

CAWOOD CHURCH OF ENGLAND (VA)

PRIMARY SCHOOL



Science Policy (2018 -2019)

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Mission Statement

Christian values, *Friendship, Perseverance, Thankfulness and Wisdom*, (**FPTW**) are central to the ethos of our school and we aim to provide a curriculum that is fun, creative, enriched and challenging.

We encourage all members of our school community to develop the skills and confidence to reach their full potential in every aspect of life. We strive to provide high standards of teaching and excellent learning opportunities in a safe, friendly and supportive environment.

We believe that a strong partnership between school, home, parish and community is essential to our children's development.

At Cawood – **Stepping Forward Together!**

Rationale

A high-quality Science education provides foundations for understanding the world. Science has changed our lives and is vital to the world's future prosperity. Through building key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how key knowledge and concepts can be used to explain what is occurring, predict how things will behave, and analyse causes. This understanding should be consolidated through their appreciation of applications of Science in society and the economy.

AIMS OF SCIENCE POLICY

Our Science Policy follows The National Curriculum 2014 for Science Guidelines and 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.

In teaching Science we are developing in our children:

- a positive attitude towards Science and an awareness of its fascination;
- an understanding of Science through a process of enquiry and investigation;
- confidence and competence in scientific knowledge, concepts and skills;
- an ability to reason, predict, think logically and to work systematically and accurately;
- an ability to communicate scientifically;
- the initiative to work both independently and in co-operation with others;
- the ability and meaning to use and apply science across the curriculum and real life.

Guidelines

School curriculum

When planning science, teachers refer to the school's long term plan, New National Curriculum Programmes of Study and Early Years Foundation Stage Framework, North Yorkshire Science Scheme of Learning. Currently we plan for the long term in two yearly cycles of access.

The programmes of study for Science are set out in the national curriculum year-by-year for Key Stages 1 and 2. We are however, only required to teach the relevant programme of study by the end of the key stage. Within each key stage, the school has the flexibility to introduce content earlier or later than set out in the programme of study and may introduce key stage content during an earlier key stage if appropriate.

Teachers will base their planning on the programmes of study for their relevant year groups and according to the school's LTP.

Scientific knowledge and conceptual understanding

The programmes of study describe a sequence of knowledge and concepts. While it is important that pupils make progress, it is also vitally important that they develop secure understanding of each key block of knowledge and concepts in order to progress to the next stage.

Pupils should be able to describe associated processes and key characteristics in common language, but they should also be familiar with, and use, technical terminology accurately and precisely. They should build up an extended specialist vocabulary. They should also apply their mathematical knowledge to their understanding of Science, including collecting, presenting and analysing data.

The nature, processes and methods of science

'Working scientifically' specifies the understanding of the nature, processes and methods of Science for each year group. It should not be taught as a separate strand.

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Key Stage 1 and EYFS

KS1 builds on the early years outcomes for Knowledge and Understanding of the World. The main 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 will be encouraged to be curious and ask questions about what they notice. They will 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 of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests and finding things out using secondary sources of information. They will 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 will be done through the use of first-hand practical experiences, but there will also be some use of appropriate secondary sources, such as books, photographs and videos.

Pupils should read and spell scientific vocabulary at a level consistent with their reading and spelling knowledge at Key Stage 1.

Lower Key Stage 2 – Years 3 and 4

The main focus of Science teaching in Lower Key Stage 2 is to enable pupils to broaden their scientific view of the world around them. They will 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 will 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 fair tests and finding things out using secondary sources of information. Children will 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 **always** taught through and clearly related to substantive Science content in the programme of study.

Pupils should read and spell scientific vocabulary correctly and with confidence, using their growing reading and spelling knowledge.

Upper Key Stage 2 – Years 5-6

The main 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 will 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, children will encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They will also begin to recognise that scientific ideas change and develop over time. They will learn to 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 fair tests and finding things out using a wide range of secondary sources of information. Pupils will be taught to 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. Pupils should read, spell and pronounce scientific vocabulary correctly.

'Working and thinking scientifically' is **always** taught through and clearly related to substantive Science content in the programme of study.

Assessment

The assessment and recording of children's work follow the school's policy. **This is achieved through:**

- observation of pupils;
- marking work;
- yearly assessment (FAF files)

Role of the Subject leader

- support teachers during planning, delivery and assessment
- be responsible for the development of science in school
- disseminate new information
- monitor standards in Science through book scrutiny, lesson observations and pupil data
- work collaboratively with the governing body
- report to the Assistant Headteacher and Headteacher
- keep to date with any changes and collaborate with local schools
- provide/organise staff training

Safety

To ensure that all science activities are safe, we refer to A.S.E. guidelines 'Be Safe 4th edition' and check LA guidelines on Health and Safety (there is a central copy held in the staff room). This is a minimum safety requirement of health and safety standards. Teachers should notify the science subject leader of any suggested amendments. Free advice is available from CLEAPSS hotline 01895 251496.

Resources

1. Science resources are stored in the science cupboard located in the KS2 corridor (near the cleaner's cupboard). Equipment is replaced in the correct place and any breakages, wear and tear, etc. should be reported to the science subject leader.
2. It is the responsibility of teachers to inform the science subject leader of any science resources that they need to be ordered.

Reviewed September 2018.