

St John Vianney Catholic Primary School



"Seeking Growth Together"

Science Policy

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Approved by Headteacher

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POLICY FOR SCIENCE

INTRODUCTION

This document is a statement of the aims, principles and strategies for the teaching and learning of Science at St. John Vianney Catholic Primary School.

This policy was reviewed in the September 2023.

WHAT IS SCIENCE?

Science is a body of knowledge which is built up through experimental testing of ideas and organised in a way that makes it easy to use. Science is also a methodology; a practical way of finding reliable answers to questions we may ask about the world around us.

AIMS

Our Aims in teaching Science are that all children will:

- Retain and develop their natural sense of curiosity about the world around them.
- Develop a set of attitudes which will promote scientific ways of thinking; including open-mindedness, 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 and the evaluation of evidence.
- To become effective communicators of scientific ideas, facts and data; to be able to use and understand scientific vocabulary; to begin to build up a body of scientific knowledge and understanding which will serve as a foundation for future enquiry.
- Be aware of Science in our everyday world as well as local and global issues. Be able to research scientific concepts and findings along with raising and researching their own questions.
- Maintain a sense of awe and wonderment of the world around us and consider the spiritual, moral, social and cultural impact and aspect of Science in our lives.

At **St John Vianney Catholic Primary School** we hold these principles:

Science is good when it is:

- ❖ Solving problems
- ❖ Full of discovery
- ❖ Related to real life
- ❖ Practical
- ❖ Collaborative
- ❖ Seen in action
- ❖ Fun

We asked: pupils, teachers, parents, leadership team and governors.

SJV SCIENCE PRINCIPLES

Vision:

All children will become scientifically literate citizens of the future, through our practical, collaborative, inquiry-based approach to Science which stimulates children's natural curiosity to find out about the world around them.

Principles agreed as a school community, including:

- Pupils
- Staff
- Governors
- Parents

Vision agreed as a school community.

PRINCIPLES OF THE TEACHING AND LEARNING OF SCIENCE

Science is a core subject in the National Curriculum and forms an important part of the foundation stage under the umbrella of 'The World'. The fundamental skills, knowledge and concepts of the subjects are set out in the new National Curriculum 2014 where they are categorised into the following four areas-

- ❖ Working Scientifically
- ❖ Biology
- ❖ Chemistry
- ❖ Physics

Science is taught according to the Early Learning Goals and National Curriculum. The Curriculum is split into Foundation Stage, Key Stage 1, Lower Key Stage 2 and Upper Key Stage 2.

After discussions with pupils, staff, governors and parents, the following principles for Science at St John Vianney have been agreed. We aim for Science lessons to be:

- ❖ Be full of discovery
- ❖ Related to real life
- ❖ Practical
- ❖ Collaborative
- ❖ Seen in action
- ❖ Fun
- ❖ Solve problems

THE PREDOMINANT MODE OF WORKING IN SCIENCE

Scientific concepts and experiments are carried out through co-operative group work, although individual work and class teaching are used where appropriate. This structure lends itself to the development of independent enquiry and learning. Children should be confident at working scientifically, which is not just fair testing but also exploration, identification and classification, pattern seeking, observing, reference, test an explanation, theory or model and opinion.

PUPILS WITH ADDITIONAL NEEDS

Pupils with Educational Health Care Plans will have access to a support assistant. Pupils with a particular ability and flair for science, who work more quickly through the National Curriculum and are extended through the use of supplementary work and deeper thinking questioning within their class. When appropriate, challenge will given both in school and at home together with computer software.

HOMEWORK

Homework is used to support science through tasks such as finding answers to questions posed in school through the use of books multimedia (libraries) and interviews with friends and family. However, this will not usually involve written explanations unless the task requires it.

Research and revision across the science curriculum, will be encouraged for Year 6.

THE EMPHASIS IN OUR TEACHING OF SCIENCE:

Is on first hand experience and we encourage children increasingly to take control of their own learning. Our focus is on Working Scientifically, thus:

- ❖ much of our study of science is through practical investigative work
- ❖ careful observation is fostered
- ❖ resources are made readily available and accessible
- ❖ pupils are encouraged to communicate their scientific findings to others using a variety of methods including written or verbal reports with the use of graphs or pictures.

STRATEGIES FOR ENSURING PROGRESS AND CONTINUITY

THE ROLE OF THE SCIENCE SUBJECT LEADER is to:

- take the lead in policy development and the provision of published schemes of work designed to ensure progression and continuity in science throughout the school
- support colleagues in their development of planning, their implementation of the scheme of work and in assessment and recording activities
- monitor progress in science and advise the Headteacher on 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

FEED BACK TO PUPILS:

Progress in science is achieved through the discussion and the marking of work, according to the marking policy. Children are given advice so that they understand and can work towards in small steps to further their progress.

FORMATIVE ASSESSMENT:

Is used to guide the progress of individual pupils in Science. It involves identifying each child's progress in each area of the science curriculum, determining what each child has learned and what should be the next stage in his/her learning. Formative assessment is mostly carried out informally by teachers in the course of their teaching. Suitable tasks for assessment include:

- ❖ Small group discussions usually in the context of a practical task
- ❖ Specific assignments for individual pupils
- ❖ Individual discussions
- ❖ Concept cartoons
- ❖ True/ False activities

Assessment should be embedded in learning and teaching rather than a separate task and involve pupils in sharing the learning objective and providing feedback so that they recognise the next step in their learning.

STRATEGIES FOR RECORDING AND REPORTING:

Records of progress in Science topic assessments to be recorded mid-term and end of year. These will identify areas for targets and inform teaching. Science Subject Leader collects records of science

assessments, which includes knowledge and working scientifically objectives taught and moderated as a staff.

REPORTING TO PARENTS

Through written reports Science attainment and progress will be reported on termly, with an additional two Parent' evenings to further communicate on an annual basis.

FORMAL SUMMATIVE ASSESSMENT

Introduced this year, summative assessments will be carried out mid-year and end of year. These will inform Teacher Assessments and identify any gaps in learning to support children where needed.

STRATEGIES FOR USE OF RESOURCES

Classroom resources in science include:

- ❖ A designated area suitable for scientific work and display (when appropriate)
- ❖ A set of materials relevant to the scheme of work for that class when appropriate (available from the science resource room)
- ❖ Key vocabulary displayed
- ❖ Use of appropriate ICT and technology to support scientific teaching, learning and research.

CENTRAL RESOURCES IN SCIENCE

These are the responsibility of the science subject leader. These are ordered yearly and kept in a cupboard readily available to all staff.

INFORMATION TECHNOLOGY

Is a resource which is used in science for

- ❖ Communicating information (word processing and graphics/drawing packages)
- ❖ Handling data (database and data capture equipment)
- ❖ Modelling (simulations and spreadsheets).
- ❖ Research- iPads

THE LIBRARY

Our school library contains a stock of books on Science based subjects and is used for reference.

CONSIDERATION OF HEALTH AND SAFETY ISSUES IS OF THE MOST IMPORTANCE IN SCIENCE

This refers to the school Health and Safety Policy. We also use:

- ❖ Appropriate storage of equipment and materials.
- ❖ Appropriate handling of equipment and materials.
- ❖ The guidelines set out in CLEAPS which can be found on line or with the support of the Science Subject Leader.
- ❖ Be Safe! Guidelines document with Science Subject Leader.