



## ST. ANDREW'S COMPUTING CURRICULUM

### COMPUTING CURRICULUM INTENT

At St Andrew's, our Computing Curriculum is designed to ensure opportunities for all children to enjoy a practical, engaging, knowledge rich and skills focused learning journey. Through a rich and varied exposure to a range of computer systems, all children at St. Andrew's will be equipped to make best use of the technology that is a part of everyday life. They will develop the skills, knowledge and understanding of computing that will form the foundation of a lifelong participation in a digital world and enable them to look at systems and problems with creativity and resourcefulness.

Learning will be practical, using programming to demonstrate the skills that they have learned and applying them to meaningful and creative problems that are both useful and enjoyable.

By the end of their time at St Andrew's, our children will be digitally literate and able to creatively develop, use and share their skills as active participants in a digital world. They will be able to evaluate the usefulness and appropriateness of the technology at their disposal, developing the skills to enjoy using technology to enhance knowledge and well-being, both their own and that of the world around them. They will know how to access digital resources to further their interests and skills, and understand how to interact online in ways that are safe and respectful.

# COMPUTING CURRICULUM IMPLEMENTATION

Computing is concerned with how computers and computer systems work, and how they are designed and programmed.

Through a broad and balanced Computing Curriculum at St Andrew's, children gain an understanding of computational systems of all kinds, whether or not they include computers. They learn about the ideas and principles that underpin our digital world and how to use this to program solutions to problems. Foundational to this is a curriculum built on computational thinking and creativity which will enable our children to understand the world around them and themselves be a force for positive change. Where children need support, pair work, TA or teacher support or adapted work are given. Pupils are able to achieve greater depth through developing more complex code, beginning to use text coding or extending projects and concepts to develop problem solving.

Through the Computer Science part of the curriculum, they develop a distinct way of thinking, applicable to a variety of disciplines and subject areas. The children engage with computing through topics already being studied in class or real-life problems that they have generated themselves. Invention and resourcefulness are encouraged as children learn to seek their own solutions to problems, both real and imagined.

Through the knowledge and use of information technology they will apply their computing knowledge and skills to real-world problems, finding out and sharing information, reviewing, modifying and evaluating their work from across the curriculum. As well as practical and creative elements, our curriculum aims to develop children's understanding of how the technology at their disposal works and to be able to do so safely.

By the end of Year 6, children will leave St Andrew's with an understanding of the difference between the Internet and the World Wide Web, be efficient at searching and using the knowledge at their fingertips, and be able to make informed choices about which software to use for any given task. They will have developed their computational thinking to a level that enables them to apply their programming skills to a range of problems, technologies and programming situations that they will encounter in secondary school, in pursuing their own interests and beyond.

Computer Science is taught between class teachers and a PPA teacher. Ongoing training and support by the computing lead will ensure that all teachers are up to date and equipped to deliver a varied and engaging curriculum. The 'Teach Computing' curriculum (produced by the National Centre for Computing Education) is used throughout with some units adapted to best fit the resources and pupils at St Andrew's.

Curriculum enrichment is in the form of access to extended projects, especially via Scratch, the online block coding software. Through Google Classroom, pupils have access outside lesson time to all elements of the computing curriculum and are encouraged to extend their work, should they wish. Teachers share this work with the cohort to highlight good practice and extended learning. This is especially valuable in computing since many children who find traditional written based subjects challenging, shine when it comes to the computational based thinking that embeds our curriculum. In Year 6 Digital Leaders are able to develop their skills further according to their specific interests - coding, computer science or IT skills. Extra resources are available (for example B:Bit robot) to extend learning outside the classroom.

## COMPUTING CURRICULUM IMPACT

To measure the impact and ensure that children at St. Andrew's are equipped with the computing skills, knowledge and understanding that will enable them to embrace existing and yet-to-be-developed technologies, there will be ongoing monitoring and evaluation by the computing lead including monitoring of timetabling and completed work via Google Classroom, lesson observations, pupil interviews, newsletter spotlights and governor monitoring.

Assessing computing uses a variety of strategies: final assessed projects using the assessment criteria in the Teach Computing units or an exit ticket in the form of a Google Forms which covers the main learning objectives in each unit. Evidence will be in the form of digital portfolios of work. Children will reflect at the end of the topic to see what they have achieved and annotate their own work digitally where possible. This will work alongside the St Andrew's skills and progression ladder to ensure that learners are achieving at the highest level possible.

The Computing Lead will monitor the effectiveness of the computer science element of the curriculum through ongoing pupils' self-evaluation, peer assessment and discussions and reflection at the end of topics to ensure the breadth and depth of the curriculum is being covered. Prior learning will be checked at the beginning of each topic to monitor the effectiveness of skills progression.

IT and digital literacy will be monitored by the Computing Lead across the school. This will include ensuring that the skills and progression ladder is followed across the school through regular monitoring of planning, and collecting evidence through pupil interviews and learning walks and drop-ins.

Regular evaluation of hardware and training needs will ensure that teaching staff are resourced to deliver an engaging and high-quality computing curriculum that is creative and relevant. Regular audits will ensure that the school has relevant resources to motivate children and provide a context where their learning is brought to life.