

Science Policy



Policy developed by Mrs Malley (Science leader): January 2021

Policy approved by Governors: February 2021

A handwritten signature in black ink that reads "Fiona Taylor".

Chair of Governors

A handwritten signature in black ink that reads "Mr M Grogan".

Headteacher

Policy shared with staff and shared on the school website: February 2021

'Never settle for less than your best'

SCIENCE POLICY

Our school motto

Never settle for less than your best.

Our Vision

Following in the footsteps of Jesus, each member of our community will flourish as resilient, respectful and adaptable individuals prepared for life's journey. Along the way we will encourage and inspire each other to continue growing as beacons of light in our own lives and the wider world.

Our Mission Statement

St. George's Central seeks to provide quality education rooted in the Christian faith, serving the spiritual, moral, and educational needs of the community of which it is part.

Introduction

This document outlines the schools philosophy with regard to the teaching and learning of Science at St. George's Central CE Primary School and Nursery. Science is taught in the Early Years as an element of Understanding of the World. The children will learn through talking about their own experiences, walks, educational trips, authentic resources, stories and factual books. Science in Early Years will be delivered in planned sessions and imbued throughout the curriculum, supported by an 'in the moment' planning approach. In Key Stage 1 and 2, it is the decision of the governors and staff to use the National Curriculum and Inspiring Science Document to provide a rich, broad and creative approach to learning. Due to the mixed class arrangement, our topics are planned on a 2-year cycle, with each class covering a new topic each half-term. This approach provides a context for learning, whilst also covering all objectives of the National Curriculum. Where possible, other lessons, particularly English and ICT lessons, link closely with these topics. The implementation of this policy is the responsibility of the Science leader, governors and all staff.

What is Science?

Science stimulates curiosity and excites pupils to ask questions about the world in which we live. Practical experiences enhance children's knowledge and understanding of the world and make important necessary links in everyday life. Through science children learn to question, reason and discuss topical science-based issues and make informed decisions about why things happen. They explore meaningful ideas in context to develop an understanding of issues affecting their lives and the future of the world. Furthermore it brings relevance, interest and purpose to their learning. Through investigations children develop numerous essential life skills as well as satisfying their curiosity and overcoming misconceptions. It provides strong links with all aspects of learning contributing to a broad and balanced curriculum. Science teaching provides creative, practical, skill based, cross curricular learning that is highly significant to children's experiences.

Aims

- To develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.
- To 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.
- To equip children with the scientific knowledge required to understand the uses and implications of science, today and for the future.
- To develop an enquiring mind and willingness to ask questions about the natural world.
- To develop knowledge and understanding of science which will serve as a foundation for future enquiry.
- To develop attitudes which promote scientific thinking including, open mindedness, objectivity and the value of team work.
- To enhance and develop scientific enquiry skills including; predicting, testing, devising fair tests, planning investigations, leading controlled experiments, drawing conclusions, evaluating validity of results and making generalisations.
- To develop recording skills in a variety of formats e.g. writing, illustrations, graphs, tables and charts.
- To stimulate and enhance children's love of learning and encourage children to find enjoyment and satisfaction in their work.

'Never settle for less than your best'

Jesus said, I am the light of the world. Whoever follows Me will not walk in darkness, but will have the light of life.' John 8:12

- To ensure cross curricular links are made to develop a sense of purpose and achievement.
- To celebrate and value the contribution that all children make and share their achievements with others.
- To create links to first hand experiences to ensure learning is meaningful and set in context.

Skills and processes in Science

- In the Early Years children will begin developing their knowledge and understanding of the world. They will explore a variety of scientific aspects and ask many questions about the world around them. Teachers will use the EYFS to plan relevant experiences for the children.
- In Nursery the children will observe seasonal changes, new life and growth, changes in the weather, plants and animals and natural and found objects. The children will talk about how people, animals and plants grow and change.
- In Reception the children will talk about the similarities and differences between ourselves e.g. body parts and look at the features of dinosaurs and the similarities and differences between dinosaurs and ourselves. They will begin to look at and explore the senses. The children will explore mixing materials, make predictions and carry out investigations linked to floating and sinking. The children will observe animals and mini beasts in their habitats and begin to look at their life cycles. The children will explore changes through the seasons, plants and nature.
- In KS1 and KS2 science will be taught every week.
- Teachers will fulfil the requirements of the National Curriculum at Key Stage 1 and 2 covering all aspects of the relevant topics, scientific knowledge and conceptual understanding, the nature, processes and methods of science, spoken language and the key phase requirements for working scientifically.
- Teachers will develop pupils scientific vocabulary and ability to articulate scientific concepts clearly and precisely.
- Teachers will use the National Curriculum objectives, requirements and guidance to plan science lessons and draw on the extensive resources available in school.
- Teachers will teach science through a question based approach and draw on the materials from Inspiring Science and Clive Davies where appropriate.
- The teacher will stimulate children's curiosity about aspects of science to develop an enquiring mind and encourage children to question, reason and discuss.
- Children will be encouraged to plan their own fair test investigations identifying variables, what will stay the same, observations and measurements and forming questions.
- Children will be encouraged to make links from previous enquiry and experiences to make predictions and informed decisions in their learning.
- Children will learn to record their work in a variety of formats e.g. bar, line graphs, tables, illustrations and writing.
- Children will be encouraged to self and peer assess their work. They will also be involved in planning the next stage in their learning, discussing where they think that are at and where they need to go next.

Computing

Children are given opportunities to apply and develop their ICT capacity through relevant Science based programs and access to the internet. Where possible, ICT lessons link to the children's science lessons to provide greater depth to learning.

Cross Curricular links

Where possible, other lessons, particularly English lessons, link closely with science. Trips and visitors also greatly enhance our Science curriculum.

Resources

Each Key Stage has its own set of resources to support topics. There are also central science resources stored in Key Stage 2 and other locations around school.

'Never settle for less than your best'

Jesus said, I am the light of the world. Whoever follows Me will not walk in darkness, but will have the light of life.' John 8:12

Assessment, recording and reporting

Children will begin each new topic in Science by taking an initial Rising Stars assessment to identify children's prior knowledge on the topic, misconceptions and gaps in learning. Teachers will then use this information to support the planning of the topic. Throughout the topic, teachers will regularly assess children's learning, using this information to guide and inform planning to meet children's individual learning needs. For each topic the children will be complete a Rising Stars end of topic assessment. The score achieved will then used to determine if the children are at expected level, working below expected level or greater depth for that area of Science. Teachers will also provide an end of year teacher assessment based on the tests and work in books using these judgements. **Please see the 'How we assess children's learning in Science' document, within the Science section of our school website for more information.**

Monitoring and Evaluation

Monitoring activities which we will carry out may include:

- Lesson observations
- Regular review of the Science policy and Curriculum
- Pupil and staff interviews/questionnaires
- Pupil/staff/parent surveys
- Scrutinising staff planning
- Samples of children's work

Evaluation activities which we will carry out may include:

- Teacher and pupil evaluations
- Evidence from lesson observations
- Feedback and evaluation by pupils

Community Cohesion

We will endeavour to develop community cohesion i.e. binding the community together by thinking about areas such as rights and responsibilities, mutual respect for one another, equality servility etc whenever appropriate.

Inclusion and equal opportunities

As a school we recognise that we have children of differing abilities in all our classes and we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies;

- Setting tasks of increasing difficulty, where not all children complete all tasks.
- Providing resources from earlier or later key stages to support or enhance learning.
- Providing relevant challenges for more able pupils to advance their learning.
- Having additional adults to support the work of individual children or small groups.
- Presenting children with both open and closed questions targeted at all abilities to allow all children to reach their full potential.
- Providing work with equal appeal to boys and girls.

Outcomes

Science will be fun and enjoyable and stimulate pupils' curiosity and willingness to learn. It will have a strong presence in the ethos of the school through displays and science weeks.

The role of the Science leader

- To write a Science policy in consultation with other members of staff and governors.
- To write an annual action plan showing key areas of development for Science.
- To advise teachers on the Science curriculum.
- To ensure the adequate and appropriate provision of resources, and that teachers are aware of how to use the resources available.

'Never settle for less than your best'

Jesus said, I am the light of the world. Whoever follows Me will not walk in darkness, but will have the light of life.' John 8:12

- To arrange the purchase of Science resources within an agreed budget.
- To keep up to date with recent educational thinking about the teaching of Science and to attend courses and relevant training.
- To advise the Headteacher of strengths and areas for development in the Science curriculum and resources within the school.
- To monitor the Science curriculum within school and to have a clear understanding of standards.
- To address any issues relating to pupil progress in consultation with the Headteacher and members of staff.
- To keep a portfolio of photographic evidence.

The role of the Governing Body

The Governing Body is responsible for ensuring that:

- There is a current policy statement and curriculum for the teaching of Science.
- Science is included in the basic curriculum.
- Sufficient time and resources are devoted to Science to enable the school to meet its legal obligations and to deliver a quality Science curriculum.

The role of the Headteacher

It is the Headteacher's duty to ensure that:

- A Science education is provided in accordance with the Governors' Agreed Syllabus for all registered children at the school.
- Appropriate staffing and resources are made available to meet the aims and objectives of Science within the school.

Conclusion

At St. George's Central we believe that it is our professional duty to share this policy with all new members of staff, parents and carers on request. The policy will be reviewed in the light of experiences, new developments or requirements. The leader will discuss any aspect of this policy on request.

'Never settle for less than your best'

Jesus said, I am the light of the world. Whoever follows Me will not walk in darkness, but will have the light of life.' John 8:12