Curriculum Overview 2025 2026

Computing Department

Department	Computing
Head of Department	Naomi Outa
Department Members	Olivia Bean
Accommodation and Resources	B8, B11, B12 - Computer desktops in each room. Teach ICT subscription, Seneca Learning Subscription, eRevision Subscription, CSUK subscription

Curriculum Intent	Our intent is to give students a thorough and ambitious education in Computing, equipping them to use technology, computational thinking and creativity to understand and change the world. It is now more important than ever that young people are able to use technology positively, responsibly and safely, and that they see good models of this. We want our students to develop the foundations to enable them to be discerning, life-long learners in a fast-moving landscape. Our aim is to ensure that students will have gained key knowledge and skills in the three main strands of the National Curriculum for Computing (2014): computer science (programming and understanding how digital systems work), information technology (using computer systems to create, store, retrieve and send information) and digital literacy (evaluating digital content and using technology safely and respectfully), by they time the leave our school.

Curriculum Implementation

Key Stage 3:

What my child will learn in Year 7

Year 7	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit Title	Getting to know the network + Esafety	Hardware and Software	What is Computational Thinking	Introduction to Scratch programming	Scratch Game Maker	Introduction to HTML
Previous knowledge recalled	Understand the rules for using technology responsibly, taught at KS2	Identifying input and output devices Explain how a computer network can be used to share information and recognise the physical components of a network	Identify how technology can be used to solve problems	Define what a variable is. Explain that selection can control the flow of a program. Decomposing a problem	Define what a variable is. Explain that selection can control the flow of a program	Identify and describe the structure of a website. Identity features of a webpage
New Knowledge	Using Google Suites	Input and output devices	Introduction to the 3 main concepts of	Block based programming using Scratch	Automatic sprite movements	What is www What is the internet

	how to stay safe when using the internet what is cyberbullying The 4C - content, contact,conduct, commerce	internal and external hardware what is software system software vs application software	computational thinking: Abstraction, Decomposition and Algorithms		Key control movements using Scratch. Resetting sprite positions. Introducing levels in Scratch	What is a website? Using HTML tags to create a website
Key Knowledge Assessment	Completed e-safety project Baseline assessment to assess prior knowledge covered at KS2 focusing on Hardware, Software, Internet Safety and Programming Mid-Term quiz based on the E-Safety knowledge organiser End of term quiz based on the E-Safety knowledge organiser	Mid-Term quiz based on the Hardware and Software knowledge organiser End of term quiz based on the Hardware and Software knowledge organiser	Mid-Term quiz based on Computational Thinking knowledge organiser End of term quiz based on Computational Thinking knowledge organiser	Year 7 PPE - Topics covered are: E_safety, Google Suites, Cyberbullying, Hardware, Software, Computational Thinking, Programming End of topic quiz and peer assessment on the created program	Creating a Game using Scratch programming language Peer assessment and feedback	Completed website created using HTML tags Peer assessment and feedback
Links to literacy and numeracy	Online Safety Cyber Ethics Parental Controls Digital Citizenship Online Reputation Grooming Sexting Identity Theft Cyberbullying Digital Footprint Privacy settings Predator	Input Output Hardware Software Internal External System Application software General purpose Specific RAM ROM Storage devices Peripheral devices Motherboard CPU	Computational thinking Abstraction Decomposition Pattern recognition Algorithms Flow charts Problem solving Logic reasoning Efficiency Repetition Creative thinking	Sprite Blocks Script Costumes Backdrop Conditions Variables Sensing Operators Sound Pen Extensions	Variable Sprite Script Broadcast Stage Background Annotation Success Criteria Objectives Game elements Graphics Gameplay Coding Critical Feedback Peer Evaluation Evaluation	HTML Tags World wide web Network Internet Website Element Head Body Link Image List Table Form Comment Feedback Peer Evaluation
Extra-Curricular opportunities	Gaming club - lunchtime club suitable for those interested in learning how to develop 2D and 3D games and mobile apps.					
Links to careers/ aspirations	Using Unifrog to research jobs in cyber security, web design, programming and IT technician. Finding out the qualifications required for the different job roles and the average salaries. Researching the history of computers and the key figures such as Sir Tim Barns Lee, Alan Turing, Ada Lovelace, Charles Babbage, Grace Hopper					

Links to our Fulston FAMILY values	**Fortitude** -Programming can be a challenging skill for students and having the resilience to not give up when faced with challenges or errors within the code. **Ambitious** - The passion and desire to learn the different topics covered in Computing. Going above and beyond expectation to show understanding of the topics covered within the subject. **Mindful** - Sharing knowledge, supporting others within the classroom environment, following school policies and being respectful to all and ensuring that students are using social media responsibly. Integrity - Being the best you can be in lessons, students having ownership with their work, building independent skills and advocating for safe internet and social media use. **Leadership** - Advocating for safe internet and social media use as well as technology use. **Young citizen** - Understanding the impact technology has within the community, environment and society. Being responsible technology users and advocating for safe internet and social media use.

What my child will learn in Year 8

Year 8	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit Title	My digital world - Cyber security	Data representation (Binary Bits n Bobs)	Scratch Shooter Game	Introduction to Python	Exploring Python with Turtle Graphics	HTML and CSS
Previous knowledge recalled	How to stay safe when using the internet what is cyberbullying The 4C - content, contact,conduct, commerce	Computer Hardware Computational Thinking	Computational Thinking Define what a variable is. Explain that selection can control the flow of a program	Computational thinking Scratch programming	Computational thinking Pseudocode Converting block code to text based code	Computational Thinking Using HTML tags to create a website
New Knowledge	Identifying different types of security threats: Malware, Social Engineering	Number representation - Binary conversion ASCII conversion	Programming movement and simulating gravity in Scratch. Programming characteristics into sprites and scoring. Programming a Shooter Broadcast blocks	Pseudocode Converting block code to text based code	Turtle Graphics and Basic Drawing shapes and Using Loops Changing colours and creating more complex shapes using Turtle graphics and Python programming language. Introduction to modular programming, using functions in programming	Understanding the difference between HTML and CSS Applying CSS to web pages written in HTML
Key Knowledge Assessment	Baseline assessment End of lesson quiz Revision Quiz End of topic assessment End of term quiz based on the Cyber Security knowledge organiser	End of lesson quiz Revision Quiz End of topic assessment	Creating a “Shooter” game using Scratch programming language	Year 8 PPE Topics covered are: Cyber Security, Data Representation, Computer Systems, Hardware, Software, Computational Thinking, Algorithms, E-Safety End of lesson quiz	End of lesson quiz Revision Quiz End of topic assessment	End of lesson quiz Website project that is created using HTML and CSS Peer assessment

				Revision Quiz End of topic assessment		
Links to literacy and numeracy	Cyber Ethics Identity Theft Digital Footprint Phishing Social Engineering Shoulder surfing Information security Cybersecurity Cyber attacks Malware Vulnerability Encryption Firewall	Bit Binary Conversion Binary digit Byte Decimal Denary Nibble Binary addition ASCII	Variable Sprite Script Broadcast Stage Background Annotation Success Criteria Objectives Game elements Graphics Gameplay Coding Critical Feedback Peer Evaluation Evaluation	Reading on https://www.nytimes.com/2019/02/13/magazine/women-coding-computer-programming.html Algorithm Pseudocode Selection Iteration Sequence	Command Object Loop Polygon Fill Function Event	HTML Tags World wide web Network Internet Website Element Head Body Link Image List Table Form Comment CSS DIV Tag Feedback Peer Evaluation
Extra-Curricular opportunities	Gaming club - lunchtime club suitable for those interested in learning how to develop 2D and 3D games and mobile apps.					
Links to careers/ aspirations	Using Unifrog to research jobs in cyber security, web design, programming and IT technician. Finding out the qualifications required for the different job roles and the average salaries. Researching the history of computers and the key figures such as Sir Tim Barns Lee, Alan Turing, Ada Lovelace, Charles Babbage, Grace Hopper					
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What my child will learn in Year 9

Year 9	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit Title	Computer Networks	AI	Python Continued	"Scrolling" Game Maker using Scratch	HTML CSS Javascript	Back to Future - Historical Figures in Computing
Previous knowledge recalled	Computer Systems	Understanding how computers work	Algorithms Computational thinking	Programming movement and simulating gravity in Scratch. Programming characteristics into sprites and scoring. Programming a Shooter Broadcast blocks	Recalling HTML and CSS	www, algorithms, and programming

New Knowledge	What is a network Different types of networks Hardware required to build a network	What is AI? What is Machine Learning? Ethical implications of AI The future of AI	Writing code using Python programming language syntax	Programming scrolling backgrounds	Using wick editor to create animation	The impact the following people had in technology as we know it today: Alan Turing, Charles Babbage, George Boole and Sir Tim barnes Lee
Key Knowledge Assessment	End of lesson quiz Revision Quiz End of topic assessment	End of lesson quiz Revision Quiz End of topic assessment	End of lesson quiz Revision Quiz End of topic assessment	Year 9 PPE Topics cover are: Computer Networks, Data Representation, Boolean Logic, Programming using Python, Cyber Security, E-Safety, Computational Thinking End of lesson quiz Peer assessment Scrolling Game using Scratch	End of lesson quiz Peer assessment Website created using HTML, CSS and JavaScript	End of lesson quiz Revision Quiz End of topic assessment Peer assessment Completed presentation project on key figures in the history of computing
Links to literacy and numeracy	Network Internet LAN WAN Router Switch Protocol IP Address HTTP Firewall Wireless network	Artificial Intelligence (AI) Narrow AI General AI Bias (in AI) Privacy Job Displacement Automation Ethical Implications Neural Network	Python Syntax Variable Data Type IF Statement Else statement Conditional statement Function Print function Input function	Variable Sprite Script Broadcast Stage Background Annotation Success Criteria Objectives Game elements Graphics Gameplay Coding Critical Feedback Peer Evaluation Evaluation	HTML CSS JavaScript Input Variable Output Decision IF statement	Research Presentation Slides Animation Transition Audience Engagement Delivery Feedback Evaluation
Extra-Curricular opportunities	Gaming club - lunchtime club suitable for those interested in learning how to develop 2D and 3D games and mobile apps.					
Links to careers/ aspirations	Using Unifrog to research jobs in cyber security, web design, programming and IT technician. Finding out the qualifications required for the different job roles and the average salaries. Researching the history of computers and the key figures such as Sir Tim Barns Lee, Alan Turing, Ada Lovelace, Charles Babbage, Grace Hopper					
Links to our Fulston FAMILY values	**Fortitude** -Programming can be a challenging skill for students and having the resilience to not give up when faced with challenges or errors within the code. **Ambitious** - The passion and desire to learn the different topics covered in Computing. Going above and beyond expectation to show understanding of the topics covered within the subject. **Mindful** - Sharing knowledge, supporting others within the classroom environment, following school policies and being respectful to all and ensuring that students are using social media responsibly. **Integrity** - Being the best you can be in lessons, students having ownership with their work, building independent skills and advocating for safe internet and social media use. **Leadership** - Advocating for safe internet and social media use as well as technology use.					

	Young citizen - Understanding the impact technology has within the community, environment and society. Being responsible technology users and advocating for safe internet and social media use.

Extended Learning Opportunities for Key Stage 3	KS3 to GCSE Transition Workbook is available for students who have chosen Computer Science at KS4. Computing teachers can provide access to the workbook on request.

Key Stage 4:

What my child will learn in Year 10

Year 10	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit Title	**2.1 Algorithms** 2.1.1 Computational thinking 2.1.2 Designing, creating and refining algorithms **2.2 Programming** fundamentals 2.2.1 Programming fundamentals 2.2.2 Data types	**2.1 Algorithms** 2.1.3 Searching and sorting algorithm **2.2 Programming** 2.2.3 Additional programming techniques **2.3 Producing robust programs** 2.3.1 Defensive design 2.3.2 Testing	**2.4 Boolean logic** 2.4.1 Boolean logic **1.6 Ethical impacts of digital technology** 1.6.1 Ethical, legal, cultural and environmental impact	**1.1 Systems architecture** 1.1.1 Architecture of the CPU 1.1.2 CPU performance 1.1.3 Embedded systems	**1.2 Memory and storage** 1.2.1 Primary storage (Memory) 1.2.2 Secondary storage 1.2.3 Units 1.2.4 Data storage 1.2.5 Compression	**1.5 Systems software** 1.5.1 Operating systems 1.5.2 Utility software **1.6 Legal impacts of digital technology** 1.6.1 Ethical, legal, cultural and environmental impact
Previous knowledge recalled	Python programming language Computational thinking Algorithms	Python programming language Computational thinking Algorithms	Logic Data representation	Hardware Computer systems The CPU	Computer systems	Software
New Knowledge	Data types, Iteration, trace tables, testing	Searching and sorting algorithms, Arrays, trace tables, testing, validation and verification methods	Logic expressions with 3 inputs Creating truth tables for 3 inputs Complex boolean expressions	Factors that affect the performance of the CPU Embedded systems	Storage units Compression	Utility software Writing essay style exam questions
Key Knowledge Assessment	Mid-Term quiz based on the Algorithm Knowledge Organiser	Mid-Term quiz based on the Programming Knowledge Organiser	Mid-Term quiz based on the Boolean Logic Knowledge Organiser	Year 10 PPE Topics covered Algorithms, Programming,	Mid-Term quiz based on the Data Storage Knowledge Organiser	Mid-Term quiz based on the System Software Knowledge Organiser

	End of term quiz based on the Algorithm Knowledge Organiser	End of term quiz based on the Programming Knowledge Organiser	End of term quiz based on the Boolean Logic Knowledge Organiser	Boolean Logic, Computational Thinking, System Architecture, Ethical, Legal, Cultural and Environmental Impact of Using Technology	End of term quiz based on the Data Storage Knowledge Organiser	End of term quiz based on the System Software Knowledge Organiser
Links to literacy and numeracy	Python Syntax Variable Data Type IF Statement Else statement Conditional statement Function Print function Input function	Algorithm Sorting Searching Binary search Linear search Merge sort Insertion sort Bubble sort Pass	Logic Boolean Logic gates AND operator OR operator NOT operator Truth tables Boolean expressions	CPU Cache Clock Speed Cores Embedded systems Performance Affect	Bit Byte Kilo Mega Giga Tera Peta Unit Storage Lossy Lossless Compression Virtual RAM ROM Primary Secondary	Defragment Firewall Utility Maintain Encryption Compression Recognise Reduce User interface Disk Management User File Peripheral
Extra-Curricular opportunities	Gaming club - lunchtime club suitable for those interested in learning how to develop 2D and 3D games and mobile apps.					
Links to careers/ aspirations	Using Unifrog to research jobs in cyber security, web design, programming and IT technician. Finding out the qualifications required for the different job roles and the average salaries. Researching the history of computers and the key figures such as Sir Tim Barns Lee, Alan Turing, Ada Lovelace, Charles Babbage, Grace Hopper					
Links to our Fulston FAMILY values	**Fortitude** -Programming can be a challenging skill for students and having the resilience to not give up when faced with challenges or errors within the code. **Ambitious** - The passion and desire to learn the different topics covered in Computing. Going above and beyond expectation to show understanding of the topics covered within the subject. **Mindful** - Sharing knowledge, supporting others within the classroom environment, following school policies and being respectful to all and ensuring that students are using social media responsibly. **Integrity** - Being the best you can be in lessons, students having ownership with their work, building independent skills and advocating for safe internet and social media use. **Leadership** - Advocating for safe internet and social media use as well as technology use. **Young citizen** - Understanding the impact technology has within the community, environment and society. Being responsible technology users and advocating for safe internet and social media use.					

What my child will learn in Year 11

Year 11	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit Title	**1.3 Computer networks, connections and protocols** 1.3.1 Networks and topologies 1.3.2 Wired and wireless networks, protocols and layers	**2.5 Programming languages and Integrated Development Environments** 2.5.1 Languages 2.5.2 The Integrated Development	**Revision -** **2.4 - Logic** **1.1 - Computer systems** **1.2 - Memory and storage** **1.3 - Data representation** **1.4 Networks**	**Revision -** **1.4 Networks** **1.5 - System software** **1.6 Ethical, legal, cultural and environmental impacts of digital technology**	Exam preparation Revision techniques, Command words used exam papers	Paper 1 and Paper 2 Computer Science exams will be completed in term 5. Use lesson time to revise and prepare for any

	1.4 Network security 1.4.1 Threats to computer systems and networks 1.4.2 Identifying and preventing vulnerabilities **1.6 Cultural and environmental impacts of digital technology**	Environment (IDE) **Revision -** **2.1 Algorithms** **2.2 Programming fundamentals** **2.3 Producing robust programs**				upcoming exams
Previous knowledge recalled	Computer Networks Cyber security	Algorithms, fundamentals of programming in Python	Logic, computer systems, memory, storage and data representation	Network security, system software, ethical, legal, cultural and environmental impact of digital technology	Revision techniques, Command words	
New Knowledge	Network topologies Protocols Identifying and preventing vulnerabilities	SQL IDEs High level and low level languages Assembly language	Revision techniques Identifying command words How to answer exam questions	Revision techniques Identifying command words How to answer exam questions		
Key Knowledge Assessment	Exam style questions Year 11 PPE	Exam style questions Year 11 PPE	Exam style questions Past paper revision practice	Exam style questions Past paper revision practice		
Links to literacy and numeracy	Network Internet LAN WAN Router Switch Protocol IP Address HTTP Firewall Wireless network	High level Low Level Language Assembly Machine code Byte code SQL Statements Database Record	Logic Boolean Logic gates AND operator OR operator NOT operator Truth tables Boolean expressions	Analyse Identify Justify Evaluate Review Explain Discuss Design Describe Convert Calculate State Solve Write/Rewrite	Analyse Identify Justify Evaluate Review Explain Discuss Design Describe Convert Calculate State Solve Write/Rewrite	
Extra-Curricular opportunities	Gaming club - lunchtime club suitable for those interested in learning how to develop 2D and 3D games and mobile apps.					
Links to careers/ aspirations	Using Unifrog to research jobs in cyber security, web design, programming and IT technician. Finding out the qualifications required for the different job roles and the average salaries. Researching the history of computers and the key figures such as Sir Tim Barns Lee, Alan Turing, Ada Lovelace, Charles Babbage, Grace Hopper					
Links to our Fulston FAMILY values	**Fortitude** -Programming can be a challenging skill for students and having the resilience to not give up when faced with challenges or errors within the code.					

	Ambitious - The passion and desire to learn the different topics covered in Computing. Going above and beyond expectation to show understanding of the topics covered within the subject. **Mindful** - Sharing knowledge, supporting others within the classroom environment, following school policies and being respectful to all and ensuring that students are using social media responsibly. **Integrity** - Being the best you can be in lessons, students having ownership with their work, building independent skills and advocating for safe internet and social media use. **Leadership** - Advocating for safe internet and social media use as well as technology use. **Young citizen** - Understanding the impact technology has within the community, environment and society. Being responsible technology users and advocating for safe internet and social media use.

Extended Learning Opportunities for Key Stage 4	GCSE to A Level Transition Workbook is available for students who have chosen Computing at KS5. Computing teachers can provide access to the workbook on request.

Key Stage 5:

What my child will learn in Year 12

Year 12	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit Title	**Unit 2 - Computer Network Security and Encryption** A: Computer networks A1 The main challenges of computer network security, with reference to the threats included in Section B A2 The main components of computer networks A3 Software components of computer networks **Unit 3 - Human-Comp uter Interface** Learning Aim: A Explore the factors	**Unit 2 - Computer Network Security and Encryption** B: Network security B1 The main threats to data and computer networks as described in Section A B2 Common methods of attacking data and computer networks **Unit 3 - Human-Computer Interface** Learning Aim: A Explore the factors affecting human computer interaction A2 Use and purpose considerations A3 The principles of HCI design	**Unit 2 - Computer Network Security and Encryption** B: Network security B3 Methods of defending against attacks on data and computer networks B4 Legal issues related to computer network security and encryption **Unit 3 - Human-Computer Interface** Learning Aim: B Develop a proposal and designs for a human-computer interaction solution in response to a brief B1 Defining requirements for a HCI solution	**Unit 2 - Computer Network Security and Encryption** C: Encryption C1 Methods and techniques for data encryption D: Evaluating cyber security and encryption solutions D1 Appropriate cyber security and encryption methods and techniques to secure data transmission and storage on a network **Unit 3 - Human-Computer Interface** Learning Aim: B Develop a proposal and designs for a human-computer interaction solution in	**Unit 2 - Computer Network Security and Encryption** D: Evaluating cyber security and encryption solutions D2 Suitable cyber security and encryption solutions for different types of networks based on analysis of the requirements **Unit 3 - Human-Computer Interface** Learning Aim: C Develop your planned human computer interaction solution in response to the brief. C1 Content preparation for a human-computer interface	**Unit 2 - Computer Network Security and Encryption** Revision in preparation for the external exam **Unit 3 - Human-Computer Interface** Learning Aim: C Develop your planned human computer interaction solution in response to the brief. C2 Developing a HCI solution C3 Testing a HCI solution C4 Reviewing the development process and outcomes

	affecting human computer interaction A1 Fundamental concepts of human-computer interaction			response to a brief B2 Design documentation for a HCI solution		
Previous knowledge recalled	Computer networks	Network security	Network security	Encryption	Cyber security	
New Knowledge	Software components of computer networks Explore the factors affecting human computer interaction	The principles of HCI design Use and purpose considerations when designing HCI	Legal issues related to computer network security and encryption Develop a proposal and designs for a human-computer interaction solution in response to a brief	Methods and techniques for data encryption Evaluating cyber security and encryption solutions Appropriate cyber security and encryption methods and techniques to secure data transmission and storage on a network	Suitable cyber security and encryption solutions for different types of networks based on analysis of the requirements Develop your planned human computer interaction solution in response to the brief.	
Key Knowledge Assessment	End of topic exam style question assessments Completion of learning aims to meet coursework objectives	End of topic exam style question assessments Completion of learning aims to meet coursework objectives	End of topic exam style question assessments Completion of learning aims to meet coursework objectives	End of topic exam style question assessments Completion of learning aims to meet coursework objectives	End of topic exam style question assessments Completion of learning aims to meet coursework objectives	The unit will be assessed through one external examination of 90 marks lasting 2 hours and 15 minutes Completion of learning aims to meet coursework objectives
Links to literacy and numeracy	Reading case studies on security breaches; writing evaluations of threat mitigation strategies. Creating written explanations of network components; reading	Reading news articles on cyber attacks; writing incident reports. Researching and explaining attack methods in writing; summarising articles. Interpreting graphs on breach frequency; analysing risk levels. Measuring	Writing reports on defence strategies; reading security guidelines. Reading and interpreting legal texts; writing summaries of regulations. Analysing attack frequency statistics; interpreting charts	Reading technical descriptions; explaining processes in their own words. Comparative analysis writing; reading technical case studies. Interpreting attack simulations with numerical data	Report writing to justify solution choices; analysing written requirements. Using percentages to show reduction in risk; analysing security metrics. Applying binary and hexadecimal arithmetic; understanding encryption key lengths	Evaluating effectiveness using quantitative data; comparing algorithms. Analysing data usage stats; comparing security metrics

	technical documentation	data transfer rates; calculating bandwidth usage				
Extra-Curricular opportunities	Sixth Form Gaming after school club runs on Thursdays.					
Links to careers/ aspirations	Using Unifrog to research jobs in cyber security, web design, programming and IT technician. Finding out the qualifications required for the different job roles and the average salaries. Links to local IT companies - external talks from businesses.					
Links to our Fulston FAMILY values	**Fortitude** -Programming can be a challenging skill for students and having the resilience to not give up when faced with challenges or errors within the code. **Ambitious** - The passion and desire to learn the different topics covered in Computing. Going above and beyond expectation to show understanding of the topics covered within the subject. **Mindful** - Sharing knowledge, supporting others within the classroom environment, following school policies and being respectful to all and ensuring that students are using social media responsibly. **Integrity** - Being the best you can be in lessons, students having ownership with their work, building independent skills and advocating for safe internet and social media use. **Leadership** - Advocating for safe internet and social media use as well as technology use. **Young citizen** - Understanding the impact technology has within the community, environment and society. Being responsible technology users and advocating for safe internet and social media use.					

What my child will learn in Year 13

Year 13	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit Title	Unit 1 Learning Aim A - Computational Thinking Learning Aim B - Standard methods and techniques used to develop algorithms Learning Aim D - Types of programming and mark-up languages	Unit 1 Learning Aim C - Programming paradigms	Unit 1 Exam practice and past paper revision in preparation for Jan exam series. Unit 14 Learning Aim A - Investigate technologies used in computer gaming	Unit 14 Learning Aim B - Design a computer game to meet client requirements Learning Aim C - Develop a computer game to meet client requirements	Unit 14 Learning Aim C - Develop a computer game to meet client requirements	Unit 14 Learning Aim C - Develop a computer game to meet client requirements
Previous knowledge recalled	Flowchart symbols	Variables Data types Input and Output functions Mathematical operators Error checking methods Queues and Stacks	Different types of games available Different games available in the market	C# programing	C# programming' Identifying target audience needs Identifying client requirements	C# programming
New Knowledge	Computational thinking concepts Pseudocode Procedural programming Event driven programming Coding for the web Translation	Object-Oriented programming Handling data with a program Built in functions Validating data Control structures Data structures	Social and technological trends of computer games Current and emerging technologies and the impact they have on computer games	Identifying target audience needs Identifying client requirements Designing a computer game	Creating a computer game in C#, Edublocks or Scratch	Creating a computer game in C#, Edublocks or Scratch

Key Knowledge Assessment	End of topic assessments covering learning aim A and B Past paper exam practice	End of topic assessments covering learning aim C and D Past paper exam practice	Past paper exam practice External exam	Coursework	Coursework	Coursework
Links to literacy and numeracy	Indentation BCS Pseudocode Pattern recognition Decomposition Abstraction Generalisation Algorithm design	Identifier Local Global Operator Validation Runtime error Modulus division Literal Function Pointer Set Filter LIFO FIFO	Trends Target audience Genre MMO game Franchise Immersive Casual gamer Publisher Concept art NPC Indie games Crowdfunding AI Emerging Linux Augmented Rendering Collision Detection Animation	Producing a presentation Research skills 2D 3D graphic processing visual styles Quality Target audience Client brief Communication Limitations Platform Prototype	Producing documentation on the design and creation of a computer game Testing feedback refinements Review Evaluate Legal Ethical Constraints Platform Compatibility	Producing documentation on the design and creation of a computer game
Extra-Curricular opportunities	Sixth Form Gaming after school club runs on Thursdays.					
Links to careers/ aspirations	Using Unifrog to research jobs in cyber security, web design, programming and IT technician. Finding out the qualifications required for the different job roles and the average salaries. Links to local IT companies - external talks from businesses.					
Links to our Fulston FAMILY values	**Fortitude** -Programming can be a challenging skill for students and having the resilience to not give up when faced with challenges or errors within the code. **Ambitious** - The passion and desire to learn the different topics covered in Computing. Going above and beyond expectation to show understanding of the topics covered within the subject. **Mindful** - Sharing knowledge, supporting others within the classroom environment, following school policies and being respectful to all and ensuring that students are using social media responsibly. **Integrity** - Being the best you can be in lessons, students having ownership with their work, building independent skills and advocating for safe internet and social media use. **Leadership** - Advocating for safe internet and social media use as well as technology use. **Young citizen** - Understanding the impact technology has within the community, environment and society. Being responsible technology users and advocating for safe internet and social media use.					

Curriculum Impact	The Computing department at our school has made significant strides in empowering students with essential technological skills, fostering innovation, and preparing them for future careers in the digital age. Through coursework, hands-on projects, and extracurricular activities, our department has a profound impact on both students and the broader school community. 1. **Student Empowerment:** Our computing curriculum equips students with foundational knowledge in programming languages, algorithms, and problem-solving techniques. By engaging with real-world coding challenges and projects, students develop critical thinking skills and the confidence to tackle complex problems independently. This empowerment extends beyond the classroom, as students apply their skills to personal projects and competitions.

	2. **Diversity and Inclusion:** We prioritise creating a welcoming and inclusive environment where students from all backgrounds feel valued and supported. Our department actively encourages participation from underrepresented groups in STEM fields, including girls and minorities. 3. **Innovation and Creativity:** Computer science is not just about coding; it's about fostering creativity and innovation. Our department encourages students to explore their interests and pursue ambitious projects that push the boundaries of technology. From developing mobile apps to designing video games, students have the opportunity to unleash their creativity while honing their technical skills. Through collaborative teamwork and project-based learning, students learn to approach problems with creativity and adaptability. 4. **Preparation for the Future:** In today's digital world, proficiency in computer science is more important than ever. Our curriculum is designed to prepare students for a wide range of future career paths, whether they choose to pursue software development, data analysis, cybersecurity, or beyond. By mastering fundamental concepts and staying abreast of emerging technologies, our students are well-positioned to thrive in an increasingly tech-driven society. In summary, the Computing department is dedicated to empowering students, fostering diversity and inclusion, promoting innovation and creativity, preparing students for the future, and engaging with the broader community. Through our efforts, we aim to cultivate a new generation of technologically savvy leaders who are equipped to tackle the challenges of tomorrow's world.