Warden House Primary School

Science policy

Rationale

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.

Aims

To provide a curriculum to meet the needs of all pupils.

To develop their scientific knowledge and conceptual understanding.

To develop the pupils' ability to think and act scientifically.

To develop pupils' understanding of nature, processes and methods of science.

To contribute to the development of the pupils' key skills in literacy, numeracy and in the use of information and communication technology.

Objectives

a) Understanding key concepts.

Develop their understanding of scientific concepts through biology, physics and chemistry.

Apply their knowledge and understanding of key concepts to new situations with confidence and solve problems independently.

b) Using scientific methods of investigation.

Use a variety of approaches to answer relevant scientific questions

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.

Enabling our children to become effective communicators of scientific ideas, facts and data.

Enabling our children to work scientifically, conducting fair tests.

Allow children to use scientific skills across the curriculum

c) Attitudes / Personal development

Encouraging 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.

Building our children's self-confidence to enable them to work independently.

Developing our children's social skills to work independently and cooperatively with others.

Providing our children with an enjoyable experience of science, so that they will develop a deep and lasting interest

Develop powers of reasoning and enquiry

d) Contributing to pupils' key skills in literacy, numeracy and I.CT.

Write for a range of purposes and audiences.

Develop their scientific vocabulary and articulate scientific concepts clearly.

Speak with confidence about their learning and to also listen to others.

Use secondary sources to extract important information to further inform their learning.

Develop computational and graphical skills in a range of situations.

Gather, process, store and retrieve information using computers and other hardware.

Planning

Learning and Development in the Foundation Stage

Foundation Stage link their planning to the Early Years Foundation Stage Curriculum working towards the Early Learning Goals.

Learning is through first hand experiences that encourage exploration, experimentation, observation, problem solving, prediction, critical thinking, decision making and discussion. Teaching the skills and knowledge in the context of practical activities. Children are encouraged to tell each other what they have found out and to speculate on future findings. Children are supported in using a range of ICT. Ensuring that any information given to children is accurate and challenges racial, social and gender stereotypes.

Key Stages 1 & 2

At Warden House, we follow the Chris Quigley Science Curriculum, which has been developed in line with the New Curriculum 2014

The 2014 Kent Scheme of Work and Hamilton Trust are available documents 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 Chris Quigley skills programme to ensure progression and continuity.

Long term plans outlining each topic for each year are on the T Drive and class teachers plan a sequence of learning for their own classes to ensure all objectives are covered

Our teaching aims

Teaching Science in ways that are imaginative, purposeful, well managed and enjoyable.

Giving clear and accurate teacher explanations and offering skilful questioning.

Making clear links between science and other subjects.

Ensuring children are given enough time to study the four main areas of the science curriculum. These are: Scientific enquiry, Life and living processes, materials and their properties and physical processes.

Offering ample opportunity for practical investigation and enquiry.

Teaching science outdoors as well as in the classroom.

Teachers are encouraged to actively teach science skills and reinforce learning with selected enquiry stimulations. We encourage children to ask and answer their own questions as often as they like.

Children should complete at least two investigations in the topics highlighted in the topic overview (see appendix 1). These investigations should be based on their current topic but have a focus on developing the children's independent scientific enquiry skills.

Assessment

Teachers use Chris Quigley statements to assess each milestone.

A variety of assessment strategies can be used to inform judgements including observations, pupil's written work, comments pupil's make, responses to drawings or questions.

Judgements are recorded on the Science assessment data sheets on t-drive.

Monitoring Arrangements

The science curriculum is monitored and reviewed by the coordinator and Enquiry hub. Any planned developments are then included as priorities in the School Development Plan. The coordinator discusses the children's work, topics and any concerns in each year group with staff.

A range of examples of work from different ability children are viewed, alongside pupil voice.

Health and 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.

The co-ordinator will:

Ensure curriculum progression through the school.

Monitor and review the Science Curriculum, pupils` standards and teaching of the subject.

Maintain resources, their storage and availability.

Support and advise colleagues about science.

Encourage and seek out staff development keeping staff informed of relevant courses and encouraging shared learning experiences.

Facilitate and arrange any Science themed days.

Maintain links with external agencies and organizations.

Keep up to date with science matters by reading relevant materials, attending courses, providing INSET and disseminating information

Resources

Resources are kept in the Science cupboard. Trays of resources can be borrowed when needed and they must be returned when finished with.

Breakages or equipment which needs replacing must be reported to the Science leader who can arrange for replacements to be ordered.

Resource requests to be given to the Science leader who will manage the ordering of new resources.

Review

This policy will be reviewed annually by the science curriculum leader

Tracy Marsh

July 2019

Appendix 1

Science Topic Overview 2019-20

Highlighted areas show areas where at least 2 scientific investigations should take place

Kent scheme of work – where year group is different.

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 1	Ourselves label body parts and senses and Living Things (pets) Autumn(seasonal change)	Animals (living things) Classification and Habitats (Animals including humans)	Winter Everyday Materials Weather to do with Seasons	Spring Growing-plants (seasonal changes)		Summer Plants/Growing
Year 2	Habitats	Animals including Humans	Fit for Life (All living things)	Materials	Plants	Forces/ electricity
Year 3	Living things in their habitats	Sound Yr 4	Nutrition, Skeleton & Teeth	Light & Shadow	Helping plants grow well; functions & parts of plants Life Cycle of Flowering Plants including pollination.	**'Life Cycle of animals.'**
Year 4	**'Fossil finders and Rock Researchers'** Rocks and soils Yr 3	**'Funky Forces and Marvellous Magnets'**	' .	**Super Circuits'** Electrical safety and circuit construction	States of Matter	**'Super Stomachs and Dodgy Diets'** Animals including humans (Digestion including teeth)
Year 5	Properties and changes of materials	Earth , moon and sun	. Light Yr 6	Living Things and their habitats	Animals including humans	
Year 6	**'Feel the Force'** Forces Yr 5		Animals including humans (heart and lungs)	Electricity	Living Things and their Habitats	Evolution and Inheritance