



Slaley First School

Science Policy

Nurturing Ambitious Individuals

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Our School Vision

We believe that a happy child is a successful one. Our vision is to develop well rounded, ambitious and responsible individuals who aspire to achieve their full potential. We will do this by providing a nurturing, happy, safe, and supportive learning environment in which everyone is equal and all achievements are celebrated. We are committed to the families we serve and the community to which we belong.

Curriculum Intent

At Sleaford First School, the intent of our Science Curriculum is to offer a broad, balanced, rich and vibrant curriculum that ensures achievement for all learners, no matter their starting point.

In line with our overall intent, teaching **specific vocabulary** is a fundamental part of our science curriculum. Terminology is taught and built up over time as the children progress through the curriculum. Children are often challenged to apply their use of this vocabulary in written work, where expectations match those of the English curriculum.

Our curriculum is set out in small **incremental steps** in order to minimise the scaffolding needed. Research by the Education Endowment Foundation indicates that it is just as important to avoid over-scaffolding as it is to ensure all pupils are adequately supported. It also indicates

that it is important to take account of the prior knowledge that children bring to lessons and to help them to build upon this understanding. Our curriculum is therefore designed to build upon

prior knowledge and skills. It is **self-reviewing** in the form of flashback four where knowledge gained is consolidated and built upon to ensure behavioural change to long term memory to support retention and recall.

It is our intent is to make sure that every child has a positive, memorable and first-hand experience of science. We encourage the children to make concrete links to prior knowledge and build their scientific knowledge through key experiences and deliberate practice.

Children will be encouraged to, predict how things will behave and analyse causes. Teachers will provide opportunities for the critical evaluation of evidence and rational explanation of scientific phenomena as well as opportunity to apply their mathematical knowledge to their understanding of science. Children will be immersed in key scientific vocabulary, which supports the acquisition of scientific knowledge and understanding. Through their growing knowledge and understanding of science, children will gain an appreciation of how to use equipment safely and respectfully, promoting key British Values.

Our Curriculum Design

Our ambitious science curriculum is designed with the intent that each child will become competent scientific thinkers and investigators and will encounter awe and wonder through memorable and first-hand scientific investigative experience.

With great emphasis on offering our children an exceptional science education, medium term plans have been created underpinning National Curriculum content. With the specific disciplines of biology, chemistry and physics, our curriculum design for science promotes specific competences including knowledge, enquiry and working scientifically based skills. Children develop depth in knowledge, vocabulary and skills within Science that are rich, stimulating and challenging

Curriculum Implementation

At Slaley First School, our science curriculum delivers full coverage of the National Curriculum, provides progression of knowledge from EYFS to year 4 and allows, investigative opportunities to enable all children to explore, experience, observe and discover Science first-hand.

Our curriculum encourages deep thinking and encourages children to learn and discover. Our children explore and talk about, testing and developing ideas about everyday phenomena.

Children ask their own questions about what they observe and observe 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.

Children draw simple conclusions and use scientific language to talk and write about what they have found out. Children will be able to build on prior knowledge through 'Flashback Four' and link ideas together, enabling them to question and become enquiry-based learners.

Vocabulary is displayed within the learning environment and each scientific unit will enable our children to grow up understanding how to work scientifically whilst fostering positive attitudes such as curiosity, perseverance, striving for accuracy. Children will have the knowledge they need to succeed in all

science subjects (biology, chemistry and physics) and have high aspirations for their future careers.

In Early Years children will work from Understanding the world area of learning which aims to develop children's crucial knowledge, skills and understanding and help them make sense of the world. It provides opportunities for the children to explore scientific vocabulary and learning opportunities based on first hand experiences. Exploration, observation, problem solving, prediction, critical thinking, decision making and discussion are all encouraged providing the foundations and knowledge for the science KS 1 and KS 2 curriculum.

The science units of work for KS 1 and 2 continue to build connections on knowledge, concepts and skills ensuring that all knowledge and understanding programmes of study are covered.

Our Children's Charter

In Science our children are entitled to a rich curriculum which enables them to:

- Become competent, confident, creative and responsible users of scientific equipment
- Understand and apply the fundamental principles and concepts of science
- Gain an understanding that Science is relevant to everyday living and a lifelong skill, by solving problems that are set in a real life context.
- Have a voice and be able to choose how they wish to learn and think like a scientist
- Develop critical thinking and the confidence to question ideas to deepen their understanding.
- Understand their own abilities, what they need to do that will enable them to develop their abilities and the skill to review their learning accurately.
- Experience trips and visits to enrich and enhance learning in science, build children's cultural capital and expose children to the world of science.

Inclusion

Learning is a journey; all children are at different points on their learning journey. As facilitators, experts and coaches in the classroom we focus on motivating the children and building the knowledge and understanding across our science curriculum. Teachers tailor their teaching in Science to meet the needs of the learners within the classroom and engage them in the process of learning to enable them to excel as scientists. When planning our teaching, we take into account the wide range of abilities of our children. Where necessary children are identified as having additional needs support is given and the science curriculum is differentiated to meet their individual needs, whilst ensuring access to a full, rich and varied curriculum along with their peers. Reasonable adjustments will be made to that every SEND child can fully access the curriculum.

Curriculum Impact

At Slaley First School, through our rich and broad curriculum we are enabling children to gain the knowledge, skills and understanding they need for their future. All of our children are individual and unique and each has a potential that we need to unlock. Our school strapline is 'Nurturing Ambitious Individuals' and through our curriculum we enable all children to grow in ambition.

Our curriculum design will lead to the very best possible progress for all pupils, regardless of their starting points, over time. Planned learning will progressively build on prior knowledge and understanding and support children in producing outcomes of the highest quality. 'Flashback Four' ensures that key concepts are regularly re-visited.

The rich and broad curriculum and units of work enable teachers to consistently plan lessons progressively building on prior knowledge and the development of key skills to deliver lessons over the highest standard and children's outcomes to be of the highest quality. Children will be confident, resilient, self-motivated, independent learners, with a thirst for challenge and depth of scientific understanding.

Assessment and Recording

Teachers assess children's work in science in three different phases. There are ongoing assessments made as part of every lesson to help teachers adjust their daily plans. Teachers match these short-term assessments closely to the teaching objectives. Medium-term assessments are also used to measure progress against the key objectives and to help teachers plan for the next unit of work. Mind maps are used to assess the children's knowledge at the beginning of each unit and these are repeated at the end of a unit. Half termly pupil progress meetings discuss individual progress. Teachers make long-term assessments towards the end of the school year and they use these to assess progress against school and national age-related expectations. With the help of these long-term assessments, teachers are able to set targets for the next school year and summarise the progress of each child before discussing it with the child's parents. Subsequent teachers also use previous long-term assessments as the basis for planning work for the new school year.

Health and Safety

When working with science equipment and materials during practical learning opportunities, staff will ensure that children understand the hazards and learn how to control them, ensuring the safety of themselves and others. The school's Health and Safety Policy should be consulted for details regarding scissors, craft tools, electrical equipment, wet areas, heavy equipment and use of other tools.

Links to Other Policies

Teaching and Learning Policy

Feedback and Marking Policy

Assessment Policy

SEND Policy

Review

This Policy will be reviewed every 2 years by the SPDC Committee. Governors may however review the policy earlier if the Government introduces regulations or the Governing Body receives recommendations about how the policy may be improved.