



Rich fields of learning



## Science Policy

Our Science Policy follows the 2014 National Curriculum and our aims ensure that all pupils:

- Develop scientific knowledge and conceptual understanding through the specific disciplines of Biology, Chemistry and Physics.
- Develop understanding of nature, processes and methods of science through 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.

In teaching of science we are developing in our children:

- A positive attitude towards science and an awareness of its fascination.
- An understanding of science through a process of enquiry and investigation.
- Confidence and competence in scientific knowledge, concepts and skills.
- An ability to reason, predict, think logically and to work systematically and accurately.
- An ability to communicate scientifically
- The initiative to work both independently and in cooperation with others.
- The ability and meaning to use and apply science across the curriculum and real life.

We currently use the Durham County Council Progression sheets for planning and assessment and this ensures that the coverage across the different year groups is covered throughout key stage 1 and 2 to meet the age related expectations.

## **School Curriculum**

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.

## **EYFS**

Science is a wonderful vehicle for enabling children to develop skills across the curriculum, as all the areas of learning and development at the foundation stage are inter-connected. Through engaging in science activities, children not only learn about the world around them, they also develop key skills in the three prime areas which in turn prepares the children for the Science Curriculum in KS1 and KS2.

## **KS1 and KS2**

The programmes of study for science are set out year by year for key stage 1 and 2. We are however only required to teach the relevant programme of study by the end of the key stage. Within each key stage, school has the flexibility to introduce content earlier or later than set out in the programme of study and may introduce key stage content. Due to the cross phase age classes at Butterknowle Primary this means that we can be flexible. Key Stage 1 follow a 2 year rolling programme and KS2 a 4 year rolling programme to ensure coverage and progression.

## **Cross curriculum opportunities**

We aim to include science teaching through our Creative Curriculum projects, when it is appropriate. In addition, several Mathematic concepts can be taught through Sciences, especially data collection, data presentation and interpretation. In addition we teach Relationships and Sex Education (see RSE policy) as part of the Science Curriculum.

## **Attainment targets**

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.

## **Key Stage 1**

The main focus of science teaching in KS1 is to enable pupils to:

- experience and observe phenomena,
- look more closely at the natural and humanly constructed world around them.
- be curious and ask questions about what they notice.
- 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.

- 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.

## **Key Stage 2**

The main focus of Science teaching in **Lower Key Stage 2** (Year 3-4) 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.
- Pupils should read and spell scientific vocabulary correctly and with confidence, using their growing reading and spelling knowledge.

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

The main focus of Science teaching in **Upper Key Stage 2** (Year 5-6) 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.
- 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.
- Pupils should read, spell and pronounce scientific vocabulary correctly.

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

### **Assessment**

This is achieved through:

- observation of pupils engaged in scientific tasks and activities,
- marking of work
- work scrutiny by staff
- tracking subject coverage across year groups and Key Stages using SIMS and Science Bug' tracking system
- assessment of pupil knowledge at the end of each unit in order to establish learning related to Age-related expectations.

### **Monitoring and Evaluation**

This is achieved through:

- monitoring and evaluation of pupils' work;
- lesson observations;
- monitoring of teaching, learning and assessment

The role of the school Science coordinator is key in monitoring and evaluating teaching, learning and assessment. The aim of the coordinator is:

- 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 and governor 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.
- Collate 'End of topic Assessments' and 'End of Key stage Assessments' 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 organising 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.

### **Health and Safety**

All staff will follow COSHH guidance 'Be Safe'. Teachers must plan safe activities for science and complete a risk assessment if necessary. Teachers and teaching assistants need to be aware of health and safety procedures when using equipment/food in science lessons. Pupils must be aware of the need for personal safety and the safety of others during science lessons.

See school Health and Safety policy for details

### **Reporting to parents and carers**

We hold Termly progress meetings where parents are informed about their child's progress and an annual written report is produced at the end of the summer term.

### **Marking work**

Refer to the whole School Marking Policy.

Reviewed: April 2021