

POLICY DOCUMENT FOR SCIENCE



We show our love for Jesus in all we do and say.
We celebrate everyone's gifts and talents
As we enjoy learning and playing together.
We try to follow the example of St Patrick within our school community.

Policy written: Autumn 2020
Policy review: Autumn 2022

INTRODUCTION

This policy reflects the views of all of the staff at St Patrick's Catholic Primary School. It has been drawn up following consultation with Year Group Leaders and has full agreement of the Governing Body and staff. It will outline the purpose, nature and management of the teaching and learning involved in science throughout the school, as well as informing new teachers of the expectations of science. All staff are fully aware of this policy's implementation. Staff have access to the policy via the school website, the Staff Room on the It's Learning MLE, as well as on the school's server. Parents requesting to see a copy of the policy can do so via the St Patrick's website.

The monitoring and review of this policy is the responsibility of the Head Teacher and Curriculum manager.

THE IMPORTANCE OF SCIENCE

Science stimulates and excites pupils' curiosity and engages learners to critically think about the world around them. Scientific method is about developing and evaluating explanations through investigative and experimental evidence. Through science, children understand how major scientific ideas contribute to technological change – impacting on industry, business and medicine – ultimately improving quality of life.

AIMS

- To develop children's understanding of scientific concepts in the world around them (in particular, life processes, materials and physical processes).
- To teach the skills needed to work scientifically and carry out investigations.
- To stimulate and excite pupil's curiosity of science in a safe environment.
- To promote positive attitudes towards scientific enquiry.
- To enable children to make links from learning into their everyday life and possible future careers.
- To encourage the use of scientific vocabulary, verbal and written.

PROGRESSION

The progression of science throughout primary school is enabled by year groups' awareness of content taught in previous years; and in turn building upon knowledge and skills already learned by pupils. Key concepts of units taught are revisited throughout each year to embed learning in pupils' long term memory.

Foundation

Science is taught in foundation as part of the 'understanding the world' section of the Early Learning Goals. It makes a significant contribution to the development of a child's knowledge of everything around them, enabling to investigate and question. Many lessons in Foundation are based around active play, observation and discussion.

Key stage 1

During year 1 and 2, pupils observe, explore and ask questions about living things, physical phenomena and materials. They begin to predict outcomes of experiments, work together to

collect evidence from investigations and explore whether tests are fair. They share ideas and communicate them using scientific vocabulary, drawings and diagrams, charts and tables.

Key stage 2

At key stage 2, pupils learn about a wider range of living things, materials and physical phenomena. Children apply their knowledge and understanding of scientific ideas to familiarities, everyday things and their personal health. They begin to think about the effects of scientific and technological developments on the environment. More systematic investigations are carried out, where children may work on their own or as part of a group.

Inclusion

At St Patrick's we aim to provide planning at all levels, differentiated where appropriate. The interests of both girls and boys are taken into account when carrying out investigations. Collaborative learning is implemented through mixed ability groupings in various lessons.

Support staff support the children as directed by the class teacher. They refer to planning given and explanations from the teacher. Where support staff are assigned to pupils with Special Educational Needs (SEN), they are well briefed and in some cases advisory notes are given. All pupils, including those with SEN, undertake a full range of activities. All planning is adapted to the needs of the pupils and will relate to applicable IEPs.

PLANNING

Science is predominantly taught using *Engaging Science*, a scheme of work that has a particular focus on scientific enquiry and critical thinking. This enables teachers to challenge their pupils scientifically in every lesson. All material used from *Engaging Science* is in line with the National Curriculum. Each unit taught from *Engaging Science* includes suggested activities in order to achieve the objectives set. However, teachers may choose to adapt the lessons provided they meet the requirements of the area defined.

Planning includes clear learning questions (LQs) and success criteria adapted from both the National Curriculum and *Engaging Science*. When planning, teachers must consider key questions, vocabulary and pre-empted misconceptions to address. Planned units, adapted from *Engaging Science* or otherwise, should include investigations covering the skills to work scientifically identified in each year group. Science is used, applied and developed further through other subjects where strong links are present e.g. maths, geography and PSHE. At St Patrick's, computing is viewed as an integral part of a child's development and is used in science where applicable.

ASSESSMENT

All teachers will assess by marking against success criteria and learning questions. They will use their marking to provide children with challenging next steps, which pupils will respond to. There is an emphasis on scientific vocabulary when teachers are marking work. In KS2 in particular, children are expected to respond to any corrections given by the teacher.

Assessment grids are used to assess children against age related expectations in science. Teacher assessment from these grids are inputted on a termly data to SIMS. This enables members of the Senior Leadership Team, the science coordinator; and future teachers to track their progress.

Alongside this, assessment opportunities come in a range of formats, including:

- Observations made by the teacher
- Tests and quizzes
- Presentations

The science coordinator monitors progress by:

- Informal discussions with teachers, support staff and children
- Book looks
- Lesson observations and learning walks

LEARNING RESOURCES

Learning resources are kept in the resources room and relevant equipment is taken to classes by teachers. Older pupils may be taught how to locate, collect and replace the resources properly. Teachers should make sensible decisions, based on the age and development of children; as to whether they should collect the resources independently or with an adult.

The science coordinator is responsible for the maintenance of the equipment. Resources are organised into boxes linked to topics and themes taught throughout the school. It is the responsibility of all staff members to keep the room tidy and organised.

Children are briefed before using science equipment, ensuring that they understand rules surrounding experiments. They will have the opportunity to use the following resources: stopwatches, magnets, cells, wires, bulbs, switches, thermometers, sieves, planting equipment etc.

LEARNING ENVIRONMENT

Every classroom has a science display that is engaging and educational. They display work of children, pictures and vocabulary linked to the topic being taught in the corresponding half term. The displays should be accessible to the year group it is for. They should encourage children's curiosity about the world they live in.

There is also a whole school science display, which celebrates the scientific enquiry being done in each year group. It exposes children to science in the news, as well as different scientists. It also showcases work that has been done in our weekly science club.

HEALTH AND SAFETY

Teachers are aware of health and safety when using equipment, but St Patrick's are also a member of CLEAPSS to ensure teachers feel comfortable teaching with equipment they have not used before. CLEAPSS are a health and safety organisation who provide advice and risk assessment for science experiments.