CRUDGINGTON PRIMARY SCIENCE POLICY

Policy updated – October 2015
Schedule for revision - Yearly

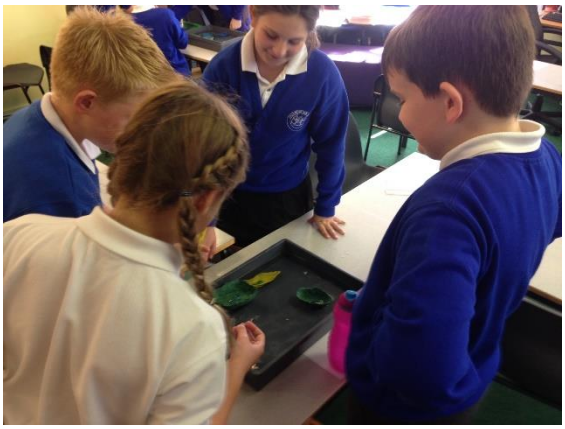
SCIENCE POLICY

Purpose of study

Crudgington Primary School understands the need for all pupils to develop their Scientific ability as an essential component of all subjects and as a subject in its own right. A good understanding of scientific knowledge and conceptual understanding helps to support pupils work across the curriculum.

Aims –

At Crudgington 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. Our aims in teaching science include the following:

- 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.
- 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, 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, September 2014.

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.

Science teaching at Crudgington Primary School involves adapting and extending the curriculum to match all pupils' needs. Where possible, Science will be linked to class topics. Science will also be taught as discrete units and lessons where needed to ensure coverage. Due to the mixed year groups in our classes, Science units are taught

on a two year rolling programme. This ensures progression between year groups and guarantees topics are covered.

Foundation Stage:

Pupils explore science topics through making predictions, using their senses and investigating materials and their properties. Science is taught through the strand of, 'Understanding the World'. Science teaching and learning is also linked to the other strands of The EYFS framework for learning, 2014. Teachers and teaching assistants support pupils to develop a solid understanding of things occurring around them in their day-to-day lives. Children are encouraged to be creative and inquisitive as they participate in activities. Pupils are encouraged to use their natural inquisitiveness, while taking part in exploratory play in specific scientific areas as well as areas that link across the EYFS framework.

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 where possible 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.

Science planning:

Teachers plan to suit their children's interests, current events, their own teaching style, the use of any support staff and the resources available. Each teacher has access to the digital subject areas folder on the T drive, where guidance can be found for planning each topic at the correct time to ensure progression throughout the school.

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** its use in Science is an expected given – taking measurements (lengths, 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/learn about famous scientists from history and how their achievements have changed or impacted upon our lives. Opportunities should be taken here to particularly showcase female scientists and those of other ethnicities to challenge the 'white male' stereotype.

Assessment and recording:
Formative assessment is the basis for assessment in Science. Science work, where appropriate, will be recorded in Science books; evidence will also be photographic and evident on classroom displays. Each child will receive 'Closing the Gap' marking to stretch and develop their understanding at least once a half-term or where necessary.

Resources:
Resources are held across the school and are available from the Shropshire Library Service through our membership – topic boxes can be ordered by email or through the school office. For effective teaching of Science, resources (books, artefacts, etc) should be present on display and accessible to children within all classrooms. Displays should also contain age and topic appropriate questions to challenge and develop their pupils' scientific understanding.

Inclusion and Differentiation:
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 differentiated to aid children's learning. Also, more-able children should be given open-ended tasks and be given 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:
Crudgington 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 (see equal opportunities policy).

Community Links:
At Crudgington Primary School we have previously benefited from great links with local secondary school's science departments – a situation that we are extremely keen to continue. Children also have the opportunity to experience science first-hand through school visits tied to topics, and visits to the local Enginuity museum in Ironbridge.

Monitoring and review:
The Science Coordinator and class teacher is responsible for monitoring the standard of the children's work and the quality of teaching in Science. The Science Coordinator is responsible for supporting colleagues in the teaching of Science, for being informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school. The Science Coordinator will complete an annual report where they evaluate the strengths and weaknesses in the subject and indicate areas for further improvement. The Science Coordinator must therefore make full use of non-contact time to undertake monitoring of Science across the whole school.
This policy will be reviewed every three years or in the light of changes to legal requirements.
Gavin Newell-Hill October 2015