

# Sherburn Primary School

## Science Policy



# Science Policy – Sherburn Primary School

Science makes a significant and vital contribution to all aspects of life. 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.

Teachers and parents/carers can help children to take a second, careful look at the world. By talking together children can be encouraged to explore and observe so that they can group objects and events and look for similarities and differences. They will need to measure and record the things they have found out in ways that make sense to them so that later they can talk to other people about what they have discovered. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

## **Aims:**

The National Curriculum for science aims to ensure that all pupils:

- develop lively, enquiring minds and the ability to question
- learn scientific skills and knowledge
- build on their natural curiosity and enable them to understand and care for the world in which they live
- are provided with an environment where they can work in an investigative way and can communicate their findings in a variety of ways
- Can use equipment safely and sensibly
- develop the potential scientific links with all other areas of the curriculum
- 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

## **Science and the National Curriculum**

In Sherburn Primary School we base our teaching on the National Curriculum Programmes of Study and this is particularly helpful with ensuring that there is continuity and progression.

The National Curriculum document for science sets out a clear, full and statutory requirement for all children. It determines the content of what will be taught, and sets attainment targets for learning. The programmes of study set out what should be taught at Key Stage 1 and 2 and The Foundation Stage programmes of study for Understanding of the World are set out in the EYFS.

### **Organisation**

#### **Foundation Stage**

Children enter our Reception classes in the September after their fourth birthday. The EYFS in Reception sets out the learning objectives for the seven areas of learning:

- Physical Development
- Expressive Arts and Design
- Personal, Social and Emotional Development
- Literacy
- Understanding of the World
- Communication and Language
- Mathematics

The EYFS aims to give the children knowledge and skills so they can begin the National Curriculum.

#### **Key Stage 1**

At Sherburn Primary School Science is taught as a discrete lesson and as part of cross-curricular themes when appropriate. Science has links with other areas of the curriculum including Geography, English, Numeracy, Art and Design Technology.

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.

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. The social and economic implications of science are important but, generally, they are taught most appropriately within the wider school curriculum: teachers will wish to use different contexts to maximise their pupils' engagement with and motivation to study science.

### Key stage One Programmes of Study

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.

### Key stage Two

Lesson content and practical activities are carried out to support coverage of the programmes of study of the Curriculum. Children will be able to expand their knowledge of scientific skills and vocabulary.

#### Overview of units

Year 1	Working Scientifically	Plants	Animals including humans	Everyday materials	Seasonal Changes	
Year 2		All living things and their habitats	Plants	Animals including humans	Use of everyday materials	
Year 3	Working Scientifically	Plants	Animals including humans	Rocks	Light	Forces and magnets
Year 4		All living things	Animals including humans	States of matter	Sound	Electricity
Year 5	Working Scientifically	All living things	Animals including humans	Properties and changes of materials	Earth and Space	Forces

Year 6		All living things	Animals including humans	Evolution and inheritance	Light	Electricity
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**See the national curriculum document for the full programme of study that the school will follow.**

**NB The above units will be taught throughout the year; however the order in which they are taught may be changed, to avoid classes needing the same resources at the same time.**

### **Assessment**

Assessment in Science is based upon scientific knowledge and understanding, rather than achievement in English or Mathematics. In the Foundation Stage we assess children's knowledge and understanding according to the EYFS Learning and Development Stages. In KS1 and KS2 we use a range of assessment materials to ensure that children are making appropriate progress, including assessment tasks. Pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

All staff strive to ensure that our children reach their full potential in science and that they understand and enjoy their experiences. Children considered more able are supported and challenged by their teachers to ensure their understanding is at a greater depth. Children with special educational needs will be monitored by our SEN Co-ordinator ensuring that these children follow the National Curriculum Programmes of Study through work schemes that promote the child's development and confidence.

Multi-Cultural links will be developed wherever possible in the teaching of this National Curriculum subject. We have Healthy School Weeks based around PE and Science topics and themes. Through the teaching of Science we are developing the schools eco awareness and the global impact of this.

### **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

## **Recording**

Children's recording will take many forms according to the nature of the activity:

- Verbal
- Pictorial
- Diagrammatic
- Graphical
- Written
- Symbolic
- I.C.T.
- Photographic

## **Classroom Organisation**

Children will be grouped as appropriate for the task in order to encourage flexibility:

- Ability groups
- Mixed ability groups
- Mixed ability partners
- Ability partners
- Individuals
- Whole class groups

Science is a hands on experience and all the children are given the opportunity to use their senses. Children are encouraged to:

- Observe, discover and experiment
- Develop scientific language
- Question and report
- Sort and classify
- Look for similarities and differences

## **The Role of the Science Co-ordinator:**

- To review changes to the National Curriculum requirements and advise on their implementation.
- Attend relevant CPD courses for Science as appropriate in line with the School Development plan.
- Arrange staff meetings to discuss the scientific aspects of the themes contained in the school's current scheme of work and how these might be presented in the classroom.
- Carry out an annual audit of the school's Science resources, and operate an efficient storage system for these resources to ensure that our children can learn effectively in and through Science.
- Liaise with the school's SENCO and Class Teachers regarding the progress of individual and groups of children.
- Collate assessment data, termly and yearly, and set new priorities for development of Science in subsequent years.
- Monitor the learning and teaching in Science and provide support for staff when necessary.
- Take a lead role in organizing Science Events in school in line with LA and national initiatives.

- Endeavour to involve parents/ carers in their children's learning in and through science.

Sarah James 2019

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