St Joseph's RC Primary School

In God's love we learn and grow

Science Policy

Start Date:	Review Date:	Adopted:
Sept 2020	Sept 2022	Sept 2020

Rationale

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 provides opportunities for children to develop their knowledge and understanding of the world in which they live both through practical experience and from other sources of information.
We believe that a broad and balanced science education is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability.

Aims

- Prepare our children for life in an increasingly scientific and technological world.
- Develop positive attitudes to science
- Foster concern about, and actively care for, our environment.
- Help develop and extend our children's scientific concept of their world.
- Develop our children's understanding of the international and collaborative nature of science.
- Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.
- Develop understanding of the nature, processes and methods of science through different types of scientific enquiries that help our children answer scientific questions about the world around them.
- Equip children with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Spoken language

- The national curriculum for science reflects the importance of spoken language in pupils' development across the whole curriculum – cognitively, socially and linguistically. The quality and variety of language that pupils hear and speak are key factors in developing their scientific vocabulary and articulating scientific concepts clearly and precisely. They must be assisted in making their thinking clear, both to themselves and others, and teachers should ensure that pupils build secure foundations by using discussion to probe and remedy any misconceptions.

Skills

- Give our children an understanding of scientific processes.
- Help our children to acquire practical scientific skills.
- Develop the skills of investigation - including observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.
- Develop the use of scientific language, recording and techniques.

- Develop the use of ICT in investigating and recording.
- Enable our children to become effective communicators of scientific ideas, facts and data.

Teaching and Learning
Science teaching in the school is about excellence and enjoyment. Planning for science is a process in which all teachers are involved to ensure that the school uses the national scheme of work for science as the basis of its curriculum planning. The national scheme has been adapted to the local circumstances of the school in that we make use of the local environment in our fieldwork, although we choose a locality where the physical environment differs from that which predominates in our immediate surroundings. The school is currently developing an outdoor learning area and has sustainable drainage (SuDS) areas.
We carry out our curriculum planning in science in three phases (long-term, medium-term and short-term). The long-term plan maps the scientific topics studied in each term during the key stage. The science subject leader works this out in conjunction with teaching colleagues in each year group. In some cases we combine the scientific study with work in other subject areas, especially at Key Stage 1; at other times the children study science as a discrete subject.
Where appropriate, all teaching staff are encouraged to develop their knowledge and skills in the teaching of science and have the opportunity to do this though the school's links with local organisations e.g. Discovery Museum and through specific training for year group topics..

Enrichment Activities
Wherever possible, the teaching and learning of science is enhanced by educational visits using the local area as a resource or visitors to the school. Each class has a designated area for half-termly studies during 'Welly Week'. Science week helps to raise the profile of science in school and allows the children to experience a range of exciting activities and mini projects.

Safety
It is important that children are taught the rule of safety in science from a young age so that it becomes integral to their experiments and investigations. Materials and equipment need to be treated with respect and care and we endeavour to make sure all children do this. When carrying out scientific activities, children should treat their classroom as though it is a fully equipped science laboratory. As a school we have adopted the ASE's safety guidance, Be Safe!

Equal Opportunities
Science is planned to meet the varied needs of all learners regardless of their gender, background, and culture, physical or cognitive development. Learning objectives are set to meet these needs in line with our Special Needs policy. Our expectations do not limit pupil achievement and assessment does not involve cultural, social, linguistic or gender bias. We recognise that science may strongly engage our gifted and talented children, and we aim to challenge and extend them.

Use of ICT
Children are given the opportunity to practise science skills and enhance their presentation using carefully-chosen software, as well as the Internet. Software is used to enhance learning, animate and model scientific concepts, and to allow children to investigate processes which it would be impracticable to do directly in the classroom. ICT equipment is used for enquiry work, including microscopes with digital cameras, video capture of images and activities, and data logging.

Links with other subjects
In our topic-based teaching approach, we use cross-curricular links to science wherever we can. Science relates especially well to curriculum subjects such as literacy, mathematics, ICT and design and technology.

Homework
We will occasionally use homework to support school and class activities. This relates to the school's overall Homework policy.

Records and Assessment
Science does not have statutory tests at the end of Key Stage 1 and 2. However, a small number of schools are selected nationally for testing in Year 6 in Physics, Biology and Chemistry.
The school is using the Rising Stars (New Curriculum) and Statutory Assessment materials, including Testbase, to track individual pupil progress in Science.

At the end of each topic area, class teachers will use these summative assessments to indicate whether a pupil is achieving 'Emerging', 'Expected', or 'Exceeding' progress. These results are entered in the Pupil Target Tracker/ Integris to monitor progress across year groups.
Judgements about pupil performance are based on this assessment and can be supported by teachers' formative assessments where appropriate and a variety of AfL strategies where the Children are involved in the process of self-improvement, recognising their achievements and acknowledging where they could improve. Activities during, and at the end of, each topic record achievement and celebrate success.

In addition, a portfolio of children's work is collected and moderated as a staff, which will model standards of work within each achievement band.

Monitoring of Science
The monitoring of Science takes place as directed by the SDP.

Standards in Science across the school are monitored through lesson observation, work sampling and evaluation of planning.