



Working and learning together for success

Sarisbury Church of England Junior School

Science Policy Statement September 2017

Science education provides the foundations for "understanding the world." "Science has changed our lives and is vital to the world's future prosperity."

The National Curriculum, 2013

"Science knows no country, because knowledge belongs to humanity, and is the torch which illuminates the world."

Louis Pasteur

Sarisbury Church of England Junior School

Science Policy Statement

Science learning at Sarisbury aims to stimulate an active curiosity in order to help the children find out why things happen and begin to make sense of the world around them. In particular, science teaches methods of enquiry and investigation in order to draw inferences, form hypotheses and reach conclusions. By learning about a wide range of living things, materials, phenomena, the significance of discoveries by real scientists and through asking questions about the real world, children will acquire scientific skills and knowledge. They will begin to appreciate the way science will affect their future on a personal, national and global level. Children are encouraged to investigate, explore and discover through careful and safe experimentation; working on their own and with others. Children talk about their work and its significance, and communicate ideas using scientific language, diagrams, charts and graphs.

Science at Sarisbury is about developing children's ideas and ways of working that enable them to make sense of the world in which they live through investigation, discussion and using and applying process skills.

Our Aims

At Sarisbury CE Junior School we aim to:

- nurture an interest and enthusiasm for science
- deliver the National Curriculum Science objectives in ways that are imaginative, purposeful, well controlled and enjoyable
- help develop and extend children's scientific concept of their world and encourage them to ask meaningful questions to discover more about the world around them
- provide opportunities for children to explore the work of real scientists and the significance of their work
- make strong, purposeful links between science and other subjects
e.g. using ICT in a meaningful way to extend their learning (video clips/recording, photography, netbooks, learn pads)
- provide enjoyment and build self-esteem by fostering children's natural curiosity
- develop children's skills of working scientifically including the use of scientific language, communicating ideas, hypothesising, experimenting and interpreting results to form conclusions
- develop a responsibility for their own health and safety and that of others when undertaking scientific activities
- develop respect for living things and the environment
- provide opportunities to engage in activities that are challenging, creative, relevant and motivating

Equal Opportunity

We are committed to providing a teaching environment conducive to learning. Where each child is valued, respected and challenged regardless of ability, race, gender, religion, social background, culture or disability.

Our Strategies

Science is a body of knowledge essential to our understanding of the world around us. The process of scientific investigation forms the basis of the most intellectual enquiry and so have a wide application in everyday life.

The knowledge, skills and understanding will be taught through:

- tasks which are open ended to encourage working scientifically
- a scheme of work and medium term plans in each year group based on the National Curriculum programmes of study that ensures a range of progression and skills as set out by the CAHMS consortium and the Hampshire 'Key Ideas' document
- a variety of teaching methods including whole class, group and individual work
- time to explore what children already know and understand from their own experiences, what they have learnt so far as well as questions that they would like to investigate
- activities, including trips and exploration of the school grounds, to develop understanding of the environment and the impact this has on their lives
- access to well-resourced and maintained specialist science equipment suited to the ability and needs of the children

Our Resources

At Sarisbury CE Junior School we have:

- a well-maintained central resource area
- labelled boxes with equipment specific to units of work studied in each year group
- a wide selection of general resources relevant to many topics
- suitable video links and resources for use in science lessons
- books for staff to provide support in the delivery of science
- pupil books in the resources boxes and library relevant to topics studied

Our Science Leader

The member of staff responsible for the management and development of Science throughout the school is Sharon Hamblin. She will:

- seek to enthuse pupils and staff about science and promote high standards of achievement and high quality provision
- advise and support staff in the planning, delivery and assessment of science
- manage and develop all resources for science
- monitor and evaluate science throughout the school
- keep up to date with current developments by attending courses, liaising with colleagues from other schools, and use this as a basis for staff development activities
- provide opportunities for our gifted and talented pupils to participate in appropriate activities
- continue to promote and raise the profile of science throughout the school

Assessment, Record Keeping and Reporting

In order to ensure continuity, progression and high standards of achievement in science, assessment for every child will include:

- ongoing formative assessment through observations and dialogue with children in both understanding of key concepts and working scientifically will be carried out in each lesson and for each unit of work and copies given to the science leader – this is in line with schools across the cluster
- a summative assessment of each child's progress in science over the year will be provided in their end of year report
- pupil interviews and active work sampling with a selection of pupils across the year groups; copies of work to be kept by the science leader in a central file

Our Success Criteria

We expect 90% of our children to attain standards in line with or above those stated in the National Curriculum age related expectations.

Our Science Curriculum Map

Below is an overview of the topics covered in each term and the 'working scientifically' skills in focus:

	Autumn	Spring		Summer	
Year 3	<p>Animals including humans</p> <ul style="list-style-type: none"> - Food and nutrition - skeletons <p>making systematic and careful observations and, taking accurate measurements using standard units</p>	<p>Rocks – fossils Historical study 'Mary Anning'</p> <p>Identify differences, similarities or changes related to simple scientific ideas and processes</p>	<p>Forces and Magnets</p> <p>setting up simple practical enquiries, comparative and fair tests</p> <p>Light</p> <p>using straightforward scientific evidence to answer questions or to support their findings</p>		<p>Electricity – conductors and insulators.</p> <p>ask relevant questions and use different types of scientific enquiries to answer them</p>
Year 4	<p>Animals including humans</p> <ul style="list-style-type: none"> - teeth - food chains - function of human digestion <p>ask relevant questions and use different types of scientific enquiries to answer them</p> <p>using straightforward scientific evidence to answer questions or to support their findings</p>	<p>Sound</p> <ul style="list-style-type: none"> - how sound is made - finding patterns in pitch and volume <p>setting up simple practical enquiries, comparative and fair tests</p>	<p>States of matter</p> <ul style="list-style-type: none"> - changing state - reversible and irreversible change - evaporation / condensation - water cycle <p>ask relevant questions and use different types of scientific enquiries to answer them</p>	<p>Habitats – changing environments</p> <p>Identify differences, similarities or changes related to simple scientific ideas and processes</p>	<p>Plants – requirements for growth</p> <ul style="list-style-type: none"> - life cycles <p>making systematic and careful observations and, taking accurate measurements using standard units</p>

Year 5	<p>Earth sun and moon</p> <p>report and present findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations</p>	<p>Forces</p> <ul style="list-style-type: none"> - gravity - levers and pulley <p>Historical study 'Isaac Newton'</p> <p>plan different types of scientific enquiries to answer questions, including recognise and control variables where necessary</p>	<p>Living things and habitats</p> <ul style="list-style-type: none"> - life cycles of a mammal - reproduction in plants and animals <p>report and present findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations</p>		<p>Animals including humans</p> <ul style="list-style-type: none"> - describe the changes as humans develop. <p>record data and results of increasing complexity using scientific diagrams and labels, classification keys</p>	<p>Properties and changes of materials</p> <ul style="list-style-type: none"> - dissolving and evaporation - separating S,L G - irreversible change <p>plan different types of scientific enquiries to answer questions, including recognise and control variables where necessary</p>
Year 6	<p>Animals including humans</p> <ul style="list-style-type: none"> - human circulatory system - looking at different countries diet <p>report and present findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations</p>	<p>Light</p> <ul style="list-style-type: none"> - light travels in straight lines - how we see <p>plan different types of scientific enquiries to answer questions, including recognise and control variables where necessary</p>	<p>Living Things and their Habitats</p> <p>Historical study 'Linnaeus'</p> <ul style="list-style-type: none"> - classification systems <p>report and present findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations</p>	<p>Evolution and inheritance</p> <ul style="list-style-type: none"> - explore how animals have adapted to their environment - fossils <p>identifying scientific evidence that has been used to support or refute ideas or arguments</p>	<p>Electricity</p> <ul style="list-style-type: none"> - creating circuits <p>plan different types of scientific enquiries to answer questions, including recognise and control variables where necessary</p>	