Sir John Lillie Primary School

Science Policy

INTRODUCTION

For young children science is an introduction to the world of living things, materials and energy. It is a largely practical subject that develops a spirit of enquiry by encouraging curiosity and reason. Scientists have revealed vast amounts of knowledge about our world by using the skills of observation, prediction, investigation and interpretation. Each child needs to enjoy the experiences associated with science by increasing and developing their knowledge and by with others, learning how to persevere and learning how to ask questions are attitudes that encourage work to be carried out in a scientific way.

AIMS

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:

- ☐ Building on children's natural curiosity and developing a scientific approach to problems.
- ☐ Encouraging open-mindedness, self-criticism, perseverance and responsibility.
- ☐ Developing children's scientific vocabulary
- ☐ Preparing children for life in an increasingly highly scientific and technological world.
- ☐ Fostering concern about and appreciation of our environment.
- ☐ Building children's self-confidence to enable them to work independently and develop their social skills to work cooperatively with others.
- ☐ Helping children acquire a progressive understanding of scientific ideas.
- ☐ Helping children acquire practical scientific skills.
- ☐ Providing children with an enjoyable experience of science, so that they will develop a deep and lasting interest and be motivated to study science further.

OBJECTIVES

Each child will:

- ☐ 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
- ☐ be equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future

Each child will undertake scientific activities each half term throughout Early Years, Key Stages 1 and Key Stage 2.

In years 1 to 6, we follow the Developing Experts scheme of work to plan purposeful science lessons. We ensure all children learn and retain knowledge throughout the programme of study.
The orders for science are broken down into units which are set out in the long term plans. The scheme of work is based on the National Curriculum objectives to ensure

the coverage of knowledge and skills. The science progression map shows the progression of skills and knowledge children are expected to acquire from nursery to year 6.
In the EYFS, science activities are planned using the statements from the *Development Matters* document.

through child-centred learning and adapt to the interests, needs and previous experiences of their class. In addition, at year 6, the children will have revision sessions in the spring term, which offer opportunities to recall and extend work from the previous year's programs.

ROLES AND RESPONSIBILITIES

There are a number of persons responsible for the teaching of Science in SJL. These are the science lead, the teaching staff, the senior leadership team, the headteacher and the governing body. Each member of staff undergoes an induction when they start work at SJL, during this their roles and responsibilities are explained in detail. For additional information about roles and responsibilities please refer to the individual job descriptions as well as the induction manual.

TEACHING STRATEGIES AND PLANNING

It is important that the teacher identifies the most appropriate strategy to suit the purpose of a particular learning situation. At SJL we provide opportunities for children to use different types of scientific enquiry during science lessons such as:

- ☐ Comparative & fair testing
- ☐ Identifying, classifying & grouping
- ☐ Observing over time
- ☐ Pattern seeking
- ☐ Researching and using secondary sources

IN THE CLASSROOM

Teachers should look for opportunities to praise co-operation and safe, considerate behaviour. Children are asked to work as individuals, in pairs, in groups and also as a whole class when appropriate. Children are encouraged to use a variety of means for communicating and recording their work. Participating as a speaker and a listener has a high profile at SJL.

In each lesson, pupils are taught key facts, knowledge and scientific skills. Further to this, each lesson offers Rocket Words. These are key words and meanings to learn vocabulary which is then repeated throughout the lesson,

Each lesson starts with the 'Last, Last' section where children have an opportunity to revisit the knowledge and skills acquired in the previous lessons. This ensures that children know and remember more.

EQUAL OPPORTUNITIES AND SPECIAL NEEDS

Every effort is made to ensure that science activities and investigations are equally interesting for all pupils regardless, of gender, race or disability. Children with special needs are involved in all work, planned at an appropriate level, which will help each child to reach their full potential. Teachers' weekly plans show how the activities have been adapted or extended for children of different abilities. For more information on equal opportunities and special education needs, please refer to SJL's "Equal Opportunities" and "Special Education Needs" policies.

WHOLE SCHOOL ANNUAL EVENTS

Science Week

We are committed to providing an annual week involving all pupils. The week enables pupils from all year groups to work collaboratively. We actively encourage parental support and participation in these activities.

RECORD KEEPING AND ASSESSMENT

Record Keeping

Pupils work is recorded in a number of ways:

- ☐ **Science books:** Each child from Year 1 onwards has a green Learning Journal where science work is recorded. This is to be used for individual work only. Each year cohort to ensure that at least 2 pieces of individual work are completed in Learning Journals every half term.
- ☐ **Science Display:** Each class is to have a Science Wall that displays the science drivers, scientific vocabulary related to current topic and working scientifically skills. This may also feature children's work as whole class, groups or individuals. These are to be changed half termly to reflect the new science focus topic.

Assessment

- ☐ **Target Tracker - each term, children are assessed against the knowledge and working scientifically statements** on Target Tracker which are derived from the National Curriculum objectives.
- ☐ **Start and end of unit quizzes – low stake quizzes carried out at the beginning and end of each unit to help track the progress in children's knowledge.**

SCIENCE CURRICULUM ENRICHMENT

We believe pupils should be enthused and excited by science. Hence, we aspire to provide them with opportunities to participate in extra-curricular activities, e.g. science-focused trips, after school science club and workshops delivered by outside agencies.

EARLY YEARS FOUNDATION STAGE

Science is taught at SJL from the Nursery onwards. We encourage young children to think scientifically by providing hands-on activities with the capacity to excite, provide enjoyment and to foster a child's natural curiosity in exploration and investigation. Pupils' scientific skills are displayed through Characteristics of Learning and Early Years' Outcomes.

SAFETY AND CARE

The safe use of equipment is promoted at all times. The School's Health and Safety policy should be consulted for details regarding the use of electrical equipment, wet areas, heavy equipment and the use of tools. Any animals, including insects, being used for study should be treated with the greatest respect and care and returned to their natural habitat as soon as the activity is complete. Leaves and berries of a poisonous nature or nuts should be avoided in the classroom displays and the dangers made clear to children.

FACILITIES AND RESOURCES

We aim to ensure that there are sufficient resources available for all science teaching units in the school. Resources are kept either in individual classrooms or in cupboards in the science room. It is the role of the science lead to liaise with each year group to ensure that there are sufficient resources available and source new ones from the annual science budget. Pupils are also encouraged to choose from a range of equipment when designing investigations and will be trained in the considerate and safe use of all resources. Planning in advance for the upcoming term will assist teachers in organising investigations and potential offsite learning experiences. Science team also attend network meetings and organise worthwhile partnerships with other schools and institutes within the borough to assist with student progress and attainment and to develop staff confidence with teaching lessons.