Denham Village School Science Policy

October 2019

Intent

The National Curriculum for Science aims to ensure that all pupils:
• develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
• develop 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
• are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Our aim is to enable children to:
• develop a scientific approach to investigation and problem solving
• develop scientific knowledge, concepts, skills and understanding
• appreciate the impact of science on society, and the effects of their own actions on society and the environment
• develop an understanding and respect for the natural world and develop their natural curiosity and question the world around them.

Implementation

Science is taught in a cross curricular manner, where possible, and integrated into classes ongoing topic work to provide meaningful learning experiences.
• English – opportunities to write for varied purposes, for example chronological reports, recounts, and note taking
• Mathematics – developing skills in data handling, measurements and mathematical relationships
• Drama and speaking/listening- role-play and discussions and presenting reports to the rest of the class.
• Art – understanding of materials and their properties
• Geography – exploring physical processes
• History – researching Scientists and their discoveries
• IT – data handling and research
• PSHE – health and safety education
• British Values- eg taking the views and opinions of others into account, making choices, the importance of safety rules.

Through our planning, we involve problem solving opportunities that allow children to apply their knowledge, and find out answers for themselves. Children are encouraged to ask their own questions and are given opportunities to use their scientific skills and research to discover the answers.

Planning involves teachers creating engaging lessons using a variety of resources and practical activities to aid understanding of conceptual knowledge. Teachers use questioning in class to test knowledge and skills, and assess pupils regularly to identify those children with gaps in their learning.

We build upon the knowledge and skill development of the previous years. Teachers identify what children know already about each topic, as well as what they would like to know. The programme of study takes into account the children's starting points, as well as their specific interests. We ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each unit and we also build progression into the science scheme of work, so that the children will be increasingly challenged as they move up through the school. Within our science work, we try to promote our school values such as 'respect', 'resilience' and 'aspiration' where possible.

Children in Reception class experience science content through the 'Understanding the World' strand of the EYFS curriculum. This involves guiding children to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment. Children are assessed using the Early Learning Goals in the EYFS curriculum.

Teachers create opportunities to develop children's understanding of their surroundings by accessing outdoor learning, using the school's Forest area and local areas such as Denham Country Park. Visits and visitors are used to complement and broaden the curriculum. These are purposeful and link with the knowledge being taught in class. Regular events, such as Science Week and Health and Safety Week, are used to provide broader provision and the acquisition and application of knowledge and skills.

Impact

Our aim is to ensure children acquire the appropriate age related knowledge linked to the science curriculum, as well as skills which equip them to progress from their starting points, and within their everyday lives.
Children will have:
a wider variety of skills linked to both scientific knowledge and understanding, and scientific enquiry/investigative skills.
a richer vocabulary which will enable them to explain their understanding of taught concepts.
high aspirations, which will see them through to further study, work and a successful adult life.

Science assessment is ongoing to inform teachers with their planning, lesson activities and differentiation. Summative assessment is used to inform leaders of the improvements or skills that still need to be embedded. Science is monitored throughout all year groups using a variety of strategies such as book scrutinies, lesson observations and pupil interviews.

Equal Opportunities and Inclusion

All children have equal access to the full Science programme of study which fulfils the National Curriculum 2014 requirements. It is important for all children to experience a range of scientific activities in ways that are appropriate to their needs and abilities. Our children follow a mixed age curriculum where learning within each topic is differentiated to meet the needs of the different aged children in the class.

Equipment and Resources

We have a range of resources available in the school and this will be added to as the school expands. Pupils are encouraged to treat resources carefully and safely. Children are expected, where appropriate, to choose their own equipment and set such equipment up for practical science. This should be done under adult supervision with health and safety requirements in mind. This encourages children to:

- make sensible choices about which equipment to use
- treat the equipment with care
- use the equipment with their own and other's safety in mind
- become independent learners

The school grounds and surrounding areas offer a great resource for staff and pupils.

Health and Safety

Children are encouraged to consider their own safety and the safety of others at all times. Teachers will provide a safe and secure environment for children to learn and will teach specific skills of safe working and more general attitudes of respect for one's own safety and the safety of others. Risk assessments are completed where necessary.

Responsibility of the Science Leader

The science subject leader will develop and undertake, in conjunction with the Head Teacher, a monitoring schedule for each academic year. This may include work scrutiny, planning scrutiny, pupil interviews and lesson observations. The work of the subject leader may also involve supporting colleagues in the teaching of Science, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school.

Review
This policy and procedures will be reviewed every 3 years.
Signature: ……
Headteacher
Date: ……
Signature: ……
Chair of Governors
Date: ……