

Science Policy



Warden House Primary School

Review date: Autumn Term 2021

“Equipped with his five senses, man explores the universe around him and calls the adventure Science”

Edwin Powell Hubble.

Intent:

It is important that children are given the opportunity to explore and understand the world in which they live. Science at Warden-House is about giving children the tools to develop their ideas and ways of working that enable them to understand the world through investigation with independence, resilience and enjoyment.

We believe that a broad and balanced Science education is the entitlement of all children, regardless of ethnic, origin, gender, class, aptitude or disability. We provide a curriculum to meet the needs of all pupils, developing their scientific knowledge and conceptual understanding, pupils' ability to think and act scientifically and pupils' understanding of nature, processes and methods of science. Also to contribute to the development of the pupils' key skills in English, mathematics and in the use of information and communication technology.

Implementation:

The sequence of learning and teaching practices for Science at Warden House are designed to help pupils to remember what they have been taught over the long term whilst integrating new knowledge into larger ideas. Principles of cognitive load and retrieval are embedded within our teaching and learning structure to increase the learning, retention and recall of information and ideas within Science. The curriculum sequence builds knowledge, skills and understanding over the course of the primary age range whilst enabling regular opportunities to revisit learning using retrieval practices. Teachers use a variety of strategies within lessons and units such as quizzing, and retrieval practices to ensure the children's understanding, identify and challenge misconceptions and embed learning being mindful of cognitive load. They develop their understanding of scientific concepts through biology, physics and chemistry. Applying their knowledge and understanding of key concepts to new situations with confidence and solve problems independently. The children use scientific methods of investigation by using a variety of approaches to answer relevant scientific questions and developing the skills of investigation - including observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating. They develop the use of scientific language, recording and techniques. Developing the use of computing in investigating and recording.

In EYFS children will:

Begin to learn about science through first hand experiences that encourage exploration, experimentation, observation, problem solving, prediction, critical thinking, decision making and

discussion. Children are encouraged to tell each other what they have found out and to speculate on future findings. Early Learning Goals support teachers in assessing children's development and the following Early Learning Goals can be linked to supporting learning foundations for science:

ELG: The Natural World Children

Children at the expected level of development will:

- Explore the natural world around them, making observations and drawing pictures of animals and plants;
- Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class;
- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Key Stages 1 & 2

At Warden House, our curriculum for Key stages 1 & 2 has been developed in line with the National Curriculum 2014.

The 2014 Kent Scheme of Work documents are used to ensure coverage of scientific skills. We aim to help pupils to develop their full potential through varied activities, teachers may use other material to support the learning objectives, whilst remaining aware of the need for cross-referencing with the school's skills programme to ensure progression and continuity.

By the end of each key stage, know, can apply and understand the matters, skills and processes specified in the relevant programmes of study.

Impact:

We enable our children to become effective communicators of scientific ideas, facts and data. Enabling our children to work scientifically, conducting fair tests and allow children to use scientific skills across the curriculum. We encourage the development of resilient and positive attitudes to science, building on our children's natural curiosity and developing a scientific approach to problems. Encouraging open-mindedness, self-assessment, perseverance and responsibility.

Children's self-confidence enables them to work independently. By providing our children with an enjoyable experience of science they will develop a deep and lasting interest

Inclusion

In all classes, there are children of differing abilities; stages of development and stages of understanding. We recognise this fact and that children's learning is understood developmentally, and provide suitable learning opportunities, for all children, by matching the support and scaffold given to access the learning tasks to meet the needs of the child.

Cross-curricular links

Cross curricular opportunities will be made across subjects where this supports intended learning outcomes, these links will be delivered in a creative and irresistible way.

Health & safety

Guidance about health and safety matters is provided to staff through access to the ASE guidance book "BE SAFE!".

Risk assessments and Safe Working Practices are completed for external visits/ visitors.

The safe use of equipment and materials is promoted at all times

Assessment, recording, reporting and feedback

The subject leader and class teacher are responsible for assessment, attainment and monitoring the standard of the children's work and the quality of teaching in science in line with the school's assessment policy.

Some examples of methods of assessment that will be used are:

- Pupil voice – to check understanding, understanding of key techniques, progression, confidence in discussing their designs and techniques
- Monitoring of display and books
- Feedback from parents and guests who attend show case events

The role of the subject leader

The subject leader is responsible for supporting colleagues in the teaching of science, for being informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school.

The subject leader will:

- Monitor the standards in the subject to ensure that outcomes are at expected levels
- Highlight / Celebrate successes
- Collate appropriate evidence over time – this should show that pupils' skills and understanding develop over time
- Provide ongoing support to colleagues
- Discussing resource needs with teachers
- Identify areas of CPD need for science across the school

Review

This policy will be reviewed by the Senior Leadership team as part of the school's two-year review cycle to evaluate the school's progress towards against its action plan, with additional required action to be identified and tracked by the science subject leader. Progress will be discussed with the school senior leadership team and reported to the governors. This evaluation will form the basis for an action plan, which will then inform the school Short Term Plan.

This Policy was written by Tracy Marsh

Reviewed by Senior Leadership Team Term 1 2021