Anchorsholme Academy Science Policy

THE SEA VIEW TRUST

Adopted by Governors/HT: HT
Review period: 3 Years
Last review date: September 2023
Person responsible for policy: Miss J Alladice

- **At Anchorsholme Academy, we want to engage and motivate all learners to recognise and achieve their full potential. We aim to provide children with a science curriculum that consistently: inspires curiosity through asking and creating questions; enables children to feel confident when exploring their environment; allows children to collaboratively make new and exciting discoveries and encourages children to communicate their discoveries and ideas in a variety of ways.**
- **Our aim is to make science fun, hands on, well-resourced and relevant to real life experiences of the world through the teaching and learning of scientific knowledge and working scientifically skills.**

Aims and Objectives

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; and
- are equipped with the scientific knowledge required to understand the **uses and implications** of Science, today and for the future.

Purpose of Study

Our aim is to make science fun, hands on, well-resourced and relevant to real life experiences of the world through the teaching and learning of scientific knowledge and working scientifically skills.

We aim to provide children with a science curriculum that consistently:

- inspires curiosity through asking and creating questions
- enables children to feel confident when exploring their environment
- allows children to collaboratively make new and exciting discoveries
- encourages children to communicate their discoveries and ideas in a variety of ways

Planning and School Curriculum

The programmes of study for Science are set out year-by-year for Key Stages 1 and 2; teachers will base their planning on the programmes of study for their relevant year group. Teachers will use 'Snap Science' as their main resource when planning and resourcing their Science lessons and Science should be taught every week for a 1.5 / 2-hour block per week.

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. '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.

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.

Foundation Stage

In Foundation Stage, Science is taught under the Early Learning Goal heading "Understanding the World". Within this area of the EYFS there are three aspects which are: "Past and Present", "People Culture and communities" and "The Natural World".

All our teaching is through topics which enable the children to explore these areas of learning through both child-initiated play and teacher-led focus tasks. The children are encouraged to make predictions, test their ideas through simple investigations, make observations, explain why some things occur and notice similarities and differences in the world around them. The nature of our setting and our style of teaching, allows the children to lead their own learning as they freely explore their environment, develop their observational skills, and develop a sense of curiosity, awe and wonder.

Key Stage 1

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 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.

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 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 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' must always be 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 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 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 and thinking scientifically' must always be taught through and clearly related to substantive Science content in the programme of study.

Pupils should read, spell and pronounce scientific vocabulary correctly.

SEND and More Able learners

- All SEND children are supported to fully participate in all science lessons: teacher or TA support, peer support, pre-teach of vocabulary, word mats, use of IT resources, differentiation of activities and practical resources.
- More able and aspiring more able children are challenged to complete investigations and to problem solve independently. They are encouraged to articulate their learning by explaining how they solved a question or proving how they discovered the information using scientific vocabulary. They also make links between their knowledge across the curriculum and apply them to everyday life.

Assessment

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.

This is achieved through:

- Using ongoing formative teacher assessment inputted into Arbor
- Using a focused TAPS assessment for each science unit
- Discussions with pupils and questioning

- Observations of pupils
- Marking written work
- Floor books

Marking

- Use margin marking with a focus on scientific vocabulary.
- Highlight relevant scientific knowledge and vocabulary in green.

Monitoring and Evaluation

The Subject Leaders will:

- monitor and evaluate pupils' work
- observe teaching of lessons
- monitor floor books and TAPS assessments
- conduct staff and pupil voice questionnaires

Safety

The school follows COSHH guidance, 'Be Safe'.

Parental Involvement

Parents may be involved in class-based work if they can offer a particular skill or extend and compliment the class teacher's skills and knowledge.

A piece of science homework or activity is to be completed at home once per term.

Science is to be promoted as much as possible on remote learning platforms including Class Dojo and Tapestry. Photos should be uploaded as much as possible to allow parents to see how children are learning through Science.