

ALL SAINTS UPTON C.E. PRIMARY SCHOOL

Policy for Science:

Introduction:

THIS DOCUMENT IS a statement of the aims, principles and strategies for teaching and learning of Science at All saints Upton C.E. Primary School.

IT WAS DEVELOPED during the summer of 2013 through a process of consultation with teaching staff.

- It was presented to the Governing body in Autumn 2015.
- This policy will be reviewed in Autumn 2016. A schedule for the review of this, and all other, policy documents is set out in the school's Development Plan.

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 is also a methodology; it is 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 and the drawing of meaningful conclusions through critical reasoning and the evaluation of evidence;
- become effective communicators of scientific ideas, facts and data;
- begin to build up a body of scientific knowledge and understanding which will serve as a foundation for future enquiry.

Principles of the Teaching and Learning of Science:

Science is important because:

- it is a body of knowledge essential to our understanding of the world around us;
 - it has built up a methodology for thinking, which today forms the basis of most intellectual enquiry;
 - the skills and knowledge of science has a wide implication to everyday life.
- **Science** is a core subject in the National Curriculum. The fundamental skills knowledge and concepts of the subject are set out in 'Science in the National Curriculum 2015'.

Strategies for the Teaching of Science:

THE SCIENCE CURRICULUM IS ORGANISED on a topic basis where:

- In both KS1 and KS2, science work is integrated into a one year programme of units. These are to be adapted and delivered through the Creative Curriculum wherever possible. In addition, any units that cannot be delivered this way, must be taught discreetly
- Approximately 1.5 hours per week is spent on science in KS1 and 2 hours per week in KS2.
- Science is taught through co-operative group work, individual work and class teaching. Within this structure:
 - Groups are usually of a mixed ability;
 - Teachers produce work cards and 'circuses' are frequently used;
 - Relevant discussion is encouraged;
 - Groups are encouraged to communicate their findings in a variety of ways.

THERE IS NO SPECIALIST TEACHING IN SCIENCE, it is taught by class teachers.

COMMERCIALY AVAILABLE SCHEMES OF WORK are not used exclusively 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 class teacher and classroom assistants where possible. Such pupils include:

- pupils with language/communication difficulties who are given support with reading and writing during science activities;
- 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 activities.

HOMEWORK is used to support science through activities such as:

- Finding answers to questions posed in school through the use of books (libraries) and interviews with friends and family.

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 in Scientific Investigation, thus:

- most 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 and use of graphs or pictures.

SCIENCE IS CELEBRATED in display and performance including:

- the mounting of graphical display of the results of scientific enquiry;
- communication of scientific findings during whole school or whole class gatherings.

Strategies for Ensuring Progress and Continuity:

PLANNING IN SCIENCE is a process in which all teachers are involved, wherein:

- The foundation for curricular planning is the School Development Plan, developed through a process of collaborations between staff and approved by governors.
- A one year cycle of strand units at KS1 and KS2 are drawn up by staff in collaboration with the designated science teacher and are carefully balanced to ensure full coverage of the National Curriculum.
- Schemes of work for science are developed by the Science Co-ordinator (in collaboration with the whole staff) and are integrated within the topic cycles (see Appendix for details).
- Staff meetings are used to discuss the science curriculum and ensure consistency of approach and of standards.

THE ROLE OF THE Science Co-ordinator is to:

- take the lead in policy development and the production of schemes of work designed to ensure progression and continuity in science throughout the school;
- support colleagues in their development 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.

FEEDBACK TO PUPILS about their own progress in science is achieved through the marking of work. Effective marking:

- is usually done while a task is being carried out through discussion between children and teacher;
- aims to help children learn by encouraging them to think critically about what they have achieved;
- of written work is used sensitively and with discretion so that a child can assimilate a limited number of corrections at one time commensurate with their age and ability.

FORMATIVE ASSESSMENT is used to guide the progress of individual pupils in science. It involves identifying each child's progress in each are of the science curriculum, determining what each child has learned and what therefore 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 in which children are encouraged to appraise their work and progress.

Strategies for Recording and Reporting:

- RECORDS OF PROGRESS IN SCIENCE are kept for each child and record progress in each strand.
- REPORTING TO PARENTS is done twice yearly through interviews and annually through a written report. Reporting in science will focus on each child's attitudes to science, progress in AT1 and the ability to investigate scientifically including understanding of the nature of "scientific method".

- FORMAL SUMMATIVE ASSESSMENT is carried out at the end of each National Curriculum Key Stage through the use of teacher assessment.

Strategies for the Use of Resources:

CENTRAL RESOURCES IN SCIENCE are the responsibility of the designated Science Teacher and are stored in the Y4 stock cupboard. They include:

- sets of scientific instruments likely to be used sporadically by all classes, such as magnifiers, stop clocks, spring balances;
 - major, expensive items such as microscopes (see Appendix for details).
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- INTERACTIVE WHITEBOARDS may also be used as a teaching resource
 - THE LIBRARY houses a substantial stock of books on science based subjects and is used regularly for reference.

CONSIDERATION OF HEALTH AND SAFETY ISSUES IS OF THE UTMOST IMPORTANCE IN SCIENCE.

Guidelines (see Appendix) are provided on:

- appropriate handling of equipment and materials;
- appropriate storage of equipment and materials.

Equalities Act

This policy has been considered under the Equalities Act 2010, giving due regard to the three principles;

- Eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under this act;
- Advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it;
- Foster good relations between persons who share a relevant protected characteristic, and persons who do not share it.

We are committed to:

Eliminating discrimination and harassment

Promoting equality of opportunity

Promoting good relations and positive attitudes towards all people

Encouraging participation in public life.

Our commitment covers equality on grounds of: age, disability, gender (including Trans-gender), race, religion/belief and sexual orientation.

Appendices may include:

- lists of centrally held resources for science;
- guidance notes for teachers on various aspects of science teaching;
- lists of available reference books for teachers on the teaching of science;
- safety guidelines;
- planning sheets.

Signed Patrica Banks
Chair of curriculum committee
Date 15th July 2013