SUBJECT ON A PAGE

Science

At Green Ridge, we understand that children are naturally curious and love to ask questions. We encourage this inquisitive nature throughout their time with us. We believe that science allows children to develop knowledge about the world around them and builds on concepts, skills and develops positive attitudes.

Intent – what we aim to do

- To promote a love of science by developing the pupils' interest and enjoyment of science.
- To build on the children's curiosity by exploring their questions and allowing them to explore the answers.
- To develop scientific knowledge and conceptual understanding of biology, chemistry and physics.
- To develop working scientifically skills.
- To plan and conduct a range of investigations to help gain understanding of processes.
- To be given the opportunity to develop awareness of the importance of science in everyday life.
- To introduce pupils to the language and vocabulary of science.

Implementation – how do we achieve our aims?

White Rose Science teaches practical approaches to science and scientific language in a fun and logical way. At the same time, it provides teachers with all the guidance and supporting materials they need to plan and deliver a high-quality science education. The schemes of learning provides full coverage of the national curriculum for science and covers scientific questions around sustainability and the planet and help children develop an empathy for the local and wider environment. Children have a dedicated science lesson as a minimum one afternoon a week, lasting between 1 hour 40 minutes and 2 hours, which is delivered by their class teacher. There will also be a dedicated Science week during the spring term where the teachers will teach a variety of science lessons or activities over the period.

Planning/ Sequencing

Lessons are sequenced using the 'White Rose Science' scheme. This scheme gives us a series of units to cover across a year. The way in which our lessons are sequenced also link to progression across the school. For example, Years 1, 2, 3 and 5 all complete some Science learning on Plants. Year 1 learn about planting and caring for the plants whilst referencing simple components of a plant. Year 2 learn about what plants need to survive and the plant life cycle from a seed to a mature plant. Year 3 revisit the parts of a plant but look deeper into their function. They also study how water is transported in plants and pollination/seed dispersal. Finally, in Year 5 children look at plant reproduction. Each unit will have a knowledge organiser provided with key knowledge, vocabulary and diagrams to support retrieval practise, vocabulary support and support for further learning at home.

Working Scientifically

Through experiment, practice and discussion, children gain core knowledge around:

- Scientific vocabulary
- 'Working scientifically' skills including systematic and careful observations and following practical scientific methods
- The gathering and interpretation of straightforward scientific evidence
- The use of everyday materials and scientific equipment to solve science problems
- Articulating scientific concepts and using five types of science enquiries

Implementation – (continued)

Structure of a lesson

Lessons are timetabled weekly. This is made up of one afternoon of Science allowing for lessons to be extended but also allowing for shorter knowledge-based lessons. Children will record their learning within a separate Science book, which will be marked (see marking policy). When suitable, next steps should be included within lessons, so children have opportunities to progress within their learning, based on teachers' marking.

Science in EYFS

In Reception, children are introduced to science through hands-on exploration of the natural world. In the topic Down at the Bottom of the Garden, they learn about plants, insects, and the conditions that help living things grow and thrive. Stories and first-hand experiences support children in making sense of different environments and the micro-environments within them.
Children are encouraged to observe and record their findings using simple maps, plans, paintings, and drawings of landscapes. They take part in practical projects such as 11 Before 11: Seeds to Supper, where they plant, care for, and monitor the growth of flowers and vegetables- developing an understanding of life cycles and the needs of living things.
Daily access to the mud kitchen and planting area offers ongoing opportunities for investigation and experimentation. A daily weather report, shared during the morning routine, further supports observation skills and introduces children to basic scientific concepts about the environment.

5 min – review previous learning

5 min – Sustainability starter

15 min – Teaching input inc vocabulary

10 min – Guided practice

15 min – Independent application

5 min – Review of learning

Assessment

In each unit studied, teachers will use assessment for learning throughout the unit to ensure retrieval practise allows knowledge to move to the long-term memory. Next steps and review of learning each lesson will allow teachers to assess the children's subject knowledge during a unit. At the beginning of each unit a test quiz will be produced about the previous unit in order to measure the accurate retrieval of key knowledge. The gaps identified will then inform the need for the re-teaching of these elements throughout the next unit. These will then be collated and inform the Data will be submitted at the end of Key Stage 1 and Key Stage 2 summarising where the child is working in regard to their science knowledge and understanding (Working Towards or Working At).

SMSC + British Values

We aim to promote British Values and SMSC through our Science curriculum:

- Where Science lessons directly link to the termly topic focus being taught, the 'big question' for each topic is designed to allow pupils to question, debate and therefore create discussion about the wider world they live in.
- Pupils explore issues such as the tolerance of those with different faiths and beliefs, including the creationism vs. evolution debate
- By looking at the achievements of famous British scientists, pupils develop an awareness of how they have influenced and shaped the country in which we live. This includes an appreciation of their work.
- We teach pupils to respect and value diversity through showing respect for different viewpoints and ideas as well as in the ability to work effectively together both individually and in groups.
- Enabling pupils to reflect on the wonder of natural world and develop and awareness of the ways that science and technology can affect society and the environment
- Ensure children consider their impact on the environment.

Implementation – (continued)

Sustainability

Our chosen science curriculum covers scientific questions around sustainability and the planet and helps children develop an empathy for the local and wider environment. We recognise the importance for sustainability to be running through our Science teaching and so we begin each lesson with a bespoke, year group tailored, Thinking Sustainably Starter. This follows the progression document from the Sustainability in Science curriculum provided by REAch2.

Retrieval Practice

Through both the starters to each lesson and the progression design of our chosen Science curriculum, children will encounter scientific knowledge repeatedly throughout their time at primary school. Each time a unit is revisited teachers will employ retrieval practice strategies to support children in moving knowledge to the long-term.

Adaptive Teaching

As per our teaching and learning framework, adaptive teaching is used to ensure all learners can apply their knowledge, make progress and apply their knowledge to independent application. Adaptations in science might include :

- Pre-teaching
- Adapted resources
- Adapted expectation for recording
- Vocabulary prompts
- Breaking down knowledge further
- Providing further models/demonstrations

Impact – how will we know we achieved our aims?

- Children have a love of science and can articulate their interests.
- Children are curious and ask questions about the world around them.
- Children have scientific knowledge and conceptual understanding of biology, chemistry and physics.
- Children can apply working scientifically skills in practice.
- Children can plan and conduct a range of investigations to help gain understanding of processes.
- Children are aware of the importance of science in everyday life including links to health and safety.
- Children can use the language and vocabulary of science.

Curriculum Overview
2025-2026

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	The Human Body	Materials	Animals	Planting	Plants	Growing and Cooking
Year 2	Animals' needs for survival and Humans	Materials	Plants	Living things and their habitats	Plants	Growing Up
Year 3	Skeletons, Movement and Diet	Rocks	Soils	Light	Plants	Magnets/Force
Year 4	Group and classify living things	States of Matter	Sound	Electricity	Data/Habitats	Digestive system
Year 5	Forces	Space	Properties of materials	Animals and Life Cycles	Reproduction	Reversible and irreversible changes
Year 6	Living things and their habitats	Electricity	Light	Human Body, Circulation, Diet and Drugs	Variation and Adaptation	Fossils