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Introduction

Computing teaches pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Intent

The National Curriculum for computing aims to ensure that all pupils:

- Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.
- Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.
- Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- Are responsible, competent, confident and creative users of information and communication technology.

Computing at St James' intends to develop 'thinkers of the future' through modern, ambitious and relevant education in Computing. We want to equip our pupils with the ability to use computational thinking and creativity that will enable them to be active participants in the digital world. It is important to us that pupils have confidence using technology and that they understand how to use this ever-changing technology to express themselves, as tools for learning and as a means to drive their generation forward into the future. Our computing curriculum enables all children to become responsible, competent, confident and creative users of information technology.




Implementation

Our computing scheme is based on the Purple Mash Computing Scheme of Work. The units cover the three key areas of: computer science, information technology and digital literacy. In addition to this, we support our teaching of programming using carefully selected units from Teach Computing. These have been created by the National Centre for Computing Education (NCCE).

Computing at St James' is taught using a discrete lesson approach to allow the specific skills being taught to be focused on. This is important to allow children to master each skill they encounter. Each unit is focused around a theme which will cover one or more of the National Curriculum statements.



The units for key stages 1 and 2 are based on a spiral curriculum. This means that pupils revisit themes to consolidate and build upon prior learning within that theme.

-  Computer Science
-  Information Technology
-  Digital Literacy

We integrate the early years resources from Purple Mash into the day-to-day routine and set-up of our early years setting with opportunities for using Mini Mash or Purple Mash to support children in working towards early learning goals.

In addition:

- Children are taught to be safe users of technology through digital literacy computing lessons, PSHE lessons and discrete e-safety lessons supported by Project Evolve. These support children in considering areas such as online bullying; privacy and security; copyright and ownership; and managing online reputations.
- The skills and knowledge developed through the computing curriculum can be applied to other areas of the primary curriculum including: art, design technology, maths and music.
- The progression of skills document sets out the key skills and knowledge that it is important for all children to have by the end of the unit.

Impact

At St James' First School, we aspire to equip all our pupils with the computing skills necessary to ensure that they are ready for the curriculum at upper key stage two and broaden their horizons to impact their lives and future. In order to achieve this, we will ensure that skills build on those that have been attained in previous years to consolidate and build on them as they move through the school. Assessment takes place using formative strategies such as asking challenging questions; verbal and written feedback; observation of children's work and self and peer assessment. The progression of skills document identifies the key skills and knowledge for each unit and supports teachers in making judgements after teaching each unit. By the time Year 4 children leave St James', they will use these skills and a range of tools to complete a range of computing tasks creatively, independently and safely. They will use digital and technological vocabulary accurately and as a result be confident and respectful digital citizens going on to lead happy and healthy digital lives.