

Eastchurch Church of England Primary School



Science Policy

Date: September 2016

Review by: Autumn 2018

Rationale

Science is a highly valued area of the curriculum at Eastchurch Primary School. Through science we aim to develop curiosity, enjoyment, scientific skills and concepts and a growing understanding of scientific knowledge in all of our children, allowing them to raise questions and investigate the world in which they live. As a result, the children gain a solid scientific knowledge and understanding as well as developing the skills necessary for testing and investigating.

Aims and Objectives

The aims of teaching science at Eastchurch School are to enable children to:

- Develop their enjoyment and interest in science.
- Develop their understanding of key scientific concepts and scientific skills.
- Understand the uses and implications of science, today and for the future.
- Effectively communicate scientific ideas by using the correct scientific vocabulary.
- Develop, through practical work the skills of working scientifically.

Working Scientifically

At Eastchurch School we believe in developing the children's understanding of scientific concepts and skills through using a range of planned investigations and practical tasks that build on prior skills and knowledge. We encourage children to participate in worth-while experiences that will progressively develop their ability to plan, carry out and evaluate their own scientific investigations, appreciating the need to carry out a 'fair test'.

Investigative work will usually focus on the development of one or two skills. Throughout each term the children should have the opportunity to participate in the different key areas of the investigative process at a level appropriate to their age and ability. These are;

- Observing over time
- Pattern seeking
- Identifying
- Classifying and grouping
- Comparative and fair testing
- Researching using secondary sources.

Children in upper key stage 2 should be challenged to carry out the complete investigative process in small groups.

All children should record an area of investigative work at the end of the science unit, which should be recorded in their red scientific enquiry books. These books will be passed up to the next teacher at the end of each year.

The Science Curriculum

Early Years Foundation Stage

We teach science in reception classes as an integral part of the topic work covered during the year through the Knowledge and Understanding of the World strand of learning. As the reception class is part of the Foundation Stage of the National Curriculum, we relate the scientific aspects of the children's work to the objectives set out in The Early Years Foundation Stage Document, which underpins the curriculum planning for children from birth to five. Science makes a significant contribution to the objectives in the early years in developing a child's knowledge and understanding of the world.

Key Stage 1 and 2

The knowledge and skills within the National Curriculum Programme of Study are met using The Kent Scheme of Work for Primary Science and appropriate cross curricular links. In Key Stages 1 and 2 a unit of work is completed each term. In Term 1 the unit of work has a strong ECO focus.

Science Curriculum Planning

The school uses the Kent Scheme of Work for science as the basis of its curriculum planning. The scheme is adapted to the local circumstances of the school in that we make use of the local environment in our fieldwork and the individual needs of our children.

Long Term Planning

The long-term plan maps the scientific topics studied in each year group across the year. The science subject leader works this out in conjunction with teaching colleagues in each year group. Within our cross-curricular approach to the children's learning we are developing our teaching to combine scientific study with work in other subject areas. At times this style of teaching will be inappropriate and children will continue to study science as a discrete subject.

Medium Term Planning

Our medium-term plans, based on the Kent scheme of work, provide details of each unit of work for each term. These plans list the specific learning objectives of each lesson. The class teacher keeps these individual plans as a record of teaching and learning and to inform future planning.

Short Term Planning

The class teacher is responsible for annotating and keeping informal records of each lesson in order to support the short-term planning that is completed on a weekly basis. Differentiation should be planned for and evident on each plan, particularly where it is not clearly stated on the Kent scheme of work.

Inclusion and Equal Opportunities

Topics in science have been planned so that they build upon prior learning. We ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each unit by providing learning experiences which allow access to learning for all, considering where appropriate alternative ways of recording. We also build progression into the science scheme of work, so that the children are increasingly challenged as they move up through the school.

To aid the application and understanding of scientific vocabulary, classes within key stages 1 and 2 display and use vocabulary cards linked to each scheme of work. All classes have a science display used to enhance learning which is relevant to the topic for the term.

Assessment

We assess children's work in science by making informal judgements as we observe them during lessons. This is recorded through lesson evaluations. On completion of a piece of work, the teacher marks the work and comments against the session objectives as necessary.

One investigation each term is to be recorded in an investigation book, focussing on a key area of scientific enquiry. The teacher will choose 6 children's work of different abilities to level using a specific criteria sheet. These levels will then be used as a bench mark to level the rest of the class. This is to help monitor work being completed but also to support staff in levelling children's attainment in Science.

Target Tracker is used by all teachers to continually monitor attainment in science against the National Curriculum programme of study.

Teachers make a formal assessment of the children's work in science at the end of Key Stage 1 and Key Stage 2, which is reported to parents. They focus on the teacher assessments which we make whilst observing the work of children throughout the year. There is a heavy emphasis placed on the children's ability to carry out investigative science activities. The overall assessment therefore reflects their enquiry skills and not their actual knowledge.

Health and Safety

- Materials and equipment should be stored cleanly and safely.
- Issues relating to health and safety occur throughout the programmes of study.
- All staff need to be aware of the dangers that science activities can bring, and be familiar with the Association for Science Education 'Be Safe' document which is available for reference in the staff room.
- Due care and attention to formal health and safety procedures must be taken in the school grounds. (Please refer to the Health and Safety Policy)

The Role of the Subject Leader

- To undertake monitoring of standards in science and use this to inform the science action plan.
- Provide leadership and management of science to secure high quality teaching and learning.
- Play a key role in motivating, supporting and modelling good practice for all staff, including the organisation of CPD.
- Take a lead in policy development and review.
- To plan and organise the allocation and purchase of resources in accordance with available budget.
- To attend subject leader meetings and report to the Headteacher on science related issues.