

Airedale Infant School

'Ambition, Bravery, Respect

Science Policy

Version	Date
Last reviewed	July 2021
Next reviewed	July 2022
Owner	Subject Leader/SLT
Approver	Academy Council

Our rationale

Science teaches an understanding of natural phenomena. It aims to stimulate a child's curiosity in finding out why things happen in the way that they do. It teaches methods of enquiry and investigation to stimulate creative thought. Children learn to ask scientific questions and begin to appreciate the way in which science will affect the future on a personal, national and global level.

At Airedale Infant School, we believe that a high-quality science education provides the foundations for understanding the world through the specific subjects of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity. Therefore, all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Children are naturally fascinated by everything in the world around them and science makes a valuable contribution to their understanding. Children learn by playing with things in their world. They pick up clues about what they see, touch, smell, taste and hear in order to make sense of it all. Eventually they come to conclusions which they match up with all the experiences they have had.

Pupils at Airedale Infant School, should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes and it is our role to provide a broad and balanced Science curriculum that meets the needs of all pupils to enable them to achieve their full potential and make progress in their learning.

Intent:

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 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.

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Implementation - Curriculum and Subject Content

The programmes of study for science at Key Stage 1 are set out in the national curriculum. Class teachers are responsible for ensuring that all of the relevant statutory content is covered within the school year. The school's 'Science Curriculum Map' (shown on page 2) outlines the units to be taught.

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 of time, 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 through the use of first-hand practical experiences, but there should also be some use of appropriate secondary sources, such as books, photographs and videos.

'Working scientifically' is described separately in the programme of study, but must always be taught through and clearly related to the teaching of substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content.

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

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Science Curriculum Map 21-22

Year 1	Animals Including Humans—Human body and Healthy Eating Life Processes—Senses		Animals Including Humans—Categorising animals and basic structures All living Things—common animals and what animals eat	Everyday Materials—Exploring and naming materials Changing Materials—changing shape	Earth and Space—Seasons Plants— Basic Structure	Working Scientifically—Yorkshire Pudding investigation—irreversible changes Changing Materials—Solid and liquids
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Year 2	Reduce, reuse, recycle Everyday Materials— identifying & changing materials	Working Scientifically— Fire burning investigation	Animals including humans- Offspring Living Things- Food chains	Animals including humans- Hygiene and Human body parts	Living Things- - Habitats Plants - Features/needs and growth	
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Working Scientifically within the Curriculum

'Working scientifically' is described separately in the programme of study, but must always be taught through and clearly related to the teaching of substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content.

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

Class teachers must ensure that there are frequent opportunities for pupils to 'work scientifically' within the curriculum. 'Working scientifically' specifies the understanding of the nature, processes and methods of science. Pupils are required to work scientifically within all areas of the science curriculum.

The following skills are statutory:

During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- asking simple questions and recognising that they can be answered in different ways
- observing closely, using simple equipment
- performing simple tests
- identifying and classifying
- using their observations and ideas to suggest answers to questions
- gathering and recording data to help in answering questions.

Cross-curricular skills and links

Science pervades every aspect of our lives and we will relate it to all areas of the curriculum. Lessons will make effective links with other curriculum areas and subjects, especially English, Mathematics and Computing. We will also ensure that pupils realise the positive contribution of both men and women to science and the contribution from those of other cultures. We will not only emphasise the positive effects of science on the world but also include problems, which some human activities can produce.

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Impact: Monitoring and evaluation

Throughout the term/year a range of monitoring activities are conducted in-line with the schools monitoring calendar such as: lesson observations/drop-ins, book/work scrutiny, pupil voice, display audits and planning scrutinies. This enables the science leader to constantly monitor their subject area, identify needs for CPD and/or peer support, while keeping abreast of standards in science across school.

Assessment

Assessment in science is based upon scientific knowledge and understanding. At Airedale Infant School we use a range of assessment materials to ensure that children are making appropriate progress, including assessment tasks, observations and experiments. Pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programmes of study.

Assessment should:

- Be formative and summative
- Be used to inform the teacher for future planning
- Promote continuity and progression
- Form the basis for reporting to parents
- Be based on observation, participation and written outcomes

Class teachers are responsible for recording achievement of children working below at, or above age related expectations for their age. All staff at Airedale Infant School strive to ensure that our children reach their full potential in Science and that they understand and enjoy their experiences. They ensure that tasks are differentiated appropriately to match the needs of all pupils, including those with Special Educational Needs. 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.

Safety

Pupil's safety at Airedale Infant School is paramount. Teachers must plan safe activities for science and complete a risk assessment if necessary. Teachers and teaching assistants need to be aware of health and safety procedures when using equipment/food in science lessons. Pupils must be aware of the need for personal safety and the safety of others during science lessons.