



BSRAC Science Policy

Réamhrá agus Reasúnaíocht

Introductory Statement

The Science policy for Bunscoil Rinn an Chabhlaigh was formulated and updated over the school year 2022/23. This policy has now been fully updated to reflect the current teaching and learning in the school. It is a working document so will be adjusted if necessary. The main responsibility for this plan lies with Jess Falvey, Acting Assistant Principal II for Science. Much collaboration took place with the Assistant Principals with responsibility for Geography and History in order to reinforce the importance of integration between the three SESE subjects of History, Geography and Science.

Rationale

1. To enhance teaching and learning in our school by creating a core curriculum in Science for each class level.
2. To provide a coherent approach to the teaching of Science across the whole school.

Fís agus Aidhmeanna

Vision

A Science programme that aims to help children to work scientifically, involves the development of a broad range of skills of enquiry, the cultivation of important attitudes and the acquisition of scientific knowledge and concepts about the biological and physical aspects of the world.

Aims

We endorse the aims of the primary school curriculum for Science. The aims of Science education in Bunscoil Rinn an Chabhlaigh are

1. to develop knowledge and understanding of scientific and technological concepts through the exploration of human, natural and physical aspects of the environment
2. to develop a scientific approach to problem-solving which emphasises understanding and constructive thinking
3. to encourage the child to explore, develop and apply scientific ideas and concepts through designing and making activities
4. to foster the child's natural curiosity, so encouraging independent enquiry and creative action
5. to help the child to appreciate the contribution of science and technology to the social, economic, cultural and other dimensions of society
6. to cultivate an appreciation of, and respect for, the diversity of living and non-living things, their interdependence and interactions

7. 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
8. to enable the child to communicate ideas, present work and report findings using a variety of media

This Science Plan will be addressed under the following headings

Curriculum planning

1. Strand and strand units
2. Approaches and methodologies
3. Children with different needs
4. Linkage and integration
5. Assessment and record keeping
6. Equality of participation and access

Organisational planning

1. Timetable
2. Resources
3. Health and safety
4. Individual teachers' planning and reporting
5. Staff development
6. Parental involvement
7. Community links

Pleanáil Churaclaim

Strands and strand units

Strands	Strand units
Living Things	<ul style="list-style-type: none"> • Myself • Plants and Animals
Energy and Forces	<ul style="list-style-type: none"> • Light • Sound • Heat • Magnetism and Electricity • Forces
Materials	<ul style="list-style-type: none"> • Properties and characteristics of materials • Materials and change
Environmental Awareness and Care	<ul style="list-style-type: none"> • Caring for my locality • Environmental awareness and care (RIII on) • Science and the Environment (RIII on)

1. Teachers will familiarise themselves with the strands and strand units relevant to their class level and ensure that there is continuity throughout the school by referring to this plan.
2. The core curriculum follows this plan.
3. Teachers will naturally be aware of integration throughout the subject areas and linkage across the subject and use these to provide comprehensive access to the

curriculum, in particular STEAM (Science, Technology, Engineering, Art and Maths).

4. Teachers will link Science with the school garden and the Green Schools.
5. Teachers will create an environment where children's ideas can be used where relevant, at all times ensuring a balance between knowledge, skills and attitudes.
6. Experiments/Practical investigations are to be undertaken in all classes on a regular basis and are to be tied in to the topics of the core curriculum
7. Children will have the opportunity to work in different groupings, on their own and use will also be made of the teacher directed approach
8. We have a lot of science resources in the school which are monitored by Jess Falvey and these are constantly being updated.

Approaches and methodologies

The methodologies used are as outlined in the curriculum

1. Using the environment
2. Active learning
3. Guided and discovery learning
4. Free exploration of materials
5. Spiral nature of the curriculum – opportunities to return to earlier learning and to extend and enhance it
6. Learning through language

Children with SEN

1. Teachers will adapt and modify all Science activities to suits the needs of individual children in their class.
2. If SNA are attached to pupils in a class they will oversee safety of pupils/individuals and help to keep groups on task.

Linkage and integration

1. The Green Schools Programme is also based on care of the environment and therefore links directly into the Science Policy.
2. The school garden is home to many plants and animals. Through this and care of the environment the school garden plays an important role in the Science Policy.
3. Teachers will constantly use Integration and Linkage to provide learning and teaching opportunities which help cement these links in the minds of the pupils. In the Science Curriculum
 - a. There is linkage between the strands and particularly the Strand Units in the Science Plan
 - b. All SESE subjects are based on the environment of the locality firstly and therefore readily present opportunities for linkage and integration
 - c. Science, of its nature, is also closely associated with Maths, Technology, Engineering and Art.
4. Language
 - a. The school creates opportunities for pupils to discuss and talk about science and to develop the ability to use descriptive language
 - b. We enable children to develop a vocabulary for describing and discussing scientific objects and ideas

- c. Science fact of the month which allows children to discuss ideas at home and at school.

Assessment and record keeping

1. Children will record their work in a variety of different ways, e.g. displays, portfolios, oral presentation, drawings, photographs, written records, video, concept maps.
2. Knowledge, skills and attitudes will be assessed through teacher observation and Teacher designed tests. All test results to be recorded and to be passed on with the class.
3. Science will be referred to in the school report.
4. A STEAM section on the school website allows us to publish and record some of the children's work.

Equality of participation and access

1. All children from Junior Infants to RVI will partake in all four strands of the curriculum and their Strand Units.
2. Work will be differentiated for children where required.
3. Children who require assistance due to physical difficulties or for reasons of dyspraxia will be assisted by an SNA, if one is provided, or be assisted by other children in a group when performing scientific explorations, if deemed necessary.

Pleanáil Eagraíochtúla

Timetable

1. Time is allocated at each level for Science, as part of the SESE allocation, according to the 1999 primary curriculum.
2. Timetables will be adjusted in order to accommodate field trips or to accomplish particular projects eg Space Week, Science Week, Engineers Week, Technology Week.

Resources

1. Science equipment is the responsibility of J Falvey, Acting Assistant Principal II for Science. Ms Falvey organises the storage of all equipment.
2. The equipment is available from the Science room.
3. A sign in/out sheet is in place to keep track of all equipment and resources.

ICT

1. Teachers are encouraged to use ICT as a tool for teaching Science. The Discover Primary Science and Maths website is a wonderful source of experiments for all levels.
2. The use of iPads is promoted to record experiments and document what the children are learning. These can also be used for programming, making movies about different Science topics etc.
3. As part of our SSE process our digital technology aim is tied into SESE topics – this is to be included in the plans at each class level.
4. The school website can be used as a platform to showcase the work of the students.

Health and Safety

1. Mari Moynihan has safely stored away all equipment and materials for the implementation of the Science curriculum.
2. Only teachers are allowed access to this storage area.
3. Teachers regularly teach about the need for safe procedures and routines when dealing with scientific equipment.

Individual Teacher planning and reporting

1. The Curriculum Documents for Science and this policy will provide guidance for teachers when planning for Science lessons.
2. Teachers will plan for Science in their classes in conjunction with teachers of the same standards to ensure that all children across a class group cover the same topics every year.
3. The Cúntais Míosúil ensures accountability for the teaching of Science across the whole school and it ensures the teaching aims and objectives set out in the Science plan are met each month, where conditions make it possible. It also enables individual teachers to review teaching points in Science when and where necessary.

Staff Development

1. Teachers are encouraged by the BOM to take part in CPD. Information about CPD courses is made available on Aladdin
2. Whole school CPD delivered by The Science Foundation Ireland for the school year 2018/2019.
3. A number of books are available in the Staff Library in relation to the implementation of the Science programme.
4. Information and resources for Space Week, Science Week, Engineers week and Technology Week are made known to staff.

Parental Involvement

1. Parents are asked to facilitate the scientific enquiries of their children through involvement with homework activities.
2. Parents are involved with our Green Schools Committee and assist in making children aware of their environment and its improvement.
3. Parent's expertise in different areas is used to facilitate the learning for the children. Parents are also called upon to carry out talks in relation to different topics.
4. Parents are surveyed in relation to Science in the school in order to help us improve our teaching and learning.
5. Parents are encouraged to look on the school website and app to follow the work carried out in the school in relation to STEAM and in particular, Science.
6. The Parent's Council and other parents have been involved in the acquisition of funds to develop our equipment in the school.

Community Links

1. Pupils from the school visit Fota every year.
2. Scientific exhibitions are booked by the BOM to visit the school.
3. The local community assists our Green Schools Committee to care for and improve the environment.
4. Local Council provide flowers for the school garden.

5. Speakers from different local businesses and organisations come in to deliver talks for some topics.
6. Funding from local businesses.

Use of the Local Environment

1. The school garden is used as a place for the children to plant and grow flowers, identify changes in the environment throughout the year, look at mini beasts and much more.
2. The school garden and grounds, the convent garden and Whitepoint are used at habitats for the children to investigate.
3. Industry in the harbour is used as the children investigate topics such as renewable energy and pollution.
4. The infrastructure in the area allows children to investigate topics such as light and sound.

Critéir chun a bheith Rathúil

We will know that the policy has been implemented if:

1. Teachers' preparation is based on this policy.
2. Procedures outlined in this policy are consistently followed

Means of assessing the outcomes of the plan include

1. Teacher/parent feedback
2. Children's feedback
3. Inspectors' suggestions/reports
4. Feedback from parents
5. Cúntais Míósúil

Cur i bhFeidhm

1. Roles and Responsibilities
The plan will be supported, developed and implemented by the whole school team, under the leadership of the Principal, and Jess Falvey who is the Acting Assistant Principal II with responsibility for Science.
2. Timeframe
This plan is to be implemented from 2022

Athbheithniú

1. It will be necessary to review this plan on a regular basis to ensure optimum implementation of the history curriculum. Those involved in the review will be
 - a. Teachers
 - b. Pupils
 - c. Parents
 - d. Management Team
 - e. BOM/DES/Others.

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2. This plan will be communicated and available to staff through the school Intranet

<u>Action Plan 2022/23</u>		
Key areas identified for development this term:	<p><u>NAME:</u> Jess Falvey</p> <ul style="list-style-type: none"> • Curricular initiative: Developing key scientific vocabulary to link with OL: Focus on one Scientific skill/word for each term to work on developing students' vocabulary for describing and discussing scientific ideas. New skill card will be delivered to classes each half term to be displayed and referenced. • Register school for SFI Curious Minds Award and begin plan for year • Whole school activities for Space Week (week beginning 4th Oct) and Science Week (week beginning 13th Oct). Packs will be delivered to class teachers with ideas and appropriate activities/lessons to do in their own time that link with content grid where possible. • Liaise with Parents Council on school garden development. • Liaise with EJ from Cuskinny Court for advice on planting in Autumn for Spring/Summer. • Contact local pharmaceutical companies re partnership (branded lab coats for Pair/Share, stem equipment) or visits for demos • Arrange for purchase of set of Beebots using grant money from Mercke to be used for Junior classes station teaching • Science Week- organise stations in hall for classes to visit (run by 5th class) 	<p>JF will distribute focus skill to be displayed in classes: term 1 Questioning- e.g. I wonder if/why/how..? How can I find out.....?</p> <p>JF will register BSRAC before end of Sept</p> <p>JF-Space Week pack provided week beginning October 3rd and Science Week packs week beginning 14th Nov</p> <p>JF will email LC of PC in Sept</p> <p>JF will email EJ once garden ready for planting</p> <p>JF will email local pharma companies with proposal</p>
	<p>Term 2</p> <ul style="list-style-type: none"> • Engineers week - organise selection of activities/ideas and provide to class 	<p>5th class teachers & students will organise stations</p> <p>JF week beginning 4th</p>

	<p>levels</p> <ul style="list-style-type: none"> • Contact PA regarding any parents in STEM who might visit to speak to classes • School garden- liaise with PC and Student Council to organise classes planting • Scientific vocab- new focus skill and target language- provide to classes for display and reference • Gather log of evidence for SFI award <p>Term 3</p> <ul style="list-style-type: none"> • Biodiversity Week in May- provide selection of activities and ideas in packs to levels • Apply for SFI Curious Minds award • Garden planting with class levels liaising with PA and Students council 	<p>March, exact date TBC</p> <p>Jan/Feb depending on garden progress</p> <p>JF will provide new science focus skill beginning of term in Jan</p> <p>JF in early May, exact date TBC</p> <p>JF will submit before closing date April 21st</p> <p>May planting</p>
	<p>Curricular Initiative:</p> <ul style="list-style-type: none"> • Developing key scientific vocabulary: Focus on one Scientific skill/word for each half term to work on developing students' vocabulary for describing and discussing scientific ideas. New skill card will be delivered to classes each half term/term to be displayed and referenced during topics/activities. • Developing STEM through Vex Robotics (5th) and Beebots (junior classes) 	
	<p>Organisational Responsibility:</p> <ul style="list-style-type: none"> • Continue to update school website with all STEM related activities • Liaise with Student's Council, Parents Council and all staff members for feedback on the garden planting and development. • Engage with a horticulturalist to 	

	<p>get advice and ideas for the garden for Autumn and S/Summer</p>	
<p>Areas identified for development in 22/23:</p>	<ul style="list-style-type: none"> • Continue whole school activities for celebration weeks- Space Week, Science Week, Engineers Week, Bio diversity Week • Apply for an SFI Discover Science and Maths award now known as Curious Minds Award • Create a STEM highlight on the school instagram to help further promote and develop the area. • Continue to liaise with Parents Council on school garden to further develop and use this as a key area of the Science curriculum incorporating the Living things and Environmental awareness and care strands. 	
<p>Resources needed for this term:</p>	<p>Beebots & Vex Robotics equipment. Review will be sent to class levels this term to review any other resources needed for experiments that tie in with the new Explorer's programme. Inventory of current resources will be repeated also.</p>	

