SCIENCE POLICY

Approved by:	**Local Governing Body**	**Date: September 2026**
Signed by:	**Chair of the Governing Body**	
Last reviewed on:	**September 2025**	
Next review due by:	**September 2027**	

Science is a way of finding out about the real world through methodical investigation, systematic observation, questioning and experimentation.

At Castlefort Academy, pupils are given appropriate learning opportunities so that they develop the skills needed to be active citizens within an increasingly scientific world. Science is a powerful and useful tool through which children's understanding of the world around them is carefully developed. It is our aim to create a challenging environment that raises standards of achievement in science through high quality teaching and learning.

Aims and objectives

At Castlefort Academy, we aim to enable our children to have gain the following essential characterises from science.

Essential characteristics:

- The ability to think independently and raise questions about working scientifically and the knowledge and skills that it brings.
- Confidence and competence in the full range of practical skills, taking the initiative in, for example, planning and carrying out scientific investigations.
- Excellent scientific knowledge and understanding which is demonstrated in written and verbal explanations, solving challenging problems and reporting scientific findings.
- High levels of originality, imagination or innovation in the application of skills.
- The ability to undertake practical work in a variety of contexts, including fieldwork.
- A passion for science and its application in past, present and future technologies.

The aims of science are to enable children to:

- ask and answer scientific questions;
- develop skills which may not be developed to the same degree in other areas of the curriculum;
- plan and carry out scientific investigations, using equipment, including computers, correctly;
- know and understand the life processes of living things;
- know and understand the physical processes of materials, electricity, light, sound and natural forces;
- know about the nature of the solar system, including the earth;
- evaluate evidence and present their conclusions clearly and accurately.

Teaching and Learning

Our pupils leave Castlefort Academy with the knowledge and skills required to be curious and confident scientists by embedding a curriculum that helps children foster a healthy curiosity about the world around them. Our principal aim is to develop children's knowledge, skills, and understanding, as well as a sense of enjoyment in science. We use a variety of teaching and learning styles in science lessons. Our curriculum has been planned to ensure that the knowledge children have is built upon. Increasing children's enthusiasm for the topic whilst embedding procedural knowledge into their long- term memory.

Science at Castlefort Academy is taught through topic blocks which supports children to develop mastery of the subject. The use of the SNAP Science and PZAZ schemes ensures progression and coverage across the school.

Knowledge within our science curriculum is taught through the specific disciplines of biology, chemistry, and physics. These are mapped out across the year groups to ensure progression through the use of curriculum milestones.

Our knowledge-based curriculum encourages practical exploration and investigation activities, which enable our children to think and behave like scientists. Children understand how science can be used to explain what is occurring, predict how things will behave and analyse causes. Thus, our curriculum aims to enable pupils to develop

enquiring minds with a range of investigative skills. Working scientifically plays an important role in our science planning as it means that children able to obtain key scientific knowledge through practical experiences like using scientific equipment, conducting experiments, and explaining ideas confidently.

Science Curriculum Planning

Staff at Castlefort Academy are using the Snap Science units of work as a basis for their planning and also PZAZ lessons to supplement them. This scheme of work has been written around the new primary curriculum to ensure full coverage is being achieved in each year group. These units of work also allow children to build upon prior learning and ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each unit and we also build progression into the science scheme of work, so that the children are increasingly challenged as they move up through the school.

EYFS

The Foundation Stage deliver science content through the 'Understanding of the World' strand of the EYFS curriculum. This involves guiding 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. They are teacher assessed through the year and eventually, at the end of Reception, against the Early Learning Goals.

Key Stage 1

The principal focus of science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information.

They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science should be done using first-hand practical experiences, but there should also be some use of appropriate secondary sources, such as books, photographs, and videos.

'Working scientifically' is referred to separately in the progression documents/milestones but must always be taught through and clearly related to the teaching of substantive science content in the Snap Science and Pzaz programme of study.

Pupils should read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

Knowledge Organiser sheets have been developed for each topic which present a glossary of topic specific scientific terms and contain national curriculum statements for children to self-assess against. This helps ensure the necessary coverage of the curriculum. Vocabulary sheets with pictorial representations have also been developed to help understanding of terms. These are especially beneficial for children with SEND.

Lower Key Stage 2

The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions.

They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping, and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.

'Working scientifically' is referred to separately in the progression documents/milestones but must always be taught through and clearly related to the teaching of substantive science content in the Snap Science and PZAZ programme of study.

Pupils should read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at Lower key stage 2.

Topic cover sheets have been developed for each topic which present a glossary of topic specific scientific terms and contain national curriculum statements for children to self-assess against. This helps ensure the necessary coverage of the curriculum. Vocabulary sheets with pictorial representations have also been developed to help understanding of terms. These are especially beneficial for children with SEND.

Upper Key Stage 2

The principal focus of science teaching in upper key stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships, and interactions more systematically. At upper key stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates.

They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping, and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.

'Working scientifically' is referred to separately in the progression documents/milestones but must always be taught through and clearly related to the teaching of substantive science content in the Snap Science and PZAZ programme of study.

Pupils should read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 2.

Topic cover sheets have been developed for each topic which present a glossary of topic specific scientific terms and contain national curriculum statements for children to self-assess against. This helps ensure the necessary coverage of the curriculum. Vocabulary sheets with pictorial representations have also been developed to help understanding of terms. These are especially beneficial for children with SEND.

Cross-Curricular Links

Cross-curricular links are continuously made throughout science lessons, ensuring quality and purposeful teaching and learning is happening.

English
Pupils are actively encouraged to develop their scientific vocabulary and their oral communication skills. They develop their skills of writing to record their planning, what they observe and what they found out. There are opportunities for practicing different genres of writing, such as writing instructions, persuasive writing, recounts, and explanations.

Mathematics
Pupils are expected to use their knowledge and understanding of pattern seeking, measurement and data handling at appropriate levels.

Equal Opportunities

Whole school policy on equal opportunities will be adhered to in science activities. Teachers ensure that children have access to the range of science activities and use opportunities within Science to challenge stereotypes. Children with special needs or disabilities will be differentiated for and supported appropriately, to ensure development of skills and equal access to the Science curriculum.

Health and Safety

All staff are aware of the requirements of the school's Health and Safety Policy. Risk assessments, if needed, are carried out for science experiments and activities. Visits to off-school sites are arranged in line with the school visits policy and Risk Assessment forms are filled in.

Resources

We have sufficient, high-quality science resources to aid and support the teaching of all units and topics taught, from EYFS to Y6, including age-appropriate equipment used for a range of scientific enquiry. EYFS have a range of resources kept in classes, for simple access for children during exploration. Our library has a good supply of science topic books to support children's individual research and good use is made of the internet and online sources of information.

Adaptation

In school, we aim to meet the needs of all our children by differentiation in our science planning and in providing a variety of approaches and tasks appropriate to ability levels. This involves providing opportunities for SEND children to complete their own projects, with support, to develop speech and language skills, as well as scientific skills and knowledge.

This will enable children with learning and/or physical difficulties to take an active part in scientific learning and practical activities and investigations and to achieve the goals they have been set. Some children will require closer supervision and more adult support to allow them to progress whilst more-able children will be extended through differentiated activities. By being given enhancing and enriching activities, more-able children will be able to progress to a higher level of knowledge and understanding appropriate to their abilities.

Role of the Subject Leader

It is the responsibility of the subject leader to monitor the standards of children's work. The subject leader is also responsible for supporting colleagues in their teaching, for being informed about current developments in the subject, and for providing a strategic lead and direction for science in the school.