

Manor Hall Academy



SCIENCE POLICY

CICELY HAUGHTON SCHOOL

Building Relationships

Celebrating Success

Promoting Change

CICELY HAUGHTON SCHOOL

POLICY FOR SCIENCE

Introduction

This document is a statement of the aims, principles and strategies for teaching and learning of Science at Cicely Haughton School.

It was developed initially, during the summer of 2012 through a process of consultation with teaching staff and school council members.

This policy will be reviewed annually. A schedule of the review of this, and all other policy documents is set out in the School's Two- Year Plan of Whole School Development.

What is Science?

Science is a body of knowledge which is built up through experimental testing of ideas and which is organised in a way that makes it easy to use. Science is also a methodology, a practical way of finding reliable answers to questions we may ask about the world around us.

Aims

Our aims in teaching Science are that all children will:

- retain and develop their natural sense of curiosity about the world around them.
- develop a set of attitudes which will promote scientific ways of thinking including perseverance and the important of teamwork.
- develop observational skills, design fair and controlled experiments and drawing of meaningful conclusions using evaluation of evidence.
- develop problem-solving skills through practical investigation.

Principles of the Teaching and Learning of Science

Science is important because:

- It is a body of knowledge essential to our understanding of the world around us.
- The skills and knowledge of Science has a wide applicability in everyday life.

Science is a core subject in the National Curriculum. The fundamental skills knowledge and concepts of the subject are set out in "Science in the National Curriculum"

Strategies for the Teaching of Science

The science curriculum utilises the Twinkl scheme of work:

- The Science scheme of work ensures that children have a varied, progressive and well-mapped-out science curriculum that provides the opportunity for progression across the full breadth of the science national curriculum for KS1 and KS2.

- This means that Science is studied throughout the academic year
- At KS 1 and 2 Science is studied for approximately 1 hour a week delivered by class teachers.

The predominant mode of working in Science is co-operative and collaborative group-work although individual work and class teaching are also used where appropriate. Within this structure:

- teachers produce/utilise differentiated worksheets and resources
- groups usually of mixed ability with differentiation by group
- relevant discussion is encouraged with reference to use scientific language and vocabulary

There is also an emphasis on cross curricular links in the following forms:

English

Speaking and listening

Focusing on main points and organising what students say.

Remembering specific points that interest them. Students should be able to take turns in speaking

Reading

to follow instructions on worksheets in order to answer questions. Science word lists. Identify use and effect of specialist vocabulary

Writing

Use language and style that are appropriate to the reader. To check spellings with the use of specialist dictionaries.

Maths

Number

Organise work and refine ways of recording

Understanding measurement

Using standard units of length to explain results.

Using and applying, handling data.

Select and use data handling skills, use data to solve problems.

ICT

Using multi media sources, collecting data to compile data base using sensors to datalog.

Mr Chambers is the lead qualified Science teacher. He oversees the resources and delivery of Science through following the relevant curriculum at KS1 And KS2.

COMMERCIALY AVAILABLE SCHEMES OR WORK are used in Science.

The principal scheme in use in the school is Twinkl.

However, we also have full access to:-

- BBC Primary Science, Nature Trek - practical work in the school environment. Scientific Packs. BBC revise wise.
- Plan Bee
- Twinkl online resources

PUPILS WITH SPECIAL NEEDS IN SCIENCE receive extra support in the classroom from a teaching assistant. They include:

- pupils with difficulties in learning Science are given extra opportunities for working at a slower pace through differentiated work sheets and group activities.
- pupils with particular ability and flair for Science who work more quickly through the levels of the National Curriculum and are extended through the use of additional worksheets and scientific investigation through problem solving
- all pupils are requested to investigate problems, ask questions related to the Science topic or bring in materials to show or display as part of an on-going scientific project.
- parents are encouraged to support Science topics through donating of resources and regular updates on the school website

THE EMPHASIS IN OUR TEACHING OF SCIENCE is on first-hand experience and we encourage children increasingly to take control of their own learning. Thus:

- investigative work is common through AT 1 practical Science
- resources are made readily available and accessible
- pupils are encouraged to work as part of a group and to communicate their scientific findings using a variety of methods e.g. written reports, graphs or pictures.

EXCELLENCE IN SCIENCE IS CELEBRATED in display and performance including

- communication of scientific findings during whole school forum e.g. assembly
- mounting of graphical display with completed science work.

Strategies of Ensuring Progress and Continuity

THE ROLE OF THE SCIENCE COORDINATOR is to

- take the lead in policy development and the production of schemes of work designed to ensure progression and continuity in Science throughout the school
- support colleagues in their development of detailed work plans and implementation of the scheme of work and in assessment and record keeping activities as requested
- monitor progress in Science and advise the Curriculum co-ordinator on action needed
- take responsibility for the purchase and organisation of central resources for Science and care of equipment
- keep up to date with development in Science education and disseminate information to colleagues as appropriate.
- To facilitate/locate the correct Twinkl schemes of work and file on shared area

FEEDBACK TO PUPILS about their own progress in Science is achieved through the marking of work.
Effective marking:

- aims to help children learn, not to find fault, and comments aim to be positive and constructive
- is often done while a task is being carried out through discussion between child and teacher
- of written work is used sensitively and with discretion so that a child can assimilate a limited number of corrections at one time -this will vary according to age and ability.

FORMATIVE ASSESSMENT is used to guide the progress of individual pupils in Science. It involves identifying each child's progress in each aspect of the subject, determining what each child has learned and what therefore should be the next stage in his learning. Formative assessment has been added to EAZ to focus Science objectives and record teaching outcomes. Baseline assessments have been completed Autumn 2021, with end of year targets in place. The assessments are completed half termly. This is an assessment of Science taught from the LTP.

Suitable tasks for assessment include:

- small group discussions perhaps in the context of a practical task
- short tests in which the teacher gives questions orally and pupils write answers. These are taken from the Collins Science Assessment Sheets.
- specific assignments for individual pupils
- individual discussions in which children are encouraged to appraise their own work and progress
- short test in which the teacher gives questions orally and pupils are taped by audiocassette (used rarely)
- Self review for science record of achievement

REPORTING TO PARENTS is completed annually for all children and those with an EHCP will review this annually as part of the annual review process. A written report is submitted with an overview of work completed in science and personalised individual comments on progress.

Strategies for the Use of Resources

SCIENTIFIC EQUIPMENT IS KEPT in a central source with over all responsibility for care and distribution by the Science Co-ordinator within the Music/Art Room. **CENTRAL RESOURCES IN SCIENCE** are the responsibility of the Science Co-ordinator who has a small budget available. They include:

- class sets of scientific instruments
- class sets of scientific materials
- major/expensive items such as microscopes
- reference books and scheme books.

TIME is a resource that we value. To maximise its use in Science:

- clear behavioural strategies to allow quality teaching and high output
- clear aims and objectives for scientific learning
- clear lesson notes and work sheets for each of the modules.

INFORMATION TECHNOLOGY in Science

- This is an area that is currently being developed. Every pupil has recently been allocated a Chrome book, allowing far greater opportunities for pupils to develop their scientific knowledge with the use of Information Technology.

HEALTH AND SAFETY ISSUES IN SCIENCE include:

- appropriate handling of equipment and materials
- appropriate storage of equipment and materials
- lists of centrally held resources for Science safety guidelines.

EQUAL OPPORTUNITIES

Each child has equal access to Science within our school and every effort is made to ensure that the Science activities and investigations are interesting and achievable. The expectation is the same for boys and girls. Children with special needs are involved in all work planned from the Programme for Science at an appropriate level which will help each child to reach their full potential.

The school has achieved dyslexia friendly full status and as such will give due regard to dyslexia friendly strategies and objectives.