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Digital Literacy Curriculum Intent	Year 7

Year 7 Digital Literacy provides students with the knowledge, skills, and confidence needed to participate safely, responsibly, and creatively within an increasingly digital world. The curriculum encourages students to move beyond simply using technology and begin understanding how digital systems work, how information is communicated and protected, and how technology shapes modern society. Through a carefully sequenced programme of practical projects, students develop both technical competence and the critical thinking skills required to navigate digital environments effectively.

Across six enquiry-led projects, students explore professional digital communication, cybersecurity, computer systems, computational thinking, coding, logic, and digital identity. Students are encouraged to think like computer scientists while also developing creativity, resilience, organisation, and problem-solving skills. Through practical application and reflection, they learn how technology can be used to create solutions, communicate ideas, and support learning across the curriculum.

The Year 7 curriculum is built around the following enquiries:
- How do digital systems help us work and communicate?
- How can we stay safe in a digital world?
- How do computers actually work?
- How can we use code to solve problems?
- How do computers make decisions?
- How can we showcase our digital journey?

Students engage with a wide range of technologies including Microsoft Teams, Outlook, OneDrive, BBC micro, collaborative digital platforms, and computational thinking activities. They develop increasingly sophisticated technical vocabulary and are expected to apply this confidently within both practical and written tasks. Throughout the year, students complete Digital Deep-Dive activities that encourage them to explain, evaluate, and justify their thinking using accurate subject-specific language.

The curriculum combines technical understanding with wider themes of digital citizenship, online safety, ethical technology use, and responsible participation in digital communities. Students explore contemporary issues including digital footprints, cybersecurity, privacy, data protection, online communication, and digital identity. These themes support the wider Citizenship and RSHE curriculum, helping students develop the knowledge and judgement needed to make informed decisions within online environments.

A strong emphasis is placed on employability and transferable skills. Through collaborative projects, coding challenges, presentations, investigations, and portfolio creation, students develop key Skills Builder competencies including Planning, Problem Solving, Creativity, Speaking, Listening, Adapting, and Teamwork. Students learn how digital skills are used across a wide range of careers and investigate the work of influential innovators including Douglas Engelbart, Alan Turing, Margaret Hamilton, Grace Hopper, Tim Berners-Lee, and other pioneers who have shaped the modern digital world.

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	Digital Literacy is a subject that bridges technical knowledge with creative application, allowing students from a wide range of backgrounds and abilities to succeed. Students are encouraged to take risks, learn from mistakes, and develop resilience when solving problems. By the end of Year 7, students should be able to communicate professionally, work collaboratively, apply computational thinking, understand the foundations of computing, and reflect critically on their role as responsible digital citizens. The curriculum provides a secure foundation for future study at Key Stage 3 and beyond while preparing students to participate confidently within an increasingly digital society.

Topic 1
Enquiry

How do digital systems help us work and communicate?

Big Picture
What are the main ideas and big questions in this topic?

Students begin their Year 7 Digital Literacy journey by exploring the academy's digital infrastructure and the systems that underpin modern communication and collaboration. Through practical use of Microsoft Teams, Outlook, OneDrive, and directory structures, students develop the digital foundations required to work confidently, safely, and professionally within both educational and workplace environments.

The enquiry introduces students to the idea that digital systems are designed to organise information, improve communication, and increase productivity. Students explore how schools, businesses, and organisations use digital platforms to collaborate effectively while developing the professional behaviours expected within modern digital workplaces.

Zoom In
What knowledge, skills and key vocabulary will we learn step by step?

Students explore the academy's digital ecosystem, developing confidence using Microsoft Teams for collaboration and Outlook for professional communication. They learn how digital systems are organised through directory navigation, file management, folder structures, and file paths. Students investigate why organisation is important and how effective digital workflows improve productivity.

A significant focus is placed upon professional communication standards. Students learn how to write clear and purposeful emails using appropriate subject lines, formal greetings, concise language, and professional etiquette. They consider audience and purpose when communicating digitally and develop an understanding of how written communication can influence professional relationships. Students also investigate the role of cloud-based collaboration tools and shared workspaces. Through practical activities they learn how multiple users can work on documents, communicate efficiently, and manage information securely within a shared digital environment.

Students complete a Year 7 Baseline Skills Audit to identify existing strengths and areas for development. They learn how to navigate directory structures, interpret file paths, and organise information using logical folder systems. Students investigate how poor organisation can impact productivity and develop strategies for managing digital information effectively. Through practical activities they develop confidence navigating shared drives, locating files efficiently, and maintaining organised digital workspaces.

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Throughout the enquiry students begin developing the subject-specific language that will underpin future Digital Literacy learning, including terminology such as directory, file path, collaboration, productivity, workflow, cloud storage, digital citizenship, audience, and professionalism.

The enquiry is structured around a sequence of focused questions including:

- How do digital systems help people communicate?
- Why is organisation important in digital environments?
- What makes an email professional?
- How do collaborative technologies improve productivity?
- What responsibilities do we have when communicating online?

Pre-Requisite Knowledge
What have we already learned that will help us with this topic?

Students are expected to arrive having experienced basic ICT usage at primary school. They should have developed confidence using digital devices, basic search engines, keyboard and mouse controls, and simple file management systems. Students should also have some awareness of online safety and responsible behaviour when using technology.

At the start of Year 7, students complete a Baseline Skills Audit to identify prior experiences and technical gaps. This supports teachers in tailoring the pace of learning and ensures all students develop a strong foundation for future Digital Literacy projects.

Pitch Up
How will we challenge ourselves?

Students are challenged to design efficient directory structures and develop logical naming conventions that would be suitable for professional environments. More confident students are encouraged to evaluate different organisational systems and justify why particular structures improve efficiency.

Students also develop increasingly sophisticated communication skills through workplace-style scenarios. They write professional emails responding to realistic situations, demonstrating clear communication, audience awareness, and digital professionalism.

Students are challenged to create logical directory structures and justify organisational decisions. More confident students evaluate alternative methods of information management and explain how different systems support productivity.

Throughout the project, students are encouraged to "Say it Better" by using accurate technical language to explain their decisions and digital processes.

Wider Framework
How does this learning connect to future topics and bigger goals?

Curriculum Hinterland
What wider knowledge will deepen our understanding of this topic?

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This project establishes the digital foundations that underpin all future learning in Digital Literacy. The organisational, communication, and collaboration skills developed here support future work in cybersecurity, coding, digital portfolios, and computational thinking. The enquiry also introduces the professional habits and digital fluency required across Key Stage 3, Key Stage 4, and future employment.	Students explore *The Mother of All Demos (1968)*, in which Douglas Engelbart demonstrated revolutionary technologies including the computer mouse, collaborative editing, hypertext links, and video conferencing. Students investigate how many of the digital tools used daily in schools and workplaces can be traced back to this landmark demonstration. Students are encouraged to recognise that today's digital technologies are the result of decades of innovation, experimentation, and creativity.

Authentic connections

How does this topic connect to real life, careers, other subjects and important values?

This project mirrors the digital systems used throughout modern workplaces. Students experience collaborative working through Microsoft Teams and shared documents, helping them develop the communication and organisational skills expected in professional environments. Students learn how digital systems support learning, business, healthcare, government, and many other sectors of society.

The enquiry develops important aspects of digital citizenship, encouraging students to communicate respectfully, work collaboratively, and consider the impact of their digital behaviour on others. Students learn that professionalism online is just as important as professionalism in face-to-face interactions and begin developing habits that will support future education, employment, and participation in digital communities.

The project also contributes to the wider RSHE curriculum through exploration of respectful communication, online relationships, digital identity, and responsible participation in online spaces. Students consider how communication choices can affect wellbeing, relationships, reputation, and future opportunities while developing confidence in navigating digital environments safely and responsibly.

Spiritual: Students explore how digital systems allow people to communicate and collaborate across geographical boundaries, creating opportunities for connection on a global scale.
Moral: Students consider the responsibilities associated with digital communication and explore what it means to communicate respectfully, professionally, and ethically online.
Social: Collaborative tasks require students to work productively with others, provide constructive feedback, and develop positive digital working relationships that mirror modern workplaces.
Cultural: Students investigate how digital communication has transformed societies around the world and how technology enables global collaboration between people from different cultures and backgrounds.

Students explore careers including:
- Administrative Professional
- Project Manager
- Operations Coordinator

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- Office Manager
- Executive Assistant

Students investigate how digital communication, organisation, and collaboration underpin almost every modern workplace. They explore how businesses, schools, charities, healthcare providers, and government organisations rely upon digital systems to manage information, communicate effectively, and work collaboratively. Students learn that skills such as professional communication, directory navigation, file management, digital organisation, and teamwork are highly transferable and valued by employers across all sectors.

The enquiry also supports employability and career related skills through the Skills Builder Universal Framework, particularly:

- Planning through organising files, creating directory structures, and managing digital workflows.
- Speaking through professional communication and collaborative working.
- Adapting through learning unfamiliar software platforms and responding to new digital challenges.

Resources *What books, websites, videos and materials will support our learning?*	**Assessment** *How will we show what we know, remember and can apply?*
National Curriculum: Computing Programmes of Study KS3 Safety & Ethics: CEOP (ThinkUKnow) and The UK Safer Internet Centre. Physical Computing: BBC micro:bit Foundation and Microsoft MakeCode Editor. Cyber Education: NCSC (National Cyber Security Centre) - CyberFirst. Pedagogy & Logic: The Raspberry Pi Foundation (NCCE) and the Bebras Computing Challenge. Inspiration & Context: Code.org and The National Museum of Computing (Bletchley Park). Portfolio Tools: Microsoft Office Support for advanced PowerPoint and Teams collaboration training.	The assessment is designed to evaluate both students' knowledge and their ability to apply that knowledge within meaningful digital contexts. Throughout the enquiry, students demonstrate their understanding through practical activities, discussions, investigations, digital creations, and reflection. Approximately 60% of assessment focuses on substantive knowledge, including key concepts, technical vocabulary, and subject-specific understanding. Approximately 40% focuses on disciplinary knowledge, assessing how students apply their learning through problem solving, analysis, evaluation, creation, communication, and digital decision making. Each enquiry culminates in a significant outcome or Digital Deep-Dive Challenge, allowing students to bring together their knowledge, skills, and understanding in response to the project's central question.

Topic 2 Enquiry	**How can we stay safe in a digital world?**

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Big Picture
What are the main ideas and big questions in this topic?

Students investigate their digital presence and explore the opportunities and risks associated with life online. Through studying digital footprints, cybersecurity, encryption, authentication, and personal data, students develop the knowledge and skills required to protect themselves and others in an increasingly connected world.

The enquiry encourages students to think critically about their online activity and recognise that digital actions can have lasting consequences. Students explore how technology can be used safely, responsibly, and ethically while developing an understanding of the systems that help keep personal information secure.

Zoom In
What knowledge, skills and key vocabulary will we learn step by step?

Students begin by investigating their digital footprint and exploring how information shared online can create a permanent record. They examine the ways in which social media, websites, online accounts, and digital interactions contribute to an individual's online identity and reputation.

Students then explore the foundations of cybersecurity, including passwords, authentication, encryption, phishing, identity theft, and social engineering. Through case studies and practical investigations, students learn how cybercriminals exploit vulnerabilities and how individuals can take steps to protect their information. The enquiry introduces students to multi-factor authentication (MFA) and the principles of data protection. Students investigate how encryption works and explore the role it plays in securing information online. They are encouraged to think critically about privacy, consent, and the value of personal data in modern society.

Students explore historical and modern encryption techniques, including Caesar Ciphers, to understand how information can be protected. Through practical activities they encrypt and decrypt messages while investigating how modern cybersecurity systems have evolved from these early methods.
Students also configure and evaluate Multi-Factor Authentication (MFA) systems and investigate why organisations increasingly rely on layered security approaches.

Throughout the project, students develop their technical vocabulary and begin using terms such as cybersecurity, encryption, phishing, social engineering, authentication, MFA, privacy, digital footprint, identity theft, and personal data confidently and accurately.
The enquiry is structured around a sequence of focused questions including:

- What is a digital footprint?
- Can anything ever truly be deleted online?
- Why is cybersecurity important?
- How does encryption protect information?
- How can we identify and avoid online threats?

Pre-Requisite Knowledge
What have we already learned that will help us with this topic?

Pitch Up
How will we challenge ourselves?

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Students build upon the professional communication and digital citizenship skills developed during Project 1. They should already understand how digital systems operate and have experience communicating and collaborating responsibly online. This enquiry develops a deeper understanding of personal responsibility, privacy, security, and the ethical use of technology.	Students are challenged to think like cybersecurity professionals by analysing threats, identifying vulnerabilities, and proposing solutions to realistic digital security problems. More confident students will manually decrypt messages encoded using Caesar ciphers and explain the mathematical logic behind encryption systems. Students are encouraged to evaluate the ethical importance of cybersecurity and explain how digital protections help maintain privacy, trust, and safety online. Throughout the project, students continue to develop their ability to "Say it Better" by using increasingly sophisticated technical language when explaining digital concepts.
Wider Framework *How does this learning connect to future topics and bigger goals?*	**Curriculum Hinterland** *What wider knowledge will deepen our understanding of this topic?*
This enquiry provides essential foundations for future study of cybersecurity, networks, data protection, digital citizenship, and ethical technology use. The concepts explored here support future learning throughout Key Stage 3 and prepare students for more advanced cybersecurity content in Year 8. The project also develops critical thinking, risk management, and responsible decision-making skills that are increasingly important in modern society.	Students investigate the work of Alan Turing and the codebreakers of Bletchley Park during the Second World War. Through studying the Enigma Machine and the development of cryptography, students explore how mathematical problem solving and codebreaking changed the course of history. Students examine how the principles established through early cryptography continue to influence modern encryption systems used in banking, online shopping, messaging applications, and cybersecurity today. The enquiry helps students recognise that digital security is built upon decades of innovation, mathematical thinking, and technological advancement.
Authentic connections *How does this topic connect to real life, careers, other subjects and important values?*	

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Students investigate real-world examples of cybercrime, phishing attacks, identity theft, and data breaches. They explore how individuals, schools, businesses, governments, and international organisations work to protect information and maintain security in digital environments. The enquiry develops important aspects of digital citizenship by encouraging students to take responsibility for their online behaviour and personal data. Students consider how their actions online can affect both themselves and others while developing strategies to stay safe in an increasingly connected world.

The project also contributes significantly to the wider RSHE curriculum through exploration of online safety, privacy, consent, healthy online behaviours, managing risk, digital wellbeing, and responsible decision making. Students learn how to recognise online threats, protect personal information, and make informed choices when interacting with digital technologies.

Spiritual: Students reflect on the invisible systems that protect information online and consider how trust is established within digital environments.
Moral: Students explore the ethical implications of cybercrime, hacking, privacy, and online behaviour. They consider the balance between personal freedom and responsibility within digital spaces.
Social: Students discuss how online actions can affect relationships, communities, and wellbeing. They explore how responsible digital behaviour contributes to safer online environments.
Cultural: Students investigate how cybersecurity affects societies around the world and consider how different countries, organisations, and cultures respond to digital threats.

Students explore careers including:

- Cyber Security Analyst
- IT Forensic Investigator
- Ethical Hacker
- Data Protection Officer
- Cyber Security Consultant

Students investigate how cybersecurity professionals protect individuals, businesses, governments, and critical infrastructure from digital threats. They explore how problem solving, logical reasoning, and attention to detail are essential within these careers.

The enquiry also supports employability and career related skills through the Skills Builder Universal Framework, particularly:
- Problem Solving through identifying cybersecurity risks and developing protective solutions.
- Listening through evaluating guidance, advice, and case studies relating to online safety.
- Adapting through responding appropriately to emerging technologies and digital threats.

Resources *What books, websites, videos and materials will support our learning?*	**Assessment** *How will we show what we know, remember and can apply?*

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National Curriculum: Computing Programmes of Study KS3 Safety & Ethics: CEOP (ThinkUKnow) and The UK Safer Internet Centre. Physical Computing: BBC micro:bit Foundation and Microsoft MakeCode Editor. Cyber Education: NCSC (National Cyber Security Centre) - CyberFirst. Pedagogy & Logic: The Raspberry Pi Foundation (NCCE) and the Bebras Computing Challenge. Inspiration & Context: Code.org and The National Museum of Computing (Bletchley Park). Portfolio Tools: Microsoft Office Support for advanced PowerPoint and Teams collaboration training.	The assessment is designed to evaluate both students' knowledge and their ability to apply that knowledge within meaningful digital contexts. Throughout the enquiry, students demonstrate their understanding through practical activities, discussions, investigations, digital creations, and reflection. Approximately 60% of assessment focuses on substantive knowledge, including key concepts, technical vocabulary, and subject-specific understanding. Approximately 40% focuses on disciplinary knowledge, assessing how students apply their learning through problem solving, analysis, evaluation, creation, communication, and digital decision making. Each enquiry culminates in a significant outcome or Digital Deep-Dive Challenge, allowing students to bring together their knowledge, skills, and understanding in response to the project's central question.

Topic 3
Enquiry

How do computers actually work?

Big Picture
What are the main ideas and big questions in this topic?

Students move beyond simply using technology to understanding the physical systems that make computing possible. Through hands-on exploration of computer hardware and the mathematical foundations of computing, students investigate how computers receive, process, store, and output information.

The enquiry helps students understand that every smartphone, laptop, gaming console, and digital device relies upon the same fundamental principles. Students explore how hardware components work together and how binary provides the language that computers use to represent and process data.

Zoom In
What knowledge, skills and key vocabulary will we learn step by step?

Students investigate the physicality of computing by exploring the internal components of a computer system. They handle and identify key hardware components including CPUs, RAM, hard drives, solid-state storage devices, motherboards, and input and output devices.

Students explore how data moves through a computer system using the Input-Process-Output model. They investigate how information enters a computer, how it is processed by the CPU, and how results are displayed or stored. This provides students with a foundational understanding of how digital devices function.

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The enquiry introduces students to the mathematical foundation of modern computing: Binary code (Base-2). Students learn how computers represent information using only 1s and 0s and begin converting between denary and binary values. They investigate how text, images, sound, and instructions can all be represented using binary data.

Students investigate the Fetch–Decode–Execute cycle and explore how CPUs process instructions. Through modelling activities they examine how instructions move through a computer system and how processors carry out calculations and decision making. Practical hardware investigations allow students to identify and compare components while considering how different specifications affect system performance. Students also begin exploring how computer performance is influenced by hardware specifications and how different components perform different roles within a system.

Throughout the project students develop confidence using technical vocabulary including CPU, RAM, storage, motherboard, binary, denary, input device, output device, processing, hardware, software, and data representation.

The enquiry is structured around a sequence of focused questions including:
- What happens inside a computer?
- How does data move through a computer system?
- Why do computers use binary?
- How is information represented digitally?
- What makes one computer perform better than another

Pre-Requisite Knowledge
What have we already learned that will help us with this topic?

Students build upon the understanding of digital systems developed in Projects 1 and 2. They have already explored how technology is used and how information is communicated and protected.

This enquiry develops a deeper understanding of what is happening beneath the surface when technology is used, helping students understand the physical and logical systems that underpin modern computing.

Pitch Up
How will we challenge ourselves?

Students are challenged to move beyond identifying hardware and begin explaining how systems work together. They investigate how information travels through a computer system and apply their understanding to unfamiliar devices and scenarios.

More confident students are encouraged to convert increasingly complex denary values into binary and explain the Fetch-Decode-Execute cycle of the CPU using accurate technical language. Students are expected to justify their explanations and demonstrate deeper understanding of how computer systems process information.

Throughout the project students continue to develop their ability to "Say it Better" by using subject-specific vocabulary to explain complex technical processes.

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Wider Framework *How does this learning connect to future topics and bigger goals?*	Curriculum Hinterland *What wider knowledge will deepen our understanding of this topic?*
This enquiry provides essential foundations for future study of coding, computational thinking, cybersecurity, networking, and computer science. Understanding how computer systems process information helps students make sense of more advanced technical concepts encountered later in Key Stage 3. The logical thinking and technical vocabulary developed during this project support future learning across Digital Literacy and Computing.	Students investigate the story of Apollo 11 and the work of Margaret Hamilton and NASA's software engineers. They explore how the computers used during the Moon Landing had significantly less processing power than many modern household devices yet successfully supported one of humanity's greatest technological achievements. Students also learn about the "Hidden Figures" mathematicians and engineers whose work helped make space exploration possible. Through these stories, students gain an appreciation of the innovation, perseverance, and problem solving that underpin technological advancement. The enquiry encourages students to recognise that modern computing is built upon decades of scientific discovery, engineering, and human creativity.

Authentic connections
How does this topic connect to real life, careers, other subjects and important values?

Students explore the hardware found within the devices they use every day, including smartphones, tablets, laptops, gaming consoles, and smart technologies. They begin to understand how these systems operate and why technical knowledge is increasingly important within modern society.

The enquiry develops an appreciation for the role technology plays across almost every aspect of modern life, from healthcare and transport to entertainment and communication. Students are encouraged to think critically about how technological innovation continues to shape the world around them.
The project also contributes to the wider RSHE curriculum through developing resilience, confidence, problem solving, and aspirations. Students learn that complex challenges can be solved through perseverance and logical thinking while exploring career pathways linked to technology and engineering.

Spiritual: Students explore the remarkable technological achievements that have transformed society and reflect on humanity's ability to solve complex problems through innovation.
Moral: Students consider how technological advances can be used responsibly and how innovation should benefit society.
Social: Students collaborate during investigations and practical activities, sharing ideas and solving technical challenges together.
Cultural: Students explore how computing innovations have shaped cultures and societies across the world and how technology continues to connect people globally.

Students explore careers including:

- Hardware Engineer
- Systems Engineer
- Computer Technician
- Electronics Engineer
- Computer Architect

Students investigate how understanding computer systems, hardware, and data processing supports careers across engineering, technology, manufacturing, and computing industries. They learn that logical reasoning, technical understanding, and problem solving are highly valued within these sectors.

The enquiry also supports employability and career related skills through the Skills Builder Universal Framework, particularly:
- Problem Solving through hardware investigations and binary challenges.
- Creativity through modelling and representing data in different forms.
- Planning through logical sequencing and computational thinking.

Resources
What books, websites, videos and materials will support our learning?

National Curriculum: Computing Programmes of Study KS3
Safety & Ethics: CEOP (ThinkUKnow) and The UK Safer Internet Centre.
Physical Computing: BBC micro:bit Foundation and Microsoft MakeCode Editor.
Cyber Education: NCSC (National Cyber Security Centre) - CyberFirst.
Pedagogy & Logic: The Raspberry Pi Foundation (NCCE) and the Bebras Computing Challenge.
Inspiration & Context: Code.org and The National Museum of Computing (Bletchley Park).
Portfolio Tools: Microsoft Office Support for advanced PowerPoint and Teams collaboration training.

Assessment
How will we show what we know, remember and can apply?

The assessment is designed to evaluate both students' knowledge and their ability to apply that knowledge within meaningful digital contexts. Throughout the enquiry, students demonstrate their understanding through practical activities, discussions, investigations, digital creations, and reflection.

Approximately 60% of assessment focuses on substantive knowledge, including key concepts, technical vocabulary, and subject-specific understanding. Approximately 40% focuses on disciplinary knowledge, assessing how students apply their learning through problem solving, analysis, evaluation, creation, communication, and digital decision making.

Each enquiry culminates in a significant outcome or Digital Deep-Dive Challenge, allowing students to bring together their knowledge, skills, and understanding in response to the project's central question.

Topic 4 Enquiry	**How can we use code to solve problems?**

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Big Picture

What are the main ideas and big questions in this topic?

Students transition from being consumers of technology to becoming creators. Using BBC micro physical computers, students learn how code can be used to solve problems, automate processes, and control physical devices. Through practical programming activities, students develop computational thinking skills while gaining an understanding of how software is designed, tested, and improved. Students explore how software interacts with hardware through physical computing. Using BBC micro:bits, students create programs that respond to user input, sensor data, and environmental changes.

The enquiry introduces students to the fundamental principles of programming and problem solving. Students learn that coding is not simply about writing instructions, but about breaking down complex problems into manageable steps and creating logical solutions that can be refined and improved over time.

Zoom In

What knowledge, skills and key vocabulary will we learn step by step?

Students are introduced to computational thinking and explore how programmers approach problems. They investigate key concepts including decomposition, pattern recognition, abstraction, algorithms, and debugging. Students learn how large problems can be broken into smaller tasks and how recognising patterns helps programmers create efficient solutions.

Using BBC micro and Microsoft MakeCode, students create, test, and refine block-based programs. They develop algorithms that control LEDs, buttons, sensors, and outputs, allowing them to see the direct impact of their code on physical devices.

A significant focus is placed upon debugging. Students learn that mistakes are an expected part of programming and that successful programmers continually test, evaluate, and improve their code. Through practical tasks, students identify errors, troubleshoot problems, and refine their solutions. As confidence develops, students move beyond simple linear programs and begin incorporating more complex logic into their code. Students explore selection, repetition, and interactive outputs while developing independence and resilience when solving technical challenges. Students investigate how sensors collect information and how programs respond to real-world inputs. Through increasingly complex micro:bit projects, students design solutions that interact with users and their environment. Students experience the iterative design process used by professional developers, continually testing, refining, and improving their products.

Throughout the enquiry, students develop confidence using technical vocabulary including algorithm, decomposition, pattern recognition, abstraction, debugging, variable, sequence, selection, repetition, input, output, and computational thinking.

The enquiry is structured around a sequence of focused questions including:

- What is an algorithm?
- How do programmers solve problems?
- Why is debugging important?
- How can code control physical devices?
- How do computers follow instructions?

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Pre-Requisite Knowledge *What have we already learned that will help us with this topic?*	**Pitch Up** *How will we challenge ourselves?*
Students build upon their understanding of computer systems, binary, and logical processes developed in earlier projects. They have already explored how computers process information and how digital systems operate. This enquiry applies that knowledge through practical programming, helping students understand how software provides instructions that enable hardware to perform specific tasks.	Students are challenged to move beyond following instructions and begin creating their own solutions to programming problems. They are encouraged to test, refine, and improve their code independently while developing resilience when encountering errors. More confident students' progress beyond simple sequential programs and begin incorporating selection and loops into their projects. They create increasingly sophisticated and interactive programs while demonstrating independent debugging and problem solving. Throughout the project, students continue to develop their ability to "Say it Better" by explaining how decomposition, pattern recognition, and algorithms contribute to successful programming outcomes.
Wider Framework *How does this learning connect to future topics and bigger goals?*	**Curriculum Hinterland** *What wider knowledge will deepen our understanding of this topic?*
This enquiry provides the foundation for future programming and computational thinking throughout Key Stage 3 and beyond. The concepts introduced here support later study of software development, automation, artificial intelligence, robotics, and computer science. Students also develop transferable problem-solving skills that support learning across mathematics, science, technology, and engineering subjects.	Students explore the story of Grace Hopper, one of the pioneers of computer programming. They investigate the famous story of the first documented computer "bug", where a moth became trapped within a computer relay, leading to the term "debugging" that programmers still use today. Students also explore how programming has evolved from early computers that filled entire rooms to modern devices capable of performing billions of calculations each second. They examine how coding underpins many of the technologies used daily, from smartphones and gaming systems to medical equipment and transportation networks. The enquiry encourages students to recognise that programming is a creative and innovative discipline that has transformed modern society.
Authentic connections *How does this topic connect to real life, careers, other subjects and important values?*	

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Students experience what it means to create technology rather than simply use it. Through programming micro, they develop an understanding of how software controls devices and influences many aspects of everyday life. Students investigate how coding is used in industries ranging from healthcare and engineering to gaming and entertainment. Students explore how physical computing underpins many technologies encountered in everyday life, including smart devices, wearable technology, automation systems, robotics, and the Internet of Things.

The enquiry encourages students to view mistakes as opportunities for improvement and develops resilience, perseverance, and confidence when approaching complex challenges. Students learn that successful programmers continually test, refine, and improve their work.

The project also contributes to the wider RSHE curriculum through the development of resilience, self-confidence, creativity, collaboration, and problem-solving skills. Students learn how perseverance, reflection, and constructive responses to setbacks contribute to personal growth and future success.

Spiritual: Students experience curiosity and wonder as they create working programs that control physical devices and bring ideas to life.
Moral: Students consider the responsibilities associated with creating technology and explore how software can be used to improve people's lives.
Social: Collaborative programming tasks encourage students to share ideas, support peers, and work together to overcome technical challenges.
Cultural: Students explore how programmers and innovators from different backgrounds have contributed to technological advancement and how coding has become a global language.

Students explore careers including:
- Software Developer
- App Designer
- Game Developer
- Robotics Engineer
- Systems Programmer

Students investigate how coding is used to create applications, websites, games, automated systems, and emerging technologies. They learn that computational thinking, creativity, resilience, and logical reasoning are highly valued within technology industries.

The enquiry also supports employability through the Skills Builder Universal Framework, particularly:
- Problem Solving through coding and debugging challenges.
- Creativity through designing and developing digital solutions.
- Adapting through testing, refining, and improving programs.

Resources *What books, websites, videos and materials will support our learning?*	**Assessment** *How will we show what we know, remember and can apply?*

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National Curriculum: Computing Programmes of Study KS3 Safety & Ethics: CEOP (ThinkUKnow) and The UK Safer Internet Centre. Physical Computing: BBC micro:bit Foundation and Microsoft MakeCode Editor. Cyber Education: NCSC (National Cyber Security Centre) - CyberFirst. Pedagogy & Logic: The Raspberry Pi Foundation (NCCE) and the Bebras Computing Challenge. Inspiration & Context: Code.org and The National Museum of Computing (Bletchley Park). Portfolio Tools: Microsoft Office Support for advanced PowerPoint and Teams collaboration training.	The assessment is designed to evaluate both students' knowledge and their ability to apply that knowledge within meaningful digital contexts. Throughout the enquiry, students demonstrate their understanding through practical activities, discussions, investigations, digital creations, and reflection. Approximately 60% of assessment focuses on substantive knowledge, including key concepts, technical vocabulary, and subject-specific understanding. Approximately 40% focuses on disciplinary knowledge, assessing how students apply their learning through problem solving, analysis, evaluation, creation, communication, and digital decision making. Each enquiry culminates in a significant outcome or Digital Deep-Dive Challenge, allowing students to bring together their knowledge, skills, and understanding in response to the project's central question.

Topic 5
Enquiry

How do computers make decisions?

Big Picture
What are the main ideas and big questions in this topic?

Students explore the foundations of Computer Science through a series of creative and practical "unplugged" activities that remove the need for screens and coding software. Through binary art, logic circuits, computational puzzles, and decision-making challenges, students develop an understanding of how computers process information and make decisions.

The enquiry demonstrates that even the most sophisticated technologies are built upon simple logical rules. By physically modelling computer processes and solving increasingly complex challenges, students develop computational thinking skills while gaining a deeper understanding of how computers represent information, recognise patterns, and solve problems.

Zoom In
What knowledge, skills and key vocabulary will we learn step by step?

Students investigate how computers represent information using binary and explore how simple combinations of 1s and 0s allow devices to process text, images, sound, and instructions. Through practical activities and challenges, students develop confidence in recognising patterns and understanding how digital systems encode information.

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The enquiry introduces students to computational thinking through unplugged activities that focus on decomposition, pattern recognition, abstraction, and logical reasoning. Students explore how breaking down problems into smaller parts helps computers process information more efficiently.

Students investigate how computers make decisions using logic gates and decision-making processes. They explore how simple rules can be combined to create increasingly sophisticated systems and discover how logic underpins many technologies they use every day.

A creative element is introduced through binary art and visual representation activities, helping students understand how data can be represented in multiple forms while reinforcing the relationship between creativity and computing. Students create Binary Art by converting images into binary patterns and investigating how digital images are stored using pixels. They explore how the resolution and quality of images have changed over time and consider how advances in computing have transformed digital media.

Students also build physical logic circuits using card-based activities and participate in Bebras-style computational thinking challenges. These activities encourage students to apply reasoning, pattern recognition, decomposition, and logical thinking to increasingly complex problems without relying on technology.

Throughout the enquiry students develop confidence using technical vocabulary including binary, logic, logic gate, abstraction, pattern recognition, decomposition, algorithm, computational thinking, data representation, and decision making.

The enquiry is structured around a sequence of focused questions including:
- How do computers make decisions?
- What are logic gates?
- How is binary used to represent information?
- How can complex problems be simplified?
- Why is logical thinking important in computing?

Pre-Requisite Knowledge *What have we already learned that will help us with this topic?*	**Pitch Up** *How will we challenge ourselves?*
Students build upon their understanding of binary and data representation developed during Project 3, alongside the computational thinking skills introduced through coding and problem solving in Project 4. This enquiry strengthens those foundations by helping students understand how computers process information and make decisions using logical systems.	Students are challenged to apply computational thinking to increasingly complex problems. They investigate how logical systems operate and develop confidence in breaking down problems into manageable steps. More confident students explore how multiple logic gates can be combined to create sophisticated decision-making systems. Students are encouraged to justify their reasoning using accurate technical vocabulary and explain how logical processes support modern computing technologies.

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	Throughout the project, students continue to develop their ability to "Say it Better" by using precise subject terminology when explaining computational concepts and decision-making processes.
Wider Framework *How does this learning connect to future topics and bigger goals?*	**Curriculum Hinterland** *What wider knowledge will deepen our understanding of this topic?*
This enquiry strengthens the computational thinking skills that underpin future study of programming, computer science, artificial intelligence, data science, and software development. Students develop logical reasoning, analytical thinking, and problem-solving skills that support learning across mathematics, science, engineering, and technology disciplines.	Students investigate The History of the Pixel, tracing the development of digital imagery from the simple grey blocks of early computer screens to modern high-definition graphics, gaming environments, animation, and virtual reality experiences. They explore how increasing processing power and advances in data representation have transformed the way images are created, stored, and displayed. Students consider how seemingly simple pixels underpin much of modern digital communication, entertainment, and design. The enquiry encourages students to recognise how creativity and computer science often work together to create the visual technologies they use every day.

Authentic connections
How does this topic connect to real life, careers, other subjects and important values?

Students explore how computational thinking is used far beyond Computer Science. The logical reasoning skills developed through Bebras-style challenges support learning in mathematics, science, engineering, and everyday decision making. Students discover how businesses, scientists, engineers, and software developers use similar problem-solving approaches when tackling complex real-world challenges. Through Binary Art and logic circuit activities, students also recognise that creativity and computing are closely connected disciplines. The project demonstrates how artistic design, visual communication, and computational logic combine within many modern technologies.

The project also contributes to the wider RSHE curriculum through the development of critical thinking, decision making, media literacy, and responsible engagement with technology. Students consider how digital systems influence choices, behaviours, and access to information while developing the skills needed to evaluate digital content critically.

Spiritual: Students experience curiosity and wonder as they discover how simple logical rules can create complex digital systems and technologies.
Moral: Students consider how algorithms and automated systems influence decisions within society and explore the ethical implications of technology-driven decision making.
Social: Collaborative investigations encourage students to share ideas, challenge assumptions, and develop solutions collectively.

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Cultural: Students investigate how digital technologies have transformed communication, entertainment, and access to information across cultures and societies around the world.

Students explore careers including:
- Data Analyst
- Database Administrator
- Data Scientist
- Artificial Intelligence Developer
- Information Systems Manager

Students investigate how logical thinking, data analysis, and computational reasoning support careers across technology, business, science, engineering, and research sectors. They learn how professionals use data and algorithms to solve problems, identify patterns, and support decision making.

The enquiry also supports employability and career related skills through the Skills Builder Universal Framework, particularly:
- Problem Solving through logical reasoning and computational challenges.
- Creativity through binary art and data representation activities.
- Planning through sequencing, analysis, and logical decision making.

Resources
What books, websites, videos and materials will support our learning?

National Curriculum: Computing Programmes of Study KS3
Safety & Ethics: CEOP (ThinkUKnow) and The UK Safer Internet Centre.
Physical Computing: BBC micro:bit Foundation and Microsoft MakeCode Editor.
Cyber Education: NCSC (National Cyber Security Centre) - CyberFirst.
Pedagogy & Logic: The Raspberry Pi Foundation (NCCE) and the Bebras Computing Challenge.
Inspiration & Context: Code.org and The National Museum of Computing (Bletchley Park).
Portfolio Tools: Microsoft Office Support for advanced PowerPoint and Teams collaboration training.

Assessment
How will we show what we know, remember and can apply?

The assessment is designed to evaluate both students' knowledge and their ability to apply that knowledge within meaningful digital contexts. Throughout the enquiry, students demonstrate their understanding through practical activities, discussions, investigations, digital creations, and reflection.

Approximately 60% of assessment focuses on substantive knowledge, including key concepts, technical vocabulary, and subject-specific understanding. Approximately 40% focuses on disciplinary knowledge, assessing how students apply their learning through problem solving, analysis, evaluation, creation, communication, and digital decision making.

Each enquiry culminates in a significant outcome or Digital Deep-Dive Challenge, allowing students to bring together their knowledge, skills, and understanding in response to the project's central question.

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Topic 6 Enquiry	**How can we showcase our digital journey?**

Big Picture
What are the main ideas and big questions in this topic?

Students conclude their Year 7 Digital Literacy journey by becoming project managers of their own learning. Drawing together knowledge, skills, and outcomes from across the year, students curate and present evidence that demonstrates their development as confident, responsible, and capable digital learners.

The enquiry focuses on communication, presentation, reflection, and digital identity. Students explore how information can be organised and presented effectively while considering how digital portfolios are used within education, employment, and professional environments. Through this final project, students celebrate their achievements while developing the skills needed to communicate their strengths and experiences to others.

Zoom In
What knowledge, skills and key vocabulary will we learn step by step?

Students begin by reviewing their Year 7 Digital Literacy journey and identifying key learning from previous projects. They gather evidence from work completed throughout the year, including communication tasks, cybersecurity investigations, hardware activities, coding projects, computational thinking challenges, and Digital Deep-Dive outcomes.

Students explore the principles of effective presentation design, including visual hierarchy, audience awareness, layout, colour, typography, and communication. They investigate how information can be structured to maximise clarity and impact while ensuring content remains accessible and professional. Acting as project managers, students organise, evaluate, and curate evidence of their learning. They make decisions about which examples best showcase their progress and reflect on the skills they have developed throughout the year. Students learn how to communicate achievements effectively while considering audience and purpose.

The enquiry encourages students to think critically about digital identity and personal presentation. They explore how digital content contributes to reputation and future opportunities while considering the importance of professionalism within online spaces.

Throughout the project students develop confidence using technical vocabulary including digital identity, portfolio, visual hierarchy, audience, communication, presentation, evaluation, reflection, branding, layout, and project management.

The enquiry is structured around a sequence of focused questions including:
- How can we showcase our digital journey?
- What makes an effective digital portfolio?
- How can visual hierarchy improve communication?

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- What does a professional digital identity look like?
- How can we present our achievements effectively?

Pre-Requisite Knowledge

What have we already learned that will help us with this topic?

Students draw upon all previous learning from Year 7 Digital Literacy, including digital communication, cybersecurity, computer systems, computational thinking, coding, and digital citizenship.

This project provides an opportunity for students to revisit, consolidate, and apply knowledge from across the year while reflecting on their growth as digital learners.

Pitch Up

How will we challenge ourselves?

Students are challenged to think critically about how they communicate information and present themselves professionally. They must select evidence carefully, justify their choices, and explain how their work demonstrates progress over time.

More confident students evaluate the effectiveness of different presentation techniques and independently apply principles of visual hierarchy and audience awareness to improve the quality of their portfolio.

Throughout the project students continue to develop their ability to "Say it Better" by reflecting upon their learning using accurate technical vocabulary and thoughtful evaluation.

Wider Framework

How does this learning connect to future topics and bigger goals?

This enquiry prepares students for future project-based learning throughout Key Stage 3 and beyond. The communication, presentation, reflection, and organisational skills developed here will support future coursework, careers education, and independent learning.

The project also reinforces the importance of digital identity, professionalism, and effective communication in an increasingly digital world.

Curriculum Hinterland

What wider knowledge will deepen our understanding of this topic?

Students investigate the work of Sir Tim Berners-Lee and the creation of the World Wide Web. They explore how one decision to make the web freely available transformed communication, education, business, and access to information across the globe.

Students examine the difference between the internet and the World Wide Web while considering how digital content created by individuals contributes to a global network of information, communication, and creativity.

The enquiry encourages students to recognise that the technologies they use every day are built upon ideas that have reshaped the modern world.

Authentic connections

How does this topic connect to real life, careers, other subjects and important values?

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Students create a professional showcase of their Year 7 learning that mirrors the portfolios increasingly used within education, creative industries, and professional environments. They explore how employers, colleges, universities, and organisations use portfolios to evaluate skills, achievements, and personal qualities.
The enquiry encourages students to consider how digital identity can influence future opportunities and how effective communication can help individuals present themselves positively. Students develop confidence in reflecting on their achievements and communicating their strengths to others.
The project also contributes to the wider RSHE curriculum through self-awareness, confidence, aspirations, personal strengths, future pathways, and responsible digital participation. Students reflect on their development, identify future goals, and consider how digital literacy skills will support lifelong learning and employment.

Spiritual: Students reflect upon their personal growth throughout Year 7 and consider how their experiences have shaped them as learners.
Moral: Students explore the responsibilities associated with creating and sharing digital content and consider how online behaviour contributes to reputation and trust.
Social: Students share ideas, provide feedback, and celebrate the achievements of others while developing confidence in presenting their own work.
Cultural: Students investigate how digital platforms allow individuals from different cultures and backgrounds to communicate, collaborate, and share ideas globally.

Students explore careers including:
- Digital Content Creator
- Marketing Executive
- Web Designer
- Entrepreneur
- Creative Director

Students investigate how communication, presentation, creativity, and project management support success across a wide range of professions. They explore how portfolios are used within education, technology, business, and creative industries to demonstrate achievement and capability.

The enquiry also supports employability and career related, particularly:
- Planning through portfolio creation and project management.
- Speaking through presenting and explaining digital work.
- Creativity through visual design and digital communication.

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