Cockerham Parochial C E Primary School

Science Policy

'Where a love of learning grows'

I can do all things through Christ who strengthens me
Philippians 4.13

November 2023
Review date: November 2024

This policy outlines the guiding principles by which this school will implement Science in the National Curriculum (2014) in England. It is reviewed periodically.

The purpose of the Science Policy

The purpose of writing and implementing a Science policy is to raise educational standards within the school.

Vision for Science

Through teaching a high-quality, robust Science curriculum at Cockerham Parochial School, we are providing our children with the conceptual scientific knowledge and skills to be able to respond to the world around them. We develop pupils with secure science knowledge, who are confident to ask questions, explore possible answers independently and communicate their ideas confidently using scientific vocabulary. We want our children to be aware of the important role of science and scientists in our lives. Science is all around us and we want to educate our children so that they can respond to, explain and understand this.

Science is a body of knowledge built up through experimental testing of ideas. Science is also methodology, 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.

Science as much as any other area of the curriculum encourages the development of curiosity, open mindedness, independence of thought, persistence, co-operation, self criticism, social awareness, fairness and tolerance.

Our aims in teaching Science include the following:

- Retain and develop children's natural curiosity about the world around them.
- Develop a set of attitudes, which will promote scientific ways of thinking, including open mindedness, perseverance, and objectivity and recognition of the importance of teamwork.
- Preparing our children for life in an increasingly scientific and technological world.
- Fostering concern about, and active care for, our environment.
- Helping our children acquire a growing understanding of scientific ideas.
- Helping develop and extend our children's scientific concept of their world.
- Developing our children's understanding of the international and collaborative nature of science.
- Evaluate evidence and present conclusions clearly and accurately.

Attitudes

- Encouraging the development of positive attitudes to science.
- Building on our children's natural curiosity and developing a scientific approach to problems.
- Encouraging open-mindedness, self-assessment, perseverance and responsibility.
- Building our children's self-confidence to enable them to work independently.
- Developing our children's social skills to work cooperatively with others.
- Providing our children with an enjoyable experience of science, so that they will develop a deep and lasting interest and may be motivated to study science further.

Skills

- Giving our children an understanding of scientific processes.
- Helping our children to acquire practical scientific skills.
- 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 ICT in investigating and recording.

- Enabling our children to become effective communicators of scientific ideas, facts and data.

Curriculum and school organisation

Key Stage 1 and 2 teachers plan science lessons using the new National Curriculum (2014). 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 stage 1 and 2; this focuses on the key aspects of scientific enquiry, which enable pupils to investigate and answer scientific questions.

Science teaching in the school is about excellence and enjoyment. We adapt and extend the curriculum to match the unique circumstances of our school. KS1 teachers should be teaching science for a minimum of one ½ hours each week. KS2 teachers should be teaching science for a minimum of two ½ per week.

A 2-year cycle is used throughout the school to make sure all children access all areas of the Science Curriculum.

In EYFS, Science comes under the specific area 'Understanding of the world'. The children take part in regular small group activities exploring scientific skills. The children can also practice their UTW skills by accessing the 'Creative Area', 'Role Play Area', 'Construction Area' and 'Small World' as it focuses on UTW statements and development. The children work towards the ELG of "The Natural World". Children at the expected level of development by the end of Reception will:

- Explore the natural world around them, making observations and drawing pictures of animals and plants.
- some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.
- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

At Cockerham School we aim to teach science in ways that are imaginative, purposeful, well managed and enjoyable; giving clear and accurate teacher explanations and offering skilful questioning; making links between science and other subjects. Science has four attainment targets and a statement of breadth of study.
These are:
Sc1 Scientific enquiry;
Sc2 Life and living processes; Sc3 Materials and their properties;
Sc4 Physical processes.
Our role is to teach scientific enquiry through the contexts of the three main content areas.

Assessment

Bearing in mind that assessing a child's performance is a continuous process carried out over the full seven years of primary school our assessing methods include the following as appropriate:-

1. Looking at a child's recorded work i.e. model, graph, table illustration, chart, written work.
2. Individual discussion.

3. Listening to the children's ideas as they discuss between themselves.
4. Group discussions in both planning and reporting back sessions.
5. Observing how pupils carry out their investigations.

At the end of EYFS, Key Stage One and then at the end of Key Stage Two, staff assess children's level of attainment. This teacher assessment is based on assessment records and work samples. Children's annual school reports indicate the progress that children have made each year both in terms of knowledge and practical application.

Recording
It is essential that the type of recording is matched to the type of science activity as well as to the needs and abilities of the child. A variety of recording methods are therefore used. These include pictures, structured worksheets, tables, charts and graphs, written accounts, formal writing up of investigations, diagrams, model making, photographs, school displays and the occasional video recording.

Inclusion
We at Cockerham Parochial C E Primary School have an inclusive policy, which therefore entitles all children to access every part of the curriculum. Therefore in Science children will receive any necessary support or differentiation. Pupils with who are considered able can be extended through differentiated work that challenges thinking skills and enhances independent learning. SEN Pupils with SEN may receive extra support from other adults and may work in smaller ability groups. Pupils will be supported with reference to their Provision Maps. Differentiated learning, resources and support may be provided according to the pupils' needs.

Safety in Science
In their planning teachers anticipate likely safely issues. They will also explain the reasons for safety measures to the children and ensure that they understand the need to keep themselves safe. Teachers should consider safety for themselves, others, the environment and the resources they use when carrying out scientific activities.

Science Ambassadors
Each class will have 2-4 Science Ambassadors; whose role is to support the class teacher during Science Lessons. These children volunteer and are chosen each topic, to maximise children's knowledge and interests in certain topics. Children in the school know that the Senior Science Ambassadors' role (Yr 5/6) is to support the Science Lead in leading science throughout the school. Children in classrooms will know who their classroom SA are each topic and will know that they can go to them for support. SA in classrooms will draw up a list of key vocab for the topic (TA support KS1).

Science Enrichment
Science ambassadors work closely with the Science subject leader to promote the subject through the school. Opportunities for visitors are provided to excite and engage the children in different areas of Science. Children are given opportunities to be involved with Science weeks in school as well as using the outdoors to extend their science learning outside of the classroom.

Science Visability

Each class (KS1 and KS2) will have a science working wall which will display scientific vocabulary linked to the unit of work and visuals to support children's learning such as diagrams, photographs, questions. EYFS will have evidence of Science in their topic Floor book.
The science subject leader will be responsible for liaising with class teachers and science ambassadors to share our science vision and activities in our whole school Super Science Evidence Book.

Reviewed and updated by Mary Holden (07/12/2023)
Approved by staff
Approved by Head and Govenors