

SCIENCE AT VAL PRIMARY SCHOOL

INTENT

By the end of Year 6, pupils will have a secure and connected body of scientific knowledge across biology, chemistry and physics. They will understand key concepts including living things and their habitats, animals including humans, plants and life cycles, materials and their properties, forces, light, sound, electricity, states of matter, and Earth and space. They will be able to think and work scientifically by observing, questioning, predicting, testing, measuring, recording results and drawing conclusions. Pupils will use precise scientific vocabulary and apply their knowledge to real-world contexts, including understanding sustainability, biodiversity, climate change and human impact on the environment.

IMPLEMENTATION

Science is taught using the White Rose Science framework, ensuring clear progression from Early Years to Key Stage 2. Lessons are carefully sequenced to build knowledge over time and revisit key concepts to deepen understanding and support long-term retention.

Teaching combines explicit instruction of key knowledge and vocabulary with practical, enquiry-based learning. Working scientifically skills are embedded throughout.

Science is taught regularly across the academic year, with units sequenced across Autumn, Spring and Summer terms to ensure full curriculum coverage and progression.

Lessons follow a clear structure:

- Retrieval and links to prior learning
- Explicit teaching of new knowledge and vocabulary
- Practical investigation/enquiry
- Recording and analysing results
- Drawing conclusions and reflection

The curriculum is designed as a spiral model. Key concepts are revisited and built upon from Early Years through to Year 6, supporting deeper understanding, reducing cognitive overload and strengthening long-term retention.

IMPACT

How do we know children are doing well?

Pupils demonstrate secure and connected scientific knowledge and can confidently explain concepts using accurate vocabulary. They apply enquiry skills appropriately and make meaningful links between scientific learning and real-world contexts.

Assessment identifies gaps and misconceptions to inform next steps in teaching.

Formative and/or summative assessment:

Assessment within White Rose Science supports teachers in identifying gaps and misconceptions. Ongoing formative assessment is embedded within lessons, alongside end-of-unit checks to monitor understanding and progress.

Successes:

By the end of primary school, pupils are well prepared for the next stage of their education. They demonstrate curiosity, resilience and a clear understanding of how science shapes the world around them.

SCIENCE INTRODUCTION

What would people see if they came to see the subject at Valley Road?

Visitors would see engaged pupils participating in practical, hands-on investigations. Lessons would be clearly sequenced, with explicit links to prior learning and precise scientific vocabulary displayed and modelled.

Children would be asking questions, making predictions, carrying out investigations, measuring accurately and recording results in a range of ways. You would see enquiry-based learning, collaborative discussion and pupils confidently explaining their understanding.

Science learning would reflect real-world contexts, including environmental awareness, biodiversity and sustainability.



STRENGTHS

- Clear progression through the White Rose Science framework

- Strong emphasis on working scientifically

- Practical, hands-on enquiry embedded throughout

- Sustainability and environmental awareness as a key curriculum thread

- Inclusive approach with high expectations for all learners

- Participation in whole-school British Science Week activities and sharing in assembly

- Links to wider community events and activities, such as Greener Henley

INCLUSION

Science at Valley Road is inclusive and accessible to all learners. Clear learning intentions, precise vocabulary and carefully scaffolded support ensure every child can succeed. Adaptations are made for SEND pupils, and practical, hands-on learning supports engagement and understanding. The curriculum is ambitious for all.

SCIENCE IN EYFS

In EYFS, science is taught through the Understanding the World area of learning and is aligned with the foundations of the White Rose Science curriculum. Children develop curiosity about the world through play, exploration and first-hand experiences. They observe plants, animals, materials and seasonal change, and begin to understand care for the environment. Carefully planned provision and adult interaction introduce early scientific vocabulary and skills, ensuring a strong foundation for transition into Key Stage 1.

SUBJECT OUTCOMES

We are proud that pupils:

- Develop strong scientific knowledge across all disciplines
- Use accurate scientific vocabulary confidently
- Engage enthusiastically in practical investigations
- Show awareness of environmental responsibility and sustainability
- Transition to secondary school well-prepared for further scientific study

SUBJECT ASSESSMENT

Assessment is embedded within teaching through questioning, observation, discussion and review of recorded work. White Rose Science assessment materials support identification of gaps and misconceptions. Outcomes inform planning and targeted support to ensure progression for all pupils.

TO IMPROVE, OUR PRIORITIES ARE:

- Continuing to strengthen consistency in assessment practice
- Further developing pupils' independence in scientific enquiry
- Enhancing opportunities to apply science learning in real-world and cross-curricular contexts
- Continuing to deepen vocabulary development across all year groups