# Year 7 Computing Curriculum Overview

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| **Year 7 Overview** | Students will begin by exploring the fundamental areas of Computing that form the basis of digital literacy and technological understanding. The curriculum will cover **e-safety**, where students learn how to protect themselves and others online, understand digital footprints, and develop responsible online behaviours. Through **communication tools**, students will discover how technology enables collaboration and information sharing in both personal and professional contexts, exploring platforms such as email, cloud-based tools, and digital workspaces.<br>The **programming** unit will introduce students to the principles of coding and computational thinking, helping them to understand how algorithms work, develop logical problem-solving skills, and create their own simple programs. In **computer hardware**, students will gain an insight into how computers function by identifying the key internal and external components, understanding how data is processed, and recognising the importance of different types of hardware in everyday technology.<br>Finally, the **animation** unit will encourage creativity and technical ability as students design and produce their own digital animations, learning key concepts such as storyboarding, frame sequencing, and digital graphics.<br>Each unit is carefully structured to build on prior learning, ensuring progression in both **practical digital skills** and **theoretical knowledge**. Throughout the course, students will develop **critical thinking**, **problem-solving**, and **creative expression**, all while reinforcing the importance of being **safe, respectful, and responsible digital citizens** in an increasingly connected world. |

Last updated: 20/11/2025

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| Week Number | Themes/ Topics | Key Knowledge & Skills | Digital Literacy<br>Homework Themes | Key Assessments |
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| 1-4<br>Autumn 1 | → Unit 1 – E-Safety: Staying Safe Online | → In this unit, students will explore the importance of staying safe in digital environments and understand the risks associated with online activity. They will learn about cyberbullying, phishing, and other common online threats, and how to recognise and respond to them appropriately. Students will examine their digital footprints and understand how their actions online can have long-term consequences. The unit will cover strategies for protecting personal information, including creating strong passwords and managing privacy settings. Learners will also evaluate the reliability of online content and identify misinformation or scams. They will discuss the ethical use of technology and the importance of respecting others in digital spaces. Students will develop critical thinking skills as they assess scenarios and make safe choices online. Through interactive activities, they will apply knowledge to real-life situations. The unit aims to build a strong foundation for responsible digital citizenship. By the end, students will be confident in identifying risks and practicing safe and responsible online behaviour.<br>→<br>Understand what e-safety means and why it is important.<br>- Recognise different types of online threats (phishing, cyberbullying, malware).<br>- Explore the concept of digital footprints and how online actions have long-term effects.<br>- Learn how to create strong passwords and maintain privacy online.<br>- Evaluate the reliability of online information and spot misinformation. | Responsible use of digital platforms.<br>- Managing online identity and privacy settings.<br>- Understanding acceptable online communication.<br><br>**1.** Revise and define key e-safety vocabulary (e.g., phishing, privacy, digital footprint).<br>**2.** Mid-point quiz on online safety scenarios.<br>**3.** Create flashcards on key e-safety tips and online behaviour rules. | - Baseline assessment on e-safety concepts.<br>- Scenario-based task: identify safe vs unsafe behaviours online.<br>- End-of-unit test on e-safety and digital responsibility. |

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| **5-8**<br>**Autumn 1 & 2** | → Unit 2 – Using Emails and Microsoft Teams | → This unit introduces students to digital communication tools used in both education and professional environments. Students will learn how to compose professional, clear, and respectful emails, including the correct use of subject lines, attachments, CC, and BCC. They will explore the functionality of Microsoft Teams for communication and collaboration, including messaging, file sharing, and joining virtual meetings. The unit emphasizes the importance of online etiquette and safeguarding while using communication platforms. Students will practice organising and managing digital correspondence effectively. They will develop skills in collaboration and teamwork through group tasks in Teams. Learners will understand the importance of maintaining professionalism in online interactions. The unit also highlights how these tools support project management and workflow. Students will analyse communication scenarios and identify appropriate responses. By the end of the unit, students will be confident in using email and Teams responsibly and effectively for learning and collaboration.<br><br>→ Understand what communication tools are and why they are used in education and business.<br>- Learn how to compose professional and appropriate emails.<br>- Use subject lines, attachments, and CC/BCC correctly.<br>- Navigate MS Teams: sending messages, sharing files, joining meetings, and collaborating in channels.<br>- Understand etiquette and safeguarding when using online communication tools. | - Professional digital communication.<br>- Managing digital correspondence responsibly.<br>- Collaborating effectively through online platforms.<br><br>**1.** Revise terminology (inbox, CC, BCC, attachment, etiquette).<br>**2.** Mid-point practice: write and send a professional email to a teacher.<br>**3.** Create flashcards for email and Teams functions. | Practical email task: compose and send a formal email.<br>- Observation-based MS Teams usage task.<br>- End-of-unit assessment: digital communication quiz. |

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| 9-13<br>Autumn 1 & 2 | → Unit 3 – Introduction to Programming (Scratch & Rapid Router) | → In this unit, students will be introduced to programming concepts using Scratch and Rapid Router, focusing on developing logical thinking and problem-solving skills. They will learn how to create algorithms using sequence, selection, and repetition. Students will practice debugging and refining code to ensure programs run correctly. They will explore the basics of flowcharts and pseudocode to plan their programs effectively. Scratch will be used to create simple interactive projects, while Rapid Router will demonstrate real-world coding logic in a visual format. The unit encourages students to think computationally and break problems into manageable steps. They will apply coding concepts to practical challenges and mini-projects. Students will also learn to test and evaluate their programs to improve functionality. The focus is on developing confidence in creating, running, and debugging programs. By the end, learners will have a strong foundation in programming logic and computational thinking, preparing them for more advanced coding tasks.<br><br>→ Understand algorithms and sequence, selection, and iteration.<br>- Create and debug simple programs using Scratch.<br>- Understand flowcharts and pseudocode basics.<br>- Develop problem-solving and logical reasoning skills.<br>- Use Rapid Router to understand real-world code logic and debugging. | → Understanding coding environments.<br>- Logical problem-solving through programming.<br>- Using block-based languages safely and appropriately.<br>**1.** Revise coding vocabulary (algorithm, loop, variable, bug).<br>**2.** Mid-point task: complete a Rapid Router challenge.<br>**3.** Create flashcards of coding terms and logic symbols. | Practical coding challenges in Scratch.<br>- Debugging exercises in Rapid Router.<br>- End-of-unit mini-project: working program demonstrating sequence and repetition. |

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| **14-18 Spring 1** | → Unit 4 – Computer Hardware and Systems | → This unit provides students with an understanding of the key components that make up a computer system. They will explore the functions of the CPU, RAM, storage devices, input/output devices, and peripheral hardware. Students will learn the difference between hardware and software and how these interact to perform tasks. The unit introduces binary representation and explains how computers process and store data. Learners will investigate how networks enable devices to communicate and share information. They will also explore practical issues such as device maintenance, troubleshooting, and responsible use of hardware. Students will develop skills in identifying, naming, and explaining the purpose of different components. The unit encourages analytical thinking when comparing hardware specifications and understanding system performance. Real-life examples will be used to show how hardware affects the usability of software applications. By the end, students will have a solid understanding of computer systems and their functions in everyday technology.<br><br>→ Identify key computer components (CPU, RAM, storage, input/output devices).<br>- Understand the difference between hardware and software.<br>- Learn about binary representation and how data is processed.<br>- Explore how devices connect and communicate.<br>- Understand the role of networks and the Internet in hardware systems. | → Understanding how physical technology supports digital work.<br>→ - Safe and respectful use of hardware (e.g., logging in/out, caring for devices)<br>**1.** Revise hardware key terms (CPU, GPU, storage, RAM).<br>**2.** Mid-point labelling task: identify and describe components.<br>**3.** Create flashcards for hardware and software definitions. | - Label and describe hardware components task.<br>- Binary and systems quiz.<br>- End-of-unit written assessment on hardware components and function. |

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| 19-24 Spring 2 | → **Unit 5 – Game Design in Scratch** | → In this unit, students will build on prior programming knowledge to design and create their own interactive games using Scratch. They will explore how to use variables, loops, and conditional statements to control game behaviour. Students will design sprites, backgrounds, and levels to create engaging and visually appealing games. The unit emphasizes planning, testing, and debugging as key parts of the game development process. Students will evaluate their games for functionality, playability, and user experience. Collaboration and peer feedback will be encouraged to improve creativity and problem-solving skills. The unit introduces project management skills by having students plan and execute a game from start to finish. Students will also learn to implement scoring, timers, and other gameplay mechanics. Critical thinking is developed through iterative design and refinement of games. By the end of the unit, learners will be confident in designing and programming their own games while demonstrating creativity and technical skill.<br><br>→ Build on prior programming knowledge to design an interactive game.<br>- Use variables, operators, and control structures effectively.<br>- Design sprites and backdrops to create engaging gameplay.<br>- Test and debug programs to ensure functionality.<br>- Evaluate games for usability, playability, and creativity. | → - Applying coding skills in creative projects.<br>- Collaborating and sharing digital creations safely.<br>- Respecting digital property and originality.<br>**1.** Revise game design vocabulary (variable, loop, sprite, condition).<br>**2.** Mid-point progress check on game prototype.<br>**3.** Create flashcards of programming blocks and functions used in the game. | - Practical assessment: working Scratch game project.<br>- Peer feedback on functionality and creativity.<br>- End-of-unit evaluation and self-assessment. |

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| **25-38**<br>**Summer 1 + 2** | → **Unit 6 – Animation with Wick Editor** | → In this unit, students will learn the principles of digital animation and create their own animated sequences using Wick Editor. They will explore key concepts such as frames, keyframes, tweening, motion paths, and timing control. Students will plan animations using storyboards and scripts to organise their ideas effectively. They will develop skills in drawing and designing characters, backgrounds, and objects for animation projects. The unit emphasizes adding audio, visual effects, and transitions to enhance storytelling and engagement. Students will test and refine their animations, learning to identify and solve technical or creative issues. The importance of copyright and ethical use of digital media will be highlighted. Peer review and self-assessment will encourage critical evaluation of animation projects. The unit fosters creativity, attention to detail, and technical proficiency in animation software. By the end, students will have produced their own animations and gained an understanding of the animation workflow from concept to completion.<br>→ - Understand what animation is and how it's used in media and computing.<br>- Learn keyframe animation, motion paths, and timing control.<br>- Plan an animation using a storyboard and script.<br>- Create a short animated sequence using Wick Editor.<br>- Add audio and visual effects to enhance storytelling.<br>- Evaluate animation projects for creativity and technique. | - Responsible use of creative software.<br>- Understanding copyright and fair use in digital media.<br>- Safe sharing of multimedia content online.<br><br>**1.** Revise animation terms (frame, tween, layer, timeline).<br>**2.** Mid-point task: create a short animated clip using Wick Editor.<br>**3.** Create flashcards for animation tools and techniques. | - Practical animation project submission.<br>- Peer evaluation of animation projects.<br>- End-of-unit assessment: animation and design principles quiz. |