Computing
At Fawkham CEP School

Intent and Implementation:

At Fawkham we provide a quality computing education that equips children to use computational thinking and creativity to understand and change the world, gaining independence, confidence and enjoyment along the way. We do so with a progression framework of skills and knowledge that allows the pupil to make the necessary connections within their learning as they progress through the Computing Curriculum, building upon the skills learned in previous units. Along with the discrete teaching of computing, we use computing to enhance other curriculum areas, using technology to support learning across the entire curriculum and ensuring our curriculum is accessible to every child. Computing at Fawkham ensures that children become digitally literate – at a level suitable for the future workplace and as active participants in a digital world. Not only do we aim for our children to be digitally literate users of technology, but throughout computer science lessons we want them to develop resilience, problem-solving and critical thinking skills. We want out pupils to become members of a wider global community as well as responsible digital citizens.

Here at Fawkham, we have chosen to use a scheme of work from the DfE funded Teach Computing scheme. This ensures a broad and balanced curriculum which shows clear progression of skills, knowledge and understanding through the areas of Computer Science, Information Technology and Digital Literacy. These are categorised into 10 strands outlined within the Teach Computing Taxonomy, including: Networks, Creating Media, Data & Information, Design & Development, Computing Systems, Impact of Technology, Algorithms, Programming, Effective Use of Tools and Safety & Security. We teach these in an order to suit the needs of our mixed-age classes, ensuring skills are developed and built on each year. Each unit has an opportunity for assessment, which is used to identify insecure pre-requisite knowledge that is required before new content is taught. This is then used to inform planning. Within lessons, teachers use of-the-moment assessment to identify children's needs and ensure these are met. All areas of children's progression in skills are assessed, not just their final outcomes – we consider the process and build up on their learning journey within each unit. Use of Steps to Success each lesson allows children to recognise what they need to do to achieve within the subject.

Children are challenged through high-quality questioning matched to their ability, extending their understanding and allowing them to 'dig deeper' within the topic. Children are encouraged to recognise the links between our computing curriculum and their lives at home, school, within businesses and consider its impact. They recognise where computing sits within the wider world. We also make frequent links between computing and other areas of the curriculum, including maths. Teachers are provided with a clear overview of the maths skills children require to access the computing content; this is outlined within a maths connections document. Effective pedagogy is expected within computing and teachers use a 'my turn, your turn' ping pong approach, guiding the children and providing structured models throughout with the use of video and teacher demonstration. Children are then encouraged to work independently to apply their knowledge and practise the skill.

Teachers are supported within their teaching of the computing curriculum through training from the computing lead, who attends computing training. Teach Computing also offer a range of training linked with each unit. Due to being a small school, we are able to frequently discuss strategies for teaching particular units though informal discussions.

We ensure that knowledge and skills are embedded through the use of 'flashback' sticky knowledge starter activities covering prior units. Children's learning is evidenced through class learning books as well as within Pupil Shared Drives and online tools such as Scratch. This evidence is used to inform future planning and to recognise progression in our children's work. Using the Teach Computing scheme ensures the essential declarative and procedural knowledge is embedded, allowing our children to use hardware and software effectively. There are clear goals for the programming knowledge children are expected to develop and the learning journey within each unit ensures children learn the knowledge they need to be confident when using applications. Knowledge organisers linked with the scheme clearly outline the curriculum content that is essential for all pupils to secure before moving on. Our SEND children join in with Computing lessons and are exposed to curriculum content, with teachers working with children and adapting questioning to ensure they can get the most out of each unit.

This scheme suits the needs of our children as it incorporates internet safety within lessons. In addition, we use internet safety plans from Project Evolve to enhance the scheme, outlined within the Internet Safety Long Term Plan. These activities will be woven throughout our computing curriculum as starter activities within each lesson as well as whole lessons incorporated into the unit of teaching with the aim of embedding and reinforcing the key online safety messages taught within our RSE/PSHE curriculum. Our Wellbeing Child Leadership Team also work to reiterate the importance of online safety and are key ambassadors across the school.

Implementation

We have created a comprehensive progression document for staff to follow to best embed and cover every element of the computing curriculum. The knowledge and skills statements build year on year to deepen and challenge our learners. Computing is taught weekly and covers all aspects of the National Curriculum through our use of Teach Computing, a scheme created by subject experts and based on the latest pedagogical framework. The progression framework organises computing content, substantive and disciplinary knowledge, skills and objectives into interconnected frameworks. Our teaching of the scheme is adapted to suit the need of our mixed-age classes and learning journeys are frequently evaluated following start of unit assessments and frequent of the moment assessment.

Year	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year R	Children in EYFS will have access to a range of technology to explore through their play. They will have access to a range of hardware including an IWB and laptops, developing knowledge of how to use a keyboard and mouse. They are familiarised with devices (such as robots) to complete simple programmes, allowing them to gain knowledge of how to use devices and programs more widely used in KS1. They will be able to make choices and select suitable devices and programs for a purpose. They develop their knowledge of sequence by describing events using time connectives. They explore online safety or dilemmas through listening to stories and joining in with internet safety week.					
KS1 Cycle A	Computing systems and networks Technology around us (Y1) DL & IT Internet Safety: Teach Computing ▲	Computing systems and networks Information and technology around us (Y2) DL & IT Internet Safety: PSHE curriculum Internet Safety: Teach Computing ▲	Creating media Digital painting (Y1) IT Internet Safety: Project Evolve - online reputation ▲	Creating media Digital writing (Y1) DL & IT Internet Safety: Teach Computing ▲	Creating media Digital photography (Y2) DL & IT Internet Safety: Teach Computing ▲	Creating media Making music (Y2) IT
KS1 Cycle B	Programming A Moving a robot (Y1) CS & DL Internet Safety: Project Evolve - copyright and ownership ▲	Programming B Programming animations (Y1) CS & IT Internet Safety: PSHE curriculum ▲	Programming A Robot algorithms (Y2) CS & IT Internet Safety: PSHE curriculum	Programming B Programming quizzes (Y2) CS Internet Safety: PSHE curriculum ▲	Data and information Grouping data (Y1) DL & IT Internet Safety: Teach Computing Internet Safety: PSHE curriculum ▲	Data and information Pictograms (Y2) DL & IT Internet Safety: Teach Computing ▲

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LKS2 Cycle A	Computing systems and networks Connecting computers (Y3) CS & IT Internet Safety: Project Evolve - online reputation (1-4) 🔺	Computing systems and networks The internet (Y4) DL & IT Internet Safety: Teach Computing Internet Safety: PSHE curriculum 🔺	Creating media Stop frame animation (Y3) DL & IT	Creating media Desktop publishing (Y3) IT	Creating media Audio production (Y4) DL & IT	Creating media Photo editing (Y4) DL & IT Internet Safety: Teach Computing Internet Safety: PSHE curriculum 🔺
LKS2 Cycle B	Programming A Sequencing sounds (Y3) CS & IT	Programming B Events and actions in programs (Y3) CS & IT Internet Safety: PSHE curriculum 🔺	Programming A Repetition in shapes (Y4) CS & IT Internet Safety: Project Evolve - copyright and ownership 🔺	Programming B Repetition in games (Y4) CS	Data and information Branching databases (Y3) IT	Data and information Data logging (Y4) CS & IT Internet Safety: PSHE curriculum 🔺

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Year	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
UKS2 Cycle A	Computing systems and networks Systems and searching (Y5) CS & DL & IT Project Evolve: self-image and identity 🔺	Computing systems and networks Internet communication (Y6) CS & DL & IT Internet Safety: Teach Computing 🔺	Creating media Video production (Y5) Dl & IT	Creating media Vector drawing (Y5) IT Internet Safety: PSHE curriculum 🔺	Creating media Webpage creation (Y6) DL & IT Internet Safety: Teach Computing 🔺	Creating media 3D modelling (Y6) DL & IT Project Evolve: online reputation (5-9) 🔺
UKS2 Cycle B	Programming A Selection in physical computing (Y5) CS & IT	Programming B Selection in quizzes (Y5) CS & IT Internet Safety: Project Evolve - online bullying 🔺	Programming A Variables in games (Y6) CS & IT Internet Safety: PSHE curriculum 🔺	Programming B Sensing (Y6) CS & IT Internet Safety: PSHE curriculum 🔺	Data and information Flat-file databases (Y5) IT	Data and information Introduction to spreadsheets (Y6) IT Internet Safety: Project Evolve - health, wellbeing and lifestyle 🔺

Key	
Safeguarding - 🔺 PSHE curriculum coverage Project Evolve Teach Computing	Programming Data and Information Creating Media Computer Systems and Networks

Impact

- ➢ children develop computational thinking skills and levels of creativity within computing
- ➢ children demonstrate an enjoyment of computing, gaining independence within lessons
- ➢ children are digitally literate
- ➢ children are prepared to be active participants in the digital world
- ➢ children show resilience when problem solving and use critical thinking skills
- ➢ children can choose the most efficient strategies to complete a task or find solutions
- ➢ children can recognise and explain the links between computing and their lives at home, school, within businesses and consider its impact over time within the wider world
- ➢ children can work increasingly independently to apply their knowledge and practise skills
- ➢ children are able to retain knowledge throughout the curriculum, building on skill progression and using prior knowledge to support current learning
- ➢ children know how to use hardware and software effectively
- ➢ children can identify connections between all stands of computing: digital literacy, computer science and internet technology
- ➢ children can apply learning from other subjects to support their computing work and identify its relevance
- ➢ children have the knowledge they need to confidently use applications and programs
- ➢ children are responsible digital citizens and understand the importance of internet safety
- ➢ children know and can explain how to be safe online and identify their trusted adults
- ➢ children make progress in their computing learning from their level
- ➢ children use computational terminology accurately within written and verbal answers
- ➢ children demonstrate automaticity of key skills required