



# Springvale Primary School

**Policy Title: Science**

**Date of Review: Spring 2022**

**Review by: Spring 2025**

**Signed by:**

**Chair of Governors**

**All policies available at [www.springvaleprimary.org](http://www.springvaleprimary.org)**

# Science Policy Spring 2022



## Introduction

This policy has been formally adopted by the governors of Springvale Primary School. It was initially presented as a model policy by BMBC and it has been accepted or adapted to reflect our practice.

## Aims and Principles

The policy is underpinned by the central aims of Springvale Primary and values held by the school community:

### Aims of the school

- Springvale is committed to promoting high standards of academic achievement for all learners in all subjects.
- As a school we will continue to develop and instil key life skills and values in our pupils.
- We will encourage positive relationships and communications between home, our community and the wider world.

In particular, Springvale School has an inclusive approach to our provision. Our aim is always to involve all our children and stakeholders in all areas of the curriculum and school life. In accordance with our **Disability Equality Scheme** we recognise that this may mean making special adaptations or arrangements from time to time for children with specific disabilities. We welcome the involvement of disabled adults in all areas of school life.

## Background Information

Springvale Primary School is a caring and open school, where parents, children, staff and the wider school community all know that their views and needs will be listened to, in both education and personal areas.

## **Introduction**

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 and using and applying process skills. This policy is a statement of the aims, principles and strategies for the learning and teaching of science at Springvale Primary School. It has been developed through a process of consultation between the Headteacher, the Science Leader and all staff, Governors, pupils and families. Our link Governor for science is Mr D Cliffe. It will be reviewed periodically according to the School Development Plan.

## **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 makes an increasing contribution to all aspects of life. Children are naturally fascinated by everything in the world around them and Science makes a valuable contribution to their understanding. Children learn by playing with things in their world. They pick up clues about what they see, touch, smell, taste and hear in order to make sense of it all. Eventually they come to conclusions which they match up with all the experiences they have had.

Teachers and parents/carers can help children to take a second, careful look at the world. By talking together, children can be encouraged to explore and observe so that they can group objects and events and look for similarities and differences. They will need to measure and record the things they have found out in ways that make sense to them so that later they can talk to other people about what they have discovered. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

## **Science is important because:-**

- It is a body of knowledge essential to our understanding of the world around us and care for the world in which they live.
- The process of scientific investigation forms the basis of the most intellectual enquiry
- The skills and knowledge of science have a wide application in everyday life
- It develops lively, enquiring minds and the ability to question.

Science is a core subject in the National Curriculum. The fundamental skills, knowledge and concepts of the subjects are set out in "Science in the National Curriculum" where they are categorised into four attainment targets.

- Scientific Enquiry
- Life processes and Living things
- Materials and their Properties
- Physical Processes

Foundation Stage classes are taught the required scientific elements of the Foundation Stage document through cross curricular themes.

## **Principles of the Learning and Teaching of Science**

Through science in our school we aim to:

- Help the children to enjoy scientific activities and to foster a positive attitude to science and prepare children for life
- Make high quality, cross-curricular links to a wide range of subjects and themes
- Deliver the National Curriculum Science in ways that are imaginative, purposeful, well controlled and enjoyable
- Help in developing and extending the children's scientific concept of their world
- Deliver clear and accurate teacher explanations and skilful questioning
- Develop the use of scientific language, recording and techniques
- Enable children to become effective communicators of scientific ideas, facts and data
- Encourage skills to aid scientific enquiry, such as predicting, questioning, making inferences, concluding and evaluating work, using mathematical skills, communicating ideas
- Develop a set of attitudes which will promote scientific ways of thinking, including open ended themes, perseverance, objectivity and a recognition of the importance of teamwork
- Come to understand the nature of "scientific method" involving: meticulous observation, the making and testing of hypotheses, the design of fair and controlled experiments, the drawing of meaningful conclusions through critical reasoning of the evaluation of evidence.

## **Key Skills**

- Communication, through finding out about and communicating facts, ideas and opinions in a variety of contexts.
- Application of number, through collecting, considering and analysing first and second-hand data.
- Developing the ability to use a wide range of technology skills or related tools including multimedia resources
- Teamwork, through carrying out scientific investigation and consolidating ideas.
- Improving own learning and performance, through reflecting on what they have done and evaluating what they have achieved.
- Problem solving, through finding ways to answer scientific questions with creative solutions.

## **Planning and Delivery**

Planning in science is a process in which all teachers are involved to ensure that the school delivers full coverage of the National Curriculum and Foundation stage curriculum.

Annual, termly and unit planning is essential following the new syllabus to ensure that continuity and progression is maintained throughout school and that children are constantly challenged. It ensures progression between year groups and guarantees all topics are covered. Elements of the Year 6 curriculum are covered in link units to ensure they are not 'new' to the children as they reach Year 6. Planning has been formatted so teachers can see not only previous learning objectives/knowledge but also further knowledge/objectives when the children will next address the topic. Literacy links have been added to the planning as well as famous scientists/influential individuals from the specific field to enhance understanding and engagement

### Overview of units

Year 1	Working scientifically	Plants	Animals, including humans	Everyday materials	Seasonal change	
Year 2		Plants	Animals, including humans	Use of everyday material	All living things and their habitats	
Year 3	Working scientifically	Plants	Animals, including humans	Rocks	Lights	Forces and magnets
Year 4		All living things	Animals, including humans	States of matter	Sound	Electricity
Year 5	Working scientifically	All living things	Animals, including humans	Properties and changes of materials	Earth and Space	Forces
Year 6		All living things	Animals, including humans	Evolution and inheritance	Light	Electricity

### **Strategies for the Teaching of Science**

In recent years the requirements of the science curriculum placed a much greater emphasis on investigation which is embedded into the weekly planning of science.

- Y1-6 pupils receive a minimum of 1.5 hours per week or equivalent pro rata
- Foundation stage pupils access science through the area Knowledge and Understanding of the World
- Teachers make cross-curricular links wherever possible- See individual class folder for ideas/concepts
- Science throughout the school includes as much practical Scientific Investigation as possible

Various modes of working in science may include co-operative group work, individual work and class teaching where appropriate. Within this structure:

- Discussion is encouraged
- Pupils communicate their findings in a variety of ways
- Demonstrations, explanations and instructions by teachers will be to groups, individuals and the whole class
- Practical activities advance and consolidate knowledge and skills of all children
- Problem solving and investigation tasks are essential elements of the teaching requirements

### **Recording**

Children's recording will take many forms according to the nature of the activity:

- Verbal
- Pictorial
- Diagrammatic
- Graphical
- Written
- Symbolic
- I.C.T.
- Photographic

### **Homework**

Homework may be given to consolidate skills and knowledge taught in class or it can be used to prepare for future lessons.

Any homework given should be carefully planned and explained and feedback should be given to show the work is valued.

### **Displays**

Teachers should have an area within their classroom to display the work of their class/stimulate interest in their science topic. Displays should be a mix of children's work, key vocabulary and prompts to support their learning. Children should have a system to ask key questions and share their learning with the whole class.

### **Trips/Visitors to school**

At Springvale Primary School, we value the impact of extra-curricular activities. A Science Week is planned annually and often involves enrichment activities provided by other educational sites/individuals. In the past, this has included Wonderdome (planetarium), a visit from an owl sanctuary and a whole Key Stage 2 trip to Chester Zoo.

## **Health and Safety**

When working with tools, equipment and materials in practical activities and in different environments, including those that are unfamiliar, pupils should be taught:

- To recognise hazards, assess consequent risks and take steps to control the risks to themselves and others
- To use information to assess the immediate and cumulative risks
- To manage their environment to ensure the health and safety of themselves and others
- To explain the steps they take to control risks.

The teacher will ensure that any testing that needs to be carried out complies with the Health and Safety procedures and has been practised prior to the lesson.

Safety hazards should be pointed out to the children at the beginning of any work.

For further help staff can seek advice from the Health and Safety Representative in School.

## **Equal Opportunities**

At Springvale Primary School we work to ensure that all children have the opportunity to gain scientific knowledge and understanding regardless of gender, race, class, physical or intellectual ability. We will ensure that expectations do not limit pupils' achievement and that assessments do not involve any cultural, social, linguistic or gender bias. Included in the individual class science folders is a document focused on how to support SEND children in Science, with practical ideas included on how to adapt the lesson so children can access learning.