

WADDINGTON AND WEST BRADFORD CE PRIMARY SCHOOL

SCIENCE POLICY

'A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.'

Science Programmes of Study: key stages 1 and 2

INTRODUCTION

Our aim for science at Waddington and West Bradford is to inspire pupils' interest and enjoyment in science and to develop their appreciation of its contribution to everyday life. We want to build on pupils' curiosity and general sense of enquiry, enabling them to ask questions and make suggestions through investigations and practical activities. We would like to invest in the future of science by creating ambassadors for the subject at Primary level.

Our science curriculum fosters a healthy interest in children about our universe and promotes cross curricular links with other key curriculum subjects. We believe science is the acquisition of **knowledge, understanding and skills**. Throughout the programmes of study, the children will acquire and develop the key **knowledge** that has been identified within each unit and across each year group, as well as the application of scientific **skills**.

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.

SCIENCE CURRICULUM

Key Stage 1 and 2

Science is a foundation subject in the National Curriculum. Planning at Waddington and West Bradford is supported by the Developing Experts Scheme. Use of this scheme addresses the aims of the curriculum and provides teachers with the necessary knowledge, which can be adapted as needed. Key Stage 1 and Key Stage 2 topics are mapped out in a long term plan to ensure coverage of objectives, knowledge and progression of skills. Science is taught discretely for 1 hour per week in key stage 1 and 1.5 hours per week in key stage 2, however staff may make meaningful links across subjects where appropriate. Prior knowledge is linked to new learning to deepen children's understanding and to ensure new concepts and skills are retained. Knowledge organisers are used to share planning with the pupils.

Early Years Foundation Stage

Science in the foundation stage (Pre-School and Reception) at Waddington and West Bradford is addressed through continuous provision, child-initiated learning and Understanding the World experiences. EYFS teachers will provide opportunities for children to explore a chosen scientific area during their continuous provision, as well as directly teaching Scientific knowledge. Children in foundation stage are encouraged to use and discover a variety of materials, tools and techniques, whilst making observations and exploring similarities and differences of objects and living things around them. It is important for EYFS pupils to show awareness of their own health and hygiene from a young age, including healthy eating habits and sleeping well.

WORKING SCIENTIFICALLY

We ensure that the 'working scientifically' skills are focused on throughout children's time at Waddington and West Bradford so that they can apply their knowledge of science when using equipment, conducting experiments, building arguments and explaining concepts confidently and continue to ask questions and be curious about their surroundings. Our aim is that these experiences will help children to:

- Secure and extend their scientific knowledge and vocabulary
- Ignite their curiosity
- Develop transferable skills such as observation, communication and teamwork
- Be equipped to make informed decisions about new technologies, their health and the scientific opportunities around them.

We believe that these opportunities will ensure that our children are confident, life-long learners who will explore the world around them.

Enquiry Approaches/Types

Over the course of an academic year, pupils should carry out several investigations which involve different types of enquiry:

- Comparative/fair testing
- Research
- Observation over time
- Pattern seeking
- Identifying, grouping and classifying
- Problem solving

See **Appendix I** for more information about Enquiry Approaches/Types.

Enquiry Skills

At Waddington and West Bradford, through the Developing Experts scheme, our children develop the following science skills:

- Asking questions
- Making predictions
- Setting up tests
- Observing and measuring
- Recording data, results and findings
- Interpreting and communicating results

- Evaluating

See **Appendix II** for more information about Enquiry Skills.

Throughout the year it is important that all pupils carry out different investigations which involve different types of enquiry. It is also important that children develop all of the different science skills. Through use of the Developing Expert scheme, at Waddington and West Bradford we ensure even coverage of each skill and enquiry type throughout each key stage 1 and 2 class.

VOCABULARY

The national curriculum for science reflects the importance of spoken language in pupils' development across the whole curriculum – cognitively, socially and linguistically. The quality and variety of language that pupils hear and speak are key factors in developing their scientific vocabulary and articulating scientific concepts clearly and precisely. They must be assisted in making their thinking clear, both to themselves and others, and teachers should ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions.

Science Programmes of Study: key stages 1 and 2

At Waddington and West Bradford, we know that science vocabulary is crucial because it provides the foundation for understanding scientific concepts, allowing students to effectively describe observations, explain investigations, and communicate their scientific knowledge. This supports their academic achievement and overall scientific literacy development, leading to deeper scientific learning by providing the necessary language to discuss and analyse phenomena around them. Through the use of the Developing Expert scheme, vocabulary is considered within every science lesson and topic. There is clear progression of vocabulary mapped out from Year 1 through to Year 6. Knowledge Organisers include all vocabulary for each unit of work and is referred to regularly by all pupils.

LEARNING ENVIRONMENT

Classrooms include displays and resources which support the teaching and learning of science. This often includes some knowledge from their current unit of learning. In addition each classroom displays posters of all of the Enquiry Types/Approaches and the science skills (as seen in Appendix 1 and 2, posters in Appendix 3). Throughout teaching sessions, teachers can use these posters to direct the children's attention to the focus skill and enquiry type that is the focus for each lesson. There may also be evidence of on-going class enquires on these displays.

INCLUSION

During science lessons, pupils may work individually, in pairs, or as part of a small group and as a whole class. Pupils use a variety of means for communicating and recording their work, with discussion and debate being a central theme in science lessons. Children with literacy difficulties should not have this as a barrier to science learning. All children should be stretched and challenged through the depth of investigation; some children will need more

support than others. Differentiation should be considered as “...the planned and spontaneous intervention or withdrawal of a teacher’s actions throughout the lesson...” Like this, teachers need to plan for needs of their children, but also act according to their needs within the lesson and be ready to go ‘off plan’ when necessary. This should also include the actions of support staff in the class. It should be remembered that while children might need support at times, there are also times when teaching staff need to stand back and allow for discovery, intervening with questions to scaffold and support learning where necessary. Children learn more by finding out in science than being told.

ATTAINMENT AND ASSESSMENT

By the end of Key Stage 1 and 2, children should have covered the skills (working scientifically) and knowledge programmes of study for that key stage. Teaching staff will use on-going formative assessment to inform planning in order to cater to the children’s learning needs. Knowledge may be assessed using short tests/quizzes/end of unit tests, but the skills (working scientifically) should be assessed during lesson time as children are engaged in investigations.

MONITORING AND REVIEW

Monitoring of the standards of children’s work and of the quality of teaching in science is the responsibility of the subject leader. The work of the subject leader also 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 subject leader will review samples of children’s work and visit classes to observe teaching in the subject. They also monitor planning and ensure that the intent for science is being effectively implemented. A named member of the school’s governing body is briefed to oversee the teaching of science. This governor receives a written report. Where children are to participate in activities outside the classroom, for example, a visit to an outside site, we carry out a risk assessment prior to the activity (if a risk assessment is not already in place), to ensure that the activity is safe and appropriate for all pupils.

RESOURCES

Science resources are centrally stored in the science cupboard. The responsibility for organising, setting up and maintaining this area is that of the Subject Leader. However, the whole staff are responsible for ensuring equipment is returned neatly, and cleaned, to the correct unit and that broken or used up equipment is reported to the Science Subject Leader so that, repairs, replacements or new orders can be made. Equipment must be taken from and returned to the science cupboard by staff only and not children. When finished with, equipment must be returned and not stored in classrooms indefinitely.

K HARRINGTON
SCIENCE SUBJECT LEADER
September 2026

APPENDIX I – Enquiry Types/Approaches

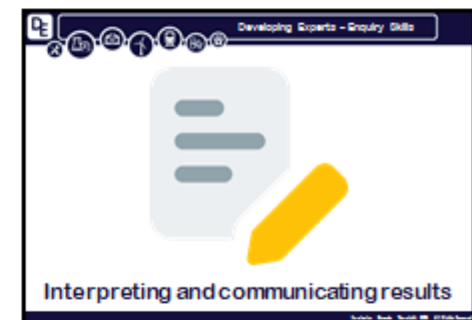
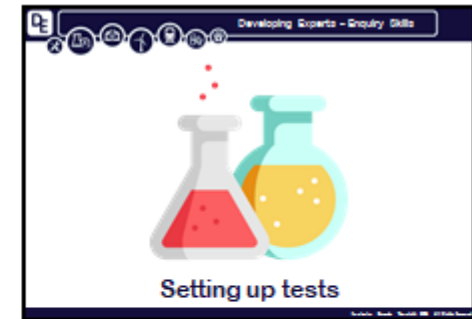
Symbol	Approach	Explanation
	Comparative / fair testing	Conducting a test that controls all but one variable to answer a scientific question.
	Research	Using information from a variety of sources to answer scientific questions.
	Observation over time	Observing changes that occur over a long or short period of time.
	Pattern-seeking	Identifying patterns and looking for relationships to make links between scientific concepts.
	Identifying, grouping and classifying	Using observations, data and findings to name, label and organise items in a variety of ways.
	Problem-solving	Applying prior scientific knowledge to solve problems and answer further questions.

APPENDIX II – Scientific Skills

Symbol	Skill	Explanation
	Asking questions	Asking relevant questions that can be answered from their learning of scientific concepts. This may be through scientific enquiries, applying prior knowledge or research.
	Making predictions	Using prior knowledge to make informed suggestions on what may happen in a scientific enquiry.
	Setting up tests	Carefully following a method and using equipment accurately to carry out a scientific enquiry. The method may be designed by teachers or children themselves.
	Observing and measuring	Using the senses and taking measurements, using a range of equipment, to make observations about a scientific enquiry.
	Recording data, results and findings	Using tables, a variety of graphs, labelled diagrams and models to record observations, measurements, results and findings.
	Interpreting and communicating results	Using information, results and data to present findings, including oral and written explanations.
	Evaluating	Assessing the success of a scientific enquiry by evaluating the prediction, method and results and identifying further questions for enquiry.

APPENDIX III - LEARNING ENVIRONMENT - Enquiry Type and Scientific Skill Posters

a) Scientific Skill Posters



APPENDIX III - LEARNING ENVIRONMENT - Enquiry Type and Scientific Skill Posters

b) Enquiry Type/Approaches Posters

