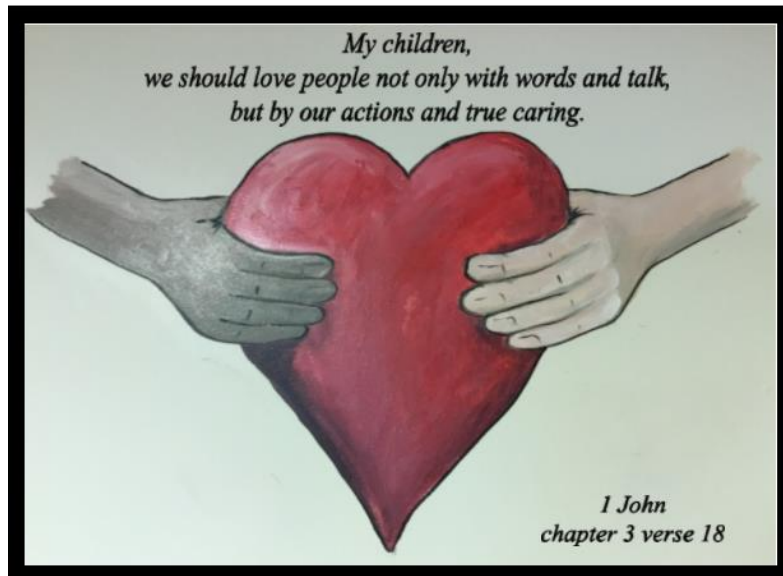




SCIENCE POLICY
ST. LUKE & ST. PHILIP'S PRIMARY, A CHURCH OF ENGLAND ACADEMY



VISION STATEMENT

'The family of St Luke and St Philip's will ensure excellence is encouraged, minds are opened, diversity is embraced, respect is expected and talents are nurtured under the umbrella of God's love.'

ETHOS

Our school provides grounding in the Christian Faith for all its children with emphasis on collective worship as part of its daily life. Our Christian values of trust, truth, love, peace and thankfulness are built into the ethos and teaching of our school with the support of all Governors and staff for its Christian foundation. We also seek to encourage an understanding and respect for other world faiths.

CHRISTIAN SCHOOL VALUES



PURPOSE

This policy reflects the values, ethos and Mission Statement of St. Luke and St Philip's C.E. Primary Academy in relation to the curriculum. It is consistent with the school's agreed aims and objectives and sets out a framework within which teaching and support staff can operate.

AUDIENCE

This document is intended to give a clear outline of the school's approach to the curriculum to all staff, governors, Cidari and parents. It is also intended for the use of the School's Advisory Service when assisting the development of the school's curriculum and for any authorised inspector. Copies of this document are provided for all teaching staff and are available when necessary to support staff, members of the School's Governing Committee and Cidari members. A copy of this document is available for the use of parents.

AIMS AND OBJECTIVES

At St Luke and St Philips, we aim to foster a lifelong love of learning, through adopting a highly practical and cross curricular approach to learning. **Being a Church of England school, we aim to fulfil all the requirements of the National Curriculum and the Diocesan Syllabus for Religious Education.**

We are proud of being a Church academy at the heart of our local community – a place where everyone is valued, respected and encouraged to develop resilience and confidence. Our strong ethos strives to ensure that each pupil achieves their very best.

Academically – through a knowledge rich, focussed and sequenced curriculum.

Culturally – through an extensive programme of extra curricular activities and visits.

Spiritually – through an ethos of interdependence that flows through the life of both the academy and the wider community.

Our exciting and enquiry based curriculum is designed to both engage and challenge our pupils to develop creative and independent thinking through strong oracy skills. We endeavour to nurture a thirst for learning in all our pupils.

The broad content of the curriculum is enriched by covering a wide range of subjects, talents and future careers. We realise that in order for our pupils to lead in tomorrow's world they will need to demonstrate compassion, understanding, empathy and innovation.

Success, progress and celebration are very much at the heart of what we do.

CURRICULUM INTENT

Within Science, our intention is to:

- Stimulate and excite pupils' curiosity about changes and events in the world and enable pupils to develop their understanding of the world through investigation;
- Engage pupils as learners at many levels through linking ideas with practical experience;
- Develop through practical work the skills of observation, prediction, investigation, interpretation, communication, questioning and drawing conclusions, (disciplinary knowledge) and increased use of precise measurement skills and Computing;
- Encourage and enable pupils to offer their own suggestions and question scientific issues, to be creative in their approach to Science and to gain enjoyment from their scientific work.

The Science curriculum -

- follows the National Curriculum as its foundation;
- follows a sequence that builds on knowledge (substantive knowledge) and skills throughout and across the key stages;
- is designed to be inclusive for all pupils, including boys and girls, those with SEND, socially disadvantaged backgrounds, different cultures and religions;
- ensures knowledge is retained through the high quality teaching of a broad vocabulary, opportunities for linking new knowledge to prior knowledge and retrieval activities.
- will develop the children's knowledge and understanding through the three strands of biology, chemistry and physics;
- will develop an understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them;
- will ensure children are equipped with the scientific knowledge required to understand the uses and implications of science, today and in the future;
- prepares pupils for their future learning by ensuring all necessary knowledge and skills are taught in preparation for the following learning phase, and by developing the key cognitive skills of independence, creativity, problem solving, analysis and evaluation;
- is personalised to delve deeper into subjects the children are particularly interested in and to promote a love of science through high quality practical activities and enrichment;
- creates an air of excitement and a love for learning.

IMPLEMENTATION

- Science is taught weekly - approximately 1 and ½ hours a week in KS1 and 2 hours in KS2. Lessons should be predominantly practical, with approximately 30 minutes recording time within the afternoon;
- A range of resources are used to make sure lessons are planned to be interactive, practical and fun. Teaching methods should maximise the potential for investigative work;
- Teachers are encouraged to plan creative and interesting ways of recording, encouraging the children to explain their thinking using the correct scientific vocabulary;

- Planning should show differentiation according to the 'Working Scientifically' skills as well as recording styles;
- Teachers will ensure the full range of Working Scientifically skills are covered throughout the year, with a Working Scientifically objective alongside knowledge-based objective in every lesson;
- To support the planning process of experiments and to develop Working Scientifically skills, the following resources will be used –
KS1 – Discovery Dog posters
KS2 – the post-it system
- Pupils should be given the opportunity to develop their Working Scientifically skills by planning their own experiments either as a group or individually, and then be allowed to carry out their own experiments. This will enable them to find out what was successful, and how the experiment could be improved;
- Lessons should incorporate the use of Computing where suitable, and be cross-curricular, particularly with Maths and English;
- Where possible, support staff are used throughout the school to support practical work and allow for small group planning and discussion;
- A termly overview, available for parents and the school website, indicates the broad objectives and the links between subjects;
- Topics are revised regularly to keep up-to-date linking with current affairs and environmental issues;
- At the beginning of every topic, teachers use a pre-topic starter script to ignite prior learning discussions and encourage children to make links to the knowledge they may already have. Following on from the pre-topic discussion, the children start a concept map. These concept maps are revisited regularly during the unit and pupils have the opportunity to add more information as they gain more knowledge. They have the freedom to present their concept map however they want, so when they need to present what they have learnt, they are able to use it as a tool to support their presentation.
- A linked Knowledge Organiser is discussed and stuck into books for reference throughout the topic, and Pre-Teach Vocabulary sessions delivered around specific vocabulary;
- Topic boxes from the Library Service are loaned each term to ensure there is a wide range of age appropriate books matching topics, promoting reading within Science;
- Homework is given linking to Science to consolidate learning, encourage research and promote creativity.

Ensuring effective learning -

- Pre-Teach Vocabulary strategies are used whole class to teach topic specific vocabulary and also additional sessions are delivered to further embed the vocabulary for identified pupils. Vocabulary games are embedded throughout lessons to encourage children to make conceptual links, in turn aiding memory and making knowledge stick;
- Each topic is enriched with a 'wow' experience; e.g. a class trip, visit to a local area of interest within the community or a special visitor coming into school. Parents and members of the local community are invited into school where it fits a topic. Where possible, lessons are practical and use interactive resources and artefacts, and visual and auditory stimuli. Outdoor learning is encouraged;

- Each topic has regular 'check it' opportunities embedded within the unit. These are short tasks based on the knowledge the children have been taught in the previous lessons. The activities provide teachers the opportunities to monitor progress, check understanding and address misconceptions whilst the topic is being taught.
- The children complete retrieval tasks some time after a topic has been taught. This task enables the children to recall previously learnt knowledge. It triggers the children's memory and increases the likelihood of the knowledge being transferred from the short term to the long term memory.
- Oracy techniques are incorporated throughout daily lessons to develop confidence and clarity of thought and speech using quality vocabulary;
- Metacognitive strategies are incorporated throughout daily lessons to develop children's independence and knowledge of which learning strategies help them to learn best;
- Problem-solving activities are actively incorporated within topics, allowing the children to use and apply learnt knowledge, further embedding it. This also develops and enhances the key cognitive skills of independence, creativity, problem solving analysis and evaluation;
- Children know what they are going to learn and why (Objective)
- Children know what they need to do to be successful (Steps to Success)
- Expectations should be high and spontaneity should be encouraged;
- Children should have time to reflect and review their learning;
- The learning environment should be well-organised, attractive, stimulating and positive
- Displays celebrate children's work - at all levels - as well as key vocabulary and knowledge for the topic;
- Children are encouraged to be active and responsible for their own learning and progress.

IMPACT

To ensure our intentions are met, the impact of the Science curriculum will be monitored through -

- Pupils' books are marked in accordance with the Marking and Feedback policy, noting where objectives have been achieved independently or with support, and giving next steps to further the learning;
- Class teachers use Target Tracker to highlight objectives achieved and monitor progress;
- The Science Lead analyses the data to monitor the progress and attainment across school, giving feedback and support where necessary;
- Pupils' learning and the impact of teaching and learning is monitored by the Science Lead, Senior Lead Team and external advisors in accordance with the Monitoring and Evaluation policy. This involves quality assurance of books and planning, observations of lessons, drop-ins, Teaching and Learning audits and pupil interviews;
- Staff share good practice through 'Standards Meetings' where books, plans, resources and ideas are shared.

PLANNING

- The yearly curriculum overview shows the topics to be covered by each year group and is progressive, ensuring knowledge builds over and across key stages. Where it is fitting, the curriculum promotes links with other subjects such as DT and PSHEC;
- The Science Overview shows the composites and components to be taught in each year groups;
- A long term skills overview for each year group has been produced ensuring progression of skills in accordance with the National Curriculum and is used alongside the yearly curriculum overview;
- Teachers create Medium Term Plans using the three documents mentioned above. Additional resources (the Kent SOW) also provide additional resources and ideas to further support planning.
- Online resources such as bpes.com and Explorify provide additional teacher background reading alongside interactive resources;
- Daily plans are noted in each teacher's individual Primary Teacher Planner book and are shared every Monday morning with all relevant members of staff working within a class.

EYFS

The Early Years Foundation Stage profile sets out the early Science skills and knowledge as part of Understanding the world, with an aim of all children meeting the relevant Early Learning Goals by the end of the year, in preparation for the National Curriculum. Science in the Reception class is taught as an integral part of the topic work covered during the year.

THE ROLE OF THE SUBJECT LEADER

- Take the lead in policy development;
- Monitor the effectiveness of the teaching of Science through regular quality assurance checks, feeding back to SLT and class teachers;
- Ensure progression, continuity and consistency throughout the school;
- Support colleagues in their development of planning, implementing and assessing Science;
- Keep up-to-date with developments in Science education and disseminate information to colleagues as appropriate;
- Ensure appropriate and engaging resources are in place to deliver a rich and challenging curriculum;
- Collaborate with other Subject Leads to identify clear links with other subjects to ensure knowledge is transferable and sequential.

RESPONSIBILITIES

- All relevant staff will ensure that the Science curriculum is implemented in accordance with this policy;
- The Head teacher is responsible for ensuring that this policy is adhered to;
- Cidari Multi Academy Trust and the governing committee will monitor the effectiveness of this policy and hold the Head teacher to account for its implementation.

INCLUSION AND EQUALITY

Teachers set high expectations for all pupils. Appropriate assessments are used to plan challenging work for all groups, including:

- More able pupils
- Pupils with low prior attainment
- Pupils from disadvantaged backgrounds
- Pupils with SEN
- Pupils with English as an additional language (EAL)

Teachers plan lessons so that pupils with SEN and/or disabilities can study every National Curriculum subject, wherever possible, and ensure that there are no barriers to every pupil achieving.

Teachers also take account of the needs of pupils whose first language is not English. Lessons are planned so that teaching opportunities help pupils to develop their English, and support pupils to take part in all subjects. Class trips and visits linking to Science are planned to ensure they are inclusive for all.

We believe all our children are entitled to benefit from equal access to work and equipment in Science regardless of race, gender, intellectual and physical ability, in line with the nine protected characteristics. Classroom management will take into account such issues and Science materials free from bias will be positively sought.

To ensure equality for all, teachers are committed to planning lessons that:

- Eliminate discrimination, harassment and victimisation;
- Promote equality of access and opportunity within our school and within our wider community;
- Promote positive attitudes to difference and good relationships between people with different backgrounds, genders, cultures, faiths, abilities and ethnic origins.

SPIRITUAL, MORAL, SOCIAL, CULTURAL DEVELOPMENT AND BRITISH VALUES

The school sets out to plan a provision for Spiritual, Moral, Social and Cultural development, but it is also expected that many unplanned opportunities will occur (especially for spiritual development) and staff are encouraged to "seize the moment" when appropriate. Such moments may have a profound effect on individuals.

The promotion of the 'British Values' of

- Democracy
- The rule of law
- Individual liberty
- Mutual respect

- Tolerance of those of different faiths and beliefs

is central to our education as British Values have their origin in the Christian values of our nation.

LEGISLATION

This policy reflects the requirements for academies to provide a broad and balanced curriculum as per the [Academies Act 2010](#), and the [National Curriculum programmes of study](#) which we have chosen to follow.

It also reflects requirements for inclusion and equality as set out in the [Special Educational Needs and Disability Code of Practice 2014](#) and [Equality Act 2010](#), and refers to curriculum-related expectations of governing boards set out in the Department for Education's [Governance Handbook](#). In addition, this policy acknowledges the requirements for promoting the learning and development of children set out in the [Early Years Foundation Stage \(EYFS\) statutory framework](#).

RELATED POLICIES

- Curriculum
- EYFS
- Equal Opportunities
- Inclusion
- Special Educational Needs and Disabilities
- SMSC and British Values
- Online safety
- Assessment, recording and reporting
- Marking and Feedback Policy
- Presentation

Policy reviewed by : Mrs B Patel

Policy reviewed: 21.01.23

Agreed by Governors: _____

Next review date: 21.01.25