Cams Lane

Primary School

Science Policy

Our School Vision Statement

'Together as a Cams Lane family, we will inspire everyone to reach their potential. Guided by our 5 Rs, we will develop independent learners with an awareness of the world around them, ready for the challenges of the future. We will nurture relationships that build confidence and pride within each person.'

Our School Motto

Our motto is the golden thread which permeates our school ethos and drives everything we do in school.

"INSPIRE, BELIEVE, LEARN"

School Values

· Resilience

· Resourcefulness

· Respect

· Reflection

· Responsibility

Intent Statement
At Cams Lane is our intention to recognise the importance of science in every aspect of daily life. Through our broad and balanced curriculum, our intent is to give every child the opportunity to confidently explore and discover what is around them, so they have a deeper understanding of the world we live in. This will develop the natural curiosity of the child, encourage the respect for living organisms and the physical environment. We will provide opportunities for the children to become enquiry-based learners, collaborating through researching, investigating and evaluating experiences. This will result in the acquisition of knowledge and the learning of key vocabulary.

Aims: At Cams Lane Primary School, we believe that Science is a body of knowledge built up through experimental testing of ideas. Science is also a practical way of finding reliable answers to questions we may ask about the world around us. Science in our school is about developing children's ideas and ways of working that enable them to make sense of the world in which they live through investigation, as well as using and applying process skills.

Our aims in teaching science include the following:

- Preparing our children for life in an increasingly scientific and technological world today and in the future.
- Helping our children acquire a growing understanding of the nature, processes and methods of scientific ideas.
- Helping develop and extend our children's scientific concept of their world.
- Building on our children's natural curiosity and developing a scientific approach to problems.
- Encouraging open-mindedness, self-assessment, perseverance and developing the skills of investigation – including observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.
- Developing the use of scientific language, recording and techniques.
- Developing the use of computing in investigating and recording.
- Making links between science and other subjects.

What is Science?
Science is a particular way of understanding the physical world, which requires precise approaches and ways of thinking.

The importance of science in the curriculum
Science stimulates and excites pupils' curiosity about phenomena and events in the world. It also satisfies their curiosity with knowledge. Science links direct practical experience with ideas and engages learners at many levels. Scientific method is about developing and evaluating explanations through experimental evidence and modelling. This is a spur to creative thought. Through science, pupils understand how major scientific ideas contribute to technological change – impacting on industry, business and medicine and improving the quality of life. Pupils recognise the cultural significance of science and trace its world-wide development. They learn to question and discuss science-based issues that affect their own lives, the direction of society and the future of the world.

During the **Early Years Foundation Stage,** science is included in one of the specific areas of learning known as Knowledge and Understanding of the world. Scientific learning occurs through:

- Access to a range of developmentally appropriate practical activities based on first hand
- Exploratory experiences. For example, nature walks, magnifiers to explore natural objects, manipulating wet/dry sand etc.
- Enthusiastic and meaningful interaction with adults, who provide opportunities to develop
- Communication skills, use correct scientific language and carefully framed open-ended questioning techniques to develop thinking skills;
- Exploration of both indoor and outdoor environments linking all areas of learning;
- Recognition/extension of existing knowledge & understanding gained from their home setting.

Teaching and Learning KS1 and KS2
Teachers plan and deliver high-quality and engaging science lessons incorporating a range of teaching and learning styles. Teachers will provide opportunities for pupils to:

- Learn about science, where possible, through first-hand practical experiences.
- Develop their research skills through the appropriate use of secondary sources, e.g. researching famous scientists.
- Work collaboratively in pairs, groups and/or individually.
- Work scientifically by planning and carrying out investigations which cover, pattern seeking, classification and identification, fair testing and observation over time.
- Develop their questioning, predicting, observing, measuring and interpreting skills.
- Develop their communication skills, use correct scientific language and carefully framed open-ended questioning techniques to develop thinking skills.
- Record their work in a variety of ways e.g. writing, diagrams, graphs, tables.
- Read and spell scientific vocabulary appropriate for their age.
- Learn about science using the outdoor learning environment.

Planning

- Science in the Early Years Foundation Stage is planned using the Early Years Curriculum. 'Understanding of the World' and by using the Developing Experts scheme of work.
- Key Stage 1 and 2 teachers plan science lessons using the new National Curriculum (2014) and through The Developing Experts scheme of work for both key stages.
- All science lessons have focussed learning objectives and differentiation to ensure that pupils make at least good progress.
- **'**Working scientifically' is embedded throughout the areas of learning in key stage 1 and 2; this focuses on the key aspects of scientific enquiry which enable pupils to investigate and answer scientific questions.
- Areas of learning within key stage 1 and 2 ensure that statutory requirements are being covered through the specific disciplines of biology, chemistry and physics (teachers may also refer to the non-statutory guidance which provide additional support).

Cross Curricular Links

Literacy: In particular, at KS1, the pupils are encouraged to use their speaking and listening skills to describe what they see and explain what they are going to do next. At KS2, the pupils are encouraged to develop their skills of writing to record their planning, what they observe and what they find out. In science, they should be applying their literacy skills at levels similar to those which they are using in their English work.

Numeracy: At both key stages the pupils are expected to use their knowledge and understanding of measurement and data handling at appropriate levels. In science, they should be applying their numeracy skills similar to those which they are using in their maths work. Maths vocabulary will be promoted within the science curriculum.

Information and Communications Technology: At both key stages pupils' ICT skills are used to locate and research information; record findings (using text, data and tables); log changes to the environment over time (sensing equipment – when available). Teachers and children may access a variety of activities and resources using the IWB (Interactive Whiteboard).

Assessment

- At present key stage 1 and 2 use teacher assessment, aided by blank knowledge organisers, completed before and after each unit, to assess the children's factual knowledge and understanding.
- At present key stage 1 and 2 assess working scientifically through teacher observation during investigations.
- In EYFS teachers assess science against the 'Development Matters' statements in the 'Understanding of the world' area of the Early Years Curriculum. The statements go from birth through to the Early Learning Goals at the end of Reception.
- For formative assessment teachers use effective Assessment for Learning (AfL) strategies which are used to inform their planning and teaching.
- Teachers provide quality feedback to pupils (verbal or written) which clearly identifies how they might need to improve.

Monitoring

Workbook scrutiny, drop ins and pupil voice are carried out regularly by the science subject leader and feedback is given to teachers, at an appropriate time.

Health and Safety

- Teachers must plan safe activities for science and complete a risk assessment if necessary.
- Teachers and teaching assistants need to be aware of health and safety procedures when using equipment/food in science lessons.
- Pupils must be aware of the need for personal safety and the safety of others during science lessons.

Resources
Most resources will be stored in teachers own classrooms.
The subject leader must be informed of any changes regarding science resources i.e. missing or broken resources and/or when new or replacement resources are required.

SEND
In science Cams Lane Primary School aims to offer a fully inclusive environment, high ambitions and goals for all pupils. We aim to identify and overcome potential barriers to learning and are committed to responding to pupils' diverse needs and abilities.

The science curriculum is adapted, designed and developed to be ambitious and meet the needs of all SEND pupils. For some SEND pupils their learning needs will be met through differentiation, and this can be through setting suitable learning challenges, classroom organisation, teaching materials, teaching style, questioning and different tasks. Teachers will make requirements and provision, where necessary, to support individuals or groups of children and enable them to participate effectively in the science curriculum.

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