Longridge High School

Curriculum Intent Science

THE BAY LEARNING TRUST

1. Vision & Purpose

- Our curriculum empowers pupils not only to know scientific facts and concepts (substantive knowledge), but to understand how scientific knowledge is created, tested, and refined over time (disciplinary knowledge).
- In our science curriculum, children do not just learn facts, they learn how science works. We teach them to think like scientists: to ask questions, carry out investigations, look closely at results, and make sense of what they find. This helps them understand that science isn't just a set of answers it's a way of exploring the world around them. We want every child to feel confident asking 'why?' and 'how?' and to enjoy discovering things for themselves.

2. Ambition for All Learners

- All pupils are provided with a broad, balanced, and challenging science curriculum.
- Support is provided for disadvantaged and SEND learners through scaffolding, practical opportunities, and differentiated resources.
- Higher-attaining pupils are stretched with extended investigations, higher-tier content, and opportunities to develop independence in scientific enquiry.

3. Knowledge & Skills Development

Pupils will:

- Learn **core scientific knowledge** across biology, chemistry, and physics: cells, forces, energy, matter, ecosystems, genetics, reactions, and the universe.
- Develop **working scientifically skills**: planning investigations, predicting, measuring, analysing data, evaluating evidence. Pupils will learn to ask meaningful questions, design fair tests, interpret results, and evaluate the reliability of conclusions skills that mirror the practices of real scientists.
- Build transferable skills: logical reasoning, problem-solving, numeracy, literacy, and critical evaluation.
- Explore ethical and real-world issues (e.g. climate change, health, technology, sustainability).

4. Sequencing & Progression

- **KS3:** foundations in all three sciences, building curiosity and key concepts through practical and theory work.
- **KS4:** knowledge revisited and deepened in preparation for GCSE, following AQA Combined Science or Triple Science pathways.
- Sequenced to ensure topics spiral, with concepts revisited at greater depth to secure mastery.

5. Literacy, Oracy & Vocabulary

- Explicit teaching of scientific vocabulary (e.g. photosynthesis, neutralisation, velocity, isotope, hypothesis)
- Structured talk routines (e.g. Turn and Talk) to support pupils in articulating scientific thinking and reasoning.

- Pupils practise explaining methods, analysing data, and constructing arguments both verbally and in writing, using sentence stems and tiered vocabulary to scaffold precision.
- Focus on extended writing (evaluations, conclusions, hypotheses) to build literacy, clarity, and scientific accuracy.
- Reading scientific texts: diagrams, and data tables to develop comprehension, inference, and critical analysis skills. Pupils are encouraged to read books that teachers recommend linked to every topic taught (science wider reading programme).

6. Enrichment & Cultural Capital

- KS3 science club, competitions, trips to enhance learning. We celebrate National Science Week to build excitement and awareness of science.

7. Cross-Curricular Links & Real-World Relevance

- Strong links with Maths (data handling, graphing, calculations), Technology (design, engineering), Geography (environment, sustainability), and Computing (data logging, coding, modelling).
- Real-world focus: climate change, health, medical science, renewable energy, forensics, space exploration.

8. Safeguarding & Online Safety

- Safe use of equipment, chemicals, and lab procedures taught explicitly.
- Risk assessments and supervision ensure all pupils can participate safely in practicals.
- Ethical discussions (e.g. genetics, medical testing, environment) delivered sensitively and responsibly.

9. Assessment & Impact

- Regular low-stakes quizzes, practical assessments, and class questioning check understanding.
- Summative assessments at KS3 are end of unit tests and at KS4 they are in line with GCSE exam structure (multiple choice, extended answers, practical application).
- Impact measured by pupil outcomes, engagement, progress in lessons, and uptake of science at post-16.
- Monitoring of groups (SEND, disadvantaged, gender) to ensure equity.