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| **Science Policy**  Description: Description: C:\Users\User\Documents\school crest\boolavogue2 with name.jpg |
| **Rationale**  Science education enhances children's knowledge and understanding of themselves and the world in which they live. It involves children in the active construction of their own understanding. This understanding changes in response to the children's broadening experience. A scientific approach to investigations fosters the development of important skills, concepts and knowledge through which children can observe, question, investigate, understand and think logically about living things and their environments, materials, forces, everyday events and problems. The knowledge and skills acquired may be applied in designing and making activities in which children perceive a need to create or modify elements of their environments.  The purpose of this plan is to provide practical guidance for teachers, parents and other relevant persons on the provision of effective physical education in our school. |
| **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.  **Aims**  We endorse the aims of the Primary School Science Curriculum:   * To develop knowledge and understanding of scientific and technological concepts through the exploration of human, natural and physical aspects of the environment. * 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 cultivate the 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. |
| **Curriculum**   |  |  | | --- | --- | | **Strands** | **Strand units** | | **Living things** | **Human life**  **Plants and animals** | | **Energy and forces** | **Light**  **Heat**  **Magnetism and electricity**  **Sound**  **Forces** | | **Materials** | **Properties and characteristics of materials**  **Materials and change** | | **Environmental awareness and care** | **Caring for my locality**  **Science and the environment** |  |  | | --- | | **Skills of the Scientist** | | **Observing**  **Questioning**  **Predicting**  **Investigating and experimenting**  **Estimating and measuring**  **Analysing**  **Recording and communicating**  **Design and making skills**  **Planning**  **Making**  **Evaluating** |   All teachers are familiar with the strands, strand units and content objectives for their class  levels. Curriculum objectives area at the core of each Science lesson, and teachers refer to the  curriculum objectives in their own planning.  The content objectives are laid out on the following pages in the Curriculum Handbook.  Infant Classes pgs. 24-28  First and Second classes pgs. 41-48  Third and Fourth classes pgs. 61-70  Fifth and Sixth classes pgs. 83-92 |
| **Approaches and Methodologies**  We will use a combination of the following approaches:   * Guided discovery approach * Active learning * Collaborative learning * Problem solving * Use of the environment * Talk and discussion * Skills development through content * Integration   The emphasis in Primary Science is on a hands-on approach. |
| **Assessment and Record Keeping**  Assessment is used by teachers to inform their planning, selection and management of  learning activities so that they can make the best possible provision for meeting the varied needs of the children.  Teachers report twice a year to children and parents/guardians through parent-teacher meetings and end of year school reports. Children may be asked to self-assess and peer assess where appropriate.  Our assessment tools are:   * Teacher observation * Teacher-designed tasks * Work samples   The following are other assessment tools used by  teachers:   * + Teacher observation   + Experiments   + Design and make products   + Worksheets and work in copies   + Quizzes   + Ongoing teacher-designed tests. Children will bring the tests and the results of such tests home for signing. Test results are kept by the class teacher and passed on to the next teacher. |
| **Differentiation**  We acknowledge that each individual child has particular needs and all are at different stages of their personal development.  At times, the children will work in similar class groupings or mixed class groupings to stretch the children to the upper level of their zone of proximal development.  Support will be given to children with special needs such as dyslexia during literacy driven Science tasks such as the writing up of experiments. Support will be given to children with special needs e.g. dyscalculia during Science tasks with numeracy reasoning such as analysing experiment results etc. |
| **ICT**  Information and communication technology may be integrated with Science through the use of the Interactive whiteboard, digital camera, photo-copier, visualiser, DVDs ,CDs and the internet.  Children are encouraged to conduct further research outside of school under the supervision of their parents where the internet is concerned.  The following is a list of Science websites, however this list is not exhaustive:  [www.seomraranga.com](http://www.seomraranga.com)  [www.scoilnet.com](http://www.scoilnet.com)  [www.topmarks.co.uk](http://www.topmarks.co.uk)  [www.bbc.co.uk](http://www.bbc.co.uk)  [www.scispy.ie](http://www.scispy.ie)  [www.primaryscience.ie](http://www.primaryscience.ie) |
| **Organisational planning**  The teaching of SESE is allocated as follows:   * Infant classrooms 2 hours 15 minutes per week * 1st-6th 3 hours per week   This must be divided up among the three SESE subjects hence Science will have :   * infant classes approx. 45 minutes a week * 1st - 6th 1 hour a week   However, to facilitate the new time allocations for the numeracy and literacy strategy it is at the discretion of the teacher to use some of the time from SESE subjects on occasion.  Discretionary time is given to local field study/trips and outdoor activities such as minibeast hunts, tree work such as bud detective, planting etc. |
| **Resources**  The following resources are available to the children and staff for the teaching of Science:   * Magnets * Bulbs, wires, crocodile clips * Torches * Magnifying glasses   It has been acknowledge din the development of this plan that science resources are an area that needs significant improvement and restoration.  The use of the outdoor environment is also emphasised and utilised throughout the year. |
| **Linkage and integration**  Every attempt will be made to link the various strands of the Science curriculum and to integrate the other subject areas with Science, where appropriate.  e.g. Science with History – Egyptian tomb building and the pulley in science  Science with English – Literacy- Writing up an experiment  Science with Visual Arts – Volcanoes exploding  Science with Maths – measurements, recording results and analysing them on graphs  Science with Geography – living things in different countries  Science with SPHE –human life e.g. digestive system and healthy eating |
| **Extracurricular activity**  Opportunities are provided for children to participate in and enjoy a variety of extra curricular activities.  Boolavogue N.S. in 2011 participated in National Science week with some classes attending science workshops in the local library.  Discretionary time is given to outdoor work such as planting etc. to facilitate full teaching of the Science curriculum. |
| **Code of ethics**  All teachers and visiting teachers working in the school context will be expected to adhere to the school Child Protection Statement. They should always ensure that they treat children with integrity and respect and that the self-esteem of children is enhanced. All adult actions should be guided by what is best for the child and carried out in the context of respectful and open relationships. |
| **Health and Safety**  All health and safety precautions should be adhered to when taking the children on outside excursions/field trips. Children should always wash their hands when they return to the classroom after an outdoor lesson.  In conducting experiments teacher demonstration will be used where there is an element of risk. Safety goggles will be worn when attending science workshops etc. Safety around not tasting substances during experiments will be reinforced throughout the lessons.  Should an accident occur in the Science lesson we will follow the procedures outlined for accidents in our Health and Safety policy. |
| **Individual teachers’ planning and reporting**  Individual teachers will design a Science plan specifically for their own class while at the same time ensuring that their class plans coordinate with and feed into the overall school plan, set out in the policy. This should ensure clear progression as children move from class to class.  Strands covered in Science each month are recorded on the Cúntas Míosúil.  The Cúntas Míosúil will be very relevant in recording what has been covered and in reviewing and developing the school plan for the following years. |
| **Staff development**  The school will access the PCSP Science Cuiditheoir through the Regional Curriculum Support Service to support the staff in certain strands if necessary. Visiting teachers may be used to supplement and support the work of the class teacher. These are recognised as up-skilling opportunities for the teachers involved. Teachers will be notified of courses relating to Science available in the area. |
| **Parental involvement**  Parents have a responsibility to encourage their children to participate in all strands of the Science curriculum.Parents may view the Science policy in the school. Parents may be asked to attend and/or drive on science excursions. Parents may be expected to supervise their children on the internet as they conduct further research for in school projects in the area of Science. |
| **Community links**  Local organisations are invited to provide information on the services that they provide.We are very much aware of the school’s role in the community and we are also conscious of the fact that the expertise of people in the community is an invaluable resource to any school. Where expertise is available in the area, these people will be invited into the school. |
| **Evaluating the policy**  Means of assessing the outcomes of the plan may include;   * Teacher/parent/community feedback * Children’s feedback regarding activity levels, enjoyment and skill development * Inspectors’ suggestions/WSE recommendations   **The criteria for evaluating the success of this policy will be :**   * The level of enjoyment exhibited by the children * The maximum participation by all children * The development of skills and understanding * The level of teacher satisfaction in teaching a broad, balanced curriculum. |
| **Ratification and communication**  This Science policy was reviewed in April 2012 and ratified by the Board of Management on \_\_\_\_\_\_\_\_\_\_\_\_\_ and parents can inspect the policy in the school office. |