skills above will be developed as work is completed on the strands and strand units of the curriculum outlined below.

Strands

Strand units

##### **Living things**

- Myself
- Plants and animals

##### **Energy and forces**

- Light
- Sound

**Materials**

- Heat
- Magnetism and electricity
- Forces
- Properties and characteristics of materials
- Materials and change
- Caring for my locality

**Environmental awareness and care****2. Science Programme: Third - Sixth Class**

## Skills Development

**Working scientifically**

- Questioning
- Observing
- Predicting
- Investigating and experimenting
- Estimating and measuring
- Analysing

*Sorting and classifying**Recognising patterns**Interpreting***Designing and making**

- Recording and communicating
- Exploring
- Planning
- Making
- Evaluating

The science skills above will be developed as work is completed on the strands and strand units of the curriculum outlined below.

## Strands

## Strand units

**Living things**

- Human life
- Plants and animals

**Energy and forces**

- Light
- Sound
- Heat
- Magnetism and electricity
- Forces

**Materials**

- Properties and characteristics of materials
- Materials and change

**Environmental awareness and care**

- Environmental awareness and care
- Science and the environment
- Caring for the environment

**Children's Ideas:**

Children's ideas are often an appropriate starting point for scientific activity.

Some strategies for eliciting such information may include:

- ∅ Play scenarios
- ∅ Talk and discussion
- ∅ Questioning
- ∅ Listening
- ∅ Problem solving tasks
- ∅ Annotated drawings
- ∅ Teacher designed tasks and tests
- ∅ Concept mapping
- ∅ Brainstorming

It is both understandable and desirable that children's ideas would be modified accordingly following scientific investigation and activity.

**Practical Investigations:**

It is our intention to encourage practical investigation.

Investigations should allow for differentiation to meet the needs of all the children in the school.

All investigations should be fair tests and we intend that children should be aware of the importance of conducting a fair test. It is envisaged that a combination of open and closed investigations be used to enhance learning opportunities.

**Being a Digital Learner**

One of the key competencies of the *Primary Curriculum Framework for Primary and Special Schools* is *'Being a digital learner.'* This competency supports children to become curious, creative, confident, and critical users of digital technology. Students in Rathmore N.S. are already engaging in STEM activities so students' competency in this area will be explored through:

- Communicating and collaborating with others through digital technology
- Accessing, analysing and managing content using digital technology
- Enabling content creation, problem solving and creativity using digital technology
- Interacting ethically, critically, and responsibly with digital technology

**The School Garden & Outdoor Learning.**

The school garden is a wonderful resource which can be utilized by teachers throughout the year. Each class shall plant and watch the progress of their own plot. They will also have opportunities to plant seeds in the tunnel. The

woodland, bug hotel, pond and bee and butterfly patch are just some of the habitats and eco systems which can be studied.

Nature/biodiversity experts offer wonderful advice, suggestions and class appropriate activities on a monthly basis in the InTouch magazine, all of which are available on the Blackrock Education Centre website. From time to time, local nature experts visit the school, to help guide the children and teachers in their exploration of our wonderful school garden.

Since the COVID-19 pandemic, teachers in Rathmore N.S. have identified the merits of outdoor learning and how it can add much value to classroom learning. The many benefits attributed to learning outside the classroom include:

- It improves academic achievement
- It provides a bridge to higher order learning
- It makes learning more engaging and relevant
- It nurtures creativity
- It reduces behaviour problems and improves attendance
- It stimulates, inspires and improves motivation
- It improves young people's attitudes to learning.

Throughout the school year, teachers use a choice board to engage in classroom activities in the school garden, incorporating a range of curricular subjects.

### **Science Initiatives**

The whole school will continue to engage in STEM initiatives such as SFI Curious Minds, ESB Science Blast, Intel Mini Scientist competition and Incredible Edibles, to name a few.

### **Classroom Management:**

A combination of strategies may be used within the classroom. These may include:

- Whole group work
- Small groups
- Pairs
- Or individually

However we intend to give children opportunities to work co-operatively and collaboratively as much as possible.

Findings and models/ projects may be displayed.

### **Key Methodologies:**

Our methodologies will reflect both a teacher directed approach and an investigative approach.



supported and consideration is given to meeting their individual needs in the most appropriate manner.

**Equality of Participation and Access:**

We view the Science programme as playing a key role in ensuring equality of opportunity for all children. The programme at each class level will be flexible so that the learning requirements of all children may be addressed. We provide an equal educational experience for both boys and girls as we recognise that stereotyped expectations of gender roles can inhibit children's educational achievements. Children with special needs will be included in all activities.

**Organisation:**

**Timetable:**

It is envisaged that there would be a dedicated time for Science in teacher's weekly timetable. We are also aware that some pupils are withdrawn from the classroom at certain times during the day. We shall endeavour to accommodate these children. We would intend that they would not miss Science activities on a regular basis. Our timetables will reflect this. The time allocated to Science is in accordance with DES guidelines.

**Science Equipment:**

See attached inventory of Science equipment

**Safety:**

As per school Health & Safety Policy

**Individual Teachers' Planning and Reporting:**

Teachers will base their yearly and short-term plans on the approaches/content set out in the whole school plan for Science. The teaching staff will recognise that it is important that teachers should liaise on an ongoing basis, but particularly at the end of the school year to plan for the year ahead.

Teachers at each class level have already met to outline the curriculum strands and strand units so that each child shall achieve the optimum learning experience, given the Spiral nature of the curriculum.

The Green Schools coordinators and Green Schools' Student Committee oversee the implementation of the Green Schools programme within the school. The Green Schools' Student Committee is comprised of two representatives from each class. This student voice provides a strong connection between teachers and students as they are responsible for communicating the necessary messages, on a regular basis.

**Staff Development:**

Teachers will be made aware of any opportunities for further professional development through participation in courses available in education centres

or other venues. Details of courses will be emailed to teachers or posted on the staff Aladdin noticeboard.

**Parental Involvement:**

Parents with special relevant knowledge may be invited into school to speak to children and/or to assist in the implementation of the Science Programme. A group of volunteer parents help to maintain the school garden on a regular basis. These parents liaise with teachers so that they can assist with the upkeep of their class plot throughout the year.

**Community Links:**

Local specialists may be invited in to share their knowledge with the class e.g. heritage in school, SEAI Energy workshops, GOAL Workshops.

**Success Criteria**

The success of this plan will be measured using the following criteria;

- Implementation of the Science curriculum will be evident in the teacher work
- Continuity of content and methodology will be evident in teachers' preparation
- Ongoing assessment will show that pupils are acquiring concepts through and an ability to engage with others in a manner appropriate to their age and personality

**Implementation**

**Roles and Responsibilities:**

- Class teachers are responsible for the implementation of the science programme in their own class.
- Assistant Principal 1 (Aoife Malone) is responsible for updating policies and disseminating the latest version to staff. In addition, the AP1 will lead whole school improvement in relation to the teaching of Science using teachers' 'Monthly Reports' to ensure quality teaching, continuity for pupils and curriculum completion. The post holder is also responsible for organising the annual Science Week in school.
- Science equipment is located in presses in the lobby.

**Review:**

When the *Primary Curriculum Framework for Primary and Special Schools* is rolled out, this policy will be reviewed.

**Ratification and Communication:**

This policy was ratified by the Board of Management on 20/3/24

Signed: \_\_\_\_\_  
Chairperson, Board of Management