



SCIENCE POLICY

This policy to be read in conjunction with Assessment Policy, Curriculum Policies, Equal Opportunities Policy, Health & Safety Policy, Teaching and Learning Policy, Racial Equality Policy, SEN Policy

RATIONALE (What is science?)

Science is a body of knowledge built up through experimental testing of ideas. Science is also methodology, a practical way of finding reliable answers to questions we may ask about the world around us.

Aims and Objectives:

- to provide appropriate and stimulating scientific experiences which encourage pupils to make sense of the world around them
- to develop a positive attitude to scientific enquiry and an awareness of the influence of science in everyday life
- to deliver activities that meet the requirements of the National Curriculum in a way that is appropriate to the needs and interests of all pupils and which challenge them to fulfil their potential
- to develop pupils' ability to apply their scientific knowledge and skills to solve problems in a wide variety of contexts
- to encourage pupils to develop a caring attitude to the environment and living things
- to develop pupils' understanding of safe ways of working and to take increasing responsibility for managing their own investigations safely
- to provide opportunities for pupils to learn through observation, prediction and investigation, and to share their findings
- to enable pupils to work both collaboratively and independently on scientific tasks
- to use scientific contexts to develop and consolidate cross-curricular skills of literacy, numeracy and ICT

TEACHING AND LEARNING

Within the Early Years Foundation Stage (EYFS), the curriculum is guided by using the relevant scientific sections of Knowledge and Understanding of the World. There is a strong emphasis on developing basic enquiry skills and high quality observations as set out in the early learning goals.

From Years 1 to 6 we currently use the QCA scheme of work that has been incorporated into the School Curriculum Map. This highlights all areas of Science covered throughout the school each year. This therefore ensures that all pupils receive their maximum entitlement to a full education in relation to Science. Schemes of Work are reviewed and monitored in accordance with the School Improvement Plan. The curriculum map also highlights opportunities for cross curricular work.

The importance of Sc1 (Scientific Enquiry) is stressed throughout the school. Wherever possible, the remaining Science curriculum is taught using an experimental and investigative approach.

Children work in a variety of ways, many cross-curricular. For example:

- exploratory play to gain experience of a situation or article and to develop their own ideas
- experimentation to try out ideas and find what happens
- investigation to test ideas or hypotheses in an increasingly systematic way
- focused observation to develop the ability to notice detail and changes that take place over time
- focused practical tasks to promote understanding of a concept or skill
- sorting and classifying to group things by observable characteristics
- discussion and debate of ideas and conclusions to consolidate understanding and develop the ability to explain clearly
- presenting the results of their work in appropriate and varied ways
- gaining respect for evidence and appreciating the views of others
- working collaboratively and independently
- using secondary sources to widen experiences, enhance understanding and provide evidence, particularly to provide examples and illustrations from wider contexts than those possible in the classroom

These allow work to be differentiated by task and outcome for children working at all levels. Children with relevant IEPs are given appropriate support to access the curriculum and allow them to carry out tasks at their own level.

Provision is made for children who are gifted and talented in this area to extend their experiences beyond those of the majority of the class by:

- increasing the need for independent thinking;
- raising the level of knowledge to be gained and communicated;
- applying knowledge to an unfamiliar context;
- setting more challenging criteria for presenting information.

The children, whilst being made aware of the purpose of recording and the intended audience of their work, will experience and be taught a variety of styles of presenting their findings.

Key vocabulary, pertinent to each topic, is displayed and pupils are encouraged to use the technical vocabulary in all levels of communication.

We aim to develop pupils' use of ICT in their science studies. Opportunities are provided for the children to use ICT to enhance their learning when appropriate. They can also research areas of study using CD-ROMs and/ or the internet.

ROLES AND RESPONSIBILITIES

Responsibilities of the Science Subject Leader are detailed in the Subject Leaders' Policy

ASSESSMENT

Children are assessed in line with our assessment policy. Children may be grouped for their work, and assessment criteria for these groups determine the method of recording.

APP (Assessing Pupils' Progress) sheets are used which:

- enable teachers to make judgments about their pupils' attainment, keyed into national standards
- develop and refine teachers' understanding of progression in science
- provide diagnostic information about the strengths and weaknesses of individual pupils and groups of pupils
- enable teachers to track pupils' progress over time
- inform curriculum planning
- facilitate the setting of meaningful curricular targets that can be shared with pupils and parents

(Refer to Assessment Policy).

RESOURCES

The Science resources are kept in the year 3-4 corridor and must only be accessed by an adult. Resources are organized alphabetically according to general description eg Electricity – bulbs, buzzers, motors. If the boxes need replenishing or the individual teacher requires further resources they should inform the Science subject leader of their requirements.

There is also a selection of useful books and assessment resources, some of which are listed in the Appendix.

Larger resources or resources that can be used to support different QCA units are stored in separate boxes in the resource area and also in the overhead cupboards. The contents are highlighted on the front of the cupboard.

Appendix 1

NC Learning Objectives/ POS /QCA Units of work			
	Autumn	Spring	Summer
EYFS	Festivals & Celebrations: changes of state, light/dark	Changes : ourselves, cooking, minibeasts- life cycles, plants-life cycle, weather, wet/dry	Journeys: transport, hot/cold, push/pull, wet/dry, float/sink, etc
Year 1	1A Ourselves 1F Sound and Hearing	1C Sorting and Using Materials 1E Pushes and Pulls	1B Growing Plants 1D Light and Dark
Year 2	2D Grouping and Changing Materials 2F Using Electricity	2A Health and Growth 2E Forces and Movement	2B Plants and Animals in the local environment 2C Variation
Year 3	3A Teeth and Eating 3E Magnets and Springs	3C Characteristics of materials 3DRocks and Soils	3B Helping Plants grow well 3F Light and Shadows
Year 4	4C Keeping Warm 4E Friction	4D Solids, Liquids and Separation 4F Circuits and Conductors	4B Habitats 4A Moving and Growing
Year 5	5C Gases 5D Changing States 5E Earth, Sun and Moon	5B Life Cycles 5H Enquiry in environmental and technological Contexts	5A Keeping Healthy 5F Changing Sounds
Year 6	6E Forces in action 6G Changing circuits 6F How we see things	6B Micro-organisms 6A Interdependence and Adaptation	6D Changes Revision

Useful Resources

Exemplification of Science 1' book produced by S.I.A.S
 Teaching Scientific Enquiry' CDROM from ASE (in ICT cupboard)
 Science Resource Files LCP
 Ready Resources Science (KS2)- Scholastic
 Handling Science Data (for Years 3-6) kept in each classroom
 Active Assessment, Naylor & Keogh
 Rising Stars Science Assessment
 "ActiVote" (in ICT safe)

