Longridge High School

Curriculum Intent Computer Science

THE BAY LEARNING TRUST

1. Vision & Purpose

- The intent is to ensure every pupil develops strong logical thinking, problem-solving and computational skills, regardless of their prior experience.
- The Computer Science curriculum aims to not only teach technical skills but also to build resilience, creativity, and independent thought so that pupils can thrive in a digital world.

2. Ambition for All Learners

- Ensure that all pupils, including those who may not see themselves as "tech-savvy," are supported to complete and achieve competence in computer science.
- Provide differentiated challenge so that pupils who excel can explore deeper theoretical and practical aspects (e.g. advanced programming, algorithm complexity).
- Ensure inclusion for pupils with SEND/EAL and provide appropriate scaffolding (tools, support) to allow full participation.

3. Knowledge & Skills Development

- Pupils will learn core computational thinking: algorithms, logical reasoning, and above all, keeping safe online.
- Progress through learning specific programming language Python and understand hardware/software fundamentals.
- Explore data representation, networks, cybersecurity, ethical use of technology (digital citizenship).
- Build skills in computational thinking, debugging, testing, and evaluation of software/hardware solutions.

4. Sequencing & Progression

- From Year 7: foundational knowledge (basic programming, logic, simple algorithms, understanding digital systems).
- Through KS3: progressively more complex programming tasks building on previous lessons knowledge and progression, introducing data, control structures, simple modelling, and user interface design.
- Into KS4: alignment with GCSE computer science requirements (theory, problem solving, programming project) ensuring pupils are ready for the final examinations.
- Frequent revisiting of key concepts (e.g. algorithms, data) to ensure retention and to build fluency over time.

5. Literacy, Oracy & Vocabulary

- Emphasis on precise terminology (e.g., "algorithm", "iteration", "variable", "syntax", "binary") so pupils develop a strong academic vocabulary.
- Use of class discussions / peer talk and learning definitions, to strengthen oracy.

6. Enrichment & Cultural Capital

- Opportunities for extra-curricular computing clubs, coding competitions.
- Integration of real-world applications: show how computer science underpins modern society (security, AI, data, app development).

7. Cross-Curricular Links & Real-World Relevance

- Links with mathematics (logic, algebra), science (computing hardware, electronics), design and technology (software/hardware design).
- Awareness of current tech in society: cybersecurity, media, digital safety, AI ethics.
- Careers education: highlight professions in software engineering, data, cybersecurity, digital services.

8. Safeguarding & Online Safety

- The curriculum includes digital safety, privacy, understanding ethical issues in computing.
- Address risks like online harassment, misinformation, safe use of digital platforms.

9. Assessment & Impact

- Use of frequent formative assessments (quizzes, peer review, coding tasks) to identify misconceptions early. KS3 have regular Microsoft form quizzes to check understanding every 6 weeks. KS4 have similar checks.
- Summative unit assessment aligned with GCSE standards (for pupils at that level).