



Computing Curriculum Intent

Our Vision

At Delta Academies Trust, our Computing curriculum is designed to empower every child to become a confident, creative, and responsible participant in a rapidly evolving digital world. We believe that computing is not just about using technology, but about understanding how it works, how to create with it, and how it impacts our lives. Our aim is to foster a deep curiosity for computational thinking and to equip our pupils with the essential knowledge and skills to thrive as digital citizens and future innovators.

Aims of Our Computing Curriculum

Our curriculum is built upon three core pillars of computing: **Computer Science**, **Information Technology**, and **Digital Literacy**. By the end of their primary journey, our pupils will:

1. **Understand and Apply Fundamental Principles of Computer Science:** Develop a strong grasp of abstract concepts such as algorithms, logic, and data representation, and apply these to design, write, and debug programs.
2. **Become Proficient Users of Information Technology:** Select, use, and combine a variety of software and digital devices purposefully to create, organise, store, manipulate, and retrieve digital content.
3. **Develop as Responsible and Confident Digital Citizens:** Understand the interconnectedness of computer networks, including the Internet, and learn to use technology safely, respectfully, and critically.

Our Curriculum Strands and Progression

Our curriculum is meticulously structured to ensure a clear and progressive journey through key computing concepts, building knowledge and skills year on year. Our Early Years curriculum doesn't explicitly teach computing, but we provide children with a strong foundation in computing through takeaways from other subjects and continuous provision areas. We weave in opportunities for them to develop the foundational knowledge and skills they need to get a head start in this important area.

- **Programming (Computer Science):**



- **Key Stage 1 (Years 1-2):** Introduction to algorithms and simple programs using physical robots (e.g., Bee-bots) and on-screen block-based environments (e.g., ScratchJr). Pupils learn about sequences of commands, basic animation, and the importance of precise instructions and debugging.
- **Key Stage 2 (Years 3-6):** Deepen understanding of programming constructs including repetition (loops, procedures in Logo and Scratch), selection (if/then/else statements, branching), and variables. Pupils design and create increasingly complex games, animations, and interactive projects, culminating in the use of physical computing devices (e.g., Micro:bit) to sense inputs and control outputs, integrating all learned constructs. Computational thinking skills such as decomposition, pattern recognition, and abstraction are explicitly developed.

- **Creating Media:**



- **Key Stage 1 (Years 1-2):** Begin to create digital content through digital photography, understanding basic composition and the idea of digital images.
- **Key Stage 2 (Years 3-6):** Progress to creating stop-frame animations, understanding frames, timelines, and media types. Pupils learn to design, create, and refine various forms of digital content.

- **Computer Systems and Networks:**



- **Key Stage 1 (Years 1-2):** Explore technology in the world around them, identifying common digital devices and their basic components.
- **Key Stage 2 (Years 3-6):** Understand how computers are connected in networks, how the Internet and World Wide Web function, and the role of hardware like routers and servers. Pupils learn about digital media sharing, web browsers, search engines, and the importance of network security.

- **Data and Information:**



- **Key Stage 2 (Years 3-6):** Pupils learn to collect, organise, interpret, and present data using data loggers (e.g., Micro:bit sensors) and spreadsheets, developing skills in data analysis and drawing conclusions.

Online Safety and Digital Citizenship: Leveraging Project EVOLVE

A crucial component of our Computing curriculum is the explicit and progressive teaching of online safety and digital citizenship. We integrate lessons and resources from Project EVOLVE to deliver a comprehensive and research-informed approach to this vital area from early years to year 6. Project EVOLVE's framework aligns directly with the UK Council for Internet Safety's (UKCIS) "Education for a Connected World" framework, ensuring our pupils receive up-to-date and relevant guidance on navigating the online world safely and responsibly.

Our curriculum covers the following key areas of online safety and digital citizenship systematically and thoroughly across all year groups:

Self-image and Identity: Understanding how identity is presented and perceived online, and managing digital footprints.

Online Relationships: Building and maintaining healthy online relationships, and recognising and reporting inappropriate contact.

Online Reputation: Understanding the permanence of online content and managing one's digital reputation.

Online Bullying: Identifying, preventing, and responding to cyberbullying.

Managing Online Information: Critically evaluating online information, recognising misinformation and disinformation.

Health, Wellbeing and Lifestyle: Understanding the impact of screen time and online activities on physical and mental health.

Privacy and Security: Protecting personal information and understanding common online security threats.

Copyright and Ownership: Understanding intellectual property, copyright, and ethical use of online content.

Through the consistent application of ProjectEVOLVE's resources, we aim to empower our pupils with the knowledge, skills, and resilience to navigate the complexities of the digital world with confidence and integrity.

Our Pedagogical Approach

We believe that effective computing education is both theoretical and practical. Our teaching methodology emphasises:

- **Hands-on Exploration:** Providing ample opportunities for pupils to experiment with a range of hardware and software.
- **Unplugged Activities:** Engaging pupils in computational thinking concepts away from screens.
- **Use-Modify-Create Model:** Encouraging pupils to first use existing programs, then modify them to understand their workings, before independently creating their own projects.
- **Logical Reasoning and Problem-Solving:** Fostering skills in predicting outcomes, identifying errors, and systematically debugging programs and algorithms.
- **Design Thinking:** Emphasising the importance of planning and designing projects before coding, including creating algorithms and considering user experience.

- **Addressing Misconceptions:** Proactively identifying and tackling common misunderstandings to build a solid foundation of knowledge.
- **Vocabulary Development:** Explicitly teaching and reinforcing precise computing terminology.

Impact: Our Digital Learners

By the time our pupils leave, they will be:

- **Confident Programmers:** Able to design, write, and debug programs using a variety of constructs and apply computational thinking to solve problems.
- **Informed Digital Citizens:** Equipped with the knowledge to use technology safely, responsibly, and critically, understanding its impact on society.
- **Creative Innovators:** Capable of creating diverse digital content and expressing themselves through technology.
- **Logical Thinkers:** Developed strong analytical and problem-solving skills applicable across the curriculum and in everyday life.

Our Computing curriculum aims to inspire a lifelong engagement with technology, preparing our pupils not just for the next stage of their education, but for an increasingly digital future.