

Intent

At The Gates, the aim of our Science curriculum is to give children a strong understanding of the world while acquiring specific skills and knowledge to help them think scientifically, understand scientific processes, and consider the uses and implications of Science today and for the future.

We follow the White Rose Science scheme in Years 1 and 2 and currently use it to support planning, resourcing and delivery in Key Stage 2.

This scheme:

- Follows a small-step approach, progressively building knowledge and skills.
- Recaps prior learning from previous linked units to consolidate knowledge.
- Prioritises key vocabulary and develops scientific communication skills.
- Embeds enquiry-based learning aligned to the five enquiry types we follow.
- Provides practical activities to develop hands-on scientific skills.
- Includes sustainability units in each year group, helping children recognise their role in shaping a sustainable future.
- Supports teacher development through guidance, CPD, and planning resources, reducing workload while enhancing teaching quality.

Scientific enquiry skills are embedded in every topic and revisited throughout school, allowing children to build on prior knowledge, deepen understanding, and develop curiosity. Pupils are encouraged to question, investigate, and think critically about the world around them, fostering independent scientific thinking.

Implementation

Science is taught using a variety of strategies to engage pupils and ensure high expectations for all. Teachers use White Rose Science planning alongside the school's medium-term plans, adapting for age, ability, and SEND needs.

Key approaches include:

- **Prior Knowledge Review:** Each unit begins with a recap of previous learning to identify children's starting points.
- **Practical and Enquiry-Based Learning:** Children are encouraged to ask questions, plan and conduct investigations, make observations, classify and group objects, and solve problems using a scientific approach.
- **Integration of the Environment:** Lessons make use of immediate and wider environments to apply scientific knowledge and skills to real-life contexts.
- **Challenging and Inclusive Tasks:** Work is set to extend thinking, build self-confidence, and ensure all pupils make progress from their starting points.
- **Digging Deeper:** As an additional AfL technique, teachers use "Digging Deeper" questions and tasks to link scientific concepts across lessons and units. These activities help children make connections, deepen understanding, and extend thinking beyond the immediate lesson content.
- **Assessment:** Teachers assess pupils through ongoing formative assessment, weekly recap quizzes, and end-of-unit assessment quizzes. Weekly quizzes revisit key learning, allowing teachers to intervene, provide support, and recap as needed. End-of-unit quizzes (10 key questions) measure attainment against

the unit's knowledge and skills. Teachers combine these assessment outcomes with weekly observations, pupil contributions, and "Digging Deeper" to judge whether the expected standard has been met.

Supporting Teachers:

- The Science Subject Leader provides strategic leadership, supports curriculum sequencing, monitors standards, provides CPD, audits and manages resources, and coaches teachers to ensure consistent high-quality teaching.
- Medium-term plans, White Rose resources, and Digging Deeper tasks reduce planning workload and provide high-quality guidance for teachers.

Impact

Pupils at The Gates develop a connected and progressive knowledge base, building confidence and curiosity in science.

By the end of each key stage, children:

- Know more, remember more, and can apply their scientific knowledge effectively.
- Work as scientists: making observations, conducting fair tests, researching phenomena, classifying and grouping, and identifying patterns.
- Use Digging Deeper to make meaningful connections across scientific topics, linking new learning with prior knowledge.
- Develop the ability to communicate ideas clearly using appropriate vocabulary.
- Understand the relevance of science to their lives and the wider world, including sustainability and global issues.
- Make informed decisions about their health and wellbeing and recognise the societal implications of scientific knowledge.

Assessment outcomes (weekly quizzes, end-of-unit assessments, and Digging Deeper) ensure that all children, including disadvantaged pupils and those with SEND, make at least expected progress. Teachers use this data to tailor interventions, extend learning, and continually improve science teaching across the school.