

## Your aims and ambitions for the curriculum

We believe a high-quality Science Curriculum will ensure that pupils are passionate and inquisitive about science and become investigative scientists through high quality lessons, revisiting scientific knowledge and practical, engaging activities.

Our broad science curriculum empowers pupils to feel good about science and promotes interest around the material world. The profile of science is high within school and is taught for 2 hours per week, not being 'squeezed' out for an over focus on other subject areas. An aspect of the SDP for 2025-26 is to ensure that standards in pupils work are equal/the same in all subjects – the science books reflect this.

## Scope and breadth of the curriculum

A key feature of the curriculum's breadth is the strong emphasis on practical investigation. Pupils regularly take part in enquiries such as fair tests, observational studies, pattern seeking and classification activities. These experiences help them develop crucial disciplinary skills, including asking questions, making predictions, gathering data and drawing conclusions. As pupils progress, the level of independence and challenge within these enquiries increases, enabling them to think and work more scientifically.

The curriculum is enriched through cross-curricular connections, educational visits and high-quality texts that deepen understanding. Teachers also ensure that breadth is accessible to all pupils by providing scaffolds, vocabulary support and well-structured practical activities. This inclusive approach ensures that every child at St. Luke's experiences a rich and balanced Science curriculum that inspires curiosity and scientific thinking.

## What to teach and when

At St. Luke's, the substantive scientific knowledge is organised across Biology, Chemistry and Physics and is taught in alignment with the National Curriculum and our long-term plan. Teachers follow planning documentation that makes explicit what children should know and remember in each unit. Every unit includes clearly defined Tier 3 vocabulary which is taught explicitly and revisited throughout the sequence of learning.

Learning in Science is carefully sequenced so that knowledge builds gradually from one year to the next. Children in FS2 begin by exploring materials, senses, weather and the natural world. This knowledge is gradually deepened through KS1 as children learn about seasonal changes, animals, plants and materials. In KS2, pupils revisit key concepts and apply them in more complex contexts, such as electricity, the digestive system, forces, evolution and light. Retrieval practice at the start of each lesson helps children reactivate prior learning, make purposeful links between units and embed new learning more effectively.

## Know more, do more and remember more

At St. Luke's, we believe that a high-quality Science curriculum nurtures curiosity, encourages children to ask questions about the world, and supports them in becoming confident young scientists. We want every pupil to develop a secure understanding of scientific concepts and to recognise how Science helps them to make sense of the world.

Our ambition is to provide a curriculum that is innovative, progressive and clearly sequenced so that pupils build knowledge securely from FS2 to Year 6, understanding disciplinary and substantive knowledge. The curriculum has been chosen to fulfil the needs of the National Curriculum. We place a strong emphasis on scientific vocabulary, highlighting the importance of tier 3 vocabulary, and this is supported through the consistent use of ELS documents, working walls and regular opportunities for retrieval and recall to develop metacognition. Our curriculum ensures that children take part in practical scientific enquiry, understand the skills of working scientifically and learn to explain their thinking with increasing confidence.

## Sequencing of learning, particularly through concepts, vocabulary and skills

At St. Luke's, the sequencing of learning in Science is deliberately structured so that concepts, vocabulary and disciplinary skills are introduced, revisited and deepened in a way that promotes secure understanding and long-term retention. The curriculum is not simply a list of units; instead, it is carefully organised to help pupils build a coherent and connected understanding of the scientific world. Teachers use the ELS documents as the central tool for planning, as these outline exactly what should be taught and how this knowledge develops lesson by lesson. This ensures that learning does not become overly content-heavy and that pupils encounter new ideas in manageable, meaningful steps.

One of the key features of sequencing at St. Luke's is the explicit attention given to scientific vocabulary. Teachers introduce Tier 3 vocabulary at the beginning of each unit and display it clearly on working walls so that definitions remain visible and accessible throughout the learning sequence. Vocabulary is not treated as a one-off task; instead, it is woven into retrieval practice, class discussion and written work so that pupils continue to encounter and use these key terms in a variety of contexts. This supports pupils in developing scientific fluency and enables them to talk confidently about their learning. The action plan emphasises this further by expecting all "What we will know and remember" sections to include vocabulary definitions that match the ELS documentation.

Sequencing also involves the progressive development of disciplinary skills. Teachers plan practical enquiries so that skills such as observing, presenting data, measuring, predicting, classifying, controlling variables and drawing conclusions are introduced gradually and then practised in increasingly sophisticated ways. This does not happen by chance; ELS (Essential Learning Summary) documents explicitly identify the disciplinary focus of each lesson so that teachers know when to prioritise particular skills and how to build on previous learning. As a result, pupils do not simply complete experiments — they understand *why* certain methods are appropriate and how scientific evidence is gathered.

Misconceptions are also considered as part of sequencing. Teachers anticipate likely misunderstandings through the ELS planning process, and retrieval sessions are used to identify gaps or inaccurate recall before they become embedded. This ensures that progression is not just linear but secure. Retrieval is deliberately varied across classes — teachers may use low-stakes quizzes, oral questioning, diagram labelling or concept sorting — so that pupils recall knowledge in different ways and develop flexible understanding.

Staff confidence is a further factor that strengthens sequencing at St. Luke's. Through continuous CPD, teachers receive support in how to deliver and support teaching and learning effectively and how to scaffold lessons for all learners, including the F20%, SEND and disadvantaged pupils. Because teachers share a common planning structure and use the same curriculum language, the scientific journey feels cohesive and consistent for pupils as they move through school.

Through these combined approaches — structured planning, explicit vocabulary teaching, progressive skill development, anticipatory teaching of misconceptions and strong teacher subject knowledge — St. Luke's ensures that sequencing is purposeful, coherent and rooted in helping pupils "know more, do more and remember more."

## Curriculum adaptation; Access for all.

Science at St. Luke's is inclusive and accessible to every child, and the curriculum is carefully designed so that all pupils can engage with and succeed in scientific learning. Adaptations are made to ensure that pupils in the first 20%, those with SEND and those who are disadvantaged can fully access the curriculum without experiencing a reduced or simplified version of it. Teachers use a wide range of scaffolding strategies, including vocabulary support, word mats, guided groups, teacher-led modelling and clear, structured explanations, to help pupils understand key concepts and participate confidently in lessons. Retrieval and recall activities play a central role in supporting pupils' metacognition, helping them to revisit, strengthen and organise their learning over time.

Practical learning is prioritised across the curriculum, enabling pupils to experience scientific concepts first-hand and making more abstract ideas easier to understand. Teachers also share learning intentions and key vocabulary with support staff before lessons, ensuring that adults can guide pupils effectively and reinforce the intended outcomes.

## CPD

- 18.09.24** – Subject Leader Action Planning Twilight
- 06.01.25:** Phil Abbott – What subject need to know – INSET training. (ALL)
- 21.05.2025** – National College: Effective Use of Spacing and Retrieval to Boost Classroom Learning
- 11.06.2025** – National College: Effective Questioning: Enhancing Classroom Engagement
- 08.01.25** – Curriculum Focus
- 17.09.2025** – Subject Leader Action Plans Twilight
- 24.09.2025** – Subject leader monitoring
- 19.03.25** – Curriculum twilight – monitoring
- 01.10.2025** – Phil Abbott Training
- 06.10.25** – Meeting with Governors to complete a learning walk and discuss next steps
- 19.11.2025** – CB to conduct pupil voice, check working walls, books and tier three vocab
- 12.11.2025** – Rosenshine's Principles – Session One
- 19.11.2025** – Rosenshine's Principles – Session Two

## Deliberate enhancements to the curriculum

The Science curriculum at St. Luke's is enriched through a wide range of experiences that help children make meaningful connections between what they are learning in the classroom and the wider world. Pupils engage in high-quality educational visits, including trips to The Deep, Magna and Yorkshire Wildlife Park, which provide authentic contexts for exploring scientific ideas and allow pupils to see concepts such as habitats, materials, forces and lifecycles in action. Teachers further enhance learning by using practical resources from the Education Library Service and selecting high-quality non-fiction texts that build scientific vocabulary and strengthen children's comprehension.

Cross-curricular links are planned deliberately so that knowledge is reinforced and applied across subjects. For example, DT projects are intentionally linked to science units so that pupils can consolidate their understanding of electrical circuits, while Geography topics support children in exploring environmental processes, habitats and the impact of human activity on the natural world enquiry through first-hand experience.

## What checks have you completed? What have they told you? What did you do about it? What is the impact of this?

### Checks:

- 18.09.24 – Subject Leader Action Planning Twilight
- 06.01.25: Phil Abbott – What subject need to know – INSET training. (ALL)
- 08.01.25 – Curriculum Focus
- 19.03.25 – Curriculum twilight – monitoring
- 06.10.25 – Meeting with Science Link Governor
- 06.10.25 - FS2 Science Monitoring (Floor book, provision, KUW tasks)
- 06.10.25 - Year 1 Science Book Look & Planning Review
- 06.10.25 -Year 2 Science Book Look & Environment Walk
- 06.10.25 - Year 3 Science Book Look & Planning Review
- 06.10.25 - Year 4 Science Book Look & ELS Planning Review
- 06.10.25 -Year 5 Science Book Look, Working Wall Review
- 06.10.25 - Year 6 Science Book Look & ELS Documentation
- 06.10.25 -Whole-school working wall walkthrough
- 19.11.2025 – CB to conduct pupil voice, check working walls, books and tier three vocab
- 21.01.2026 – CB completed a whole school book look and an environment walk

### Findings:

- Staff need to continue to update vocabulary consistently (06.10.2025)
- All classes (Y1–Y6) follow the long-term plan with clear sequencing of lessons and alignment to objectives.
- FS2 provision shows strong exploration of materials and KUW links, with ELS documents detailed and well-structured. FS2 Science Monitoring
- Y1–Y6 show consistent use of front sheets and pre-quizzes, helping to establish starting points.
- Working walls are updated across school with key vocabulary, though visibility and prominence vary between classes. Governor monitoring confirmed this.
- Every book checked showed clear coverage linked to the school's revised curriculum and Universal Provision expectations
- Every book checked demonstrated a clear improvement with consistently using pre assessment, post assessments, tier 3 vocab displayed, and some classes are using universal provision more often

### Next steps:

- Evidence of more extended writing pieces in work
- Strengthen ELS Planning Consistency (FS2–Y6)
- Embed retrieval questions within ELS planning in FS2, Y1, Y3, Y4.
- Increase recorded evidence of adaptations in Y5 and Y6 to match excellent verbal practice.
- Continue to model strong practice from Y2 and Y4.
- Consolidate Working Wall Expectations
- Make vocabulary more visible (font size, positioning) in classes where this is less prominent (notably Y5).
- Maintain consistency of key vocabulary across phases.
- Strengthen Retrieval Practice in line with Rosenshine's Principles
- Ensure retrieval is present in EVERY science lesson, not just most.
- Use quizzes diagnostically and ensure feedback/actions appear in books where appropriate, ensuring children make any adaptations in purple pen.
- Strengthen more opportunities for teachers to use more practise learning before the children continue it in their work