

## **Mottram Science Policy**

Updated Spring 2020

### **Intent:**

At Mottram CE Primary School, we aim to build upon children's natural excitement and curiosity about the world around them, through the teaching and learning of Science. We recognise the importance of Science in our modern lives and aim to provide our pupils with as many opportunities as possible to learn about these Science concepts: to build up a key foundation of knowledge, whilst maintaining a hands-on, practical approach to learning. Our pupils are provided with a wide range of opportunities throughout the school grounds, to explore and ask their own questions. The children are then taught the skills needed to lead their own investigations and develop the resilience required to find out the answers to these questions. We aim to promote a love of learning through experimentation, whilst creating memorable experiences which will prepare them for the world of Science in their later lives.

### **We aim to:**

- Excite and stimulate our children's curiosity, imagination, creativity and problem solving skills.
- Prepare our children for life in an increasingly scientific and technological world.
- Nurture and develop concern about, and active care for, our environment.
- Help our children to acquire a growing understanding of scientific ideas.
- Help develop and extend our children's scientific knowledge and conceptual understanding of their world.
- Develop our children's understanding of the international and collaborative nature of science.
- Encourage open-mindedness, self-assessment, perseverance and responsibility.
- Build our children's self-confidence to enable them to work independently.
- Develop our children's social skills to work cooperatively with others.
- Provide our children with an enjoyable experience of science, so that they will develop a deep and lasting interest and may be motivated to study science further.

### **Objectives**

The objectives of teaching science are to enable children to:

- Explore the world around them in an exciting, practical way which makes the most of their natural curiosity
- Ask scientific questions

- Plan and carry out a range of scientific investigations to help them find answers to these questions
- Make predictions about what they might discover
- Observe, measure and record what happens in a variety of ways and using a range of scientific equipment (including ICT)
- Analyse findings and make evaluations based on these findings
- Present these findings in a variety of ways (including using ICT)

### **Skills**

We teach science through the National Curriculum which will give our children the skills to:

- Understand scientific processes
- Acquire practical scientific skills
- Observe, measure, predict, hypothesise, experiment, communicate, interpret, explain and evaluate
- Plan and carry out a fair test
- Classify, make comparisons and look for patterns
- Use scientific language
- Record and present results in the most suitable way
- Use a range of scientific equipment with increasing accuracy
- Use ICT effectively in investigating and recording
- Effectively communicate scientific ideas, facts and data
- Work safely

### **Planning of science**

Pupils throughout the school are taught Science using the Cornerstones Curriculum and supporting resources.

#### Early Years:

Children in the foundation stage are taught science through several of the Early Learning Goals including:

- The World
- Technology
- People and Communities

#### KS1 and KS2:

In KS1 and KS2, the Cornerstones topics are taught on a 3 year cycle: a 3-year block whilst the children are in Purple and Yellow class and the next 3-year block whilst the children are in Blue and Green class. Topics are taught for a half-term and are all closely linked with the 'Love to Investigate' enquiries (a specially-designed series of investigations to support and enhance these topics. The 3-year rotation ensures continuity throughout the school and coverage of the following National Curriculum units:

### **Key Stage 1**

- Seasonal changes
- Plants
- Animals, including humans
- Light
- All living things and their habitats
- Uses of everyday materials
- Sound

### **Key Stage 2**

- Plants
- Animals, including humans
- Rocks
- Light
- Forces and magnets
- All living things
- States of matter
- Sound
- Electricity
- Properties and changes of materials
- Earth and space
- Evolution and inheritance

Teachers in our school continually strive to adapt and extend the curriculum as necessary in order to meet the needs of all learners.

### **Teaching and learning of science**

The science coordinator and Senior Management Team monitor the teaching and learning of Science across the school. They ensure the agreed action plan is being followed and plan special events to promote Science at Mottram C. of E. Primary School e.g. science weeks, special visits etc. The teaching and learning of Science is monitored regularly through book scrutinies, pupil voice activities and lesson observations.

Wherever possible, we aim to teach Science through practical experiences. All teachers use the Cornerstones resources as a foundation for their teaching. These resources support the teaching and learning of the processes involved in carrying out a full scientific investigation. Pupil-led investigations are introduced in Key Stage 1, using post-it planning. This planning framework supports children to generate their own questions for investigations, make predictions and then develop these ideas into a fair test with consideration of variables. As the pupils progress through the school, they increase their familiarity with the process, enabling them to fully plan and carry out their own investigations in Key Stage 2.

### **Assessment**

Science units are assessed following the teaching of each 'Love to Investigate' enquiry, using the Cornerstones Assessment recording sheets. Judgements are made through observation, discussion, practical and recorded work. Science data is then inputted termly into SIMS. Analysis of this data can be found in the Science Co-ordinator's file.

To ensure that there is a continual assessment of 'Working Scientifically' objectives, all pupils in KS1 and KS2 have a copy of these objectives inside the front cover of their Science books. When the teacher has identified the pupil achieving one of these objectives, they record the date on which this was witnessed. Children in KS2 are encouraged to review their own learning by self-assessment of these objectives whenever possible.

**Resources:**

Science resources are kept in labelled draws in the Staff room. Resources are audited yearly to check overall quantity and quality of resources. A laminated copy of the resource audit list can be found in the staff room or from the science coordinator.

Kayleigh Alker (Science coordinator).