Glynwood Community Primary School

Science Policy

Contents

Introduction

At Glynwood we aim to provide children with access to a broad and balanced curriculum. We recognise that science is a vital part of every child's education and are committed to providing a range of quality science experiences to children throughout their primary education.

We believe it is very important to establish an investigative approach to science wherever possible by encouraging the children to have the confidence to formulate questions, express ideas, develop skills of interpretation and have an analytical approach to results.

Through the implementation of this policy we aim to develop in all our children, an enquiring mind and a curiosity about the world around them and to stimulate children's interest in science.

Objectives:

- To establish and identify aims for science education agreed upon by all staff members.
- To ensure that the full scope of the science curriculum is explored and taught in school.
- To ensure continuity and progression within the science curriculum
- To employ a variety of teaching and learning strategies that will ensure quality science education takes place.
- To purchase appropriate quality resources to deliver the curriculum well and make effective use of these resources.
- To assess the learning which takes place through observation, the collection of evidence and the use of assessment tasks and tests as appropriate
- To keep a meaningful record of these assessments for diagnostic use and as evidence of progress
- To create opportunities for the use of Computing within the teaching of science
- To develop cross-curricular links where appropriate
- To ensure that children with SEN gain access to a balanced science education in accordance with the school's SEN policy
- To provide equal access to the science curriculum for all children in accordance with the school's equal opportunities policy
- To have clearly defined roles and responsibilities for those involved in the provision of science education
- To make full use of the local environment, wherever possible, to provide the children with relevant first hand experience of science
- To involve parents, carers, governors and the local community in the implementation of this policy, whenever possible and appropriate
- To identify the development needs of staff and provide training and support either within school or by using outside agencies
- To monitor and review this policy and the science curriculum on a regular basis To ensure that all science activities are carried out with due regard to Health and Safety as outlined in the school's policy.
- To ensure that science makes a valuable contribution to PSHE, Citizenship and provide children with a global awareness

Science Education

Establishing agreed and consistent aims for science education.

Staff have agreed that science education should:

- Help pupils to develop scientific concepts and understanding to enable them to make sense of their world
- Provide children with activities that stimulate their natural curiosity and develop their investigative skills
- Help pupils to learn about science through first hand experiences that show the relevance of science to everyday life
- Foster a positive attitude towards and enjoyment of science

Ensuring that the full scope of science education is explored

At Glynwood we follow the National Curriculum programme of study for science, but also incorporate other resources to enrich the science teaching.

Ensuring a consistency of approach and a planned progression within the curriculum

Science in the Foundation Stage is based around learning through play. This is organised around half termly projects and science activities are clearly planned to encourage learning through first hand experience, based on 'Understanding of the World'.
In Key Stage 1 and 2, work is planned using the revised National Curriculum 2014. Phase teams plan collaboratively to ensure consistency of approach and to adjust the planning and teaching of the curriculum to the needs and abilities of the particular children they are working with at the time. Science is also planned into the creative curriculum where appropriate.

Teaching and learning strategies

Our teaching and learning policy is designed to provide all children with the opportunity to succeed in all curriculum areas. This is achieved through careful planning and by using a range of teaching strategies. These include using a variety of stimuli for activities and enabling the children to respond through a variety of media. *The implementation of different strategies is covered in the Teaching and Learning Policy'.*

Maintaining quality resources for the implementation of the curriculum

It is essential to have a range of quality resources to aid implementation of our scheme of work. Resources are reviewed throughout the year by the science coordinator and new resources are purchased to maintain and augment stocks. Most resources are kept centrally in the Science area which can be found in the staffroom. Some other items, like books, keyword vocabulary and posters can be found in classrooms. There are also some science topic books held in the relevant section of our school library.

Assessment and recording progress

The science coordinator is responsible for collecting examples of planning in all phases, which are used to monitor consistency and progression through the school. The progress of individual children, in all programmes of study, is assessed and recorded by the class teacher. This is done through continuous assessment on `Rocket` tracking sheets, which can be found in the front of Science books. Practical work plays a very important role within science. We encourage this as much as possible and so evidence can take the form of photographs.

Developing the use of Computing

Computing can play an important part in science education. Used carefully it can enhance the quality of learning, whether for collecting and analysing data, or for information retrieval and investigative work using suitable internet sites.

Cross-Curricular links

At Glynwood we teach Science through a skills based curriculum. Science work is linked to the class topic as far as possible. There are many facets of science which link naturally to other curriculum areas.

Variety of plant and animal life found within different locations – **Geography**
How sounds are made and how we can change the nature of sounds – **Music**
The effects of heating and cooling materials to effect a permanent change on their nature – **Technology**
Skills using equipment and measurement techniques - **Numeracy**
Colour. Light and shadows – **Art**

Ensuring provision for children with SEN

We are committed as a whole staff to providing a broad and balanced curriculum that meets the needs of all children and supports children with SEN children. All tasks are differentiated accordingly both in presentation and content. We also seek to employ a wide variety of strategies to enable children to convey their findings, including photographs, artwork, drama, pictorial recording and verbal feedback. Differentiated teaching methods and materials aim to engage all children's learning styles and enable pupils with SEN to have full access to the science curriculum.
The implementation of this objective is explained in detail in the SEN policy.

Providing equal opportunities

At Glynwood we have a firm whole school commitment to provide equal access to the curriculum for all children regardless of gender, race, physical or learning disability. We try to ensure that all materials and resources used represent a realistic cross section of life and are free from any bias.
The implementation of this objective is explained in detail in the Equal Opportunities Policy.

Having clearly defined science roles and responsibilities

Each class teacher is responsible for the implementation of the science scheme of work within his or her own classroom. The science coordinator ensures that all members of staff are well aware of the policy and clear about the science content of each topic. The coordinator is responsible for monitoring and reviewing the science planning and scheme of work.

Using the locality to learn from first hand experience

Within our extensive school grounds we have a large wildlife and garden area, containing a pond, bird feeding area, butterfly garden, wildflower meadow, orchard and a vegetable growing area. All classes are encouraged to use this area to enhance their science teaching, giving children practical first hand experiences. This area is also used for extra curricular activities.
Other outside areas of the school are used to enhance science teaching, creating the 'outdoor classroom' e.g. playground equipment to look at forces, the tyre park to look at fiction, large open spaces to investigate forces with rockets.

We also encourage the use of educational visits linked to science. We have used a wide variety of local museums, visitor centres and wildlife areas nearby, in addition to visits to the coast, river Tyne and Northumberland National Park.
By using the environment to enhance our teaching, we will not only make the activities more enjoyable but will also set science within a meaningful context.

Involving parents, carers, governors and the local community in policy implementation

We recognise the value that all the above people can have in the provision of a quality science curriculum and realise that they can enhance learning if utilised effectively. We actively encourage the involvement of other adults with particular specialisms or interests, in school science activities, including the linked governor. We also seek to establish useful links with local industry and the community allowing children to experience the relevance of science in the home and the workplace.

Identifying the development needs of staff

We believe that it is essential for all staff to feel confident with their science teaching in order to provide a quality curriculum for the children. Individual staff can receive support from the science coordinator and colleagues, and external training can be arranged for those staff who feel they need more specific support, or simply want to expand their knowledge base. Training for the whole staff is reviewed each year as part of the school improvement plan.

Monitoring and reviewing the scheme of work and science teaching and learning

Monitoring of standards of children's work and the quality of teaching in science is the responsibility of the science coordinator. Lesson observations to look at teaching and learning take place as part of the school's monitoring process. Children's science work books are scrutinised at least 2 times a year to look at the curriculum, quality and presentation. Pupil discussions also take place once a year with a random group of children to listen to their views and opinions about science in school. A report is always written about these and passed on to relevant staff and the whole school is informed about any emerging issues.

Ensuring that science activities are conducted in accordance with the school's health and safety policy

The nature of scientific investigation is such that health and safety is a very important issue. In order to avoid accidents all staff are familiar with the Health

and Safety Policy and conduct their science activities appropriately. If out of school activities take place, a risk assessment is completed prior to the visit or activity.

Ensuring that science activities promote PSHE, Citizenship, a Global Awareness and reflect Community Cohesion and aid work towards the Rights Respect award

As with all areas of the curriculum, PSHE and Citizenship are integral elements of our science planning, such as developing a healthy, safer lifestyle, linked to nutrition and health, emotions and feelings, linked to growth and reproduction and sustainability of the environment.

Science teaching often revolves around children working together and being part of a team, reflecting our views on being a citizen.

We are an Eco school, part of a growing community of schools across Europe which works by involving the whole school, pupils, teachers, support staff, governors, local community and parents, local authority, media and local businesses. We currently have an Eco School's Council, who promote environmental awareness, linked to many subjects, including citizenship, PSHE and education for sustainable development. It is an award scheme and we have currently achieved the Bronze and Silver level awards.