



## Science Policy 2021-2022

Science teaches an understanding of and develops a sense of excitement and curiosity about natural phenomena. It is our aim in Science that children are given opportunities to observe, record and draw conclusions about the world around them and encourages them to understand how Science can be used to explain what is occurring, predict how things behave and analyse causes. It teaches children to work scientifically to stimulate creative thought and understand the nature, processes and methods of Science.

This policy outlines the teaching and learning of Science at St Gregory's RC Primary School. The implementation of the policy is the responsibility of all teaching staff and will be monitored by the Science Co-ordinator and Head Teacher.

### **The objectives of teaching science are to enable children to:**

- Work scientifically so as to develop an understanding of the nature, processes and methods of science, through different types of scientific enquiry that help them to ask and answer scientific questions about the world around them.
- Develop scientific knowledge and conceptual understanding in the following areas:

*-Biology: including plants, animals, habitats, evolution and inheritance.*

*-Chemistry: including everyday materials and their uses, rocks, states of matter and the properties and changes of materials.*

*-Physics: including seasonal changes, light, forces, magnets, sound, electricity and earth and space.*

- Understand the uses and implications of science, today and for the future.

### **Aims:**

A high-quality Science education provides foundations for understanding the world. Through building key knowledge and understanding of concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of curiosity.

- For staff to deliver a broad and balanced Science education which incorporates a range of teaching styles to suit individual needs.
- For children to have the right to equal opportunities in Science in our school regardless of their background, religion, race, gender, physical or intellectual ability.
- For children to become curious about the world around them and the things that they observe, experience and explore.
- For children to use their experiences to develop understanding of the key scientific ideas.
- For children to develop skills of sorting, classifying, planning, predicting, questioning and drawing conclusions from data.
- For children to acquire and refine practical skills necessary to investigate ideas and questions safely.
- For children to practise mathematical skills and enhance literacy skills (where possible) within real contexts.
- For children to develop language skills through talking about their work and presenting their findings.
- For children to use progressively technical scientific and mathematical vocabulary and draw diagrams and charts to communicate scientific ideas.
- For children to use a range of media including ICT to extract scientific information.

#### **Values and attitudes:**

- For children to work co-operatively with others, listening to their ideas and treating these with respect
- For children to develop respect for the environment and living things, including themselves and each other.
- For children to develop responsibility for their own health and safety and that of others when undertaking scientific activities

#### **Teaching of Science:**

Teachers are responsible for the teaching of Science. It is taught in units (sometimes incorporated within wider topic work) through a combination of whole class teaching, group and individual work.

Teachers will encourage our children to have skills of observation, discussion, debate and research. In order to ensure the children receive a balanced science curriculum it is essential that elements

from each of the Attainment Targets be taught each year, with particular emphasis on Scientific Investigation.

During the Foundation Stage children begin to explore the world around them, with specific science work covered through the Development Matters Statements. Throughout our science teaching we hope that our children will develop a sense of awe and wonder about the world around them.

Teaching and learning is also based outside within the school grounds whenever possible.

Children also use ICT in science because it enhances their learning. They can take part in role-play and discussions and they may present reports to the rest of the class, enabling them to make their thinking clear to themselves and others, to develop their use of scientific vocabulary and to articulate scientific concepts clearly.

They engage in a wide variety of problem-solving activities, and wherever possible we involve the pupils in real scientific activities, for example, investigating a local environmental problem, or carrying out a practical experiment and analysing the results.

We recognise that in all classes children have a wide range of scientific abilities, and we ensure that 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 ways:

- setting tasks of increasing difficulty (we do not expect all children to complete all tasks);
- Sometimes setting different tasks for different groups of children (The grouping of pupils for practical activities will take account of their strengths and weaknesses and ensure that all take an active part in the task and gain in confidence.)
- providing resources of different complexity where needed (For pupils with SEN the task will be adjusted or pupils may be given extra support.)
- using teaching assistants to support and extend the work of individual children or groups of children.

### **Planning:**

Planning in science is a process, which involves all teachers.

This includes:

- The School Improvement Plan which is the foundation for curriculum planning, developed through collaboration between the staff, and approved by the governors.
- Schemes of work for science which are developed by year group staff.
- Teacher's planning is collected and monitored.

**The Foundation Stage** Science is taught in Early Years linked to the Development Matters document. Science makes a significant contribution to developing a child's knowledge and understanding of the

world, for example through exploration and investigation of what floats and what sinks when placed in water.

In order for children to make progress in Science, teaching should provide opportunities for children as they move through the Key Stages to progress:

- From using everyday language to increasingly precise use of technical and scientific vocabulary, notation and symbols.
- From personal scientific knowledge in a few areas to understanding in a wider range and of links between these areas.

### **Resources:**

Central resources in science are the responsibility of the Science Co-ordinator who has a budget available. Science equipment is audited annually. Consumables are replaced and discussions with staff determine if there are any other pieces of equipment required in order to enhance the teaching and learning of science. Children are encouraged to value and take care of all equipment. Books which are pertinent to a particular year group can be found in relevant classrooms or in the school library.

### **The role of the Science Co-ordinator:**

The Science co-ordinator is to:

- To be enthusiastic about Science and demonstrate good practises.
- To work alongside colleagues in planning where needed (progress and activities).
- Take lead in policy development.
- Monitor the resources in Science and advise the Head Teacher of any action needed.
- Take responsibility for the purchase and organisation of central resources for science.
- Keep up to date with developments in Science education and disseminate information to colleagues as appropriate.
- Monitor the teaching and learning of Science throughout the school.

### **Health and safety:**

Pupils will be taught to use scientific equipment safely when using it during practical activities. Class Teachers, and the Science Co-ordinator will check equipment regularly and report any damage, taking defective equipment out of action. Activities which take place away from the school's

premises (for example, a seashore outing) will require a risk assessment form to be filled in. (through EVOLVE)

**Policy Review:**

This policy will be reviewed bi-annually or as necessary in view of government or LA initiatives, analysis of assessments or curriculum development.