



Computing Policy

To follow in Jesus' footsteps, caring for each other when we work, play and pray.

What is Computing?

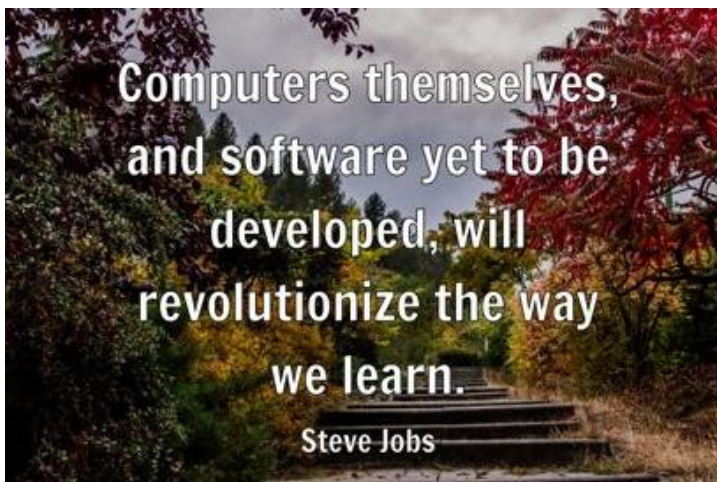
A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer 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.

This view is reinforced by research into the teaching of computing in schools, which states:

...computing education is considered to be important, because it has social, cultural and economic benefits. Through computing education, pupils can learn 'powerful knowledge', enabling them to become informed and active participants in our increasingly digital society.

...digital technology is driving extraordinary global changes that some are calling the Fourth Industrial Revolution. Navigating these changes effectively and safely requires a significant understanding of digital literacy, information technology and computer science. This knowledge is also crucial if business, industry and individuals are to exploit the opportunities offered by this revolution.

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Aims and Objectives

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 is an everyday part of 21st Century life; therefore, it is vital that pupils are provided with opportunities to learn to use skills with competence and confidence.

Computing at St Joseph’s Catholic primary School...



Intent

Our knowledge-rich curriculum aims to stimulate and promote children’s curiosity and understanding of the world. The school’s Catholic ethos strives to create a learning environment where children from all backgrounds are encouraged and enabled to develop to their full and unique potential as human beings, made in the image and likeness of God. Children are taught tolerance and a commitment to supporting each other within lessons. We are committed to promoting resilience amongst our pupils and developing their independent learning skills. Pupils’ awareness and understanding of gender, spiritual, moral, cultural and social issues are also promoted through learning and their rights and responsibilities when online. It ensures they know what to do if they have concerns about anything they encounter online, and how to be safe, responsible and respectful when using the internet. Equally, our curriculum provides opportunities for learners to apply their evolving knowledge creatively, becoming fluent and imaginative in their mastery of computing. The teaching of the computing curriculum at St Joseph’s Catholic Primary is designed to enable all pupils to have a thorough and ambitious education, equipping them to use technology, computational thinking and creativity to understand and change the world. It is now more important than ever that children understand how to use technology positively, responsibly and safely, and that they see good models of this.



At St. Joseph's Catholic Primary School, we recognise that all children have rights as outlined in the UN Convention. As duty bearers, we have the responsibility to respect these rights and are committed to supporting our children through their education and to ensure that they are rights-holders.



We aim to provide our pupils with:

- the ‘right to find out things and share what they think with others by talking, drawing, writing or in any other way unless it harms or offends other people’ as stated in Article 13.
- The right to ‘get information that is important to their well-being from radio, newspapers, books, computers and other sources. Adults should make sure that the information they are getting is not harmful and help to find and understand the information that is needed’ as stated in Article 17.
- The right to ‘be protected from being hurt and mistreated, in body or mind’ as stated in Article 19.

- The right to ‘a good quality education. Children should be encouraged to go to school to the highest level they can’ as stated in Article 28.
- The right to ‘have an education that helps them use and develop their talents and abilities. It should also help them learn to live peacefully’ as stated in Article 29.

Curriculum -

Children are taught computing across the three main content areas to develop their knowledge:

- Computer science (programming and understanding how digital systems work),
- Information technology (using computer systems to create, store, retrieve and send information)
- Digital literacy (evaluating digital content and using technology safely and respectfully).

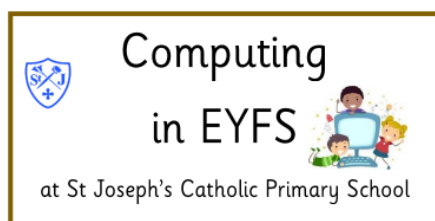


By the end of Year 6, it is our intention that all pupils will be able to:

- understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- be responsible, competent, confident and creative users of information and communication technology
- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Implementation

Computing is taught in each year group weekly in the ICT suite however, all children also have access to iPads and have two iPad slots a week to encourage the application of Computing skills across the wider curriculum. All staff follow the Chris Quigley milestones to ensure that lessons are carefully sequenced and progressive. Although computing is not part of the latest statutory framework for the Early Years Foundation stage, Early Learning Goals are used to inform where planned learning opportunities can help to underpin learning for the national curriculum.



We have focused computing sessions that will support children's independent learning and skills to use the computers. We also use iPads in the classroom with relevant age-related Apps to support learning. The children are exposed to different 'technology' resources in their role play and activities i.e. cameras, keyboards, kettles...

Staff Development

St. Joseph's is aware of the need to maintain and develop staff Computing competence. When necessary, training will be offered to meet staff needs, provided by outside agencies or the Computing leaders. This will take the form of course attendance, school-based sessions, together with informal one to one support and advice.

Maintenance, Repair and Replacement of Equipment

The school employs an ICT technician to help with maintenance or repair issues. The school's staff report any problems by logging concerns via our Multi-Academy IT email address.

Online Safety

The School operates an 'Online Safety' policy to monitor inappropriate ICT usage for both staff and pupils. This policy has been shared with the Academy Committee, staff, parents and pupils. Online Safety training is also supported via external speakers to pupils, staff and parent workshops.

Monitoring and Review

The monitoring and reviewing of Computing will be the responsibility of the Senior Leadership Team and the Computing Leaders. This could be in the form of observing teaching, learning walks, reviewing planning, pupil interviews and monitoring of pupils' work. The work of the Computing leader will involve ensuring that school is kept abreast of developments within this subject and that these are reflected within school development plans. This policy is monitored by the Local Governing Body and will be reviewed every two years, or before if necessary.

Equal Opportunities

The computing curriculum is accessible to all pupils, regardless of race, gender, class, culture or disability. All pupils will be given equal opportunities to develop their learning capabilities to their full potential. Where visits or workshops are planned, consideration will be given to the accessibility of the activities for all children, to prevent any discrimination as laid down by the Disability Act.

Resources

St Joseph's recognises the need to organise and purchase high quality resources and organise them efficiently. In particular, the school has the following:

- Computer suite with 32 desktop computers
- Interactive boards in every classroom, which also enable video conferencing opportunities
- Interactive voting system
- 30 iPads and 14 class teacher iPads
- Headsets and microphones
- Beebots and Mirobits to allow opportunities for physical computing
- A wide variety of apps