

Hollinhey Primary School



Science Policy

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HOLLINHEY PRIMARY SCHOOL

Science Policy

Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. 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. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

At Hollinhey Primary School we believe that good science teaching and learning happens when:

- Science education draws upon every day and first-hand experiences.
- Children can discover for themselves through trial and error.
- Children use scientific vocabulary.
- Teachers are confident about what they are teaching.
- Children talk; ask questions, share ideas, explain.
- Children are inspired to do and know more, transfer knowledge.
- Children work in groups.
- Children work practically.
- Children are engaged, excited, involved.
- Children record their learning in a variety of ways using their own words.

Aims

The National Curriculum for Science aims to ensure that all children:

- develop scientific knowledge and conceptual understanding through the specific
- disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and
- implications of science, today and for the future.

Intent:

In line with our values at Hollinhey, our Science curriculum allows all children to operate as successful scientists through being taught a wide range of essential enquiry skills, concepts and key knowledge.

We recognise the importance of Science in every aspect of daily life. As one of the core subjects taught in Primary Schools, we give the teaching and learning of Science the prominence it requires. Our intent is to:

Honesty – We aspire to encourage resilience, perseverance and an acceptance that mistakes are an important part of learning particularly in the scientific field and provide opportunities for critical evaluation of evidence.

Effort – develop the natural curiosity of the child; pupils are encouraged to ask questions and be curious about their surroundings and a love of science is nurtured through a whole school ethos and a varied science curriculum.

Achievement –increase pupils’ knowledge and understanding of our world, and with developing skills associated with Science as a process of enquiry in order to build a foundation for future study and attainment; create a positive attitude to science learning within their classrooms and reinforce an expectation that all children are capable of achieving high standards in science

Respect – encourage respect for living organisms and the physical environment, develop a respect for the materials and equipment they handle with regard to their own, and other children’s safety.

Tolerance – provide effective support to pupils where they find it difficult to grasp a scientific concept or retain vocabulary or scientific facts in an inclusive manner, with high aspirations for all our learners and encourage teamwork and peer-peer support.

Implementation:

The programmes of study for science are set out year-by-year for key stages 1 and 2 in the national curriculum. Class teachers are responsible for ensuring that all of the relevant statutory content is covered within the school year. Our curriculum is set out in the ‘Hollinhey Progression of Scientific Skills and Knowledge’ Document and builds upon earlier opportunities they have had to play, explore, create, engage in active learning, and think critically in the Early Years Foundation Stage.

KS1 carry out 4 Science Themes per class and KS2 5 Science themes per class over the year. These may be the main drivers for our half-termly themes, complement these themes or be covered as standalone units. Each unit has a corresponding PLAN document to enable teachers to establish vocabulary, teaching and learning based upon prior and future learning within this area of study.

Science will be allocated an average of 1 hour a week curriculum time. During 2 half term blocks, the main Curriculum driver will be Science based (e.g 2 hrs per week), some half-terms Science is a secondary focus (1hr per week) and occasionally some themes have no Science focus; however each week there should be some Science coverage e.g an Investigation activity or Spaced Practice quiz.

Working scientifically includes the substantive concepts of:

- Questioning
- Observing, using equipment and measuring
- Investigating
- Recording and Presenting
- Drawing conclusions
- Identifying & classifying

Our whole school approach to the teaching and learning of science involves the following;

- Science will be taught in planned and arranged theme blocks by the class teacher. This is a strategy to enable the achievement of a greater depth of knowledge.
- Through our planning, we involve problem solving opportunities that allow children to find out for themselves. Children are encouraged to ask their own questions and be given opportunities to use their scientific skills and research to discover the answers. This curiosity is celebrated within the classroom. Planning involves teachers creating engaging lessons, often involving high-quality resources to aid understanding of conceptual knowledge.
- Teachers use precise questioning in class to test conceptual knowledge and skills, and assess children regularly to identify those children with gaps in learning, so that all children keep up.

- We build upon the learning and skill development of the previous years. Existing knowledge is checked at the beginning of each theme. This ensures that the children's starting points inform teaching and that it takes account of pupil voice, incorporating children's interests.
- As the children's knowledge and understanding increases, and they become more proficient in selecting, using scientific equipment, collating and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence.
- Working Scientifically skills are embedded into lessons to ensure these skills are being developed throughout the children's school career and new vocabulary and challenging concepts are introduced through direct teaching. This is developed through the years, in keeping with the themes.
- Teachers demonstrate how to use scientific equipment, and the various Working Scientifically skills in order to embed scientific understanding.
- Teachers find opportunities to develop children's understanding of their surroundings by accessing outdoor learning and workshops with experts.
- At the end of each topic, key knowledge is reviewed by the children, checked by the teacher, and consolidated as necessary.

Foundation Stage

Science in the Foundation Stage is an integral part of the topic work covered during the year, under the Early Learning Goal, 'Knowledge and Understanding of the World. Please see the EYFS policy and the Science progression document.

Impact:

The successful approach at Hollinhey Primary results in a fun, engaging, high-quality science education, that provides children with the foundations for understanding the world. Our engagement with the local environment ensures that children learn through varied and first hand experiences of the world around them. So much of science lends itself to outdoor learning and so we provide children with opportunities to experience this. Through various workshops, trips and interactions with experts and local charities, children have the understanding that science has changed our lives and that it is vital to the world's future prosperity. Children learn the possibilities for careers in science as a result of our community links and connection with local employers e.g. Astra Zeneca & Siemens and national agencies such as the STEM association. Pupil voice is used to further develop the Science curriculum, through questioning of pupil's views and attitudes to Science to support the children's enjoyment of science and to motivate learners. Children at Hollinhey primary overwhelmingly enjoy science and this results in motivated learners with sound scientific understanding.

Adaptation and SEN

We teach Science to all children, whatever their ability. We do this by setting suitable learning challenges and responding to each child's different needs. In order to ensure that children with special educational needs achieve to the best of their ability, it may be necessary to adapt the delivery of the Science curriculum for some pupils. This may be through providing extra support or adapting learning resources and equipment as necessary.

Extra Opportunities

Children are offered a wide range of extra-curricular activities, visits, trips and visitors to complement and broaden the curriculum. These are purposeful and link with the knowledge being taught in class.

Opportunities of visiting KS3 Science teachers and trips to Science labs at local High schools and businesses are taken.

Regular events, such as Science Week or project days, such as Environment Day, allow all pupils to come off-timetable, to provide broader provision and the acquisition and application of knowledge and skills. These events often involve families and the wider community.

Health & Safety

The Cheshire guidelines for Health and Safety and the COSHH guidance 'Be Safe' are a minimum requirement of health and safety standards. Free advice is also available from the CLEAPSS hotline 01895 251496. Their website is also a good source of information.

Teachers must plan safe activities for science and complete a risk assessment if necessary. Teachers and teaching assistants need to be aware of health and safety procedures when using equipment/food in science lessons. Pupils must be aware of and be taught to take responsibility for the need for personal safety and the safety of others during science lessons. Please refer to the Health and Safety policy.

Equal Opportunities (see also Equal Opportunities Policy)

Hollinhey Primary School will ensure that all children are provided with the same learning opportunities regardless of social class, gender, culture, race, disability or learning difficulties. As a result, we hope to enable all children to develop positive attitudes towards others. All pupils have equal access to Science and all staff members follow the Equal Opportunities policy. Resources for SEN children and More Able pupils will be made available to support and challenge appropriately.

Roles and Responsibilities

The subject leader is expected to:

- Review all documentation including Progression Documents and Policy
- Ensure that the subject is regularly discussed, reviewed and monitored within the school
- Keep resources up-to-date and relevant, particularly in preparation for each unit of work.
- Promote Science through the school
- Promote Science CPD through the Trust and the STEM community
- Set a good example of Science Teaching & Learning practice.
- Support long term planning for the whole school.
- Support teachers in their planning and strategies for classroom management
- Monitor and evaluate Science through the school.
- Provide INSET.
- Liaise with other primary and secondary schools and the Trust
- Play an active role in The Aspire Science Leader's Cluster and the local STEM community

When the policy will be reviewed:

October 2025