St Leo's and Southmead Catholic Nursery and Primary School

Nurture, Inspire, Succeed

Science Policy 2022-2023

As part of the St Leo's and Southmead family; our children are happy, resilient and successful. Our school community is enriched by positive role models who nurture and support; delivering a curriculum which embraces memorable opportunities and lifelong skills.

Our Promise

Nurture	Inspire	Succeed
		
We will provide a safe, warm and welcoming environment where everybody is valued We will develop the whole child through our pastoral approach where inclusive attitudes are modelled every day	We will celebrate the skills, talents and natural abilities of everybody in our school community We will deliver exciting and memorable learning opportunities through our creative curriculum in order to provoke thoughts, dreams and life-long goals	We will guide our children so that they are eager to exceed their full potential in all that they do We will encourage confidence and risk taking through quality first teaching, effective feedback and challenge

Our Values

Everybody is valued
We are all role models
Talents are celebrated
We never give up

SAFEGUARDING STATEMENT

Safeguarding and promoting the welfare of children is defined for the purpose of this guidance as: -

- Preventing children from maltreatment
- Preventing impairment of children's health or development
- Ensuring that children grow up in circumstances consistent with the provision of safe and effective care and
- Taking action to enable all children to have the best outcomes.

PROMOTING BRITISH VALUES AT ST LEO'S AND SOUTHMEAD CATHOLIC PRIMARY SCHOOL SERVING THE COMMUNITY

At St Leo's and Southmead Primary School we aim to help, guide and prepare our children as future citizens. As our Mission Statement says, our school is "A place to allow everyone to flourish!" This statement permeates everything that we do in school and captures what British Values are about:-

- Democracy
- The Rule of Law
- Individual Liberty
- Mutual Respect
- Tolerance of those of different faiths and beliefs.

We grasp every opportunity throughout the school day to teach, model and show by examples all of the above. We have provided further information on our school website. We are proud of our school and are proud of the British Values that we live and learn about.

INTRODUCTION

This policy outlines the teaching, organisation and management of Science taught and learnt at St Leo's and Southmead Primary School. The school's policy for Science is based on the New National Curriculum 2014 for Key Stages 1 and 2.
The policy has been drawn up to reflect our whole school approach to science and has been discussed with staff and has the agreement of the Governing Body. The implementation of this policy is the responsibility of the teaching staff.

SMSC Statement – Science

Spiritual development: Science enables pupils to have a better understanding meaning and purpose in natural and physical phenomena. It promotes an interest in all living things; from the smallest micro-organism to the largest mammals and plants. Science creates a curiosity about materials, forces, space and the beauty in naturally objects and what they see in our world.

Moral development: Science encourages an open-minded approach to the ideas of others' and an ability to draw conclusions based on evidence rather than personal views. Children are encouraged to look again their/the world environment, the use of natural resources, and the effect humans are having on the future of the planet and its inhabitants.

Social development: Science involves discussion and practical activities. Working within different groups and with a partner encourages team work and taking responsibility.

Cultural development: Science involves making links between discoveries from the past and work being carried out now to provide innovations for the future. Diversity is explored where scientific discoveries have been made in different countries. Children are encouraged to make the links between past eras and the modern world.

AIMS

The national curriculum for science aims to ensure that all pupils:

- 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 science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the **uses and implications** of science, today and for the future.

Equal Opportunities

We are committed to providing a teaching environment conducive to learning. Each child is valued, respected and challenged regardless of ability, race, gender, religion, social background, culture or disability. The Disability Discrimination Act (2006) requires schools to promote equality of opportunity for all pupils.

Teaching of Science

Planning, delivery and assessment

In the Early Years, appropriate Foundation Stage statements are taken from the Development Matters document (knowledge and understanding of the world) and are identified on the weekly planning sheet. The activities are linked to the half termly theme and delivery varies between whole class, small group and individual. Ongoing everyday provision (relating to science) encourages the children to show curiosity and interest by exploring their surroundings and investigating using the equipment provided.

Both Key Stage 1 and Key Stage 2 follow the National Curriculum 2014 for the planning of science. Progression Maps have been developed to map the knowledge and skills that each year group will cover. Within each year group, there are knowledge organizers for each topic, from which the teachers plan activities according to the objectives on the KASH planning document. Science is taught for at least an hour each week and opportunities are taken for cross curricular themes – for example, using their reading skills to research, computing skills to record investigations and the effects of exercise on the body. The delivery of science will involve whole class, small group and partner work, depending on the activity. Recapping prior learning (e.g., main learning points from the week before) will be the focus of the first 5 minutes of each lesson. Practical learning will be planned for at every opportunity, with the children encouraged to become more independent in their learning as they progress through the school. Marking and feedback will be as per the school policy.

The children participate each year in the national "Science Week" and we aim to give the children the opportunity to continue their science learning outside of the classroom whenever possible, in addition to visiting farms, zoos, safari parks and museums.

The children record what they already know or wonder about each topic before it is taught (knowledge cloud). This is placed in their book, followed by the knowledge organizer. This provides further guidance when the teacher is planning for the delivery of the topic. At the beginning of each lesson, the previous lesson's learning is recapped (through questioning, find the missing words, true/false etc.) to help the key knowledge "stick" in the children's heads. Feedback throughout the lesson will be given where necessary to help dispel any misconceptions. The children will record their new learning at the end of the lesson on the knowledge cloud. Target tracker is used to plot the progress of the children.

For more information please see the appropriate Knowledge Organizers, Progression Maps and Feedback Policy (available on the website).

Out-of-class work and homework (optional)

Further information and activities will be provided via class dojo and the website. These may be linked to the current learning, ideas from the internet, in addition to the Weekly Stem newsletter.

Links between science and other subjects

Science contributes to many subjects within the primary curriculum and opportunities will be sought to draw experience out of a wide range of activities, including workshops and trips. This will allow children to begin to appreciate and understand the study and application of science in real contexts. There are strong links between Science in:

- History (for example, use of fossils)
- Maths (for example, accurate measuring, recording information in graphs/tables)
- Art and Design (for example, observational drawings)
- Design and Technology (for example, use of pulleys in real life situations, properties of materials)
- Geography (for example, soil formation, erosion, climate)
- P.E. (for example, the effect of exercise on the body)

- P.S.H.C.E (for example, scientists persecuted for their beliefs, working collaboratively)

CLASSROOM ORGANISATION

How we cater for pupils who are more able

Where possible, more able pupils will be taught with their own class and stretched through differentiated group work and extra challenges. When working with the whole class, teachers will direct some questions towards the more able to maintain their involvement. More able children will be encouraged to extend their thinking, for example, to set up further investigations independently.

How we cater for pupils with additional needs

Teachers will involve all pupils through differentiation. Pupils with special educational needs and PPPs may need adapted work in terms of recording their learning, reading material provided or ability to work independently. Adaptation will depend on the needs of the child, but could include:

- Listening to another child/recording of information they are unable to read
- Recording supporting sheets
- Working with a "buddy" to support

Teachers will include all pupils fully in their science lessons. All children benefit from participating and watching and listening to other children demonstrating and explaining their ideas. If required, a pupil whose difficulties are severe or complex may need to be supported with an individualized programme in the main part of the lesson.

Resources

All science resources are kept in labelled boxes relating to topics in the science cupboard. There are a good range of resources available to support the delivery of high-quality science lessons.

Computing

Computing will be used in various ways to support teaching and motivate children's learning. IT will involve the use of the Interactive White Board (IWB), class computer, laptops, iPad and audio-visual aids. The children will be given the opportunity to apply the skills learned within the computing curriculum in their science learning.

Monitoring and Evaluation

The subject manager will keep evidence of children's work; evaluative judgements based on the programmes of study objectives; photographs of displays, visiting science groups or workshops and class trips and pupil interview notes. During the yearly subject manager monitoring timetable, the subject

manger will observe lessons, complete a learning walk, scrutinize learning, monitor the environment, compete pupil voice and analyze assessment data.

MANAGEMENT OF SCIENCE

The role of the coordinator is to:

- Be a role model and demonstrate good practice.
- To continue to contribute towards raising standards throughout the whole school in science.
- To develop a love and wonder of science throughout the curriculum.
- To support colleagues in the development of a sense of ambition within the children to inspire them to become future scientists
- Arrange INSET as appropriate to meet the needs of individual colleagues and the school.
- Encourage and support staff in the implementation of the agreed procedures and closely monitor the progression of activities and consistency of approach across both year groups and Key Stages through lesson observation.
- Complete a yearly action plan and review of data for science and review each term. Send this report to the Head and Governors.
- To be aware of national and local developments through reading relevant materials and attending courses as appropriate.
- Review and amend documentation as required, ensuring it is up to date and accurate our school website.
- Be proactive in taking every opportunity to promote the area of science and pass on new ideas etc when possible.

To be reviewed July 2023