

Kelvedon Hatch Community Primary School

Science Policy



***SCHOOL STAFF WERE CONSULTED ON THIS DOCUMENT AND IT WAS ACCEPTED
BY GOVERNORS SEPTEMBER 2018:***

POLICY TO BE REVIEWED SEPTEMBER 2022

Science Policy for Kelvedon Hatch Community Primary School

At KHCPs learning in every subject will be based on the key elements contained within our Learning and Teaching Pedagogy Policy:

Show Me Boards

- Use of show-me boards ensure all children are actively engaged and that prior learning (memories) become stronger, thus creating stronger pathways in the brain, enabling learners to build on prior knowledge.
- Show me boards also play a crucial part in using assessment for learning to identify misconceptions immediately, allowing adults to address these at whole class or individual level immediately.
- Use of Show Me boards generates pace.
- Show me Boards should be used at the start of the lesson to revise previously taught knowledge, processes or skills in order to strengthen memory pathways in the brain.
- Show Me boards can also be used during lessons in order to enable instant whole class assessment, particularly when an 'next step' concept has been taught midway through a lesson.

Additional themes that underpin our pedagogy:

- Lessons implicitly or explicitly reflect on our support of the UN Convention on the Rights of the Child (UNCRC).
- Our strong sense of social responsibility is explicitly discussed within the context of lessons whenever possible.
- Our concrete, pictorial, abstract approach enables all children to access learning.
- Lessons actively encourage children to undertake research based on self-interest (where possible, children have access to research materials, including iPads).
- Where possible, lessons are topic-based and have links with other areas of the curriculum. For example, English skills would be explicitly referred to when writing a method in science.
- Use of I.C.T. equipment supports research and enables enhanced access to the curriculum where appropriate and possible.
- There is a culture of celebrating children's work through referring to very specific elements of the child's work or learning behaviour.
- Adults model (explicitly) how children can meet the given success criteria.
- Adults model the desired learning behaviour through modelling enthusiasm, collaborative learning, use of resources, self-interest research, referring to steps of challenge and success criteria to know if answers are correct / objectives have been achieved.
- Parents are informed of the curriculum at meetings and access to the curriculum overview is on the school website.
- Whenever possible, exciting concrete resources, footage or trips bring topics to life and feed interest and a desire to research.

Inclusion and Equal Opportunity

Kelvedon Hatch Community Primary School, Mission Statement

Joyous, caring, respectful and ambitious

'We are a joyful, creative school that promotes a love of learning within a caring, respectful environment.'

Joyous

We aim to create learning environments that are inspiring, fun and memorable, within a school community that loves learning and celebrates the successes made by all children, at every stage of their learning journey.

Caring

Children, staff and the wider school community care about the wellbeing of others, both within the school community and the wider world community. We nurture and support one another's emotional and social development and respect and celebrate our differences.

Respectful

Our school community holds respect at the core of all we do; we consider carefully the consequence of our actions and words, mindful of the impact these may have on others. We celebrate the progress and effort of those around us.

Ambitious

We strive to be the best we can in all aspects of life: manners, kindness, effort, work, regardless of our starting points, disability, ethnicity, faith or culture. We are all capable.

Care should be taken to give each child the opportunity to learn about the global community, regardless of race, Religion, language, gender or economic status.

Our aim is that no child should be advantaged or disadvantaged due to their race, religion, language, gender or economic status.

Pupils with learning difficulties can be given greater access to the whole curriculum through the use of ICT. They are able to improve the accuracy and presentation of their work and this can improve their motivation and raise self-esteem. A variety of software and tools have been sourced to support this work. Where necessary, pupils are given additional support to provide access to the curriculum. Specialist software and hardware is made available for pupils with specific difficulties, for example, roller ball mice for pupils with co-ordination problems, magnification software for pupils with sight problems and software to support pupils with developing numeracy and literacy skills. ICT is used to provide additional activities to extend and challenge gifted and talented pupils.

SCIENCE specific elements of our pedagogy:

AIMS

Key stage 1

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.

'Working scientifically' is described separately in the programme of study, but must always be taught through and clearly related to the teaching of substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content. Pupils should read and spell scientific vocabulary at a level consistent with their increasing word-reading and spelling knowledge at key stage 1.

Lower key stage 2 - years 3 and 4

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.

'Working scientifically' is described separately at the beginning of the programme of study, but must always be taught through and clearly related to substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content. Pupils should read and spell scientific vocabulary correctly and with confidence, using their growing word-reading and spelling knowledge.

Upper key stage 2 – years 5 and 6

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.

'Working and thinking scientifically' is described separately at the beginning of the programme of study, but must always be taught through and clearly related to substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content.

Pupils should read, spell and pronounce scientific vocabulary correctly.

National Curriculum subject content

The curriculum will be taught using the National Curriculum Programmes of Study

Opportunities for Personal, Health and Social Responsibility Education

Use opportunities within lessons to promote the UN convention on the Rights of the Child.

Other examples could be: e-safety, exercise, relationships, food hygiene.

Planning

Long- term plans are published on the school website.

Medium-term plans include: learning objectives; at least two steps of challenge; use of concrete, pictorial and abstract resources to enable equal access and a mastery approach; and cross-curricular links where possible.

Resources Provision

There are topic boxes for different units of work. Classes have access to a variety of Computing equipment depending on the age and experience of the children. All classes have one multimedia computer with Internet access linked to an LCD screen for whole class teaching. All classes have one timetabled slot in the computer suite, which is used

for discrete teaching of the Computing curriculum with additional times being available for booking in the mornings. A class set of i-pads is available in mobile trolleys, which allow teachers to use Computing in the classroom to support cross-curricular learning.

Health and safety

Children are taught to act safely when using Scientific and computing equipment in terms of use of plugs, wires and keeping liquids away from electrical items. E-safety is integrated into every computing lesson; please read 'E-safety Policy'.

Assessment, record keeping and reporting

Children's work is either kept in school or photographed.

Judgements are made against National Curriculum expectations and the school ROLO.

Teachers use formative assessments to provide immediate feedback to children to ensure good progress.

Teachers use formative assessments to inform planning.

Teachers make summative assessments half-termly using ongoing formative assessment, subject-specific tests, and work scrutiny against the school record of learning observation (ROLO) document. Judgements are recorded on the school Progress Tracker.

Children's progress in computing is reported to parents through the pupil annual report and work is shown to parents at a termly 'book look'.

Developing and Monitoring the Science Curriculum

Role	Responsibility.
The Role of Senior Management	<p>The overall responsibility for the use of Science rests with the senior management of a school. The Head, in consultation with governors and staff:</p> <ul style="list-style-type: none">• determines the ways Science should support, enrich and extend the curriculum;• decides the provision and allocation of resources;• decides ways in which developments can be assessed, and records maintained;• ensures that Science is used in a way to achieve the aims and objectives of the school;• ensures that there is a Science policy, and identifies the Science Lead.
The Role of the Science Lead	<p>The designated lead should:</p> <ul style="list-style-type: none">• ensure the development of an effective Science Curriculum.• promote, support and monitor the use of Science across the curriculum;• manage the provision and deployment of resources• coordinate the evaluation and review of the school's Science policy.• There is a clear distinction between teaching about Science and teaching with Science.
The Role of The Teacher	<p>Even though whole school co-ordination and support is essential to the development of Science capability, it remains the responsibility of each teacher to plan appropriate Science activities and assist the Science Lead in the monitoring and recording of pupil progress in Science.</p>