Science 3I's
(Intent, Implementation & Impact)

Intent:

"Children are naturally curious. Science at primary school should nurture this curiosity and allow them to ask questions and develop the skills they need to answer those questions." Louise Stubberfield

Science teaching aims to give all children a strong understanding of the world around them whilst acquiring specific skills and knowledge to help them to think scientifically, to gain an understanding of scientific processes and also an understanding of the uses and implications of Science, today and for the future.

Scientific enquiry skills are embedded in each topic the children study and these topics are revisited and developed throughout their time at school.

Topics, such as Plants, are taught in Key Stage One and studied again in further detail throughout Key Stage Two. This model allows children to build upon their prior knowledge and increases their enthusiasm for the topics whilst embedding this procedural knowledge into the long-term memory.

All children are encouraged to develop and use a range of skills including observations, planning and investigations, as well as being encouraged to question the world around them and become independent learners in exploring possible answers for their scientific based questions.

Specialist vocabulary for topics is taught and built up, and effective questioning to communicate ideas is encouraged.

Concepts taught should be reinforced by focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions.

Implementation:
Teachers plan their curriculum together as a team and plan the following:
- A cycle of lessons for each subject, which carefully plans for progression and depth;
- Challenge questions for pupils to apply their learning in a philosophical/open manner;
- Trips and visits from experts who will enhance the learning experience;

Impact:
Our Science Curriculum is high quality, well thought out and is planned to demonstrate progression. If children are keeping up with the curriculum, they are deemed to be making good or better progress. In addition, we measure the impact of our curriculum through the following methods:
• A reflection on standards achieved against the planned outcomes;
• A celebration of learning for each term which demonstrates progression across the school;
• Tracking of knowledge in pre and post learning;
• Pupil discussions about their learning;

RSE Links
The Changing Adolescent Body February 2021 – Statutory RHSE guidance Know key facts about puberty and the changing adolescent body, particularly from age 9 through to 11, including physical and emotional changes.

- Know about menstrual wellbeing including the key facts about the menstrual cycle.

Health & Prevention February 2021 – Statutory RHSE guidance

- Know how to recognise early signs of physical illness, such as weight loss, or unexplained changes to the body.
- Know about safe and unsafe exposure to the sun, and how to reduce the risk of sun damage, including skin cancer.
- Know the importance of sufficient good quality sleep for good health and that lack of sleep can affect weight, mood and ability to learn.
- Know about dental health and the benefits of good oral hygiene and dental flossing, including regular check ups at the dentist.
- Know about personal hygiene and germs including bacteria, viruses, how they are spread and treated, and the importance of handwashing.
- Know the facts and science relating to allergies, immunization and vaccination.

SMSC Links
Spiritual
• Encourage pupils to reflect on the wonders of the natural world.

Moral
• Consider that not all developments have been good, and that they may have caused harm to the environment.
• Consider different perspectives and viewpoints and the reasons for these differences.
• Consider moral dilemmas in scientific developments.

Social
• Researching the work of different scientists, including female scientists.
• Opportunities to work in different pairings and groups.

• Explore the social dimension of scientific advances.
• Show respect for differing opinions i.e. creation.
• Co-operate in practical activities together.

Cultural
• Visits to different habitats and areas within the local environment.
• Raise awareness that scientific developments are the product of many different cultures.

British Values Links
Democracy
• Take the views and opinions of others into account
• Take turns and instructions from others

The Rule of Law
• Understand the importance of safety rules when working scientifically
• Know that there are consequences in rules are not followed

Individual liberty
• Make choices when planning an investigation
• Others may have different points of view as to where to start

Tolerance
• Scientific discoveries have come from other cultures
• Religious beliefs often compete with scientific understanding

Mutual respect
• Work as a team
• Discuss findings
• Offer support and advice to others

Our Long Term Plan and curriculum coverage can be found on our website: https://www.southstokeschool.org/learning.

Class planning:
Caterpillars: https://www.southstokeschool.org/class-1-curriculum
Butterflies: https://www.southstokeschool.org/class-2-curriculum