



## Science Policy

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## Aims and objectives

Science teaches an understanding of natural phenomena. It aims to stimulate a child's curiosity in finding out why things happen in the way that they do. To encourage children to:

- Develop a questioning and reflective mind by providing a range of exciting and enjoyable activities.
- Develop a systematic and logical way of working.
- Apply their skills and knowledge to investigative work.
- Come to a deepening understanding of scientific concepts.
- Work safely and carefully.

## Working Scientifically

Working scientifically must always be taught through a clearly related programme of study. Pupils at Claregate will learn to use a variety of approaches through:

- Observation over time
- Identification and classification
- Seeking patterns
- Undertaking research – linked to significant scientists and their related work
- Completing comparative and fair tests.

## Teaching and Learning

All children have access to the Early Years Foundation Stage Curriculum and the 2014, Science National Curriculum. Our plans show the breadth of study as well as how 'Working Scientifically' is embedded within each unit of work.

### Early phase

The principal focus of science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to 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. They should begin to 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.

### Middle phase

The principal focus of science teaching in lower key stage 2 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 comparative and 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.

### **Later phase**

The principal focus of science teaching in upper key stage 2 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. At upper key stage 2, 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 comparative and 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. Research will be undertaken to identify the impact of famous scientists, male and female, and how their discoveries have impacted on the wider world.

### **Attitudes**

Through Science we endeavour to foster the following qualities: excitement, curiosity, perseverance, open-mindedness, self-discipline, sensitivity to others, independence, adaptability, co-operation, and care for living things, in addition to 'Habits of Mind'.

### **Equal opportunities**

All children at Claregate are given equal opportunities in all areas of Science. We monitor the attainment and engagement of all pupils.

### **Special Educational Needs**

We support children in a manner that acknowledges their entitlement to share the same learning experiences that their peers enjoy. Teachers use a range of strategies to meet children's special educational needs to enable them to:

- understand the relevance and purpose of learning activities;
- experience levels of understanding and rates of progress that bring feelings of success and achievement.

### **Records and Assessment**

Assessment of children's development is made through a combination of end of unit assessments, on-going teacher assessment, and end of year assessments, where appropriate. Progress and attainment in Science are reported to parents through end of year reports.

### **Safety**

It is important that children are taught the rules of safety when undertaking experiments and investigations. Materials and equipment need to be handled sensibly and we try to ensure that children do this. It is the teacher's responsibility to make sure that all helpers (TAs, parents etc.) are aware of safety implications connected with any Science activity they are undertaking.

### **Monitoring**

The Science curriculum is monitored by the science co-ordinator through staff meetings, observation of teaching, monitoring of medium term plans and children's work and analysis of data. This policy will be reviewed at least every two years.

Mrs N Plant

Lower Key Stage 2 Co-ordinator