

OAK Trust Computing Curriculum

Intent

At OAK Trust, our computing curriculum aims to equip pupils with the knowledge, understanding and skills to become confident, creative and responsible users of technology. Rooted in the National Curriculum and informed by the National Centre for Computing Education (NCCE) Teach Computing Curriculum, it develops pupils' understanding of computer science, information technology and digital literacy through a carefully sequenced and progressive approach.

Our curriculum builds on practical, play-based foundations in the EYFS, preparing children for formal computing education in Key Stage 1. We aim to develop curious, independent and resilient learners who can think logically, solve problems, use technology purposefully and participate safely and responsibly in an increasingly digital world.

Our curriculum aims:

- **To develop secure knowledge and understanding of computing:** Pupils develop an understanding of computer systems, networks, algorithms, programming and data, building the foundational knowledge needed to understand how digital technologies work.
- **To develop computational thinking and problem-solving:** Pupils learn to think logically, break problems into manageable parts, design algorithms, create and debug programs, and apply their understanding to increasingly complex challenges.
- **To foster creativity and purposeful use of technology:** Pupils develop the knowledge and skills to select and use digital tools effectively, creating, organising, manipulating and evaluating digital content for different purposes.
- **To develop confident and responsible digital citizens:** Pupils learn to use technology safely, respectfully and ethically, developing an understanding of online risks, privacy, digital information and how to seek help when needed.
- **To inspire curiosity, independence and resilience:** Pupils are encouraged to explore, question and evaluate digital technologies, developing the confidence and adaptability to engage with new and emerging technologies.

Implementation

Our computing curriculum draws on four key content areas from the NCCE Teach Computing Curriculum:

- **Computing systems and networks:** Understanding digital devices, computer systems, networks, the internet and how information is communicated.
- **Programming:** Developing understanding of algorithms, sequencing, repetition, selection and variables through designing, creating, testing and debugging programs.

- **Creating media:** Using digital tools to create, edit, combine and evaluate content for different purposes and audiences.
- **Data and information:** Understanding how data is collected, organised, represented, analysed and used.

Units have been carefully selected and adapted to reflect our schools' context and digital provision, while ensuring sufficient breadth, coherent progression and coverage of the National Curriculum. Learning follows a spiral approach, enabling pupils to revisit key concepts, build on prior knowledge and apply their understanding with increasing complexity.

In the EYFS, children develop foundational computing related knowledge and skills predominantly through practical, play-based and screen-free provision. Opportunities to explore patterns, sequencing, instructions and problem-solving prepare children for Key Stage 1. In the summer term, children are introduced to programmable robots through the *Moving a Robot* unit, developing their understanding of simple algorithms and instructions through hands-on exploration using 'Beebots'.

From Year 1, pupils develop their computing knowledge through explicit teaching and practical application. Use of shared iPads in Year 1 and individual iPads from Year 2 support opportunities to develop digital fluency, create content and apply learning independently. Computing is taught through dedicated lessons, with purposeful cross-curricular links, including music, where these enhance learning.

Teaching is informed by the NCCE's pedagogical principles, including explicit modelling, accurate subject vocabulary, unplugged activities, practical programming and collaborative problem-solving. Regular retrieval, practice and assessment help pupils secure their understanding and address misconceptions. Learning is appropriately scaffolded to ensure all pupils can access the curriculum.

Online safety, security and responsible digital behaviour are embedded throughout computing and reinforced through the wider curriculum, including PSHE, enabling pupils to learn how to use technology safely, critically and respectfully.

Impact

By the end of Key Stage 2, pupils will have developed secure foundations in computer science, information technology and digital literacy. They will be able to apply computational thinking to solve problems, design and debug programs, understand key aspects of digital systems and use technology creatively and purposefully.

Pupils will demonstrate confidence, independence and resilience when working with technology, alongside an understanding of how to use it safely, responsibly and critically. They will be well prepared for further study at Key Stage 3 and for participating effectively in an increasingly digital world.