



South Hiendley Primary School

SCIENCE POLICY

Subject Leaders: A. Frith

Date: September 2019

Next Review: September 2020

RATIONALE

Science is a systematic investigation of the physical, chemical and biological aspects of the world that relies on first hand experiences and the use of other sources of information. The scientific process and children's problem-solving activities are used to deepen their understanding of the concepts involved.

Through investigative science, pupils at South Hiendley Primary School (SHS) will continue to deepen their respect for the natural world and all its phenomena, and increase their care and appreciation of it.

AIMS

At SHS, we believe that the best science teaching fosters and develops pupils' curiosity in the subject, whilst also helping them to fulfil their potential. For our pupils to achieve well in science, they need to acquire the necessary scientific knowledge and also be able to enjoy the experience of engaging in purposeful scientific enquiry in order to help them to answer scientific questions about the world around them.

Through high-quality science teaching, we aim to help our pupils understand how major scientific ideas have played a vital role in society. Moreover, we aim to prepare our pupils for life in an increasingly scientific and technological world.

Therefore, we intend to:

- develop pupils' enjoyment and interest in science
- develop an appreciation of its contribution to all aspects of everyday life
- build on pupils' curiosity in, and sense of awe at, the natural world
- use a planned range of investigations and practical activities to give pupils a greater understanding of the concepts and knowledge of science
- introduce pupils to the language and vocabulary of science
- develop pupils' basic practical skills and their ability to make accurate and appropriate measurements
- develop pupils' use of computing in their science studies.
- extend the learning environment for our pupils via environmental areas and the locality
- promote a 'healthy lifestyle' in our pupils.

STATUTORY REQUIREMENTS

The National Curriculum 2014 states why we teach science in schools:

'A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics...Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena.'

The main aspects of science studied will be determined by the programmes of study of the National Curriculum.

PRINCIPLES OF TEACHING AND LEARNING

At SHS, teachers plan and deliver high-quality and engaging science lessons incorporating a range of teaching and learning styles.

Teachers will provide opportunities for pupils to:

- learn about science, where possible, through first-hand practical experiences
- develop their research skills through the appropriate use of secondary sources
- work collaboratively in pairs, groups and/or individually
- plan and carry out investigations with an increasing systematic approach as they progress through the school
- develop their questioning, predicting, observing, measuring and interpreting skills
- record their work in a variety of ways e.g. writing, diagrams, graphs, tables
- read and spell scientific vocabulary appropriate for their age
- be motivated and inspired by engaging and interactive science displays which include key vocabulary and relevant questions.
- learn about science using the outdoor learning environment
- be involved in high quality, interesting and engaging science lessons
- use scientific contexts to develop and hone cross-curricular skills in literacy, Maths and ICT
- be taught science in global and historical contexts, including understanding contributions of significant scientists from a range of cultures
- develop and extend their scientific knowledge and understanding
- develop their ability to work scientifically
- plan, carry out and evaluate investigations
- develop their scientific vocabulary and their ability to articulate scientific concepts clearly and precisely
- be appropriately challenged to make good progress in science

PLANNING & DELIVERY OF SCIENCE

Our teaching is based on National Curriculum Programmes of Study. We use the Cornerstones scheme of work for topics and have bought into the Cornerstones 'Love to Investigate' resource. This ties our science work into our topics to ensure a quality cross-curricular scheme of work, whilst giving coverage of the National Curriculum objectives. We use this as the basis for our science planning. This, in turn, has been incorporated into long-term planning to ensure continuity and progression (See curriculum map).

We ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each unit and we build planned progression into the scheme of work so that the children are increasingly challenged as they move up through the school.

- Science in the Early Years Foundation Stage is planned using the Early Years Curriculum; 'Understanding of the World'.
- Key Stage 1 and 2 teachers plan science lessons using the new National Curriculum (2014) and Cornerstones.
- All science lessons have focussed learning objectives, clear differentiation and success criteria to ensure that pupils make at least good progress. 'Working scientifically' is embedded throughout the areas of learning in key stages 1 and 2; this focuses on the key aspects of scientific enquiry which enable pupils to investigate and answer scientific questions.
- Areas of learning within key stages 1 and 2 ensure that statutory requirements are being covered through the specific disciplines of biology, chemistry and physics.

ASSESSMENT AND TARGET SETTING

- In EYFS, teachers assess science against the 'Development Statements' statements in the 'Understanding of the World' area of the Early Years Curriculum. The statements go from birth through to the Early Learning Goals at the end of Reception.
- For formative assessment, teachers employ effective Assessment for Learning (AfL) strategies which are used to inform their planning and teaching.
- Teachers provide quality feedback to pupils (verbal or written) which clearly identifies how they might need to improve.
- Class teachers provide an annual teacher assessment result and pupils' progress is tracked against the National Curriculum year group objectives for Key Stage 1 and 2.
- Teachers make an assessment of the children's work in science at the end of each year. We report the results to parents through parent consultations and school reports.

MONITORING

It is the responsibility of the classroom teacher to monitor the standards of children's work on a short-term, regular basis. The science subject leaders hold overall responsibility for the standard of science provision throughout school. This will be monitored in line with the expectations set out in 'The Role of the Coordinator'.

INCLUSION AND SPECIAL NEEDS

Science is taught to all children, whatever their ability. Science forms part of the school curriculum policy to provide a broad and balanced education to all children. Children of all abilities can benefit from the study of science. Where children have special educational needs, these should be catered for by planning for differentiation. It may be necessary to seek further guidance from the SEN co-ordinator and other agencies. Teachers should be aware of any physical disability that may affect a child's performance and make appropriate provision.

EQUAL OPPORTUNITIES

All children have equal access to the science curriculum and its associated practical activities. The SLT, Class Teachers and TAs at SHS are responsible for ensuring that all children, irrespective of gender, learning ability, physical disability, ethnicity and social circumstances, have access to the whole curriculum and make the greatest possible progress. Where appropriate, work will be adapted to meet pupils' needs and, if appropriate, extra support given. More able pupils will be given suitably challenging activities. Gender and cultural differences will be reflected positively in the teaching materials used.

HEALTH AND SAFETY

Pupils will be taught to use scientific equipment safely when using it during practical activities. Class Teachers, TAs and the Subject Leader will check equipment regularly and report any damage, taking defective equipment out of action. Teachers will ensure the School's Health and Safety Policy is integrated into the planning and teaching of science.

STAKEHOLDERS' RESPONSIBILITIES

The Role of the Curriculum Leader

The coordinator has overall responsibility for the delivery of quality science in the school.

The role includes:

- writing an action plan which develops priorities in the SDP
- supporting colleagues in the teaching of science by being available to staff for discussion and advice
- being informed about current developments in the subject
- providing a strategic lead and direction for the subject in the school
- reviewing the teaching of science by: looking at samples of books; carrying out classroom observations; talking to children; holding discussions with colleagues.
- attending all relevant Inset/training and sharing outcomes with staff
- delivering in-house training
- having an awareness of planning across the school
- carrying out classroom observations and book-dipping
- monitoring resources
- organising events which promote a love of, and engagement with, science

The Role of the Class Teacher

Class teachers at SHS are responsible for delivery of science, in line with statutory expectations, to all children. It is the aim of the school to provide bright, safe and stimulating areas for children to work in, and this extends to creating a 'science lab' when teaching this subject. The school has a fairly comprehensive stock of scientific equipment which teachers are expected to make use of.

The Role of Support Staff

We have a highly-skilled and well-motivated support staff, each of whom plays an important part in the delivery of this core subject. They are able to use their experience to identify individual children's needs, and act on this to provide support where necessary. They may take responsibility for small groups within the lesson, supporting them during investigations. They also support teaching staff in planning and resourcing.

The Role of the Governing Body

The Governing body has a responsibility to:

- know who has responsibility for the curriculum leadership of science
- delegate powers and responsibilities to the Headteacher to ensure that all school personnel and stakeholders are aware of, and comply with, this policy
- ensure compliance with the legal requirements of the National Curriculum
- ensure that the school complies with all equalities legislation
- ensure that funding is in place to support this policy
- ensure that this policy and any linked policies are maintained and updated regularly
- ensure that all policies are made available to parents
- ensure the effective implementation, monitoring and evaluation of this policy

Appendix 1

Science Curriculum Mapping 2019-2020.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	SEASONAL CHANGES	ANIMALS (inc. HUMANS) WORKING SCIENTIFICALLY	PLANTS AND ANIMALS	PROPERTIES OF EVERYDAY MATERIALS	PLANTS AND ANIMALS: IDENTIFYING AND CLASSIFYING	HUMAN BODY PARTS AND SENSES: EATING HEALTHILY
Year 2	LIVING THINGS & THEIR HABITATS	MATERIALS	MATERIALS	PLANTS	MATERIALS	LIVING THINGS & THEIR HABITATS
Year 3	PLANTS	FORCES & MAGNETS	FOOD CHAINS		ROCKS	MATERIALS
Year 4	STATES OF MATTER		THE DIGESTIVE SYSTEM	SOUND	ELECTRICITY	LIVING THINGS & THEIR HABITATS
Year 5	PROPERTIES & CHANGES OF MATERIAL	ANIMALS & HUMANS	EARTH & SPACE	FORCES		LIVING THINGS & THEIR HABITATS
Year 6	ELECTRICITY		FOOD CHAINS & HABITATS	DARWIN'S DELIGHT (Evolution)	ID (Classification, inheritance)	BLOOD HEART (The heart, human body)