Thythorn Field Primary School

Science Policy

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Governor Signature:

THYTHORN FIELD PRIMARY SCHOOL
SCIENCE POLICY

This document is a statement of the aims, principles and strategies for the teaching and learning of Science at Thythorn Field Primary School.

Science at Thythorn Field Primary School

At Thythorn Field Primary School, we recognise the importance of Science in every aspect of daily life. We give the teaching and learning of Science the prominence it requires as one of the core subjects taught in Primary Schools.

As an area of learning, Science is concerned with increasing all (including SEND) pupils' knowledge and understanding of our world, and with developing skills associated with Science as a process of enquiry. It will develop the natural curiosity of the child, encourage respect for living organisms and the physical environment and provide opportunities for critical evaluation of evidence.

Aims

At Thythorn Field Primary School we believe that Science is a body of knowledge built up through experimental testing of ideas. Science is also a practical way of finding reliable answers to questions we may ask about the world around us. Science in our school 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, as well as using and applying process skills.

We believe that a broad and balanced Science education is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability.

- Preparing our children for life in an increasingly scientific and technological world today and in the future.
- Helping our children acquire a growing understanding of the nature, processes and methods of scientific ideas.
- Enjoy learning and experience 'the BUZZ of Science
- Helping develop and extend our children's scientific concept of their world.
- Building on our children's natural curiosity and developing a scientific approach to problems.
- Encouraging open-mindedness, self-assessment, and perseverance and developing the skills of investigation - including: observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.
- Developing the use of scientific language, recording and techniques.
- Developing the use of computing in investigating and recording.
- Making links between science and other subjects.

Statutory Requirements

Statutory requirements for the teaching and learning of Science are laid out in the National Curriculum in England Framework Document for Teaching, September 2014 and the Statutory framework for the Early Years Foundation Stage.

How Science is structured through the school

Planning for science is a process in which all teachers are involved to ensure that the school gives full coverage of the National Curriculum programmes of study for Science 2014 and 'Understanding of the World' in the Early Years Foundation Stage. Topics are re-visited but expanded and developed as children move up the school;

Science teaching at Thythorn Field Primary School involves adapting and extending the curriculum to match all pupil's needs. Parents are informed of science areas to be covered by looking at the planning on each class page on the school website.

Curriculum Implementation

Each class in both Key Stage 1 and Key Stage 2 will provide children a weekly science lesson.

Thythorn Field uses the White Rose Science scheme to provide a structured and coherent programme of learning that builds progressively through each year.

White Rose Science provides engaging, progressive lesson content in the same progressive, step-by-step method as in the White Rose Maths scheme.

Practical experiences of working scientifically are integral to the White Rose scheme. We aim to inspire and excite children with such activities so that they view scientific learning positively.
Working scientifically skills are split into eight key areas:

- Ask questions
- Plan
- Make observations
- Take measurements
- Gather, record and classify data
- Present findings
- Answer questions and make conclusions
- Evaluate (KS2 only)

Foundation Stage

The Foundation Stage deliver science content through the 'Understanding of the World' strand of the EYFS curriculum. This involves guiding the children to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment. Science is taught through practical, stimulating activities, which develop knowledge and understanding through cross curriculum learning. Science makes a significant contribution to achieving the Early Years Outcomes and understanding of the world, e.g. through investigating what floats and what sinks when placed in water. Many activities in child-initiated play have links to Science, and teacher-led activities can initiate or further develop this understanding.

Key Stage One

During Key Stage one, pupils observe, explore and ask questions about living things, materials and the world around them. They begin to work together to collect evidence to help them answer questions, find patterns,

classify and group objects, research using a variety of sources and carry out fair testing. Pupils use reference materials to find out more about scientific ideas. They share their ideas and communicate them using scientific language, drawings, charts and tables. Science lessons in Key Stage one are either taught discretely or connected to other curriculum areas. Pupils often use the outdoor areas in their science learning

Key Stage Two

Children are encouraged to extend the scientific questions that they ask and answer about the world around them. Pupils carry out a range of scientific enquiries including: observations over time, pattern seeking, classifying, grouping and researching using other sources (including computing resources). Children in Key Stage Two learn to plan science investigations by only changing one variable to make it a fair test. Pupils in Key Stage two extend their scientific learning using the outdoor areas.

Good Science Learning

For good science learning to take place evidence of the following should be found in classrooms.

- An active learning environment.
- Children working from first-hand experience.
- Children encouraged to ask questions.
- Children actively involved in exploration and investigation.
- Children working co-operatively.
- Children discussing with each other and adults.
- Children devising and conducting their own investigations.
- Children choosing their own materials and equipment.
- Children recording their findings in a variety of ways.
- Children showing enjoyment in the activities they are undertaking.

Wherever possible we encourage children to work in these ways, so that they will ultimately gain confidence to ask their own questions and devise investigations to answer them. Children drawing conclusions from their findings.

Cross-curricular Science Opportunities

Teachers will seek to take advantage of opportunities to make cross-curricular links. They will plan for pupils to practise and apply the skills, knowledge and understanding acquired through Science lessons to other areas of the curriculum:

- Sharing strong links with **mathematics** - taking measurements (length, time, mass,etc), data handling and presenting data in tables and through the use of graphs and pie charts.
- **ICT.** We recognise the important role computing skills have to play in the development of scientific skills. We also recognise the importance of being computer literate. Computing skills are used on a daily basis to enhance teaching and learning of science and to give all children the opportunity to use computing to research, collect, analyse and present scientific findings (see Computing policy).
- **Geography** shares a 'natural' link with Science and pupils should have every possible opportunity to explore the science present in and around their school environment.
- To bring in **History** children should have the opportunity to research and learn about famous scientists from history and how their achievements have changed or impacted upon our lives.

Assessment and recording

Assessment for learning should occur throughout the entire science lesson, enabling teachers/teaching assistants to adapt their teaching/input to meet the children's needs. This feedback should be incisive and regular. Teachers mark work in science in line with the school marking policy. Teachers use formative and summative assessment against the KS1 and KS2 descriptors which allows teachers to assess children's progress in science, gathering evidence over the course of the year. Teachers use this information to inform planning for groups and individual pupils.

- Pupil's work should be marked in line with the Marking Policy and should model how corrections should be made, giving children a chance to learn from their misconceptions or incorrect methods.

- As part of the White Rose Science Scheme, every Science lesson starts with a 'Flashback' question session. This enables children to retrieve Science knowledge from their current learning, learning from previous units and learning from previous year groups.
- Teachers use the assessment tasks in the White Rose Scheme to assess understanding at the end of every unit.

Science work is recorded in the children's science books; evidence will also be photographic and evident on classroom displays.

Resources

Resources are kept in a central location by the Technology area. Topic boxes/books can be ordered from County Hall using the school's loan system. For effective teaching of science, resources (books, artefacts, etc) should be present on display and accessible to children within the classrooms. Displays should also contain age and topic appropriate questions to challenge and develop pupil's scientific understanding.

Inclusion and adaptation

All children must have regular access to science appropriate to their stage of development. Challenge for all is integral to our teaching and we aim to encourage all pupils to reach their full potential through the provision of varied opportunities. Work must be adapted to aid children's learning. Also, more-able children should be given open-ended tasks and opportunities for further research and more challenging studies. We recognise that our curriculum planning must allow pupils to gain a progressively deeper understanding and competency as they move through our school.

Equal Opportunities

Thythorn Field Primary School has universal ambitions for every child, whatever their background or circumstances. Children learn and thrive when they are healthy, safe and engaged. In order to engage all children cultural diversity, home languages, gender and religious beliefs are all celebrated. Our curriculum includes a wide range of texts and other resources which represent the diversity and backgrounds of all our children.

Health and Safety

All teachers must be clear to the purpose of the work and ensure that any 'testing' that needs to be carried out complies fully with the '**Health and Safety' policy Leicester County Council**. Safety hazards will be pointed out to the children at the beginning of any work.

Responsibilities of the Subject Leader

• Monitor the effectiveness of Science teaching and learning by means of lesson observation, pupil interviews, learning walks, sampling children's work and overseeing assessment

• Provide feedback to teaching staff and the headteacher

• Periodically update the whole school planning overview (in consultation with all teaching staff) to ensure it remains relevant and appropriate.

• Attend subject leader network meetings and disseminate new information

• Support teachers in planning and delivering the curriculum

• Manage the resources for teaching Science

• Report to the Curriculum Committee of the Governing Body as requested.