The Fisher Way: Curriculum

The Fisher Way aims to educate and inspire with joy, faith and love because we are an inclusive Catholic community.

Successful and resilient learners who aspire to and achieve excellence

Confident individuals who can explore and communicate effectively

Responsible citizens who are active, loving and wise in all their endeavours

Subject	Computing
Year Group	Year 8
Intent	**Successful and Resilient Learners:** who can analyse problems and find efficient, creative solutions for both real world situations and artificial systems. **Confident Individuals:** who can use digital technology effectively, creatively and safely in their personal lives and future careers. **Responsible Citizens:** who understand the social and cultural impact that technology has on their lives and the lives of others.

Narrative	Year 8 Computing builds on Year 7 and secures the computer science pupils need before Year 9. The year begins with Computer Crime and Cyber Security, where pupils learn the UK laws that protect computers, personal data and creative work, and how to defend themselves against hacking, malware and scams. In the second half of the autumn term, pupils revisit binary, binary addition and text representation, then study logic. In the spring term, pupils learn about the hardware and software that make up a computer system, then move into physical computing with micro:bits, programming a real device using inputs, outputs and sensors to model real world systems. In the summer term, pupils learn how images are stored as bitmaps, then move into Affinity Designer to create vector graphics for a real purpose. By the end of Year 8, pupils can explain how computers store and process data, write programs that control physical hardware, and use professional design software creatively. They are also more aware of the legal and ethical responsibilities that come with using technology, in line with the KS3 Computing Programme of Study.					
Half term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge (topics studied)	Computer Crime and Cyber Security	Binary, Addition and Text Logic	Hardware and Software Microbits		Bit Maps Affinity Designer	
Key skills	Learners explain what the Computer Misuse Act and Data Protection Act cover, identify types of malware and email scam, build strong passwords that resist brute force and dictionary attacks, spot phishing emails, and reference sources correctly to avoid plagiarism and copyright infringement.	Learners convert numbers between binary and denary, add binary numbers, and represent text using ASCII. They then use the logic operators AND, OR and NOT, complete truth tables and build simple logic circuits.	Learners identify the hardware components of a computer, explain how the CPU fetches and executes instructions stored in memory, and distinguish between system and application software. They then program BBC micro:bits using buttons, sensors and the LED display, using variables, selection, loops, functions and lists, and test and debug a project that models a real world system, such as a step counter or a traffic light.		Learners explain how bitmap images are made from pixels stored in binary, and how resolution and colour depth affect image quality and file size. They then use Affinity Designer to create vector graphics, working with shapes, layers, the pen tool, colour and text, and explain the difference between bitmap and vector images.	

Cultural capital	Learners understand that computer crime has real victims and real legal consequences, using UK cases such as the British Airways data breach. They learn the rights they have over their own data, how to protect it, and why respecting other people's creative work matters.	Learners see that everything a computer does comes down to binary, and that the same simple logical decisions sit inside every processor, from phones to cars. This helps them think critically about what computers, and so called thinking machines, can and cannot do.	Learners understand the layers that connect the software they use to the hardware that runs it. Through physical computing they see how the same ideas power everyday devices such as fitness trackers, smart home systems and traffic control, and recognise the engineering and technology careers this leads to.	Learners understand how the images on their screens are stored and why file size matters. Working in professional design software, they see how logos, icons and branding are created in the creative industries and develop an eye for good design.
Assessment	End of Unit Assessment	End of Unit Assessment (Binary, Addition and Text) End of Unit Assessment (Logic)	End of Unit Assessment (Hardware and Software) End of Unit Project (Microbits)	End of Unit Assessment (Bit Maps) End of Unit Project (Affinity Designer)