

Westvale Primary School

Science Policy



Joanne Harris (Science Subject Leader)

Science Policy 2026-2027

Intent:

We live in an increasingly scientific and technological age where children need to acquire the knowledge, skills and attitudes to prepare them for life in the 21st century. We, at Westvale Primary School believe that the teaching of science develops in children an interest and curiosity about the world in which they live, and fosters in them a respect for the environment. Through the framework of the National Curriculum, science aims to:

- ❖ Equip children to use themselves as starting points for learning about science, and to build on their enthusiasm and natural sense of wonder about the world.
- ❖ Establish a good primary science education to include learning scientific knowledge about some established ideas and explanations in Biology, Chemistry and Physics, as well as learning about the nature and practices of science; having the vocabulary and skills to articulate and represent this knowledge; and understanding how it is used and applied in everyday life.
- ❖ Science is a discipline where knowledge is built empirically, through observation and investigation, using a range of scientific skills and enquiry methodologies.
- ❖ Develop through practical work the skills of observation, prediction, investigation, interpretation, communication, questioning and hypothesizing, and increased use of precise measurement skills and ICT.
- ❖ Encourage and enable pupils to offer their own suggestions, and to be creative in their approach to science, and to gain enjoyment from their scientific work.
- ❖ Enable children to develop their skills of co-operation through working with others, and to encourage where possible, ways for children to explore science in forms which are relevant and meaningful to them.
- ❖ Teach scientific enquiry through contexts taken from the National Curriculum for Science.
- ❖ Encourage children to collect relevant evidence and to question outcome and to persevere.
- ❖ Encourage children to treat the living and non-living environment with respect and sensitivity.
- ❖ Stress the need for personal and group safety by the correct usage and storage of resources.
- ❖ To enable children to appreciate that we do not always know the answers and results when carrying out scientific enquiry.

The Philosophy and Ethos:

We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes. Through the programs of study in the National Curriculum Science document children will acquire and develop these skills throughout their Primary years.

We believe that science promotes communication in a specific and precise language involving mathematical and logical thinking. It allows children to develop ways of finding out for themselves and gives them practice in problem solving.

As their knowledge and understanding increases and they become more proficient in selecting and using scientific equipment and collating and interpreting results they will become increasingly confident in their growing ability to come to conclusions based on real evidence. Science fosters a healthy curiosity in children about our universe and promotes respect for the living and non living. It allows children to develop original ideas and a questioning attitude.

In science, pupils are encouraged to be open- minded and to try and make sense of what they see and find out. The main focus of our approach will be through open-ended activities where we encourage children to recognize the need for fair testing.

Equality, Diversity and Inclusion

Definition and background

The Equality Act of 2010 protects certain characteristics: age, disability, gender reassignment, marriage or civil partnership, pregnancy and maternity, race, religion/belief, sex (gender) and sexual orientation. Teachers need to be mindful of these protected characteristics. In addition, they should give due consideration to economic class - particularly those children from disadvantaged backgrounds.

The visual, verbal and contextual messages children absorb from their educational setting and key adults in their life heavily influence their ideas about themselves and others. Historically, children's publications and teaching materials have, perhaps unintentionally, but definitely and overwhelmingly, used examples of white, Christian, heterosexual, middle class, able-bodied people and characters. Males have, more often than not, been represented as strong and dominant. Underrepresentation sends a strong message to children: that people from minority groups are second rate and unimportant. As a result, applying what we know from the Primary Science Capital Teaching Approach^{OF1}, children from minority groups are more likely to have lower science capital, limited job aspirations and restricted life opportunities. Every child has the right to be their true self and to live a full life without prejudice, fear or barriers. Those children who belong to minority groups should feel valued and included. In addition, those children who do not belong to a minority group should be exposed to models of inclusivity and acceptance.

Associate Professor David Allen, University of Hertfordshire – Snap author

At Westvale Primary School we are committed to providing all children with an equal entitlement to scientific activities and opportunities regardless of race, gender, culture, disability or class. In school we aim to meet the needs of all our children by providing a variety of approaches and tasks appropriate to ability levels. This will enable children with learning and/or physical difficulties to take an active part in scientific learning and practical activities and investigations and to achieve the goals they have been set. Some children will require closer supervision and more adult support to allow them to progress whilst more able children will be extended through greater depth activities. By being given enhancing and enriching activities, more able children will be able to progress to a higher level of knowledge and understanding. .

- ❖ **Loaded words:** We avoid using words which may make people feel invisible or be demeaning. For example, using man to stand for all people.

- ❖ **Scientists and scientific discoveries:** Over all the lessons across the year groups, there are references to a balance of diverse scientists who have made important contributions to scientific discovery as well as the world community, and not just the traditional white, male examples. When using examples of scientific discovery and invention, effort has been made to show adults working together, rather than perpetuating the myth that change happens because of special, individual people who do it by themselves.
- ❖ **Invisibility, social identities and tokenism:** What children do not see in materials used to educate them also teaches them about who matters and who doesn't in our society. Examples aim to be diverse by including photographs and illustrations of children and adults from diverse cultures across the globe, and avoiding tokenism, for example: only including a single person of colour, either by name in a story or in a photograph/illustration.
- ❖ **Stereotypes:** We take care not to portray or enforce stereotypes.
- ❖ **Gender:** We use children rather than boys and girls. Lessons do not suggest grouping children by gender. (An exception is made for the Year 5 lessons on puberty where it is recommended that school policy is followed.)
- ❖ **Health conditions or impairments:** It is important that we use positive language when referring to people with disabilities. Rather than using the term disabled people, we say people with health conditions or impairments, as appropriate, and avoids phrases like suffers from and confined to (a wheelchair).
- ❖ **Economic considerations:** When including illustrative examples/activities, we endeavour to make them accessible to those from lower economic backgrounds. There are strong links with the Primary Science Capital Teaching approach.

Implementation:

- ❖ The school uses the National Curriculum for Science, taught through The Collins Scheme of Work 'Snap Science second addition.' The scheme has been adapted to the local circumstances of the school in that we make use of the local environment in our fieldwork, including our newly emerging 'Forest School' called Westvale Woods where many outside learning opportunities are being implemented. We choose a locality where the physical environment differs from that which predominates in our immediate surroundings.
- ❖ We carry out our curriculum planning in Science in three phases (long-term, medium-term and short-term). The long-term plan maps the scientific topics studied each term during the key stage. The Science subject leader works this out in conjunction with teaching colleagues in each year group. Our medium-term plans, which we use 'Snap Science' Collins scheme, gives details of each unit of work for each term and is written by the Subject Leader. The Science subject leader keeps and reviews these plans which are annotated by the class teacher as a formative assessment record.

- ❖ The topics are planned in **Science** so that they build upon prior learning.

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 are increasingly challenged as they move up through the school.

- ❖ **Foundation Stage**- We teach science in the nursey and reception class as an integral part of the topic work covered during the year. Snap Science Foundation Scheme is designed to fit easily into EYFS planning. Each Activity plan includes activities for an entire setting or class, with clear Learning intentions for a focused Enquiry activity that will develop young children's learning as part of the 'Understanding the world' learning goal. The
- ❖ Activity plan also includes suggestions for a variety of focus and independent activities linked to other areas of learning and development which will support children's progress towards other early years learning goals. It will enable early years practitioners to organise a stimulating and challenging programme of science activities that will both develop knowledge and understanding appropriate to the age and stage, while laying the foundation for the excellent science teaching and learning opportunities that children will meet in Snap Science KS1 and 2. I hope you enjoy using Snap Science Foundation.

Progression

- ❖ The National Curriculum conceptual knowledge statement is broken down into a series of steps to create a detailed progression. Each lesson in a module focuses on one step in this progression, ensuring that children build secure knowledge. This progression sequences conceptual knowledge in Biology, Chemistry and Physics for one year to the next, and in the case of topics like light and classification, between Key Stage phases.
- ❖ The disciplinary knowledge that children need, has been identified and sequenced for working scientifically, so that it is included in the long-term plan. Scientific skills, for example how to use a thermometer or to control variables, are explicitly taught and practised, in appropriate contexts, so that children can use them with increasing accuracy and independence. The same is true of the knowledge about science that children need to learn, for example that scientists work in different ways to collect evidence to answer questions.
- ❖ Conceptual knowledge and Working scientifically progression charts are used to understanding of how scientific ideas develop and are connected. To show what children learnt previously in the topic and what they will learn next.

Overview of curriculum -long term plan

Subject: Science
SOW: SNAPP Science

Long Term Plan

Year group	Autumn term		Spring term		Summer term	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	Animals & Plants What am I made of ? Who are my parents? Objects & Materials What goes through? The Local Environment What is happening to the trees (late autumn 1)?	Objects and Materials What happens When you mix it? Light, Space, Electricity and Movement What happens at night? What is in the sky? What is the moon? The Local Environment What is the weather like today (late autumn 2)?	Animals & Plants What is inside an egg? Light, Space, Electricity and Movement What makes it move? How does my toy work?	Animals & Plants What does an earthworm do? Is all of a plant green? Objects & Materials Who lives here? The Local Environment What is happening to the trees?	Animals & plants Who has stripes? Objects & Materials Which hat is best to wear today? How do you make a good bubble? Light, Space, Electricity and Movement What floats?	Objects & Materials Which hat is best to wear today? What melts? The Local Environment What is happening to the trees? What is the weather like today?
Reception	Animals & Plants What am I made of ? Who are my parents? Objects & Materials What goes through? The Local Environment What is happening to the trees (late autumn 1)?	Objects and Materials What happens When you mix it? Light, Space, Electricity and Movement What happens at night? What is in the sky? What is the moon? The Local Environment What is the weather like today (late autumn 2)?	Animals & Plants What is inside an egg? Light, Space, Electricity and Movement What makes it move? How does my toy work?	What does an earthworm do? Is all of a plant green? Objects & Materials Who lives here? The Local Environment What is happening to the trees?	Animals & plants Who has stripes? Objects & Materials Which hat is best to wear today? How do you make a good bubble? Light, Space, Electricity and Movement What floats?	Objects & Materials Which hat is best to wear today? What melts? The Local Environment What is happening to the trees? What is the weather like today?
Year 1	Seasonal changes	Human body and senses	Naming and describing materials	Properties and uses of materials	Animals vertebrates	Identifying plants and their parts
Year 2	Local habitats	Choosing materials	Growing seeds and bulbs	Growing up (animals and humans)	Changing materials	Growing healthy plants
Year 3	Rocks, soils and fossils	Light and shadows	Forces, friction & magnets	Movement & nutrition for the human body	Flowering plants and plant growth	Flowering plants life cycle
Year 4	Changes of state	Electricity: circuits	Human impact on the environment	Digestion and food chains	Sound	Classification of plants and animals

Year 5	Forces and mechanisms	Properties and uses of materials	Earth and Space	Plants and animals life cycles	Separating mixtures and changing materials	Human growth
Year 6	Classification of living things	Evolution and inheritance	What light does	Human circulation	Electricity: changing circuits	Body health

Impact:

To ensure all pupils reach attainment and are progressing at least at ARE. A number of strategies are used to insure the impact of Science is targeted.

Assessment and Record Keeping:

Assessment for learning is continuous throughout the planning, teaching and learning cycle. However children are assessed when they have completed each unit of work, using a variety of methods:-

- ❖ The acquisition of key facts by sequential learning of facts, knowledge and key vocabulary.
- ❖ Overlearning of facts, knowledge and vocabulary.('sticky-knowledge')
- ❖ Key vocabulary used independently and scientifically correct to be highlighted as an ongoing assessment, whether it be in written form or orally.
- ❖ Observing children at work, individually, in pairs, in a group, and in classes.
- ❖ Questioning, talking and listening to children
- ❖ Considering work/materials / investigations produced by children together with discussion about this with them.
- ❖ Ongoing formative assessments are noted on the MTP to inform for the next lessons and for summative assessment.
- ❖ Quizzes and short tests are used at the end of each module to ascertain where the children have learnt/not learnt.
- ❖ Teacher assessment of pupils attainments which are correlated against ARE (age related expectations).
- ❖ Sonar Primary Summative Assessment Program is used to help teachers assess children's progress against the Science National Curriculum POS.
- ❖ 'Working scientifically' is taught and assessed using practical scientific methods, processes and skills through the teaching of topics. Work can be recorded in books and the use of a whole class 'floorbook.'

Children's progress is continually monitored and tracked throughout their time at Westvale School. Children's work is assessed at the end of each unit which allows class teachers to make an overall judgment at the end of the year against ARE.

Monitoring and review

Monitoring of the standards of children's work and of the quality of teaching in **science** is carried out throughout the school year by the **science** subject leader. The work of the **science** subject leader involves 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. The Science Subject leader collates children's assessment scores to allow us to see the percentage of children working at Age Related Expectations. An annual summary of **science** is made, in which strengths and weaknesses in the subject are evaluated. This is used to formulate the next year's Action Plan.

Health and Safety:

Where appropriate reminders will be given to children about potential hazards and care of the equipment they are using. Any trips should have been planned with due regard to the school policy on taking children on outings. LEA guidance may need to be sought on trips involving farms etc

Resources

We keep some resources in a central store with specific topic related ones kept in classes. The school library contains a good supply of **science** books and we borrow specific topics from the local library. There is computer software and internet to support children's learning which they can access on class I-pads, computer suite and IWB.

Cross-Curricular Links

Science contributes significantly to the teaching of Literacy in our school by actively promoting the skills of reading, writing, speaking and listening. Some of the texts that the children study in Literacy are of a scientific nature. The children develop oral skills in **science** lessons through discussions (for example of the environment) and through recounting their observations of scientific experiments. They develop their writing skills through writing reports and projects and by recording information.

Numeracy

Science contributes to the teaching of mathematics in a number of ways. The children use weights and measures and learn to use and apply number. Through working on investigations they learn to estimate and predict. They develop the skills of accurate observation and recording of data through graphs etc. They use numbers in many of their answers and conclusions.

Computing /ICT Skills

Children use computing in **science** lessons where appropriate. They use it to support their work in **science** by learning how to find, select, and analyse information on the computer and the Internet. Children use their skills to record, present and interpret data and to review, modify and evaluate their work and improve its presentation.

Personal, Social and Health Education (PSHE) and Citizenship

Science makes a significant contribution to the teaching of personal, social and health education. This is mainly in two areas. Firstly, the subject matter lends itself to raising matters of citizenship and social welfare. For example, children study the way people recycle material and how environments are changed for better or worse. Secondly, children benefit from the nature of the subject in that it gives them opportunities to take part in debates and discussions for example. Growing up and body changes.

Science promotes the concept of positive citizenship.

Spiritual, Moral, Social and Cultural Development

Science teaching offers children many opportunities to examine some of the fundamental questions in life, for example, the evolution of living things and how the world was created. Through many of the amazing processes that affect living things, children develop a sense of awe and wonder regarding the nature of our world. **Science** raises many social and moral questions. Through the teaching of **science**, children have the opportunity to discuss, for example, the effects of smoking and the moral questions involved in this issue. We give them the chance to reflect on the way people care for the planet and how **science** can contribute to the way we manage the earth's resources. **Science** teaches children about the reasons why people are different and, by developing the children's knowledge and understanding of physical and environmental factors, it promotes respect for other people.

Signed: Joanne Harris Date: June 2026