

Science policy 2020

Introduction

Science provides children with a practical way to find reliable answers to questions that we may ask about the world around us. At The Colleton Primary School, science allows children to develop their knowledge and understanding of the world in which they live through practical first-hand experiences, using secondary sources and applying previously acquired knowledge. These experiences enable children to observe, question, investigate, understand, communicate their ideas and evaluate their findings. Children will begin to appreciate the way science will affect their future on a local, national and global level.

Intent

We aim to:

- enable children to develop knowledge, understanding, vocabulary and skills of a range of scientific concepts, through first-hand experience and careful observation in a scientifically stimulating environment.
- develop children's skills to observe and find patterns in observation, raise questions, experiment and investigate, reason systematically and logically, solve problems, sort, classify, plan, predict, draw conclusions and communicate.
- develop a respect for living things and the environment and understand the effects of their actions on the environment.
- encourage curiosity, co-operation, involvement, perseverance, respect, tolerance and communication.
- provide our children with an enjoyable experience of science so they will develop a deep and lasting interest.
- use a range of media, including technology, to extract, organise, present and communicate scientific information.
- acquire practical skills and develop responsibility for their own health and safety, which enables them to perform investigations and undertake activities safely.

Implementation

In the Foundation Stage, science is covered by 'Understanding the World' in the Early Years Foundation Stage framework and is taught as an integral part of topic work. Children are encouraged to develop the knowledge, skills and understanding that help them to make sense of the world. They are offered opportunities to explore and experiment using a range of tools safely; encounter creatures, people, plants and objects and undertake practical 'experiments' through their play using a range of materials.

Our scheme of work follows the National Curriculum Programme of Study 2014 and is taught as part of the school's rolling programme to enable cross-curricular themes and links to be developed, while maximising learning opportunities. Science teaching will be based around the National Curriculum year group objectives across a two-year cycle. The science curriculum is linked by 'Golden

Threads': Awe and wonder, **Life**, **Substances**, **How the universe behaves** and Diversity. Termly plans clearly show the knowledge for each topic and the scientific vocabulary to be taught. Working Scientifically is taught alongside, and clearly related to, the key knowledge for each topic. Children experience different types of enquiry, such as observing over time, classifying and grouping, finding patterns, comparative and fair tests and researching using secondary sources. Through these enquiries, children are taught the following skills: observing, raising questions, predicting, hypothesising, planning, controlling factors (fair testing), constructing tables and graphs, explaining, communicating and evaluating findings and researching information. Children are encouraged to work in a range of ways: individually, in pairs and in small or large groups.

Technology has a wide range of purposes in science lessons. Children can use it to research, extract, present and communicate scientific ideas. They can also use it to record, present, interpret and analyse scientific data. The use of technology in different formats supports a range of learning styles.

To ensure progression, a science skills map helps teachers to plan Working Scientifically by supporting medium term planning and a science key knowledge map helps to ensure that when children are revisiting topics; they build on previous knowledge.

Equal opportunities and inclusion

We provide a broad and balanced curriculum for all our pupils. All pupils will have equal access to the science curriculum in line with their individual needs. We will:

- set suitable learning tasks to challenge and extend all children.
- respond to pupils' diverse learning needs.
- endeavour to overcome potential barriers to learning for individuals and groups of pupils.
- ensure that all our children have the opportunity to gain science knowledge and understanding regardless of gender, race, class, physical or intellectual ability.

Assessment and record keeping.

Records of assessment and achievement will be kept in line with school policy – see Pupil Records Policy.

Health and Safety

The children's science work must take place in a safe environment and awareness of the importance of safety will be taught. The Association for Science Education publication "Be Safe" is available for consultation by staff when working with practical science activities. This book is kept in the staff library in the science and technology section. Field work on or off site will comply with the Health and Safety Policy and the Local Authority's requirements.

Resources

All science resources are catalogued and a list is available for staff in the Science folder on Teams. The resources are catalogued into topic areas.

Monitoring

Science is monitored by the Science Team under the supervision of the Headteacher and Senior Leadership Team.

It is the responsibility of the Science Team to be informed of current developments in primary science teaching and to communicate these to other staff at staff meetings and inset days. The science team produces an annual action plan which identifies the areas of improvement for that year. They also monitor and review the quality of science teaching through the monitoring of termly plans, lesson observations, learning walks, discussions with children and book scrutiny.