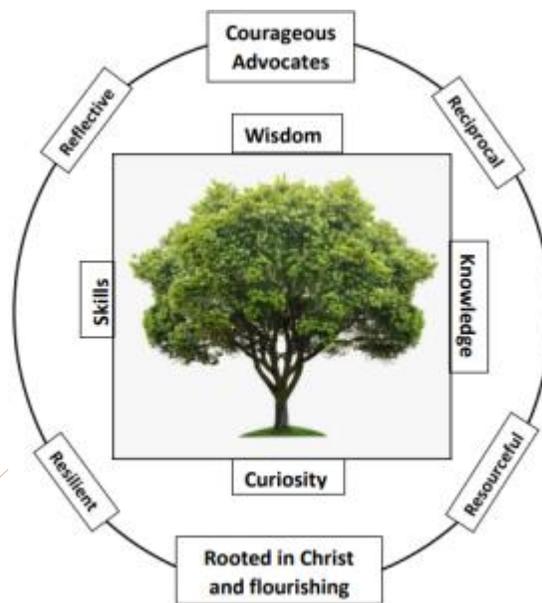




# Science Policy

*'I have come so that they may have life and have it to the full.'* John 10:10



## **Our Vision Statement**

*Our Christian family leads and encourages everyone to:*

- *Flourish; soar in faith and talents*
- *Serve others courageously*
- *Be excited and curious to learn*

*We do this within our safe, happy, diverse and nurturing Christ-centred environment ensuring 'all have life and have it to the full' John 10:10*

*We are God's children doing God's work.*

## **Policy Statement for Science**

*I have come so that they may have life, life in all its fullness John 10:10*

This policy reflects the school's values and philosophy in relation to the teaching and learning of science. It sets out a framework within which teaching and non-teaching staff can operate and gives guidance on planning, teaching and assessment. This document is intended for all teaching staff, school governors and parents.

### **Philosophy**

Whittle-Le-Woods considers that science is an important part of its broad and balanced curriculum offered to all its pupils and taught within a Christian context. Science stimulates and excites pupils' curiosity about phenomena and events in the world around them. It also satisfies this curiosity with knowledge. Because science links direct practical experience with ideas, it can encourage learners at many levels. Through science, pupils understand how major scientific ideas contribute to technological change – impacting on industry, business and medicine and improving quality of life. Pupils recognise the cultural significance of science and trace its worldwide development. They learn to question and discuss science-based issues that may affect their own lives, the direction of society and the future of the world. 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, balanced and creative science education is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability.

### **Aims**

The aims of science within our school are:

- To prepare our children for life in an increasingly scientific and technological world.
- To foster concern about, and active care for, our environment.
- Help our children acquire a growing understanding of scientific ideas.
- Help develop and extend our children's scientific concept of their world.
- Develop our children's understanding of the international and collaborative nature of science. We aim to teach science in a broad global and historical context, using the widest possible perspective and including the contributions people of many different backgrounds.

To enable children to:

- Enquire, explore and observe so that they can ask questions about themselves and their environment.
- Investigate, test and experiment in order to progress towards answers to their many questions.
- Look for links and patterns in their science work.
- Record their findings as accurately as possible in ways appropriate for their age and ability.
- Draw conclusions from their work and evaluate the evidence gathered.

To develop skills in

- Hypothesizing and predicting
- Planning and carrying out fair-test investigations
- Observing and measuring
- Recording results
- Interpreting results
- Drawing conclusions
- The use of ICT in investigating and recording.
- Being effective communicators of scientific ideas, facts and data.

### **Examples of how we can Use our God given talents to benefit others in Science.**

- Build on our children’s natural curiosity (to ask and answer questions/ create original thinking) to help them develop a scientific approach to world problems (e.g. environmental pollution, pandemics).
- Children with a keen interest in science, help others to develop a deep and lasting interest in order that they may be motivated to study science further.
- Spread the joy, awe and wonder associated with the acquisition of knowledge surrounding the seasons and Earth and space.

### **National Curriculum Science**

Science is a core subject within the National Curriculum.

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 the 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 should ensure that scientific enquiry is taught through contexts taken from the sections of life processes and living things, materials and their properties and physical processes. The breadth of study identifies contexts in which science should be taught, makes clear that technological applications should be studied and identifies what should be taught about communication and health and safety in science.

### Science in the Curriculum

At Whittle-Le-Woods C.E Primary School, we have created a curriculum that allows us to:

- Provide a more personalised curriculum for our pupils, incorporating key life skills that could transfer into lifelong learning skills.
- Allow more time to be allocated to the teaching of science by creating cross curricular links that combine more than one subject or skill – thus allowing pupils to use their knowledge in a variety of contexts.
- To extend the use of the local area and increase the opportunities for learning to take place out of the classroom – including links with secondary schools, links with industry, visitors into school and visits out of school.

### Our teaching aims

- Teaching 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, e.g. we encourage children to become avid readers whilst carrying out research into scientists from the past, and modern-day scientists/ scientific concepts.

### Organisation of Science within our 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 science and science in the foundation stage. Science teaching throughout the school is about excellence and enjoyment. We adapt and extend the curriculum to match the unique circumstances of our school.

### Foundation stage

Children in the foundation stage are taught the science elements of the foundation stage document through the Early-Learning Curriculum: Knowledge and Understanding of the World. In this area of learning, children are developing the skills, knowledge and understanding that help them to make sense of the world. This forms the foundation for later work in science.

Through planned and purposeful activities in science pupils will be encouraged to:

- Investigate objects and materials by using all their senses as appropriate.
- Find out about and identify some features of living things, objects and events they observe.
- Look closely at similarities, differences, patterns and change.
- Ask questions about why things happen and how things work.

### Key Stage One

During Key Stage One pupils observe, explore and ask questions about living things, materials and phenomena. They begin to work together to collect evidence to help them answer questions and to link this to simple scientific ideas. They evaluate evidence and consider whether tests or comparisons are fair. They use reference materials to find out more about scientific ideas. They share ideas and communicate them using scientific language, drawings, charts and tables.

### Key Stage Two

During Key Stage Two pupils learn about a wider range of living things, materials and phenomena. They begin to make links between ideas and to explain things using simple models and theories. They apply their knowledge and understanding of the scientific ideas to familiar phenomena, everyday things and their personal health. They begin to think about the positive and negative effects of scientific and technological developments on the environment and in other contexts. They carry out more systematic investigations, working on their own and with others. They use a range of reference sources in their work. They talk about their work and its significance, and communicate ideas using a wide range of scientific language, conventional diagrams, charts and graphs.

### The development of independent learning in Science

Opportunities are provided within science for pupils to develop skills of independent learning through investigation, problem solving and personal research. Teaching strategies to promote independent learning include the use of talk partners, whole class teaching and small group collaboration.

Emphasis is placed on questioning and reasoning. Independent learning is also promoted through homework activities where children may be asked to research information on a particular theme or topic.

### Science and ICT

We use ICT widely in science. Children are given the opportunity to practice science skills and enhance their presentation using carefully chosen software.

We use ICT for enquiry work, including microscopes, video capture of images and activities, and data logging.

Other resources include selected short video sequences and other teaching resources. interactive-whiteboard

### Science and Inclusion

Science implements the school curriculum policy of providing a broad and balanced education to all children. Through our science teaching we provide learning opportunities that match the needs of children with additional learning needs, and we take into account the targets set for individual children in their Individual Learning Plans (ILPs). We ensure that all our children have the opportunity to gain science knowledge and understanding regardless of gender, race, class, physical or intellectual ability.

Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected levels.

Our expectations do not limit pupil achievement and assessment does not involve cultural, social, linguistic or gender bias.

We value science as a vehicle for the development of language skills, and we encourage our children to talk constructively about their science experiences. We recognise that science may strongly engage our able, gifted and talented children, and we aim to challenge and extend them.

## 6. Assessment and recording in science

We use assessment to inform and develop our teaching.

- Topics commonly begin with an assessment of what children already know.
- We assess for learning (AfL). Children are involved in the process of self-improvement, recognising their achievements and acknowledging where they could improve. Activities during, and at the end of, each topic record achievement and celebrate success. For example, children may self-mark completed work with 'two stars and a wish' - identifying two good points in their work and one in which they could improve.
- We mark each piece of work positively, making it clear verbally, or on paper, what has been done well, and how it could be further developed.

- We have a tracking system to follow and accelerate children’s progress. The school science coordinator monitors progress through the school by sampling children’s work at regular intervals. Children who are not succeeding, and children who demonstrate high ability in science, are identified and supported.
- Reports to parents are made verbally in the autumn and spring term, and written once a year describing each child’s attitude to science, his/her progress in scientific enquiry and understanding of the content of science. Interim reports (Spring term) may include some information on a child’s progress in science.

### Health and Safety

- refer to appendix (Health and safety documents – forces & motion, electrical safety, heating and burning, microorganisms, plants)
- appendix CLEAPSS “Model Health and Safety Policy for Science in Primary Schools”

### Review

This science policy will be reviewed by the science curriculum leader and the senior management team.

Last reviewed April 2022