POLICY FOR SCIENCE

ST FRANCIS RC PRIMARY

2023-2024

St Francis Catholic Primary School, SE15 1RQ

Vision and Mission Statement and Gospel Values

Our Vision

Providing every child with the tools to choose their path to success.

Our Mission

In St Francis children succeed because:

- ✓ We are an outward looking Catholic Primary school, which welcomes all children from the surrounding area. We work together to nurture our pupils, helping them to become resilient and inspired learners, who will become responsible global citizens of the future.
- ✓ We cultivate our pupils through our broad and diverse curriculum and loving Catholic Parish community
- ✓ We provide a welcoming, safe and supportive environment that helps children feel respected, confident and motivated to achieve their goals.
- ✓ We also foster a spiritual and moral view of life that provides children with a sense of self-worth and a strong Catholic ethos

Our Gospel Values

Love

Honesty

Courage

Tolerance

Justice

Jeremiah 29:11

"I alone know the plans I have for you, plans to bring you prosperity and not disaster, plans to bring about the future you hope for"

Policy for Science

Introduction

At St Francis we follow the National Curriculum science programmes of study which states:
'A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognize the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyses causes.'

National curriculum in England: science programs of study

Rationale

- To encourage the development of a sense of wonder and inquisitiveness towards different phenomena in our world.
- To deliver the National Curriculum (N.C.) Science programmes of study in ways that are imaginative, purposeful, well controlled and enjoyable. By delivering the N.C., children will receive Science knowledge and gain necessary working scientifically skills built upon previous ideas and skills.
- To help in developing and extending the children's scientific concept of their world and encouraging them to ask deeper questions about the world around them. Building on every day and first-hand experiences.
- To deliver clear and accurate teacher explanations and skilful questioning. Providing guidance and also allowing children the freedom to explore as independently as possible.
- To make strong, purposeful cross curricula links between science and other subjects. Using computing in a meaningful way to extend their learning (video, photography, microscopes, iPads).
- To develop the use of scientific vocabulary, recording and techniques.
- To develop the following skills of investigation – observation, measuring, predicting, hypothesising, experimenting, communicating and interpreting.
- To enable children to become effective communicators of scientific ideas, facts and data, whilst becoming experts at analysing the data they collect.

Teaching and Learning of science

Science is a core subject in the National Curriculum. The fundamental skills, knowledge and concepts of the subjects are currently set out in "Science in the National Curriculum", where they are categorised into four areas of attainment.

1. Scientific enquiry, which is taught through contexts taken from;
2. Biology
3. Chemistry
4. Physics

Reception classes are taught the required science elements of the foundation stage 'Development Matters' through cross curricular themes.

Each teacher in Key Stage 1 & 2 is encouraged to deliver the N.C content by using main scheme of work -Developing Experts, but also Hamilton, White Rose, STEM and PSTT schemes of work, education platforms and topics, and can supplement this with other materials if necessary. Each class has storage for science equipment and materials relevant to their year group topics, in addition to the centrally kept resource cupboard.

Teachers plan half termly and weekly lessons using the Knowledge Learning Objectives using the PLAN document and the Working Scientifically Skills Learning Objectives from the National Curriculum. Science teaching is organised on a whole class, group or individual basis as appropriate. Science is timetabled and is taught approximately for 1½ hours in K.S.1 and 2 hrs in K.S.2.
In Early Years, children are taught science through Early Years Foundation Stage Revised Framework, Understanding of the World. This is taught cross-curricular, involving teacher-lead learning and structured indoor and outdoor play.

Resources

More general/expensive resources are stored in the co-ordinators room or in the two central Science Resource cupboards located in the K.S.1 and K.S.2. Relevant books are housed in the library or in classrooms. This includes non-fiction books, which are used for Guided Reading or Literacy sessions.
Professional scientists may be booked through various organisations to give talks or practical workshops (e.g. The Education People, PSTT, STEM). Theatre in Education or demonstration groups are booked for the whole school or a selected group of classes at a time, to enliven thinking skills and scientific knowledge.
Children partake in many offsite educational visits to various establishments i.e. The Science Museum, Natural History Museum, Kew Gardens and Surrey Quays Farm, Horniman Museum in connection with their Science topics.

Role of the Science Co-ordinator:

- Be responsible for the development of Science in the school
- To keep up to date on current practice and seek support from relevant LA advisors and external consultants
- Monitor the effectiveness of Science in school
- Support teachers in their planning and strategies for classroom management in Science, disseminating new information to them
- Provide or organise staff training to develop subject specific priorities
- Be responsible for the curriculum budget and providing appropriate Science resources

Assessment & Record Keeping:

Children are assessed in line with age related expectations at the beginning, during and at the end of each topic. Early Years children are assessed through observations. Formal assessments are made in line with national requirements in Years 2 and 6 for end of year Teacher Assessment. Occasionally, there might be an additional assessment expectation in Year 6, if this year group is asked to participate in the national SATs Science assessment.

Formative assessment of each pupil's achievement within a unit of work is ongoing and carried out both formally (the Vocabulary Grid Y1-Y6) and informally. Assessment techniques may include: observations of pupils at work; questioning, pupils' discussions or oral presentations of their work; a variety of AfL strategies during the lesson and live marking. At the end of each unit, summative assessment is carried by each teacher and formally recorded on SIMs.

The overall whole school Science assessment is carried termly by the assessment coordinator through Analysing of Tracking and Progress in Science. In the children's annual report, detailed comments (achievements, next steps) are made about their scientific knowledge and understanding and their skills development.

In EYFS, all assessments of pupil's understanding of Science (The World) are made using 'Development Matters'. Teacher assessments are made through incidental and long observations of the children self-initiating tasks. Evidence is also gathered through directed tasks, which is recorded in their topic books or Learning Journeys.

Classroom Organisation:

Topic books should be displayed in an attractive manner and children encouraged to use these and computing sources i.e. the internet for self-research.
Each class should have a science display, incorporating unit vocabulary, attractively presented children's work and/or posters or models.

Equal Opportunities
We will actively work to ensure that success in Science will not be dependent upon belonging to a particular gender, social class or ethnic group. In organising learning, Science teachers will be sensitive to the needs of individual children and will offer differentiated tasks and levels of support. We are aware of the need to group children carefully therefore we enriched our Literacy and Guided Reading curriculum and included female and/ or Black scientists.

We will ensure that our Science teaching is sensitive to the needs of a culturally diverse group.

We will provide positive role models in being scientific, and encourage children to look more closely at the questions "What is a Scientist?" and "Who is a Scientist?" We will monitor the performance of all children in Science both in terms of their level of achievement and their ability to take part in a full and active part in learning opportunities for science.

Safety:

Throughout the Science curriculum children will be made aware of all the aspects of health and safety. Teachers use the Association for Science 'Be Safe' handbook as a guide (in class Science folders). Whilst working, teachers will encourage children to think of safety in handling resources and working with peers and adults.

Policy monitoring and review

The Head teacher, Senior Leadership Team and Science Subject Leader will monitor the effectiveness of this policy on a regular basis. The Head teacher and Science Subject Leader will report to the governing body on the effectiveness of the policy.

We are aware of the need to regularly review our policy to take account of new initiatives, changes in curriculum or developments in technology.

Reviewed By: Ms Jones, November, 2023