Computing Subject Overview

The national curriculum for computing in England was introduced by the Department of Education in 2014. The curriculum aims to equip young people with the knowledge, skills and understanding they need to thrive in the digital world of today and the future. The curriculum can be broken down into 3 strands: computer science, information technology and digital literacy, with the aims of the curriculum reflecting this distinction. Here at The Bishops' we have added Internet Safety as a 4th strand to run throughout everything we do.

We will utilise Barefoot Computing Resources to support the computer science strands of the curriculum and elements of the information technology and digital literacy aspects of computing. In addition, the Barefoot resources are cross-curricular, making a broad range of links with other subjects from the English national curriculum. A range of other resources will support our curriculum delivery, including but not limited to: National Online Safety, Digital Literacy and Citizenship from Common sense education, Google Code Club, Think You Know, Project Evolve and Scratch Junior.

Throughout the primary curriculum, pupils learn how to use a range of 'programming languages. This includes developing computational-thinking skills associated with the process of programming, such as algorithms and decomposing problems into a sequence of steps and using logical reasoning to predict outcomes. As pupils progress, specific knowledge and understanding relating to programming is defined, for example the use of sequence, selection, repetition and variables. In addition, pupils learn about the workings of computers and computer networks such as the internet.

Last updated September 2025 – Ingrid Yeomans

Curriculum Intent, Implementation and Impact Overview

Subject: Computing | **Subject Leader: Ingrid Yeomans**

Intent

At The Bishops' we want pupils to be Masters of Technology and not slaves to it.

Technology is everywhere and will play a pivotal part in students' lives. Therefore, we want to model and educate our pupils on how to use technology positively, responsibly and safely. We want our pupils to be creators not consumers and our broad curriculum (encompassing computer science, information technology and digital literacy) reflects this. We want our pupils to understand that there is always a choice with using technology and as a school we utilise technology (especially social media) to model positive use. We recognise that the best prevention for a lot of issues we currently see with technology/ social media is through education. We recognise that technology can allow pupils to share their learning in creative ways. We also understand the accessibility opportunities technology can provide for our pupils. Our knowledge rich curriculum has to be balanced with the opportunity for pupils to apply their knowledge creatively, which will in turn help our pupils become skilful computer scientists.

We encourage staff to try and embed computing across the whole curriculum to make

Implementation

We have created a comprehensive curriculum progression document for staff to follow to best embed and cover every element of the computing national curriculum. The knowledge/skills statements build year on year to deepen and challenge our learners.

Computer science	Information Technology	Digital Literacy
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.

Internet Safety

When online apply the SMART safety rules: S – Keep your personal details safe. M – Never meet strangers face to face. A – Do not accept or respond to files, images or emails from strangers. R – Make sure all that you read is reliable. T – tell someone you trust if you feel uncomfortable.

Always apply the THINK Netiquette rules: T – is it true? H – is it high quality? I – is it informative? N – is it necessary? K – is it kind?

We feel that the majority of computing should be embedded across the curriculum and delivered within all other subjects, both core and topic. This will be explicit in each Year Groups medium term plans so that coverage can be ensured. We also want our pupils to have opportunities to learn computing skills both using technology but also unplugged so they can begin to make their own links and problem solve. Barefoot Computing was the perfect resource to support this and will form the basis of our Computer Science delivery.

In addition to the computing skills being taught across the curriculum each half term classes will dedicate 1 to 2 full days to its discrete delivery. This is necessary as the computer science part of the computing curriculum will often, but not always, need a more explicit approach.

For example: If my class were covering World War 2 in Year 6 and we are exploring how the Second World War started, I could set the children the task of creating a video explaining this. First, the children may want to research some more information about how the Nazi party rose to power. This would involve covering some Digital Literacy: Managing Online Information –

- I can use search technologies effectively.
- I can explain how search engines work and how results are selected and ranked.

Impact

We encourage our children to enjoy and value the curriculum we deliver. We will constantly ask the **Why** behind their learning and not just the How. We want learners to discuss, reflect and appreciate the impact computing has on their learning, development and well being.

Finding the right balance with technology is key to an effective education and a healthy life-style. We feel the way we implement computing helps children realise the need for the right balance and one they can continue to build on in their next stage of education and beyond. We encourage regular discussions between staff and pupils to best embed and understand this.

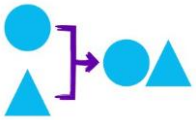
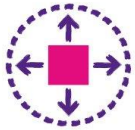
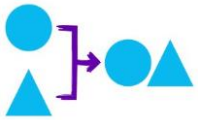
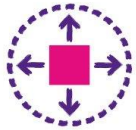
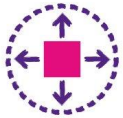
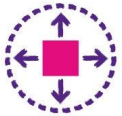
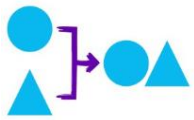
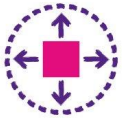
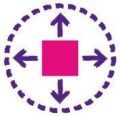
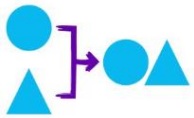
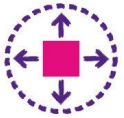
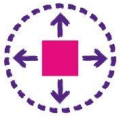
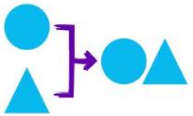
The way pupils showcase, share, celebrate and publish their work will best show the impact of our curriculum. We also look for evidence through reviewing pupil's knowledge and skills digitally through tools like Google Drive and Seesaw and observing learning regularly.

Progress of our computing curriculum is demonstrated through outcomes and the record of coverage in the process of achieving these outcomes.

This year we will be implementing a digital passport which pupils will carry with them throughout primary school to store, evidence and build upon their

learning creative and accessible. We want our pupils to be fluent with a range of tools to best express their understanding and hope by Upper Key Stage 2, children have the independence and confidence to choose the best tool to fulfil the task and challenge set by teachers. As with all aspects of our curriculum plans are driven by the schools Christian Values and Ethos. For this reason we have decided to treat Online Safety as a separate strand which will run throughout the year and be adapted to the needs of the children in each class and current technological issues.	• I can demonstrate the strategies I would apply to be discerning in evaluating digital content. • I can describe how some online information can be opinion and can offer examples. If the pupils were to then create a video using an app such as Adobe Spark Video to demonstrate their learning, they would be covering some of the Information Technology: Video Creation – • I can create videos using a range of media – green screen, animations, film and image. If the pupils were to then upload or publish their work on a blog or platform such as Seesaw, we would also be covering this objective from Information Technology: Word Processing objectives – • I can publish my documents online regularly and discuss the audience and purpose of my content. Even though this would be a History lesson, we would be covering a fair few computing objectives therefore if we need to spend more time on other subjects that week, we are still covering computing without having a timetabled computing session. This is the way we want computing delivered in Primary schools, embedded to allow learning to be more accessible and allow learners to be more creative in demonstrating their learning.	computing skills during their time at The Bishops'.

Computing skills and knowledge progression

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions  - understand what algorithms are - understand that programs execute by following precise and unambiguous instructions Create and debug simple programs  - create simple programs Use logical reasoning to predict the behaviour of simple programs  - use logical reasoning to predict the behaviour of simple programs	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions  - understand what algorithms are - understand how algorithms are implemented as programs on digital devices - understand that programs execute by following precise and unambiguous instructions Create and debug simple programs  - create simple programs - debug simple programs Use logical reasoning to predict the behaviour of simple programs  - use logical reasoning to predict the behaviour of simple programs	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts  - design programs that accomplish specific goals - 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 sequence in programs - use selection in programs Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs  - use logical reasoning to explain how some simple algorithms work	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts  - write programs that accomplish specific goals - control physical systems Use sequence, selection, and repetition in programs; work with variables and various forms of input and output  - use repetition in programs - work with variables Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs  - use logical reasoning to detect and correct errors in algorithms	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts  - debug programs to ensure they accomplish specific goals - simulate physical systems Use sequence, selection, and repetition in programs; work with variables and various forms of input and output  - work with various forms of input - work with various forms of output Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs  - use logical reasoning to detect and correct errors in programs Understand computer networks including the internet; how they can provide multiple services, such as the world wide web  - multiple services provided by networks and the internet, such as the world wide web Appreciate how results are selected and ranked	

			Understand computer networks including the internet; how they can provide multiple services, such as the world wide web  - understand computer networks including the internet Appreciate how results are selected and ranked  - appreciate how results are selected	Understand computer networks including the internet; how they can provide multiple services, such as the world wide web  - understand computer networks including the internet Appreciate how results are selected and ranked  - appreciate how results are selected	 _ appreciate how results are ranked
Information Technology	Uses technology safely Uses technology purposefully to store digital content Uses technology purposefully to retrieve digital content	Uses technology purposefully to create digital content Uses technology purposefully to store digital content Uses technology purposefully to retrieve digital content	Recognises common uses of information technology beyond school Uses technology purposefully to create digital content Uses technology purposefully to store digital content Uses technology purposefully to retrieve digital content	Selects a variety of software to accomplish given goals Selects, uses and combines internet services Analyses and evaluates information Collects and presents data	Recognises acceptable/unacceptable behaviour Selects a variety of software to accomplish given goals Selects, uses and combines internet services Analyses and evaluates information Collects and presents data
Digital Literacy	Keeps personal information private Recognises common uses of information technology beyond school Uses technology purposefully to create digital content	Uses technology safely Keeps personal information private Recognises common uses of information technology beyond school	Uses technology safely Keeps personal information private	Understands the opportunities computer networks offer for communication Identifies a range of ways to report concerns about content Recognises acceptable/unacceptable behaviour	Understands the opportunities computer networks offer for communication Identifies a range of ways to report concerns about content
Internet Safety	To agree to the Think Before You Click pledge & E-safety assembly To use the internet safely	To agree to the Think Before You Click pledge & E-safety assembly To discuss how to stay safe on the internet	To agree to the Be Internet Awesome pledge & E-safety assembly To discuss what information should be kept private	To agree to the Be Internet Awesome pledge & E-safety assembly To recognize ways people steal personal information	Recognises acceptable/unacceptable behaviour Selects a variety of software to accomplish given goals Selects, uses and combines internet services Analyses and evaluates information Collects and presents data

	To search the internet for suitable pictures To keep my information private To describe how to take ownership of work online To discuss how to stay safe online	To use technology safely To describe the rules for staying safe online To use the rules to discuss a story To describe positive behaviour on the internet To make safe choices when using the internet	To identify ways information can be found online about people To create a positive online presence To discuss different levels of privacy To put my learning into practice	To recognize when someone is trying to steal personal information To analyse how computer 'bots' can impact on daily life To put my learning into practice	Understands the opportunities computer networks offer for communication Identifies a range of ways to report concerns about content Internet safety sessions based on current usage of pupils.
Vocabulary	Keyboard Monitor Interactive Whiteboard Password Email Website Delete Space Bar Barcode Internet Save Instructions Edit (Size, Colour, Shape)	Sequence Command Control Execute Private Information Data Social Media Communicate Voice recognition Offline Online World Wide Web (WWW) Program Image Text Insert Copy Paste Wireless Digital	Blog De-bugging Manipulating IT Information Technology	Hardware Software Digital Footprint QR Code Pop-up Block Cookies Fibres/cables Multimedia Format Server Network	Hyperlink Plagiarism Citing sources Trolling Digital content Privacy Social Media Influencers Reputable Source Verify Anonymity Script HTML (hyper-text mark-up language) URL (Uniform Resource Locater

Social, Moral, Spiritual, Cultural Links

Spiritual Computing supports spiritual development by looking at how research can bring rapid benefits to discussions and tolerance to an individual's beliefs. However, children are also exposed to the limitations and abuse of the internet where they question and justify the aims, values and principles of their own and others' belief systems.
Moral Computing supports moral development by looking at how developments have had an impact on the environment as technology has meant that old ways of working have been changed to help the environment.
Social The development in technology has impacted different cultures and backgrounds in different ways. More developed countries are able to keep pace with the developments in technology whilst less developed ones can't.
Cultural The development in technology has impacted different cultures and backgrounds in different ways. More developed countries are able to keep pace with the developments in technology whilst less developed ones can't.