# The Quality of Education:
# Computing - Purpose and Provision

**St Christopher's:**
A Church of England Academy

That person is like a tree planted by streams of water,
which yields its fruit in season
and whose leaf does not wither-
whatever they do prospers.

Psalm 1:3

# The Purpose of Study

> "Those who can imagine anything, can create the impossible."
> Alan Turing

Computing equips pupils with the knowledge, skills and understanding to engage confidently with a rapidly changing digital world. Our curriculum develops strong digital literacy so that pupils can use technology effectively, communicate ideas clearly, and evaluate digital tools, information and systems with increasing independence. It also ensures pupils understand how to work safely, respectfully, responsibly and securely online, including protecting personal data, managing identity and privacy, and recognising and reporting harmful or inappropriate behaviour.

Across the curriculum, pupils learn the fundamental principles of computer science, including abstraction, decomposition, logic, algorithms and data representation. They are taught to analyse problems computationally, design solutions, write and debug programs, and apply mathematical and logical reasoning to real-world challenges. Pupils use a range of programming languages, data structures and paradigms to build modular, efficient and effective solutions.

The subject also develops pupils' understanding of how digital systems are built, how hardware and software interact, and how technology affects individuals, organisations and wider society. Through this, pupils become thoughtful, creative and critical users and makers of technology, ready for further study, future employment and active participation in a digital society.

# Complementing the School Purpose

## Foundation Scripture

**"Like a tree planted by streams of water…" -** Our Computing curriculum is intentionally designed to cultivate pupils who are confident, resilient and responsible participants in an increasingly digital world. Like a tree that is carefully planted and nurtured, pupils are supported through a curriculum that develops both technical competence and strong moral character. Through high-quality teaching, modern hardware and software, and a culture rooted in Christian values, pupils are equipped with the knowledge, discipline and confidence needed to flourish in a technology-driven society.

**'Which yields its fruit in season…' -** The curriculum provides pupils with the foundational knowledge and transferable skills needed to grow over time. Through computational thinking, programming, digital literacy and cyber security, pupils develop the ability to solve problems creatively, logically and independently. Learning is carefully sequenced so that pupils build secure understanding before progressing to more advanced concepts and applications. At KS4 and KS5, pupils are able to deepen their knowledge further through rigorous academic study that prepares them for higher education, apprenticeships and careers within the digital and technological sectors.

**'Whose leaf does not wither' -** In a world where technology is constantly evolving, we aim to develop pupils who are adaptable, safe and discerning users of digital systems. Pupils are taught how to use technology responsibly, respectfully and securely, including understanding online safety, cyber security, digital identity and the ethical implications of technology. Our curriculum supports pupils pastorally as well as academically, ensuring they develop resilience, confidence and integrity alongside technical expertise.

**'Whatever they do prospers.' -** Ultimately, the Computing curriculum seeks to empower every pupil to thrive. By developing digital literacy, computational thinking and practical technological skills, pupils are prepared not only for examinations, but for lifelong participation in the modern world. We aim for pupils to leave the department as thoughtful, capable and ethical individuals who can use technology to contribute positively to their communities, workplaces and wider society.

## Key Themes

### Importance *(Knowing what it is to be fully alive)*:

Computing helps pupils to flourish in a digital age by giving them the knowledge, confidence and agency to participate fully in modern life. It equips them to understand the systems, devices and technologies that shape everyday experience, while also helping them to use these tools purposefully, creatively and responsibly.

At its heart, Computing is a practical and imaginative subject. Pupils are taught to think computationally, solve problems logically, and create digital solutions with real purpose. They learn that technology is not simply something to consume, but something they can understand, shape and use to express ideas, solve problems and improve the world around them.

Through this, pupils develop the skills needed to be active, informed and capable members of a rapidly changing society. They are enabled to make wise choices, use technology well, and engage confidently with the opportunities and challenges of the digital world.

## The 'wider context' *(Learning to live well together)*:

Computer systems have a profound influence on the way people live, work, communicate and relate to one another. Computing therefore gives pupils an important lens through which to explore questions of responsibility, ethics and community.

Pupils are encouraged to think carefully about the social and moral implications of technology, including privacy, identity, bias, misinformation, inclusion and digital wellbeing. They are taught to evaluate online content critically, recognise risks, and understand how to use technology safely, respectfully and securely.

The subject also raises important questions about the relationship between people and machines, the nature of intelligence, the impact of automation, and the ways technology shapes culture, creativity and human interaction. In doing so, Computing helps pupils to consider not only what technology can do, but what it should do.

This fosters a community of learners who are thoughtful, discerning and respectful, able to work well with others and contribute positively to a connected world.

## Discipline *(Securing wisdom and understanding)*:

Computing is a disciplined academic subject with enduring value. It gives pupils access to a body of knowledge and a way of thinking that remains relevant beyond specific devices, software or trends. As technology changes, the underlying principles of Computing remain stable: abstraction, decomposition, logic, algorithms, data representation and the design of digital systems.

Pupils are taught to apply these principles with rigour and precision, building secure understanding that can be transferred to new and unfamiliar contexts. They learn to analyse problems carefully, design effective solutions, and use programming and mathematical reasoning to create robust digital outcomes.

This discipline also develops wisdom. Pupils are prepared not only for examinations, but for a future in which technologies will continue to evolve. They are taught that understanding matters more than short-term utility, and that secure knowledge, careful judgement and ethical awareness are essential if technology is to be used well.

## Christian Virtues

The Computing curriculum supports the development of Christian values by encouraging pupils to use technology wisely, ethically and compassionately. As technology becomes increasingly central to everyday life, pupils are taught that digital skills carry both opportunity and responsibility. Through Computing, pupils learn not only how systems work, but how their choices and actions can affect others locally, nationally and globally.

## Respect and Responsibility

Pupils are taught to use technology safely, respectfully and responsibly. This includes understanding online conduct, protecting privacy, recognising harmful behaviour and showing integrity in digital spaces. They are encouraged to value truth, challenge misinformation and treat others with dignity and kindness in all online interactions.

## Wisdom and Discernment

Computing develops critical thinking and discernment. Pupils learn to question the reliability, bias and intent of digital content, enabling them to make informed and thoughtful decisions. They are encouraged to consider the ethical implications of technology, including artificial intelligence, cyber security, data collection and digital surveillance, understanding that technological progress must be guided by wisdom and moral responsibility.

## Creativity and Stewardship

Through programming, digital media and problem-solving, pupils are encouraged to be creative and innovative. They learn to use technology not simply for personal gain or entertainment, but as a tool to improve lives, solve problems and contribute positively to society. This reflects the Christian principle of stewardship: using knowledge, talents and resources responsibly for the benefit of others.

## Community and Compassion

Computing helps pupils understand the importance of community in an interconnected world. Pupils explore how technology can both strengthen and damage relationships, and are encouraged to use digital tools to collaborate, support others and communicate effectively. They consider issues such as digital inequality, accessibility and inclusion, developing empathy for those who may be vulnerable or disadvantaged in the digital world.

## Perseverance and Hope

Programming and computational problem-solving require resilience, patience and perseverance. Pupils learn that mistakes are part of learning and that growth comes through reflection, adaptation and determination. The curriculum encourages confidence and hope, equipping pupils with skills and understanding that prepare them for future study, employment and responsible participation in society.
Through these experiences, Computing contributes to the development of thoughtful, ethical and resilient young people who are prepared to navigate and shape the modern world with wisdom, compassion and integrity.

## Key stage 3

Pupils to be taught to:

- design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems
- understand several key algorithms that reflect computational thinking; use logical reasoning to compare the utility of alternative algorithms for the same problem
- use 2 or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures design and develop modular programs that use procedures or functions
- understand simple Boolean logic and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers
- understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems
- understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits
- undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users
- create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability
- understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct, and know how to report concerns

## Key stage 4

All pupils have the opportunity to study aspects of information technology and computer science at sufficient depth to allow them to progress to higher levels of study or to a professional career.

All pupils to be taught to:

- develop their capability, creativity and knowledge in computer science, digital media and information technology
- develop and apply their analytic, problem-solving, design, and computational thinking skills
- understand how changes in technology affect safety, including new ways to protect their online privacy and identity, and how to report a range of concerns

# Ad Gloriam Dei

## To the Glory of God

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