SCIENCE POLICY

Manager:

Reviewed: March 2022
Approved by Governors: June 2022
Next Review: October 2023

We believe that Science should be engaging and practical to inspire children to enjoy asking questions about the world around them.

Introduction

Science is an investigation of the physical, chemical and biological aspects of the world which relies on first hand experiences and on other sources of information. The scientific process and pupils' problem-solving activities will be used to deepen their understanding of the concepts involved. The main aspects of science to be studied will be determined by the programmes of study of the National Curriculum 2013, which has now been established and embedded throughout school. 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.

Aims

We believe that a broad and balanced science education is the entitlement of all children.

- To prepare our children for life in an increasingly scientific and technological world,
- Fostering concern about an active care for our environment,
- To help our children acquire a growing understanding of scientific concepts of their world,
- To nurture pupil's curiosity and encourage questions about a range of scientific concepts,
- To develop our children's understanding of the international and collaborative nature of science.

Attitudes

- Encouraging the development of positive attitudes to science.
- Building on our children's natural curiosity and developing a scientific approach to problems.
- Encouraging open-mindedness, self-assessment, perseverance and responsibility.
- Building our children's self confidence to enable them to work independently.
- Developing our children's social skills to work cooperatively with others.
- Providing our children with an enjoyable experience of science.
- Develop an environment which enhances and celebrates scientific learning.
- Ensure that pupils realise the positive contribution of both men and women to science and the contribution from those of other cultures and times.

Skills

- Giving our children an understanding of scientific processes.
- Helping our children to acquire practical scientific skills.
- Developing the skills of investigation – including observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.
- Developing the use of scientific language, recording and techniques.
- Developing the use of ICT in investigating and recording.

- Enabling our children to become effective communicators of scientific ideas, facts and data.
- To develop age appropriate links with the Maths, English and PSHCE curriculum.

Teaching and Learning

As Science is a core subject of the National Curriculum, children are taught weekly in single age groups appropriate to their needs and abilities. Teaching assistants are used to support children's learning; they are made aware of the learning intentions and time is made available for assessment and feedback. Where possible, Science should be taught in a manner that will link to the current topic and enhance cross curricular activities, including Computing, Maths, English and PSHCE. It should also promote real life examples for the children to relate to and appreciate their relevance and contributions to society.

An overview of the scientific areas covered in each year group can be found in Appendix 1. Early Years pupils investigate science as part of Understanding the World. Through careful planning, pupil's scientific knowledge gained at Key Stage One will be consolidated and developed further in Key Stage Two. In all years, pupils will be encouraged to develop their skills and independence to work scientifically through planning and implementing a variety of investigations, encouraging them to use first hand and secondary resources to explore a range of concepts. A progression of working scientifically skills can be found in Appendix 2.

Investigations

At Shawclough we feel it is important that our children have the opportunity to carry out scientific investigations, inspiring pupils to raise their own questions such as why, how and what happens if.....? A variety of activities will help to develop the skills of enquiry, observation, locating sources of information, selecting appropriate equipment and using it safely, to measure and check results, making comparisons and communicating results and findings, including the use of ICT.
Activities are challenging, motivating and extend children's learning.
To ensure progression is made throughout school when carrying out whole investigations progressive planning frameworks are used. At Key Stage One the framework is discussed as a whole class and filled in collaboratively. At Key Stage Two the children are encouraged to use the frameworks to plan and carry out their own independent enquiry. See Appendix 3 for examples of each of the frameworks used within school.

Health and Safety

Pupils will be taught how to use scientific equipment safely when using it during practical activities. Class teachers or Teaching Assistants will check equipment is working prior to lessons and Phase staff will be responsible for replacing damaged or used items, such as batteries. The LEA has adopted the ASE book 'Be Safe' as its model risk assessment and therefore this should be consulted when necessary. Also Shawclough have access to CLEAPSS, which promote safe and engaging activities, suitable for groups of children in the classroom.

Feedback, marking and assessment

We use assessment to inform and develop our teaching.

- Topics commonly begin with an assessment of what children already know and questions are raised to enhance their subject knowledge.
- We use Assessment for Learning (AFL) and active assessment in our science teaching. Children are involved in the process of self improvement, recognising their achievements and

acknowledging where there is room for improvement. Achievement and success are celebrated.

- Much of the work done in science is of a practical or oral nature, and, as such, recording will take many varied forms, thus making marking different. We follow the school's marking and feedback policy to positively acknowledge children's effort whilst prompting how it could be improved. Also we collect photographic evidence which, at times, is annotated by the pupils.
- The school uses a range of assessment tools to inform and support our teacher assessment including commercial tests. Equally important is the continuous assessment of children's work, much of which is informal.
- Staff are developing their use of cover sheets to summarise pupil's progress of each unit taught. See Appendix 4.
- Progress will be monitored termly as part of teacher assessment, using Shawclough subject trackers, adapted Twinkl resources and teacher judgements. These are related to the National Curriculum Programmes of study and are age appropriate**.**
- We will track children's progress in science throughout school and look into how to accelerate children's progress further.
- The school science team monitors children's progress throughout school by sampling children's work, interviewing children and observing lessons at regular intervals. Children who are not succeeding, and children who demonstrate high ability in science, are identified and supported.
- Scientific progress is shared with parents through annual reports.

SEND Intent

At Shawclough, we believe that every pupil, regardless of needs, disability, race or gender, has a right to equal access to a broad and balanced curriculum. We present this subject in a supportive and stimulating atmosphere, which values each child and encourages them to achieve their full potential. We recognise every child as an individual, promoting self-esteem, independence, respect and responsibility. We work closely in partnership with parents and the wider community, as we understand that this is effective in helping children to learn and develop. We encourage children to be proactive in their learning by helping them to understand what they are good at and what they can do to get better.

It is our intent for all children with additional needs to:

- Have access to a broad balanced and relevant curriculum
- Be happy and feel secure.
- Be included.
- Achieve their very best.
- Demonstrate personal development and growth.
- Make good progress based on their personalised targets and Individual Provision Map (IPM)
- Experience wider activities leading to greater independence.
- Make effective independent decisions.

Appendix 1 Science Overview.
Appendix 2 Working scientifically progression overview
Appendix 3 examples of investigation planning formats
Appendix 4 example of unit coverage and progression sheet