

Computing Curriculum overview

Computer Science means understanding how computers work, how algorithms and programs are created, and how to solve problems using code.

Information Technology means using digital systems, software and devices to create, store, organise and communicate information. **Digital Literacy**

means using technology safely, responsibly and confidently to communicate, create, find and evaluate information.

Autumn term

EYFS Children begin to develop computational thinking by noticing patterns, following simple instructions and exploring sequences. They use positional and directional language and begin to understand that actions can have effects. Children explore everyday technology through play, including tablets, keyboards, remote controls and programmable toys, while developing simple rules for using technology safely and asking adults for help when needed.

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<u>Technology all about us/digital painting</u> ★ Computer Science Children identify parts of a computer and create and follow simple instructions using directions and programmable toys. Information Technology Children explore technology around them and use digital tools to create paintings and simple digital writing. Digital Literacy Children begin to understand how technology is used safely and develop simple rules for using digital devices. <u>Online safety</u> Media balance and wellbeing -how do we find a balance?	★ <u>IT all around us/Algorithms unplugged</u> ★ Computer Science Children develop algorithms using sequences, patterns and instructions, and begin to debug simple programs. Information Technology Children explore how technology is used in everyday life and use digital cameras to take and edit photographs. Digital Literacy Children learn how to use technology safely and responsibly, including sharing information and keeping accounts secure. <u>Online safety</u> Media balance and wellbeing -Pause and think & Passwords are key.	<u>Sequencing sounds/desktop publishing</u> ↪ Computer Science Children develop programs using sequences and begin to create animations and control devices using simple instructions.Y2 ★ Information Technology Children use desktop publishing tools to combine text and images for different purposes. Digital Literacy Children develop their understanding of online safety, digital citizenship and responsible communication. <u>Online safety</u> Media balance and wellbeing – We the digital citizens. Privacy & security – That’s private! AI Learning from feedback.	<u>Kodu game design/photo editing</u> ↪ Computer Science Children use selection and algorithms to create games and develop their debugging skills. Y2/3 ★ Information Technology Children edit photographs and create digital audio using a range of tools. Digital Literacy Children develop their understanding of the internet, the World Wide Web and responsible online behaviour. 💡 <u>Online safety</u> Media balance and wellbeing – Your rings of responsibility. News& media literacy – Is seeing believing? AI – Is it real?	<u>Selection & Quizzes/ systems and searching</u> ↪ Computer Science Children use selection in programs to create quizzes and make decisions using if/then/else. Y2 ★ Information Technology Children create vector drawings and edit video using a range of digital tools. Digital Literacy Children develop their ability to recognise unreliable content, spam and inappropriate online communication. <u>Online safety</u> Media balance and wellbeing – My media choices. Privacy & security – Private and person information. AI – Using AI to solve problems.	<u>Communication and collaboration/Variables in games</u> ↪ Computer Science Children use variables, loops and nested loops to create more complex programs and games.Y4/5 ★ Information Technology Children explore how computers communicate and how data is transferred across networks. 💡 Digital Literacy Children develop safe and responsible communication and collaboration online. <u>Online safety</u> Media balance and wellbeing – Finding my media balance. . Privacy & security – You won’t believe this! AI – Misleading content.

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Spring term

EYFS Children develop their understanding of sequences, patterns and simple algorithms. They follow and create instructions and begin to use programmable toys such as BeeBots to complete simple journeys. They use digital devices to create pictures, patterns and sounds and develop their confidence and control when using technology. Children learn to make safe choices, follow rules and understand that they should seek adult help if something online makes them feel upset or uncomfortable.

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<u>Moving a robot/introduction to animation</u> ★ Computer Science Children create simple programs using ScratchJr, sequencing instructions and beginning to identify and correct errors. Information Technology Children use digital tools to create, edit and organise pictures and text. Digital Literacy Children learn about sharing information safely, keeping personal information private and taking breaks from screens. <u>Online safety</u> ★ Media balance and wellbeing – saying goodbye to technology when you don't want to.	<u>Digital photography/digital music</u> ★ Computer Science Children create simple quizzes using ScratchJr and use repetition, sequencing and debugging. Information Technology Children create digital music and develop their skills in taking, editing and presenting digital photographs. Digital Literacy Children explore safe online behaviour, including passwords, identity and communicating respectfully. <u>Online safety</u> Media balance and wellbeing – How tech makes you feel. AI Roo's new friend. My personal online plan.	<u>Connecting computers/Lego WeDo</u> ★ Computer Science Children use Scratch and Lego WeDo to create programs, using sensors and motors to solve problems. Information Technology Children create branching databases and develop animations using digital tools. Digital Literacy Children explore privacy, digital footprints and how to communicate safely and respectfully online. <u>Online safety</u> Relationships & Communication – Who's in your online community. Digital footprint & identity – digital trails. AI – generating content.	<u>The internet/animated music videos</u> ★ Computer Science Children create music videos using loops, events and parallel actions. Information Technology Children use spreadsheets to organise data and carry out simple calculations. Digital Literacy Children learn about online safety, reporting concerns, copyright and their responsibilities as digital citizens. <u>Online safety</u> Digital footprint & identity – This is me. Relationships & Communication – What makes a strong community. AI – ChatBots.	<u>Vector Drawings/Digital music</u> ↪ Computer Science Children explore how computer systems and search engines work and develop programming using loops.Y4 ★ Information Technology Children use flat-file databases to organise, search and present information. ↪ Digital Literacy Children develop their understanding of digital footprints, privacy, copyright and responsible online interaction.Y3 <u>Online safety</u> Digital footprint & identity – Our online tracks. Relationships & Communication – Keeping games fun and friendly. AI – Training computers	<u>3d modelling/spreadsheets</u> Computer Science Children use Micro:bits, sensors and variables to create, test and improve programs. Information Technology Children create 3D models and use spreadsheets with formulas and functions. Digital Literacy Children explore online safety, scams, phishing, misinformation and the reliability of digital content. <u>Online safety</u> Digital footprint & identity – Beyond gender stereotypes. Age related content. Relationships & Communication – digital friendships. AI – The ethics of AI images.

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Summer term

EYFS Children develop their problem-solving skills by planning, following and adapting simple sequences and beginning to predict what might happen. They use technology to create, explore and communicate ideas, developing their understanding of how technology is used in everyday life. Children become increasingly confident in making safe and responsible choices, understanding the importance of privacy, permission, kindness and seeking help when using technology.

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Digital writing/grouping data ★ Computer Science Children develop their understanding of how computers follow instructions and begin to explore how machines can make decisions. Information Technology Children use technology to create and communicate ideas in different ways. Digital Literacy Children learn about privacy, permission and safe behaviour when sharing images and using the internet. Online safety ★ Safety in my online neighbourhood. AI – training a computer	★ Introduction to quizzes/pictograms ★ Computer Science Children continue to develop algorithms and problem-solving skills through programming activities. Information Technology Children collect and represent information using pictograms and digital tools. Digital Literacy Children understand how to make safe choices online and know when to ask a trusted adult for help. Online safety Privacy & security - Internet traffic light	Branching databases/animation Computer Science Children develop programming skills by sequencing instructions, solving problems and debugging their work.Y2 Information Technology Children create and edit digital animations and use technology to present information. Digital Literacy Children learn about sharing content, giving credit and checking whether information and AI-generated content is reliable. Online safety Cyberbullying, digital drama & hate speech – putting a stop to online meanness. News & media literacy – Let's give credit PSHCE link/No outsiders	Spreadsheets Pizza party/Audio production ↩ Computer Science Children develop their programming skills by creating, testing and improving algorithms.Y2/3 Information Technology Children use digital tools to create, edit and present information for different purposes. ★ Digital Literacy Children explore online identity, passwords, digital communities and the use of AI-generated images and chatbots. Online safety Cyberbullying, digital drama & hate speech – The power of words. Privacy & security – Password power up. Gamble aware PSHCE Link	Flat-file databases/Video editing ↩ Computer Science Children use programming to create digital music and develop their understanding of automated systems and machine learning.Y4 ★ Information Technology Children use databases and digital media to organise and present information. Digital Literacy Children explore bias, AI, cyberbullying and how digital content can influence what people see and believe.Y5 Online safety Cyberbullying, digital drama & hate speech – BE a super digital citizen. News& media literacy – A creator's rights and responsibilities.	Micro:bit sensing/ Website design. Computer Science Children apply programming skills to solve problems, test solutions and evaluate their work. Information Technology Children design websites with clear navigation, purpose and multimedia content. Digital Literacy Children develop their understanding of privacy, copyright, consent, AI, deepfakes and responsible online behaviour. Online safety Cyberbullying, digital drama & hate speech – Is it cyberbullying? News& media literacy – Reading news online