



Computing



Intent

Our computing curriculum is designed to progressively develop children's skills. This takes place in discretely taught lessons. Our curriculum is inclusive and ambitious and supports all pupils to access the learning through carefully selected, progressive content. We aim to develop children's computational thinking skills, knowledge of computer science concepts and application of digital literacy skills. Our children use information technology to create digital content that enables them to express themselves and develop their ideas as active participants in a digital world. Underpinning our approach is a commitment to the teaching of how to use technology safely and respectfully. Learning and teaching within the computing curriculum empowers children to become digitally confident in their daily lives which helps to prepare them to become independent users of technology beyond the classroom.



Implementation

Our curriculum meets all requirements of the National Curriculum. To support our teachers to deliver the curriculum we use 'Teach Computing' created by the Raspberry Pi Foundation. All units are structured to be coherent, where concepts and skills are based on prior learning and experiences. There are various strands of knowledge taught; Algorithms, networks, systems, creating media, data and information, design and development, effective use of tools, technology impact, programming and safety and security. We understand that computing is a broad discipline, therefore we use a range of strategies in each lesson, such as leading with concepts, working together, using hands on experiences, challenging misconceptions and modelling everything expertly. Additionally, teachers are supported by the computing lead through team teaching and coaching.



Impact

Pupils demonstrate excellent understanding of important concepts in all strands of the computing curriculum and can make connections within the subject. They have highly developed transferable knowledge, skills and understanding. Teaching and learning empowers pupils to be content creators, not just content consumers. Pupils across the school show high levels of originality, imagination, creativity and innovation in their understanding and application of skills in computing. Teachers make formative assessments in lessons through observational assessment and recording work progress using QR codes in books to evidence the work created.



Progression

The units are based on a spiral curriculum. Each theme is revisited regularly, so that pupils can consolidate and build on prior learning. This style of design reduces the amount of knowledge lost through forgetting. All learning objectives have been mapped to specific strands, which ensure that units build on each other from one key stage to the next. Every year group learns through units within the same four themes; Computing systems and networks, programming, data and information and creating media. Learning graphs are provided as part of each unit and demonstrate progression through concepts and skills. In order to learn these, pupils develop the prior knowledge of others, so certain concepts and skills are taught first.



Enrichment

Pupils have many enriching opportunities as part of the wider curriculum. Our enrichment club provision includes a coding club where children with interests in computer science are able to further pursue their passions with code and robotics. Relationships with local companies allow us to invite specialists in to meet with children, and to visit their places of work to inspire our pupils to consider a career in computing. We also have links with Other academies to run an architecture programme, using computer science.



Computing Year Group Map



Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	Children will have opportunities to use computational thinking such as tinkering, creating, collaborating, persevering, logic, pattern, abstraction and algorithms and decomposition in continuous provision activities.					
Year 1	Technology around us		Moving a robot	Grouping data	Digital Writing	Programming animations
Year 2	Information Technology around us	Digital photography	Robot algorithms	Pictograms	Making Music	Programming quizzes
Year 3	Connecting Computers	Stop-frame animation	Sequencing sounds	Branching databases	Desktop publishing	Events and Actions in programs
Year 4	The Internet	Audio Production	Repetition in shapes	Data logging	Photo editing	Repetition in games
Year 5	Sharing Information	Video production	Selection in physical computing	Flat File databases	Vector drawing	Selection in quizzes
Year 6	Internet Communication	Webpage creation	Variables in games	Introduction to spreadsheets	3D modelling	Sensing