



Science Policy

Reviewed April 2024

Policy Approved by: _____

At meeting on: _____

Science Policy

School Vision

“We shine like stars to achieve and make a difference in the world, knowing that with God, all things are possible.”

Aims and objectives

Science at Aspull Church School aims to teach our children the skills, knowledge and understanding they need to question and understand concepts and phenomena that occur in the world around and equips them with the motivation to seek explanations for these through investigations. Children learn the skills required for scientific enquiry and they will begin to appreciate the way science will affect their future on a personal, national and global level.

Aims

The national curriculum for science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of 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.

Teaching and learning style

The school uses a variety of teaching and learning styles in science lessons. Our principal aim is to develop the children’s knowledge, skills and understanding. We do this through a mixture of whole-class teaching and individual/group activities.

Teachers encourage the children to ask as well as explore and answer scientific questions. The children have the opportunity to use a variety of secondary sources of information, where it will enhance learning as well as gaining first hand experiences, for example, the use of books, photographs, graphs, diagrams, models and ICT.

We recognise the fact that we have children of differing scientific ability in all our classes and so we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child.

We achieve this in a variety of way by:

- Setting common tasks that are open-ended and can have a variety of responses
- Setting tasks of increasing difficulty (we do not expect all children to complete all of the tasks)
- Grouping children by ability and setting different tasks for each group
- Providing a range of challenges with different resources
- Incorporating high order questions that apply to scientific thinking to extend the most able children in science

Science curriculum planning

The National Curriculum aids our science planning and is mainly used as the basis of curriculum planning, with some influence being taken from a variety of online sources.

The class teacher is responsible for planning science lessons. We have planned the topics in science so that they are in line with the curriculum expectations and so that they build upon prior learning. We offer a broad and balanced science education to ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each unit. We also build progression into the science scheme of work, so that the children are increasingly challenged as they progress through the school.

Teachers should incorporate 'working scientifically' into their planning, this should be embedded within the teaching of biology, chemistry and physics focussing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions. These types of scientific enquiry should include: observing over time, pattern seeking, identifying, classifying and grouping, comparative and fair testing and researching using secondary sources.

EYFS

We teach science in the Foundation stage as an integral part of the topic work covered during the year. It comes under 'Understanding the World' in the EYFS curriculum. Children must be supported in developing the knowledge, skills and understanding that help them to make sense of the world. Their learning must be supported through offering opportunities for them to use a range of tools safely; encounter creatures, people, plants and objects in their natural environments and in real-life situations; undertake practical 'experiments'; and work with a range of materials.

The contribution of science to teaching in other curriculum areas

English

Science contributes significantly to the teaching of English at Aspull Church Primary School by actively promoting the skills of thinking, reading, writing, speaking and listening. The children develop oral skills in science lessons through discussions and through recounting their observations of scientific experiments. They develop their writing skills through writing reports and projects and by recording information.

Mathematics

Science contributes to the teaching of mathematics in a number of ways. The children use weights and measures and learn to use and apply number skills. Through working on investigations, they learn to estimate and predict. They develop the skills of accurate observation and recording of events. They use numbers in many of their answers and conclusions and record their findings in bar charts, tables, pictograms etc.

Computing

Children use computing in science lessons where appropriate. They use it to support their work in science by learning how to find, select, and analyse information on the internet. Children use computers to record, present and interpret data and to review, modify and evaluate their work and improve its presentation.

Personal, social and health education (PSHE) and citizenship

Science makes a significant contribution to the teaching of personal, social and health education. This is mainly in two areas. Firstly, the subject matter lends itself to raising matters of citizenship, social welfare, healthy eating and exercise. Secondly, children benefit from the nature of the subject in that it gives them opportunities to take part in debates and discussions. Science promotes the concept of positive citizenship.

Spiritual, moral, social and cultural development

Science teaching offers children many opportunities to examine some of the fundamental questions in life, for example, the evolution of living things and how the world was created. Through many of the amazing processes that effect living things, children develop a sense of awe and wonder regarding the nature of our world. Science raises many social and moral questions. Through the teaching of science, children have the opportunity to discuss, for example, the effects of pollution and the moral questions involved in this issue. We give them the chance to reflect on the way people care for the planet and how science can contribute to the way we manage the Earth's resources. Science teaches children about the reasons why people are different and, by developing the children's knowledge and understanding of physical and environmental factors, it promotes respect for other people.

Teaching science to children with special needs

We teach science to all children, whatever their ability. Science forms part of the school curriculum policy to provide a broad and balanced education for all children. Through our science teaching, we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs. Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected levels.

Eco

Some children from every year group are part our Eco committee, this is where children who are passionate about science can use their knowledge and understanding to assist in making our school and local community a more environmentally friendly place to live. This also gives children of all abilities to enrich their learning and will provide them with opportunities to gain new knowledge about living things, their environment and how our actions today could affect our world in the future.

Assessment

We assess children's work throughout each topic through observations and marking. These assessments inform the class teacher's planning for future lessons. At the end of a unit of work, the children will have a written assessment that will assess how well they have retained new learning from their current topic, this allows the class teacher to address any misconceptions and will help inform them on the attainment of each child. In all planning class teachers should be incorporating a type of scientific enquiry into their topic to allow them to assess understanding formatively. Wherever possible, children are the first to assess their learning. The teacher records these assessments to inform reports to parents and the next class teacher at the end of the year.

Resources

We have a wide range of resources to support the teaching of Science across the school, which is regularly used by all class teachers to assist them in their teaching of science. As applicable, Pupil

Premium funding may be made available to ensure that children who are in receipt of this funding and who may normally miss out on opportunities to make progress are supported to do so e.g. Science trips/experiences.

Monitoring and review

It is the responsibility of the Science Subject Leader, the Headteacher and Governors to monitor the standards of children's work and the quality of teaching in science. The Science Subject Leader is also 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. An action plan is written and reviewed termly. The Science Subject Leader helps with the levelling and moderation of work samples to ensure consistency and calls in books and assessment folders for scrutiny and evidence of progress, with feedback being given to staff on a termly basis.