St. Thomas' CE

Primary School

Science Policy

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Introduction

This document is a statement of the aims, principles and strategies for the Teaching and Learning of Science.

What is Science?

Science is a body of knowledge which is built up through experimental testing of ideas and which is organised in a way that makes it easy to use. 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, providing a practical way of finding reliable answers to questions posed about the world around us.

Our Vision and Principles for Science at

St Thomas' CE Primary School

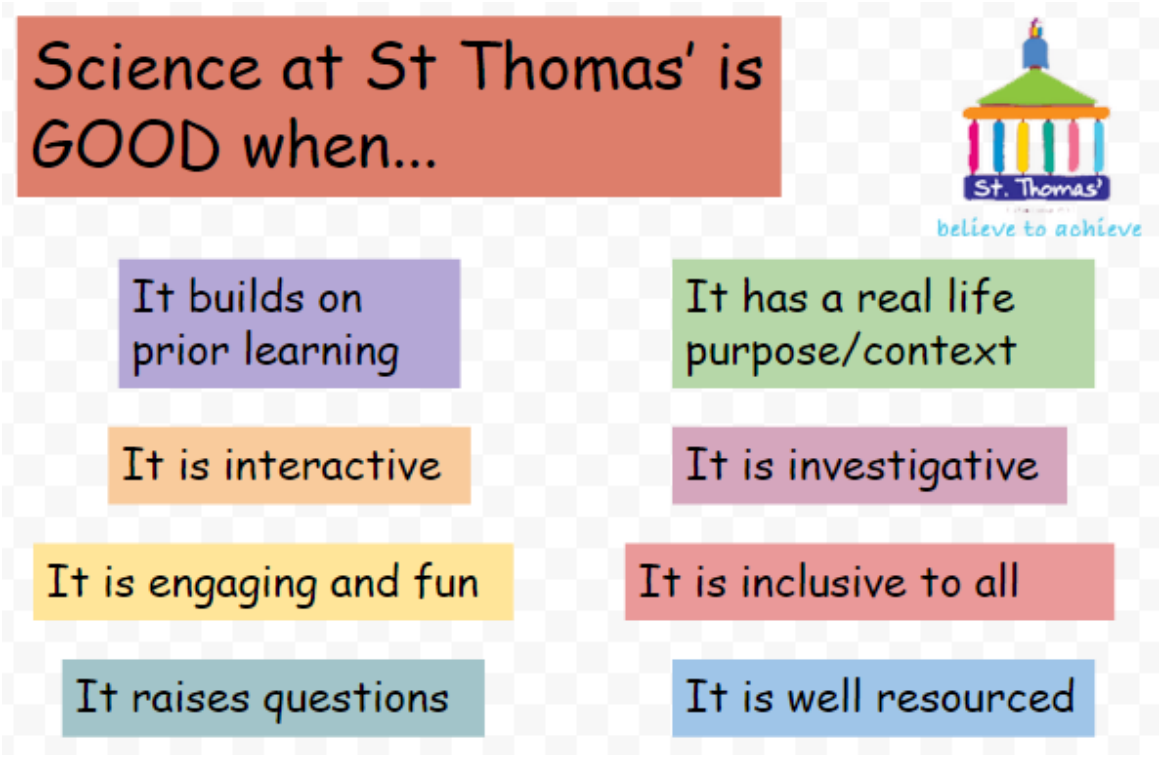
(Created with input from Staff and Pupils)

At St Thomas' we strive to create and provide a purposeful and practical Science curriculum, which includes rich scientific vocabulary, helps to develop life skills and inspires curiosity.

We believe that our Science curriculum contributes to society through the development of problem solving skills, enquiring minds, innovation and increasing fundamental knowledge.

We learn Science through hands-on experiences that are relevant to real life and are engaging. We encourage pupils to raise their own questions and take responsibility for their learning.

We aim to promote whole-school enthusiasm and passion for scientific enquiry and investigation. We aim to engage children, make them inquisitive about the world around them and instill the confidence to raise questions and find answers.



Strategies for the Teaching of Science

- SCIENCE is seen as part of the whole rather than as an isolated curriculum area. With particular emphasis on links with numeracy. It forms part of our themes and at least one theme a year is science based. On occasions science may be introduced in isolation to ensure that all areas in the National Curriculum are covered - particularly in KS2.
- Early Years (4-5 years) – activities working towards KS1
- Experimental and Investigative science will be visited constantly throughout both key stages.

The predominant mode of working in Science is co-operative group work although individual work and class teaching are used where appropriate.

- groups will sometimes be of mixed ability with differentiation by role or outcome
- or ability grouped with differentiation by outcome
- teacher produced work sheets are frequently used
- groups are encouraged to communicate their findings in a variety of ways.

Varying the groups ensures that all pupils have the opportunity to participate fully at their level.

There is no specialist teaching in Science, it is taught by class teachers.

Classroom helpers are used in Science to assist

- in supporting group activities
- in providing help for children with particular needs.

Commercially available schemes of work are not used as support material in science as teachers prefer to plan their own programmes to integrate with topic activities.

Pupils with Special Needs receive extra support for science work from the teacher or a non-teaching assistant working within the classroom. Such pupils include:

- pupils with language / communication difficulties who are given support with reading and writing during science lessons
- pupils with particular ability and flair for science who work more quickly through the levels of the National Curriculum and are extended through the use of supplementary worksheets and computer software.

Homework is used to support science through tasks such as finding answers to questions posed in school through the use of books (libraries) and interviews with family and friends.

The emphasis in our teaching of science is on first hand experience and we encourage children to begin to take control of their own learning.

Thus:

- each topic begins from the knowledge children have already acquired. This can be assessed through brainstorming, concept mapping, drawings and questions.
- most study of science is through practical investigative work
- in more theoretical areas of the subject questioning is used to encourage the children to express their thoughts and ideas
- open-ended questions are preferred to closed questions which have only one acceptable answer

- 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 and use of graphs and pictures.

Excellence in Science is celebrated through displays of work around the school building and through the communication of scientific investigations and findings during whole school or class assemblies.

Strategies for Ensuring Progression and Continuity

- The planned implementation of National Curriculum Science in our school will ensure that there is progression and continuity throughout Key Stages 1 and 2.
- Yearly plans are drawn up by the staff and are carefully balanced to ensure full coverage of the National Curriculum.
- Staff meetings are used to discuss science curriculum and ensure consistency of approach and of standards.

Equal Opportunities

Science can be an excellent vehicle for promoting equal opportunities. It helps to foster important attitudes such as co-operating with others, open-mindedness and perseverance. Children learn best by doing. Both boys and girls should be encouraged to take an active part in scientific investigations**.**

The role of the Science Leader is to

- take the lead in policy development and review the implementation of QCA scheme of work to ensure progression and continuity in science throughout the school.
- support colleagues in their development of work plans, their implementation of the scheme of work and in assessment and record keeping 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.

Assessment activities are incorporated in our teaching programme. Informal and formal assessments are vital elements of the assessment procedure. We use:

- assessment by observation of the children
- assessment by product i.e. the writing, drawing, artefacts produced by the children
- assessment by questioning (including through written tests)
- assessment through discussion in which children are encouraged to appraise their own work and progress.
- Termly assessments are recorded by all teachers according to the science they have covered.

Strategies for Recording and Reporting

Records of progress in Science:

- Reporting to Parents is done on a termly basis through interviews and annually through a written report.
- Formal Summative Assessment is carried out at the end of each National Curriculum Key Stage through the use of teacher assessment.

Resources for Science

Classroom resources in science could include:

- a dedicated area for scientific work, a learning board to support children in their learning and display (Refer to Display Policy).
- Science Enquiry Types displayed.
- Science Big Question Interactive display.
- a range of simple equipment such as components for electrical circuits and magnifying glasses.

Central Resources in Science

- All resources should be kept in the Science Cupboards in the Hall. These central resources should only be taken when needed and returned in good order after use.
- Maintenance and replacement of resources is the responsibility of the Science co-ordinator.

Care of resources and ensuring their return to the correct place is the responsibility of all of the staff. Children must not be allowed to collect items from or return them to the central resource area; firstly because of the fragile and expensive nature of some of the items and secondly to ensure equipment is kept tidy so as to aid other members of staff in their collection of resources.

ICT is a major resource which is used to support science for:

- communicating information (DTP, word processing and clipart)
- handling information (databases and graph programs)
- modelling (simulations, spreadsheets)
- measurement and control (data logging)

Library Resources

Teachers make good use of the stocks of books on science based subjects available in our own school library. Should further resources be needed refer to the School Librarian? Staff can also utilise the support from Cheshire Library Service.

Consideration of Health and Safety Issues is of the utmost importance in Science

When planning and organising practical activities care must be taken over the appropriate storage, use and handling of equipment.