



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 and assessments via floorbooks and QR codes.



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. Throughout the year, KS2 have the opportunity to visit technology-rich environments as part of their computing education. On these trips, children are exposed to the career opportunities within computing and the technological advances that are made within the field. Digital safety is a priority for MPA, as a result, bespoke workshops are given to our children from reputable company each year to celebrate safer internet day. The teachings from these sessions continue to be reinforced throughout the year, to ensure the knowledge of digital safety is embedded. As part of this reinforcement of MPA are also welcomed for an annual Digital Safety Coffee Morning, to ensure they have the knowledge to support their children in being safe online, outside of school.



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	Continuous provision	Computing systems and networks- Technology around us	Creating media-Digital painting	Programming A- Moving a robot	Data and Information – Grouping data	Creating Media- Digital writing
Year 2	Computing Systems and Networks- Information Technology around us	Creating Media- Digital photography	Programming A- Robot algorithms	Data and Information- Pictograms	Creating Media- Digital music	Programming B- Programming quizzes
Year 3	Computing Systems and Networks- Connecting Computers	Creating Media-Stop-frame animation	Programming A- Sequencing sounds	Data and Information- Branching databases	Creating Media-Desktop publishing	Programming B-Events and actions in programs
Year 4	Computing Systems and Networks- The Internet	Creating Media-Audio Production	Programming A- Repetition in shapes	Data and Information- Data logging	Creating Media-Photo editing	Programming B- Repetition in games
Year 5	Computing Systems and Networks- Sharing Information	Creating Media- Video production	Programming A-Selection in physical computing	Data and Information- Flat File databases	Creating Media- Introduction to vector graphics	Programming B- Selection in quizzes
Year 6	Computing Systems and Networks- Communication and collaboration	Creating Media- Webpage creation	Programming A-Variables in games	Data and Information- Spreadsheets	Creating Media- 3D modelling	Programming B- Sensing