

Subject Story: Science

In our Science curriculum you will see our value of **Friendship**.

- We share ideas confidently and openly, with an understanding that our opinions will be listened to and valued.
- Relationships are openly discussed in relation to 'change' and the value of friendship is emphasised.
- We use the school grounds for investigation, making links to friendship when we reflect upon how we care for our environment and what characteristics are required.

In our Science curriculum you will see our value of **Responsibility**.

- We reflect upon the mystery of the natural world and the human race's responsibility to protect it.
- When learning about the future of science and ethical issues in the field, pupils learn how with great knowledge comes great responsibility.
- We want our pupils to understand how science is vital to our world's future prosperity.
- Children demonstrate responsibility in looking after their Science books and paying close attention to the presentation of their work within these.

In our Science curriculum you will see our value of **Honesty**.

- Fair testing teaches integrity.
- Children's honest viewpoints are valued within Science lessons. These guide the teacher to adapt and tailor learning provision within the unit to ensure that all children achieve the intended learning.
- We discuss honestly the human impact on the natural world and our own impact. Honesty allows us to move forward with greater impact.

In our Science curriculum you will see our value of **Love**.

- Children develop a love for the natural world we live in.
- Awareness of physical self as wonderful is promoted and taught.
- A love of learning is promoted through an engaging curriculum.
- When learning about reproduction in KS2, it is in the context of loving relationships.

In our Science curriculum you will see our value of **Courage**.

- We learn about courageous scientists past and present who strive to succeed in their field for a worthy purpose, overcoming obstacles and failure.
- Children are encouraged to 'have a go' and take risks.
- Our curriculum is progressive.
- Our children build upon what they know in a systematic way, giving them courage and confidence.

In our Science curriculum you will see our value of **Respect**.

- We explore scientific links with a spiritual interpretation about the universe and life.
- Through an engaging and stimulating curriculum, children develop a deep respect for the natural world and their own bodies.
- Children develop a respect for the diversity within our world and recognise the value and interdependence of everything from the tiny to the great.
- Respect is recognised for scientists past and present, regardless of culture, race, religion.



Children at St. Martin's say this about Science:

'Science is fun because you get to do cool things like investigating shadows and shadow art.'— Year 3

'I loved our egg experiment. I liked watching what happened to the eggs each day.'— Year 3

'I made a really good quiz board game that worked well. The bulbs lit up on the right answers and everyone liked playing my game.'— Year 4

'We do loads of experiments in Year 5, it was tricky separating the materials but we did it!'— Year 5

- I can ask questions
- I can make predictions
- I can set up tests
- I can observe and measure
- I can record data
- I can interpret and communicate results
- I can evaluate



Our agreed consistencies for Science are:

- All children have a science book.
- We use the PLAN scheme to ensure progressive and thorough coverage
- All new topics start with an, 'I think, I know, I wonder' session or a similar recall session, so that initial knowledge and understanding can inform future planning
- Where possible and relevant, each topic will offer a practical, hands – on investigation
- All classrooms display current knowledge vocabulary
- All classrooms display and refer to the 7 skills icons (see above)

In our Science curriculum you will see our school curriculum vision because our children **work with resilience – strive.**

- Practical investigations offer the opportunity to practice resilience and strive to achieve an outcome.
- Learning about past and present scientists and the resilience they demonstrate to achieve amazing outcomes is inspirational and a great example.
- Through engaging topics, children are inspired to strive in a practical, achievable way to improve their own wellbeing and that of the world around them.

If you were to walk into a Science lesson at St. Martin's you would see:

- Use of mindful vocabulary related to the subject and skills being taught
- Use of equipment to support teaching and learning
- Children articulating their viewpoints and opinions in a supportive learning environment
- Reference to the school's values to help children make connections with their learning
- Tailored provision for those requiring additional support and challenge
- Moments to reflect and consider how the key learning will influence themselves and their actions
- Moments to reflect on the scientific 'skills' they are using and which ones they excel at
- All children being encouraged to experience the fullness of life and appreciate the awe and wonder in the theme or topic being explored
- Hands-on and practical learning experiences to engage learners

In our Science curriculum you will see our school curriculum vision because our children **dream big - aspire.**

- Children are taught to reflect on not only what they have learnt but also what learning and skills they take away from each session.
- Learning and skills acquired help to shape the attributes and dispositions of the children and helps them aspire to be scientists themselves.

In our Science curriculum you will see children learning through **exciting, engaging learning experiences which develop their 'cultural capital'.**

- Every child participates in a science workshop related to a relevant year group topic, as either a 'hook' or activity to consolidate learning.
- Lessons are planned with engaging practical experiences where appropriate.
- Where appropriate, access to Forest School enriches learning e.g. viewing an active bee hive and tasting honey directly from the hive.



In our Science curriculum you will see our school curriculum vision because our children **flourish - succeed.**

- Children achieve well. Children demonstrate success in this subject area through the work that they produce. In addition to this, children demonstrate success by initiating events and discussions inspired by the learning they have encountered in the classroom.
- Children demonstrate success by using the 7 skills which are acquired through the teaching of science.

In our Science curriculum you will see that we value **inclusion and diversity**

- Teaching is tailored to the strengths and needs of the class and provision is made for children requiring alternative resources or additional support.
- We study a variety of scientists past and present from a variety of different cultures, races and religions, placing equal value on their achievements.
- We actively dispel the 'mad scientist' stereotype, challenging beliefs and expectations.



In our Science curriculum you will see how we develop our children's language, **including subject specific and technical vocabulary.**

- Specific vocabulary linked to the learning content is detailed within the Science PLAN scheme.
- We teach separate knowledge and skills vocabulary.
- Key vocabulary is progressive, in line with the increasing expectations and learning experiences.

British Values and Spiritual, Moral, Social and Cultural Learning (SMSC) in Science:

Spiritual – We discuss the scientific vs religious explanation of the natural world, without judgement. By providing facts and thoughts, allowing children to formulate their own opinions in a safe environment.

Moral – We want our pupils to understand how science is vital to our world's future prosperity. Through teaching and learning within Science, children investigate moral and ethical issues. Staff help children to learn about world issues, but most importantly, give consideration to what they can learn and take away themselves from the content covered to help shape their own beliefs, values and morals.

Social (inc British Values) – Children are encouraged to listen to each other's opinions and ideas and the opinions and ideas of scientists, regardless of race or faith. This supports the British Values of respect and tolerance.

Cultural – Diversity is celebrated through exploring scientists and cultures around the world. This aids understanding and acceptance of a diverse range of beliefs.

Children achieve well in this subject. Highlights of **outcomes** in Science for last academic year are:

% of children at 'Expected' or 'Greater Depth' in Summer 2023:

Year 6 - 97%

Year 3 - 86%

Year 5 - 94%

Year 2 - 90%

Year 4 - 89%

Year 1 - 76%



Successes in 2022-2023

- All year groups have taken part in Science workshops or trips this year, enriching their experience of Science in practice.
- All classrooms display the 7 skills icons and through monitoring, it is evident that teachers have been using the icons to explain how the children have been 'working scientifically' using the skills that 'real scientists' need and children are more confident referring to their own scientific skills.
- The Year 3/5 Science Fair was reinstated and proved to be a great success

Priorities for 2023-2024

- Ensure each year group are studying a diverse range of scientists
- Check that Year groups' planning is following the progression of knowledge and skills document
- Check only 'useful' practical investigations are being used, with clear learning outcomes
- Introduce playtime science activities and Science Leaders
- Plan for British Science Week
- Ensure curriculum coverage is relevant to seasons
- Ensure LQ's are clear and evidenced successfully within lessons