Harper Bell SDA Primary: Approach To Computing

Intent At Harper Bell SDA School, our intent is to provide every pupil with the knowledge, skills, and confidence to thrive in a digital world. We aim to develop computational thinking, problem-solving, and creativity through a progressive curriculum that builds from early years to upper key stages. Despite limited resources, we prioritise core computing concepts—such as algorithms, programming, and digital safety—using a blend of practical and unplugged activities. Our goal is to ensure pupils become responsible, competent, and innovative users of technology, prepared for future learning and employment

Implementation

Our computing curriculum is designed to empower pupils to become confident, creative, and responsible users of technology. We follow the Raspberry Pi Foundation's Computing Curriculum, which is research-informed and structured around three strands: Computer Science, Information Technology, and Digital Literacy. Our intent is to develop computational thinking, problem-solving, and creativity through progressive units from EYFS to KS2. We prioritise online safety and inclusivity, ensuring all pupils can access high-quality computing education regardless of prior experience or resources.

Key Features of Intent: Based on national curriculum and Raspberry Pi progression framework.

Ambitious yet realistic for a low baseline.

Emphasises digital safety, creativity, and problem-solving.

Builds logical progression across year groups.

We use Raspberry Pi Foundation resources to deliver structured, engaging lessons:

KS1: Unplugged activities, simple algorithms, introduction to Scratch.

KS2: Programming with Scratch, data handling, creating media, and understanding networks.

Cross-curricular links: Use computing in science (data logging), maths (logical reasoning), and art (digital media).

Teaching Strategies Unplugged activities for algorithmic thinking when devices are limited.

Free tools: Scratch, BBC Micro:bit simulator, Raspberry Pi projects.

Differentiation: Scaffolded tasks and extension challenges.

CPD: Staff training via Raspberry Pi Foundation's free courses and Hello World magazine.

Impact

- Pupils use technology confidently, creatively and responsibly.
- They understand the principles of computation and can apply coding, digital creation and problem-solving skills independently.
- **Pupil Voice:**
  Y3"Computing lessons are fun and I learn new skills."
  Y2 "I know how to stay safe online and use technology properly."

Assessment

- Formative Assessment Occurs before and during learning. Raspberry Pi recommends: Flashbacks / Retrieval Practice: Revisiting prior concepts at the start of lessons
- Summative Assessment Occurs at the end of a unit or project. Raspberry Pi uses: Unit Markers / End-of-Unit Quizzes: Short, focused questions to check declarative knowledge (e.g., "What does a variable do?").
- Project Outcomes: Completed programs or digital artefacts demonstrate procedural knowledge. Teacher Judgement: Based on evidence from coding tasks and media projects.

Subject Knowledge, Skills and Vocabulary

Key stage 1 Pupils should be taught: understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions create and debug simple programs use logical reasoning to predict the behaviour of simple programs use technology purposefully to create, organise, store, manipulate and retrieve digital content recognise common uses of information technology beyond school use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Key stage 2 Pupils should be taught to: design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts use sequence, selection, and repetition in programs; work with variables and various forms of input and output use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

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Inclusion

Computing at Harper Bell is inclusive and prepares every child to be a digital citizen. Lessons are scaffolded with assistive technologies, varied task routes so that pupils with SEND or lower starting points access programming, digital creation and online safety confidently. Ongoing assessment and adaptive teaching ensure full curriculum access and growing independence for all.