

# *Scoil Ghormáin Naofa*

Castletown, Gorey, Co. Wexford.

Chairperson BOM:  
Fr. David Brough

School Principal:  
Emer Russell

## **Science Policy**

### **Introductory Statement:**

This policy was formulated following a consultative process. The Principal and teachers were involved in drafting this policy.

***Scoil Ghormáin Naofa is the proud holder of SFI Science and Maths Plaque award in the academic years 2018/2019 & 2021/2022.***

***We take our responsibility to our planet seriously and so this policy is closely linked with our Biodiversity plan as a subset of Science.***

### **Rationale:**

This policy was devised:

- To provide clear guidelines for teachers
- To insure 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:**

The aims of science education are;

- 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

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- 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

## Content of Plan

### Curriculum:

#### 1. Science Programme: Junior – Second Class

Skills Development	
<b>Working scientifically</b>	<ul style="list-style-type: none"><li>• Questioning</li><li>• Observing</li><li>• Predicting</li><li>• Investigating and experimenting</li><li>• Estimating and measuring</li><li>• Analysing - Sorting and classifying</li><li>• Recording and communicating</li></ul>
<b>Designing and making</b>	<ul style="list-style-type: none"><li>• Exploring</li><li>• Planning</li><li>• Making</li><li>• Evaluating</li></ul>
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
<b>Living things</b>	<ul style="list-style-type: none"><li>• Myself</li><li>• Plants and animals</li></ul>
<b>Energy and forces</b>	<ul style="list-style-type: none"><li>• Light</li><li>• Sound</li><li>• Heat</li></ul>

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	<ul style="list-style-type: none"><li>• Magnetism and electricity</li><li>• Forces</li></ul>
<b>Materials</b>	<ul style="list-style-type: none"><li>• Properties and characteristics of materials</li><li>• Materials and change</li></ul>
<b>Environmental awareness and care</b>	<ul style="list-style-type: none"><li>• Caring for my locality</li></ul>

## 2. Science Programme: Third – Sixth Class

<b>Skills Development</b>	
<b>Working scientifically</b>	<ul style="list-style-type: none"><li>• Questioning</li><li>• Observing</li><li>• Predicting</li><li>• Investigating and experimenting</li><li>• Estimating and measuring</li><li>• Analysing</li><li>• <i>Sorting and classifying</i></li><li>• <i>Recognising patterns</i></li><li>• <i>Interpreting</i></li><li>• Recording and communicating</li></ul>
<b>Designing and making</b>	<ul style="list-style-type: none"><li>• Exploring</li><li>• Planning</li><li>• Making</li><li>• Evaluating</li></ul>

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

<b>Strands</b>	<b>Strand units</b>
<b>Living things</b>	<ul style="list-style-type: none"><li>• Human life</li><li>• Plants and animals</li></ul>
<b>Energy and forces</b>	<ul style="list-style-type: none"><li>• Light</li><li>• Sound</li><li>• Heat</li><li>• Magnetism and electricity</li><li>• Forces</li></ul>

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<b>Materials</b>	<ul style="list-style-type: none"><li>• Properties and characteristics of materials</li><li>• Materials and change</li></ul>
<b>Environmental awareness and care</b>	<ul style="list-style-type: none"><li>• Environmental awareness and care</li><li>• Science and the environment</li><li>• Caring for the environment</li></ul>

## **Children's Ideas:**

Work on each topic will draw on experience and knowledge of the class as appropriate.

## **Practical Investigations:**

These will be used as appropriate at each class level.

## **Classroom Management:**

Teachers will organise the class as appropriate.

## **Key Methodologies:**

We adapt and modify activities so that they meet the needs of all children in the class;

- Using the environment
- Active learning
- Guided and discovery learning
- Free exploration of materials
- Spiral nature of the curriculum – opportunities to return to earlier learning and to extend and enhance it
- Learning through language

## **Linkage and Integration:**

Opportunity for the use of an integrated approach exists in all levels in the Science Curriculum within the school. The strands and units of the science curriculum are not discrete – work on a topic or investigation may incorporate strands from other curriculum areas. Teachers will make provision for this linkage in their short-term planning.

## **Assessment – Looking at Children's Work:**

Children's progress in Science is assessed through;

- Teacher observation
- Teacher designed tasks and tests
- Portfolios and projects

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## **Children with Different Needs:**

This Science Programme aims to meet the needs of all the children in the school. This will be achieved by teachers varying the pace, content and methodologies to insure learning for all pupils. This will be recorded in the teacher's yearly notes. The requirements of children with special needs will be taken into account when planning class lessons and related activities. The SNA supports particular children and groups as directed by the class teacher. Children who experience bereavement and loss, serious illness or other major personal loss, serious illness or other major personal situations are 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:**

As per curriculum guidelines;

S.E.S.E.      3 hours/ 1<sup>st</sup> – 6<sup>th</sup> Class  
                  2 hours 15 minutes/ Junior – Senior Infants\*

\*Science may be integrated with Aistear throughout the year.

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## **Resources and Equipment**

***Our PA supports the implementation of this subject and regularly funds resources and experiences such as Nutty Science visits and a visit from the Planetarium.***

### **Science Equipment;**

#### **Living Things: Myself/Human Life**

- Mirrors – plastic (A4x10 & smallx10)
- Skeletons x2
- Stethoscopes x2

#### **Living Things: Animals and plants**

- Hand lenses/Magnifying Glasses x8
- Nature viewers x5
- Microscopes x3
- Slides
- Pooters x3

#### **Energy and Forces: Magnetism and Electricity**

- Magnets – bar (set), 3x small circle magnets, 1x horseshoe magnet
- 25x Screw in light bulb holders
- Bulbs and batteries
- Switches
- Crocodile clips
- Wires
- 2x wire strippers
- 13x single battery holders
- 5x double battery holders
- Electricity Junior Set
- 4x Electric buzzers

#### **Energy and Forces: Light**

- Curved mirrors x10
- Regular mirrors plastic (A4x10 & smallx10)
- Triangular prism
- Torch x1

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## **Energy and Forces: Heat**

- Thermometers x10
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## **Energy and Forces: Sound**

## **Energy and Forces: Forces**

- Inclined Plane set
- Pulleys
- Marbles
- Hanging weighing scales
- Balloons
- Balloon pumps x2
- Funnel x1
- Food colouring
- Stoppers x2

## **Other**

- Droppers
- Jars
- Glass flask
- Litmus paper
- Spray bottles x3
- Petri dishes
- String
- Periscope template x24
- Magnetic planets set

## **Books:**

- Living Science – Conduct your own experiments
- Essentials for Science
- Spiders in our houses (poster also)
- Science verse
- **Also** – Internet/Library/Children/Parents are used as valuable resources

## **Safety:**

At all times, teachers will be mindful of safety when carrying out experiments or exploring on a field trip.

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## **Individual Teachers' Planning and Reporting:**

Teachers will base their yearly and short-term plans on the approaches set out in the whole school plan for Science.

## **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.

## **Parental Involvement:**

Parents with special relevant knowledge (e.g. Doctors/dentists, nurses, engineers etc.) may be invited into school to speak to children.

## **Community Links:**

Local specialists may be invited in to share their knowledge with the class e.g. heritage in school.

## **Whole School Approach**

- At Scoil Ghormáin Naofa, we will renew our Discovery Primary Science every three years.
- There will be a school science fair on a yearly basis.
- There will be investment in STEM materials to support the implementation of the Science curriculum.
- Teachers are encouraged to invite experts in to share knowledge with their class.
- The use of IT is promoted within STEM. Coding experts have and will be invited to work with children on iPads.
- After school clubs such as Lego Club are made available with scholarships for those who may have financial difficulty.
- This Science Policy links in with the School Digital Learning framework.
- STEM festivals such as Maths Week, Science Week and Engineering Week will be marked over the school year in various ways and to varying degrees.
- The Principal will set a whole school challenge on a yearly basis in line with Engineering Week – children will be encouraged to design a 3d working object in line with the theme that year.
- The local natural environment will be explored in line with Green School initiatives. Clone Beach and Croghan wind farm (renewable energy) will be visited over the year.



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## **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.

### **Timeframe:**

The content of this policy will be reviewed at the end of the school year 2023 and every two years thereafter.

### **Ratification and Communication:**

The Science Policy was drawn up by the teaching staff of Scoil Ghormáin Naofa in the 2019/2020 academic year and was reviewed in 2023. It was ratified by the Board of Management on \_\_\_\_\_. Parents can inspect the policy via the school website or the school office.