



St. Patrick's Catholic Primary School: Science Policy – September 2019

The National Curriculum states that:

Science is a core subject in the National Curricula (for England, Wales and Northern Ireland).

In England, it has four attainment targets and a statement of breadth of study.

These are:

Sc1 Scientific enquiry;

Sc2 Life and living processes;

Sc3 Materials and their properties;

Sc4 Physical processes.

Our role is to teach scientific enquiry through the contexts of the three main content areas. The breadth of study statement in the National Curriculum is concerned with issues such as the use of ICT, scientific language and health & safety.

Children in the foundation stage - the reception class(es) - are taught the science elements of the foundation stage document through the Early Learning Curriculum: Knowledge and Understanding of the World.

The targets are:

Sc1 Scientific enquiry;

Sc2 Life processes and living things;

Sc3 Materials and their properties;

Sc4 Physical processes,

plus Focus statements.

Aims

Science is a body of knowledge built up through experimental testing of ideas. Science is also methodology, a practical way of finding reliable answers to questions we may ask about the world around us. Science in our school is about developing children's ideas and ways of working that enable them to make sense of the world in which they live through investigation, as well as using and applying process skills.

We believe that a broad and balanced science education is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability.

Our aims in teaching science include the following.

- Preparing our children for life in an increasingly scientific and technological world.



- Fostering concern about, and active care for, our environment.
- Helping our children acquire a growing understanding of scientific ideas.
- Helping develop and extend our children's scientific concept of their world.
- Developing our children's understanding of the international and collaborative nature of science.

Attitudes

- Encouraging the development of positive attitudes to science.
- Building on our children's natural curiosity and developing a scientific approach to problems.
- Encouraging open-mindedness, self-assessment, perseverance and responsibility.
- Building our children's self-confidence to enable them to work independently.
- Developing our children's social skills to work cooperatively with others.
- Providing our children with an enjoyable experience of science, so that they will develop a deep and lasting interest and may be motivated to study science further.

Skills

- Giving our children an understanding of scientific processes.
- Helping our children to acquire practical scientific skills.
- Developing the skills of investigation - including observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.
- Developing the use of scientific language, recording and techniques.
- Developing the use of ICT in investigating and recording.
- Enabling our children to become effective communicators of scientific ideas, facts and data.

2. Our teaching aims

- * Teaching science (National Curriculum Science Orders or equivalent) in ways that are imaginative, purposeful, well managed and enjoyable.
- * Giving clear and accurate teacher explanations and offering skilful questioning.
- * Making links between science and other subjects.

Planning and Assessment

Our science planning is topic based as part of our integrated curriculum approach. The National Curriculum is used as the basis of curriculum planning. Teachers should broadly follow the activities set out in the NC plans, adapting these activities as needed to ensure that all children are able to achieve the objectives of the national curriculum. The class teacher is responsible for planning science lessons. We have planned the topics in science so that they build upon prior learning. We ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each unit and we also build progression into the science scheme of work, so that the children are increasingly challenged as they progress through the school. More able learners are identified and throughout the year, enrichment opportunities are offered, often in partnership with other local schools. Foundation Stage We teach science in the Foundation stage as an integral part of the topic work covered during the year. It comes under Understanding the World in the EYFS. Children must be supported in developing the knowledge, skills and understanding that help them to make sense of the world. Their learning must be supported through offering opportunities for them to use a



range of tools safely; encounter creatures, people, plants and objects in their natural environments and in real-life situations; undertake practical 'experiments'; and work with a range of materials. The contribution of science to teaching in other curriculum areas actively promoting the skills of thinking, reading, writing, speaking and listening. The children develop oral skills in science lessons through discussions and through recounting their observations of scientific experiments. They develop their writing skills through writing reports and projects and by recording information. The children use weights and measures and learn to use and apply number skills. Through working on investigations, they learn to estimate and predict. They develop the skills of accurate observation and recording of events. They use numbers in many of their answers and conclusions. Computing Children use computing in science lessons where appropriate. They use it to support their work in science by learning how to find, select, and analyse information on the internet. Children use computers to record, present and interpret data and to review, modify and evaluate their work and improve its presentation. Personal, social and health education (PSHE) and citizenship. Science makes a significant contribution to the teaching of personal, social and health education. This is mainly in two areas. Firstly, the subject matter lends itself to raising matters of citizenship and social welfare and healthy eating and exercise. Secondly, children benefit from the nature of the subject in that it gives them opportunities to take part in debates and discussions. Science promotes the concept of positive citizenship. Spiritual, moral, social and cultural development Science teaching offers children many opportunities to examine some of the fundamental questions in life, for example, the evolution of living things and how the world was created. Through many of the amazing processes that affect living things, children develop a sense of awe and wonder regarding the nature of our world. Science raises many social and moral questions. Through the teaching of science, children have the opportunity to discuss, for example, the effects of pollution and the moral questions involved in this issue. We give them the chance to reflect on the way people care for the planet and how science can contribute to the way we manage the Earth's resources. Science teaches children about the reasons why people are different and, by developing the children's knowledge and understanding of physical and environmental factors, it promotes respect for other people.

We assess children's work formatively in science through observations and marking. These assessments inform the class teacher's planning for future lessons. At the end of a unit of work, the class teacher makes a judgement about the children's achievements. A pre learning task is carried out and wherever possible, children are the first to assess their learning. Assessments may take the form of a practical activity, a concept map or a written assessment. The teacher records these assessments to inform reports to parents and the next class teacher at the end of the year

Leadership and Management

It is the responsibility of the Science Subject Leader, the Headteacher and Governors to monitor the standards of children's work and the quality of teaching in science. The Science Subject Co-ordinator is also responsible for supporting colleagues in the teaching of science, for being informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school. An action plan is written and reviewed annually. The science subject co-ordinator helps with the levelling and moderation of work samples to ensure consistency and calls in books and assessment folders for scrutiny and evidence of progress, with feedback being given to staff on a termly basis. We are working with a cluster of schools to share ideas and look at how we moderate our science books.

The Role of Governors



The Governors are informed regularly about standards and the progress throughout the school, through the Governors' meetings, Headteacher's report to Governors, and a summary of the data. A Governor responsible for each subject meets regularly with the Coordinator. This Governor receives a copy of the subject Policy, subject action plan and analysis of SATs results. The Governors are also involved in the setting of targets for the end of key Stage 2 and in carrying out a work scrutiny of books throughout the school.

The Role of the Headteacher

The Headteacher, in collaboration with the Coordinator, establishes the whole school approach to each subject area. She ensures and clarifies what needs to be achieved by the coordinator and provides the necessary support and resources in order to achieve it.

The Head teacher is kept informed about the quality of teaching and learning through regular discussions with the coordinator and also by using the monitoring forms which are completed after any kind of monitoring activity

The SENCO and Support Staff

The support staff are clearly informed about their role in each lesson and have access to planning prior to each lesson. They have attended insets and are familiar with the National Curriculum

The SENCO, where appropriate, works with the coordinator to plan the provision for children with special educational needs, in order to encourage a full participation and involvement in the daily lessons. Where individual plans are needed, yearly teaching objectives are used to plan targets for development.

Jane Smedley

(Curriculum Lead for Science)