# POLICY

## For

## Science

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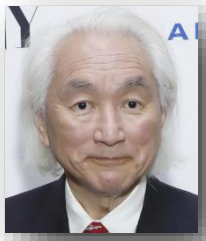
|---|---|---|
| June 2019 | September 2022 | September 2025 |
| December 2019 | September 2023 | |
| May 2021 | June 2024 | |

**Striving for excellence, caring for all**
**Within a loving and caring Christian environment.**

‘Science is a way of understanding the universe, and ourselves, better than we ever thought possible’



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Michio Kaku is an American physicist, science communicator, futurologist, and writer of popular-science. He is a professor of theoretical physics at the City College of New York and the CUNY Graduate Center.

**Why we believe Science is important**

We are surrounded by technology and the products of science every day. Public policy decisions that affect every aspect of our lives are based in scientific evidence. And, of course, the immensely complex natural world that surrounds us illustrates infinite scientific concepts. As children grow up in an increasingly technologically and scientifically advanced world, they need to be scientifically literate to succeed. We believe by providing an engaging, hands-on and inspiring Science Curriculum, we can commit to increasing our children’s science capital, encouraging all children to see that science is relevant in their lives now and in the future. Teaching science to students is teaching them how to think, learn, solve problems and make informed decisions. These skills are integral to every aspect of a student’s education and life, from school and beyond. Moreover, understanding scientific principles fosters a sense of wonder and appreciation for the natural world, contributing to their spiritual development and a deeper connection with the universe. By becoming scientifically literate, children can be agents of change, using their knowledge to address and solve the challenges facing our world.

**Intent: We aim for our pupils to be:**

- Inquisitive thinkers who are inspired by the awe and wonder of the world around them and motivated to bring about positive change now and in the future.
- Of a curious disposition, keen to question and explore the unknown.
- Equipped with accurate and appropriate scientific vocabulary so that they are able to communicate and contribute to scientific discussions, explaining their learning and different concepts.
- Able to draw upon and build on their prior scientific knowledge (knowing more and remembering more) in order to make effective links, predictions and explain their reasoning.
- Able to plan and carry out a scientific investigation, thinking carefully about the enquiry skills they will use, what equipment they will require and what recordings they could make.
- Reflective learners who can consider the science behind different concepts, able to articulate what they have learnt, not just what they have done.
- Able to evaluate their practice, considering what has worked well and how they would improve in the future.
- Effective communicators who can communicate their ideas, opinions, questions and scientific findings to others through both the written and spoken word.

- Take part in workshops led by experienced STEM Ambassadors and the wider community where they can develop their understanding of scientific concepts within the world around them.

**Implementation: How do we do this?**

- Continuously undertaking and achieving the PSQM awards in each school ensures we regularly review, refine and enhance our curriculum, teaching and learning and subject leadership. This helps to create a shared vision and a very high standard for science across our schools, thus raising the profile of science amongst all stakeholders.
- Our academy professor– a female scientist who accompanies children through the different enquiry types and is a shared emblem for all ages – is championed across all year groups to promote the importance of scientific enquiry. This ensures consistency and focus for science learning across the whole school.
- Science Medium Term Plans for each year group are monitored by the science team to ensure knowledge and skills coverage and progression.
- POP tasks (proof of progress tasks) and retrieval quizzes have been introduced to support the children in remembering more from the topics and previous topics, building schemas and ensuring these are committed to long term memory.
- Working Scientifically skills run throughout the whole school and progressively develop through three milestones. There is also mapping to show EYFS progression to KS1, KS1 to LKS2 and LKS2 to UKS2.
- Scientific vocabulary is specifically planned for and taught across topics and dual coding is used throughout to engage both visual and phonological channels of the brain to maximise commitment to long term memory.
- Pupils participate in SciFest, a bi-annual event that provides science visitors in school and evening shows, which the wider school community can access. Science related visits and visitors are organised across the academic year to support classroom learning.
- Science based clubs are available; some of these include Nature Club and Gardening Club.
- Encourage children to be 'Agents of Change' recognising the impact that they can have on others and the world around them.
- Teachers have been directed to free, online CPD which they can access to consistently build on their subject knowledge.
- Science leaders attend termly meetings with other subject leaders in the area to share good practise, keep up to date with publications, explore science learning opportunities and to continually reflect on science provision in our school.
- Successful bids for grants and involvement in trials have enabled the academy to purchase science resources to be used in the outdoor environment and outdoor learning is embedded in curriculum delivery.
- Termly topic titles can be science based, including, 'To Infinity and Beyond' and 'Feel the Beat', thus putting science as a subject at the forefront of topic based learning.

- Science is included in termly homework tasks and parents are encouraged to take part in homework activities.

**Impact**

- Pupils show a positive attitude to science and their learning.
- Pupils are curious and want to question the world around them.
- Pupils see science as important for their future and understand the links to other subjects.
- Pupils talk scientifically using age-appropriate vocabulary – they can articulate their learning confidently.

This is monitored through:

- Book/planning monitoring
- Drop –ins by the Science team
- Pupil interviews
- Summative and formative assessment
- Analysis of data
- Moderation

**Other relevant documents:**

- Academy Improvement Plan
- Science Action Plan
- Curriculum, teaching and Learning Policy
- Whole school long-term plan for science
- Year group Curriculum maps
- Year group MTPs
- Year group Curriculum overviews