**Mission statement:**

 The science programme at Bearsden Primary follows Curriculum for Excellence (CfE) guidelines.

**Curriculum for Excellence states that;**

 ‘Science is an important part of our heritage and we use its applications every day in our lives at work, and in the home. Science and the application of science are central to our economic future and to our health and wellbeing as individuals and as a society. Scotland has a long tradition of scientific discovery, and of the application of science in the protection and enhancement of the natural and built environment. Children and young people are fascinated by new discoveries and technologies and become increasingly aware of, and passionate about, the impact of science on their own health and wellbeing, the health of society and the health of the environment.’

(Sciences, pg.1)

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**1. Rationale and Aims**

The Sciences programme at Bearsden Primary follows Curriculum for Excellence Guidelines.

Each member of staff has his/her own copy of CfE guidelines and refers to them in planning for learning and teaching.

Curriculum for Excellence recognises that the Sciences are an important component for primary education. It states that:

‘Through learning in the sciences, children and young people develop their interest in, and understanding of, the living, material and physical world. They engage in a wide range of collaborative investigative tasks, which allows them to develop important skills to become creative, inventive and enterprising adults in a world where the skills and knowledge of the sciences are needed across all sectors of the economy.’

Curriculum for Excellence provides children with opportunities to develop and practise a range of skills.

‘The experiences and outcomes in science provide opportunities for children and young people to develop and practise a range of inquiry and investigative skills, scientific analytical thinking skills, and develop attitudes and attributes of a scientifically literate citizen; they also support the development of a range of skills for life and skills for work, including literacy, numeracy and skills in information and communications technology (ICT).’

**Bearsden Primary school aims to support all children as they develop to become:**

* Successful learners
* Confident individuals
* Responsible citizens
* Effective contributors

Through a structured programme of study which capitalises on everyday opportunities to plan responsively and develop science skills.

Our pupils will be encouraged to develop a responsibility for their learning by ensuring:

* Awareness of what is expected of them through the sharing of learning intentions and success criteria.
* Provision of appropriate feedback through self, peer and teacher assessment.
* Promotion of reflection on where they are and on the next steps for progression.

The framework for the Sciences provides a set of statements that describe the kinds of activities our young people will experience throughout school and our staff will refer to these statements and to the more detailed experiences and outcomes when planning for learning and teaching.

**2. The Sciences Organisers**

 Within the CfE sciences framework, there are 5 organisers and within these organisers there are sub-divisions:

 **1. Planet Earth**

Biodiversity and interdependence

Energy sources and sustainability

Processes of the planet

Space

**2. Forces, Electricity and Waves**

Forces

Electricity

Vibrations and waves

**3. Biological Systems**

Body systems and cells

Inheritance

**4. Materials**

Properties and uses of substances

Earth’s materials

Chemical changes

**5. Topical Science**

Through this framework children will be provided with the opportunity to progress from early through to second level.

In planning, our staff will consider each organiser and its sub divisions, taking account of individual needs and abilities.

Across the Curriculum for Excellence levels, challenge and progression appropriate to individual abilities will be at the heart of learning and teaching to ensure that each child achieves his/her potential. Through active learning strategies, we provide opportunities which support a range of learning styles. Effective learning and teaching of the Sciences depends upon the skilful use of varied approaches.

Our children will be provided with opportunities to:

* **Engage with others in group and class discussions in order for them to emphasise their understanding**
* **Learn collaboratively through active learning and planned, purposeful play**
* **Explain their thinking**
* **Explore factors which influence them and persuade them in order to help them think about the reliability of information**
* **Carry out scientific practical investigations in order to develop problem solving and analytical thinking skills**

We aspire to make learning coherent and relevant in order that learners link the purpose and validity of the experiences to their lives, present and future.

We strive to make learning motivating, engaging, active and fun!

**3. Use of Media in the Sciences**

We use an ever increasing range of technological resources to support learning across the curriculum, promoting an interest, confidence and enjoyment in ICT skills that can be transferred and applied in different learning contexts.

♣ GLOW

♣ Smart board

♣ Computer (PC and i pads)/ Internet/ Power point

♣ Digital microscopes and magnifying glasses

♣ Microphones

♣ MP3 and I-Pod

♣ Film

♣ Digital photography

The BPS forward plan folders and teachers’ personal planners will detail the use and application of these resources.

**4. Assessment, recording and reporting**

Bearsden Primary is an AfL school and staff recognise the importance of assessment in providing a clear picture of the progress each child is making and in planning for further learning to ensure progression and consolidation. Each child is given regular feedback to identify next steps and set personal targets.

Evidence gathered from science lessons demonstrates progress in developing and applying skills in the Sciences complements.

* Through assessment staff will identify the children’s
* Contribution to discussions
* Ability to take turns
* Ability to explain their thinking
* Awareness of audience in reporting back
* Participation in active learning
* Ability to question appropriately
* Ability to plan, carry out and report on investigations
* Ability to recognise the impact the sciences make on their lives, the lives of others, on the environment and on society
* Use of an increasing range of scientific language
* Presentation, analysis and interpretation of evidence to draw conclusions and make sense of scientific ideas

Staff will discuss assessment with stage partners, as a whole staff and with colleagues within our learning community to promote a shared understanding of expectations at a particular level.

**Statement**

In Bearsden our Science programme of study is delivered through an active learning approach. All stages work on activities for the same Science organiser. For example, each stage may study Inheritance which is a sub-division of Biological Systems. We ensure that all of the experiences and outcomes for Science within Curriculum for Excellence are covered in depth. This is divided into First and Second Level to ensure progression.

Early Level Science is generally taught through interdisciplinary topics. Teachers plan investigative tasks and activities based on learning and teaching, ensuring that experiences are appropriate to the learning outcomes at Early Level. Staff also take advantage of planning responsively, covering topical areas of interest as well as areas of particular interest as and when they arise. Discrete lessons are planned to ensure all experiences not met through interdisciplinary work or through responsive planning are visited.

Across the levels we include a range of activities for each topic, for example, experiments, research, construction, writing, debates and IT and design, as appropriate to age and stage. Benchmarks are used to measure progression and achievement of a level.