



# Royal Cross Primary School

*Lancashire's school for deaf children*

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| <b>Policy Title:</b>          | Science Policy                                                                                                                                                                                                                                                                                  |
| <b>Date of Issue:</b>         | 27/04/21                                                                                                                                                                                                                                                                                        |
| <b>Date of Review:</b>        | Summer Term 2022                                                                                                                                                                                                                                                                                |
| <b>Author and Role:</b>       | Sofia Parveen, Subject Leader                                                                                                                                                                                                                                                                   |
| <b>Ratified by:</b>           | Governors Policy Committee                                                                                                                                                                                                                                                                      |
| <b>Responsible Signatory:</b> | Clive Gregory                                                                                                                                                                                                                                                                                   |
| <b>Date of signature:</b>     |                                                                                                                                                                                                                                                                                                 |
| <b>Details:</b>               | This Policy: details colleagues' responsibilities and reflects the school values and philosophy in relation to the teaching and learning of Science. It sets out a framework within which teaching staff and support staff can operate and gives guidance on planning, teaching and assessment. |
| <b>Cross reference:</b>       | Assessment, Recording and Reporting Policy<br>Feedback and Marking Policy<br>Teaching and Learning Policy                                                                                                                                                                                       |

## **EQUALITY AND DIVERSITY STATEMENT**

Royal Cross School is committed to the fair treatment of all in line with the Equality Act 2010.

An equality impact assessment has been completed on this policy to ensure that it can be implemented consistently regardless of any protected characteristics and all will be treated with dignity and respect.

## **POLICY REVIEW**

To ensure that this policy is relevant and up to date, comments and suggestions for additions or amendments are sought from users of this document. To contribute towards the process of review, please contact the author of the policy.

## **Royal Cross Primary School**

### SCIENCE POLICY

#### Aims and objectives

Science at Royal Cross aims to teach our children the skills, knowledge and understanding they need to question and understand concepts and phenomena that occur in the world around them and equips them with the motivation to seek explanations for these. Children learn the skills required for scientific enquiry and they will begin to appreciate the way science will affect their future on a personal, national and global level.

The aims of science are to enable children to:

- Ask and answer scientific questions.
- Plan and carry out fair scientific investigations, using equipment including computers.
- Know and understand the life processes of living things.
- Know and understand the physical processes of materials, electricity, light, sound.
- and natural forces
- Know about materials and their properties.
- Evaluate evidence and present their conclusions clearly and accurately.

#### Teaching and learning style.

The school uses a variety of teaching and learning styles in science lessons. Our principal aim is to develop the children's knowledge, skills and understanding. We do this through a mixture of whole-class teaching and individual / group activities. Teachers encourage the children to ask as well as answer scientific questions. The children have the opportunity to use a variety of secondary sources of information, where it will enhance learning as well as gaining first hand experiences, for example, the use of books, photographs, graphs, diagrams, models and ICT.

Our communication policy enables our pupils to access the science curriculum in the language and mode of communication most appropriate to their needs. Where pupils' access and expression of concepts is through British Sign Language, consideration must be given to fact that the child's acquisition of scientific vocabulary in English will be delayed.

We recognise the particular importance of first-hand experience for motivating children with language and learning difficulties and teachers are encouraged to make best use of our creative approach to the curriculum to facilitate this.

We recognise the fact that we have children of differing scientific ability in all our classes and so we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this in a variety of way by:

- Setting common tasks that are open-ended and can have a variety of responses
- Setting tasks of increasing difficulty (we do not expect all children to complete all tasks)
- Grouping children by ability and setting different tasks for each group
- Providing a range of challenges with different resources
- Using additional adults to support the work of individual children or small groups
- Incorporating high order questions that apply to scientific thinking to extend the most able children in science

### Science curriculum planning

Our science planning is topic based as part of our integrated curriculum approach. The National Curriculum is used as the basis of curriculum planning, with specific guidance provided by Lancashire Professional Development Service (LPDS) National Curriculum Support Materials.

These resources enable teachers to:

- Explore the principles underpinning an effective curriculum which will be relevant and purposeful for the 21<sup>st</sup> century.
- Provide a framework to design and construct a bespoke curriculum to meet the needs of our children.
- Highlight the key learning within each national curriculum subject area to ensure effective progression across the primary phase resulting in a broad and balanced curriculum.
- Provide opportunities to explore examples of thematic approaches to delivering the curriculum.

The class teacher is responsible for planning science lessons. This can be done by annotating the unit plans or by producing separate plans. We have planned the topics in science so that they build upon prior learning. We ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each unit and we also build progression into the science scheme of work, so that the children are increasingly challenged as they progress through the school. More able learners are identified and throughout the year, enrichment opportunities are offered, often in partnership with other local schools.

### Foundation Stage

We teach science in the Foundation stage as an integral part of the topic work covered during the year. It comes under Understanding the World in the EYFS. Children must be supported in developing the knowledge, skills and understanding that help them to make sense of the world. Their learning must be supported through offering opportunities for them to use a range of tools safely; encounter creatures, people, plants and objects in their natural environments and in real-life situations; undertake practical 'experiments'; and work with a range of materials.

The contribution of science to teaching in other curriculum areas

### English

Science contributes significantly to the teaching of English at Royal Cross by actively promoting the skills of thinking, reading, writing, speaking and listening. The children develop communication skills in science lessons through discussions and through recounting their observations of scientific experiments. They develop their writing skills through writing reports and projects and by recording information.

### Mathematics

Science contributes to the teaching of mathematics in a number of ways. The children use weights and measures and learn to use and apply number skills. Through working on investigations, they learn to estimate and predict. They develop the skills of accurate observation and recording of events. They use numbers in many of their answers and conclusions.

### Computing

Children use computing in science lessons where appropriate. They use it to support their work in science by learning how to find, select, and analyse information on the internet. Children use computers to record, present and interpret data and to review, modify and evaluate their work and improve its presentation.

Personal, Social, Health and Economic Education (PSHE), Relationship Education (RE) and citizenship

Science makes a significant contribution to the teaching of personal, social and health education. This is mainly in two areas. Firstly, the subject matter lends itself to raising matters of citizenship and social welfare and healthy eating and exercise. Secondly, children benefit from the nature of the subject in that it gives them opportunities to take part in debates and discussions. Science promotes the concept of positive citizenship.

Spiritual, moral, social and cultural development

Science teaching offers children many opportunities to examine some of the fundamental questions in life, for example, the evolution of living things and how the world was created. Through many of the amazing processes that affect living things, children develop a sense of awe and wonder regarding the nature of our world. Science raises many social and moral questions. Through the teaching of science, children have the opportunity to discuss, for example, the effects of pollution and the moral questions involved in this issue. We give them the chance to reflect on the way people care for the planet and how science can contribute to the way we manage the Earth's resources. Science teaches children about the reasons why people are different and, by developing the children's knowledge and understanding of physical and environmental factors, it promotes respect for other people.

### Teaching science at Royal Cross

We teach science to all children, whatever their ability. Science forms part of the school curriculum policy to provide a broad and balanced education for all children. Through our science teaching, we provide learning opportunities that enable all pupils to make progress.

We do this by setting suitable learning challenges and responding to each child's different needs. Our work in science takes into account the targets set in the children's 'Personal Learning Plans'.

### Assessment and recording

We assess children's work formatively in science through observations and marking. These assessments inform the class teacher's planning for future lessons. Written or verbal feedback is given to the child to help guide his or her progress. Older children are encouraged to make judgements about how they can improve their own work.

Subject leader collects samples of pupil's work, annotated against B Squared and used to generate whole staff moderation discussions. These are transferred to a developing portfolio of work.

### Resources

We have a range of resources to support the teaching of Science across the school and all our resources are kept in the science cupboard.

### Monitoring and review

It is the responsibility of the Science Subject Leader, the Headteacher and Governors to monitor the standards of children's work and the quality of teaching in science. The

Science Subject Co-ordinator is also responsible for supporting colleagues in the teaching of science, for being informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school. An action plan is written and reviewed annually. The science subject co-ordinator helps with the levelling and moderation of work samples to ensure consistency and calls in books and assessment folders for scrutiny and evidence of progress, with feedback being given to staff on a termly basis. We are working with a cluster of schools to share ideas and look at how we moderate our science work.