



King's Meadow Academy

Computing

Subject Statement Computing

Rationale	At King's Meadow Academy, we believe Computing equips children with the knowledge, skills and confidence to thrive in an increasingly digital world. Technology plays a significant role in modern life and our curriculum ensures pupils become digitally literate, computational thinkers and responsible digital citizens. Our carefully sequenced curriculum develops children's understanding of Computer Science, Information Technology and Digital Literacy whilst promoting creativity, resilience and problem solving. Alongside developing technical knowledge, pupils learn how to use technology safely, responsibly and respectfully. Online safety is an integral part of our curriculum, enabling children to recognise risks, protect their personal information, behave respectfully online and know where to seek support if they have concerns. Through our whole-school 4Cs pedagogy, pupils develop the curiosity, resilience and problem-solving skills needed to become confident and responsible users of technology.
Vision for the Curriculum	Our vision is for every child to become a confident, creative and responsible user of technology who is equipped with the knowledge, skills and understanding required for the next stage of education and for life beyond primary school. Through our Reading Enhanced Curriculum, pupils develop ambitious computing vocabulary alongside secure substantive knowledge. They learn to solve problems logically, think computationally, communicate effectively using technology and make informed decisions when working online. We want every child to leave King's Meadow Academy with the confidence to embrace new technologies whilst understanding their responsibilities as safe, respectful and responsible digital citizens. Through carefully connected learning experiences and increasing levels of challenge, pupils develop the confidence to think computationally, solve problems independently and apply their learning in meaningful contexts.
Intent	Computing is taught weekly using the National Centre for Computing Education's Teach Computing Curriculum, which provides a carefully sequenced progression of knowledge and skills across all year groups. Lessons are designed around King's Meadow Academy's 4Cs pedagogy. Learning begins by Connecting to previous knowledge through retrieval practice and revisiting prior learning. Teachers Cultivate understanding through explicit instruction, modelling, collaborative discussion and carefully planned practical activities using a range of digital devices and software. Children are Challenged through programming, debugging, creating digital media, analysing data and solving increasingly complex computational problems. Teachers Coach pupils through questioning, live modelling, responsive feedback and structured opportunities for reflection and improvement. The curriculum follows a spiral model in which key concepts are revisited throughout primary school, enabling pupils to deepen their understanding while making meaningful connections between different areas of computing.

	Computing is further enriched through cross-curricular opportunities where pupils apply digital skills to enhance learning across subjects including English, mathematics, science, geography, history, art and design technology. Our Key Concepts to Assess identify the essential knowledge pupils must secure within every lesson, ensuring progression across mixed-age classes and supporting long-term retention.
Implementation	Computing is taught weekly using the National Centre for Computing Education's Teach Computing Curriculum, providing carefully sequenced progression across all year groups. Lessons are delivered through King's Meadow Academy's 4Cs pedagogy. Learning begins by Connecting previous knowledge through retrieval practice and revisiting prior learning. Teachers Cultivate understanding through explicit instruction, live modelling, collaborative discussion and practical activities using a range of hardware and software. Children are Challenged through programming, debugging, creating digital media, analysing data and solving increasingly complex computational problems. Teachers Coach pupils through questioning, responsive feedback and regular assessment, enabling misconceptions to be addressed immediately and learning to deepen over time. Retrieval practice, responsive assessment and adaptive teaching ensure that pupils revisit, strengthen and apply learning over time. Online safety is explicitly revisited throughout the curriculum and reinforced through wider school life. Teaching reflects the Education for a Connected World framework and complements learning within Personal Development and safeguarding. Children learn how to keep personal information secure, recognise unreliable online content, communicate respectfully, manage online relationships, understand age-appropriate use of technology and know how to report concerns or seek help from trusted adults. Computing is further enriched through purposeful cross-curricular opportunities where pupils apply digital skills across English, mathematics, science, geography, history, art and Design Technology.
Impact	By the end of Year 6, pupils leave King's Meadow Academy as confident, capable and responsible users of technology. They understand how computers and digital systems work, can write, test and debug programs, create purposeful digital content and solve increasingly complex problems through computational thinking. Pupils demonstrate excellent digital citizenship by using technology safely, respectfully and responsibly. They understand how to protect their personal information, identify online risks, critically evaluate digital content and know how to seek support if something makes them feel uncomfortable or unsafe online. Progress is evidenced through pupils' successful acquisition of the Key Concepts to Assess, ensuring secure progression across all aspects of Computing.

	Children leave King's Meadow Academy with the digital knowledge, resilience and confidence required for secondary education and an increasingly technological world. As a result of consistently experiencing the 4Cs pedagogy, pupils become increasingly independent learners who can connect prior knowledge, tackle increasingly complex problems and reflect critically on their own learning.
Pedagogical Approach	Computing is taught through King's Meadow Academy's whole-school 4Cs pedagogical approach, ensuring that pupils develop secure knowledge, practical skills and confidence as digital learners. Learning begins by Connecting to prior knowledge through retrieval practice, revisiting previously taught concepts and discussing real-life uses of technology. This enables pupils to make meaningful links between different aspects of computing and build on prior learning. Teachers Cultivate new learning through explicit instruction, live modelling, worked examples and guided practice. New computing vocabulary is introduced systematically and revisited regularly, while practical demonstrations support pupils in developing confidence when using hardware, software and programming environments. Children are Challenged to apply computational thinking by designing algorithms, creating digital content, debugging programs, analysing data and solving increasingly complex problems. They are encouraged to think creatively, persevere when things do not work first time and evaluate how digital technology can be used effectively and responsibly. Teachers continually Coach pupils through responsive questioning, live feedback and formative assessment, ensuring misconceptions are addressed immediately and learning is adapted to meet pupils' needs. Regular opportunities for collaboration, independent problem solving and reflection help pupils become increasingly confident, resilient and responsible users of technology. Online safety is woven throughout every stage of learning. Pupils are continually encouraged to think critically about their online behaviour, recognise potential risks, evaluate digital content and understand how to keep themselves and others safe when using technology. This consistent approach ensures that digital citizenship becomes an integral part of everyday computing learning rather than a standalone topic.
Adaptations for SEND learners	Our Computing curriculum is designed so that every pupil can access ambitious learning whilst receiving the support needed to succeed. Teachers carefully reduce cognitive load by introducing new concepts in small, manageable steps supported by explicit instruction, live modelling and regular opportunities to practise new skills. Key computing vocabulary is pre-taught, displayed and revisited throughout lessons using visual prompts, knowledge organisers, dual coding and practical demonstrations. Complex tasks are broken down into manageable stages, allowing pupils to experience success before progressing to more challenging activities. Where appropriate, pupils are supported through scaffolded algorithms, worked examples, sentence stems, adapted resources and structured partner work. Adults provide targeted support while maintaining high expectations and encouraging independence.

	Teachers continue to Connect new learning to prior experiences, Cultivate understanding through explicit modelling, provide appropriately Challenging tasks with graduated support and Coach pupils through timely feedback so that every child can succeed. Technology itself is used to remove barriers to learning wherever possible. Accessibility features such as speech-to-text, enlarged text, screen readers, adapted keyboards, touch-screen devices and supportive software enable pupils to participate fully in lessons. Flexible grouping, additional processing time and repeated opportunities for retrieval ensure that all pupils develop confidence in programming, digital creativity, information technology and online safety. Teachers use ongoing formative assessment to identify misconceptions quickly and adapt learning accordingly, ensuring that every pupil secures the Key Concepts to Assess and makes strong progress from their individual starting points.
Strengths	Carefully sequenced mixed-age curriculum following the National Centre for Computing Education's Teach Computing Curriculum. Clear progression through Key Concepts to Assess, ensuring knowledge builds systematically from Year 1 to Year 6. Online safety is embedded throughout every Computing unit and reinforced through safeguarding, Personal Development and whole-school initiatives, ensuring pupils develop into responsible digital citizens. Strong emphasis on computational thinking, creativity, problem solving and digital literacy. The Reading Enhanced Curriculum develops ambitious computing vocabulary alongside secure conceptual understanding. King's Meadow Academy's 4Cs pedagogy ensures learning is connected, explicitly taught, appropriately challenged and continually strengthened through responsive coaching. Practical, hands-on experiences enable pupils to confidently use a wide range of hardware, software and programming environments. Cross-curricular application of computing supports learning across the wider curriculum whilst preparing pupils exceptionally well for secondary education and life in an increasingly digital society.



Medium Term Cycle A

Autumn 1		
KS1	Computing Systems and Networks: Technology Around Us	
	Year 1	Year 2
	L1 – What technology is around us? L2 – How do I use technology? L3 – How do I use a computer mouse? L4 – How do I use a computer keyboard? L5 – How can I effectively develop keyboard skills? L6 – How do I use a computer responsibly?	L1 – What technology is around us? L2 – How do I use technology? L3 – How do I use a computer mouse? L4 – How do I use a computer keyboard? L5 – How can I effectively develop keyboard skills? L6 – How do I use a computer responsibly?
Key Concepts to assess	L1 – Children know that technology is something that helps us in our everyday lives and can identify examples of technology used in school. L2 – Children can identify the main parts of a computer, switch it on, log in independently and use a mouse to click and drag. L3 – Children can use a mouse accurately to open programs, click, drag and create simple digital pictures. L4 – Children know that a keyboard is used for typing and can type their name before saving their work. L5 – Children can edit text using a keyboard, move the cursor using the arrow keys, delete letters and reopen saved work. L6 – Children understand why rules are needed when using technology and can explain how to stay safe and healthy when using computers.	L1 – Children can explain how technology helps people in different ways and identify examples of technology used at school and at home. L2 – Children can confidently identify the main parts of a computer, log in independently and use the mouse accurately to complete tasks. L3 – Children can independently use mouse skills to navigate programs and create digital content. L4 – Children can confidently use the keyboard to type, edit and save their work. L5 – Children can independently edit saved work using keyboard shortcuts such as arrow keys and delete, explaining how these improve their work. L6 – Children can explain why responsible use of technology is important and describe rules that keep themselves and others safe when using digital devices.
Vocabulary	technology, computer, laptop, desktop, monitor, keyboard, mouse, screen, login, username, password, cursor, click, double-click, drag, type, save, file, program, digital, responsible	Y1+ edit, delete, arrow keys, folder, device, input, output, technology rules, online safety
Experiences	Explore technology used around the classroom and school, discussing how it helps us in everyday life. Learn how to safely switch on, log into and use a computer independently. Practise using a mouse and keyboard to create, edit and save digital work. Develop a class agreement for using technology safely and responsibly in school and at home.	
SMSC	Social – Working collaboratively when sharing computers and supporting one another to use technology confidently. Moral – Understanding the importance of using technology responsibly and following rules that keep everyone safe. Cultural – Recognising that technology plays an important role in people's lives, communication and learning around the world.	
British Values	Individual Liberty – Using technology independently while making safe and responsible choices. Mutual Respect – Respecting shared equipment and supporting others when using digital devices. Rule of Law – Understanding that rules for using technology help keep everyone safe both online and offline.	
School Values	We are happy – Enjoying exploring technology and developing confidence when using computers. We are safe – Following rules that keep ourselves and others safe when using technology. We enjoy a challenge – Developing resilience by learning new computer skills and solving simple problems independently.	

	We celebrate diversity – Recognising that technology helps people communicate, learn and work in different ways across the world. We show respect – Respecting computers, digital equipment and the work of others. We are ready and fit for our future – Developing the digital skills, confidence and responsibility needed for learning and everyday life.
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Autumn 2		
KS1	Programming A – Moving a Robot	
	Year 1	Year 2
	L1 – How do I use buttons to give commands? L2 – What is needed to give clear directions? L3 – How do I control an object to move forwards and backwards? L4 – How do I control an object to move in four directions? L5 – How do I create a program? L6 – How do I programme an object to follow routes?	L1 – How do I use buttons to give commands? L2 – What is needed to give clear directions? L3 – How do I control an object to move forwards and backwards? L4 – How do I control an object to move in four directions? L5 – How do I create a program? L6 – How do I programme an object to follow routes?
Key Concepts to assess	L1 – Children know that a command tells a device what to do and can predict what simple commands will make a floor robot do. L2 – Children can give and follow clear instructions using directional language and understand that instructions need to be precise. L3 – Children can combine forwards and backwards commands into a simple sequence and predict the outcome. L4 – Children can use forwards, backwards, left and right commands to control a floor robot and begin to predict where it will move. L5 – Children can plan, create and test a simple program using a sequence of commands and begin to debug errors. L6 – Children understand that there can be more than one solution to a problem and can create different programs to achieve the same outcome.	L1 – Children can explain how commands control a programmable device and accurately predict the outcome of simple programs. L2 – Children can use precise directional language to create and follow instructions, recognising why accuracy is important in programming. L3 – Children can confidently create and test sequences using forwards and backwards commands, identifying and correcting mistakes. L4 – Children can independently combine movement and turn commands to create more complex sequences and accurately predict outcomes. L5 – Children can plan, test, debug and improve a program by changing the order of commands to achieve the intended result. L6 – Children can explain that algorithms can have more than one solution and justify why different programs can achieve the same goal.
Vocabulary	algorithm, program, command, sequence, robot, floor robot, Bee-Bot, forwards, backwards, left, right, turn, run, clear, debug, route, direction, instruction, predict	Y1+ precise, programmable, outcome, solution, logical, repetition, test, improve
Experiences	Explore a Bee-Bot or floor robot by investigating what each command button does. Work with partners to give and follow precise directional instructions before programming a robot. Plan, test and debug simple algorithms to move a robot around a map or obstacle course. Complete a programming challenge where different algorithms achieve the same destination, encouraging children to compare and evaluate solutions.	
SMSC	Social – Working collaboratively to plan, test and improve algorithms while communicating ideas clearly. Moral – Understanding the importance of perseverance and learning from mistakes when debugging programs. Cultural – Recognising that programmable technology is used in everyday life to solve problems and improve people's lives.	
British Values	Individual Liberty – Making independent decisions when creating and improving algorithms. Mutual Respect – Listening to and valuing the ideas of others when solving programming challenges together. Democracy – Working together to discuss, test and agree on the best solution to a programming problem.	

School Values	We are happy – Enjoying exploring programmable toys and solving coding challenges. We are safe – Using computing equipment carefully and responsibly. We enjoy a challenge – Developing resilience by testing, debugging and improving programs. We celebrate diversity – Recognising that different people may solve programming problems in different ways. We show respect – Respecting equipment and working positively with partners during programming activities. We are ready and fit for our future – Developing logical thinking, computational skills, resilience and problem-solving that prepare us for an increasingly digital world
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Spring 1		
Creating Media – Digital Writing		
KS1	Year 1	Year 2
	L1 – Why do we use a keyboard to write? L2 – How can I add and remove text? L3 – How can I make changes to my writing? L4 – How can I compare writing on a computer with writing on paper? L5 – How can I improve my digital writing? L6 – How can I create and share a piece of digital writing?	L1 – Why do we use a keyboard to write? L2 – How can I add and remove text? L3 – How can I make changes to my writing? L4 – How can I compare writing on a computer with writing on paper? L5 – How can I improve my digital writing? L6 – How can I create and share a piece of digital writing?
Key Concepts to assess	L1 – Children know that a keyboard is used to create digital writing and can open a word processing program independently. L2 – Children can type simple words and sentences using the keyboard and use the backspace key to correct mistakes. L3 – Children can edit their writing by adding, removing and changing text using a keyboard and mouse. L4 – Children can explain differences between writing on paper and writing on a computer, identifying advantages of digital writing. L5 – Children can improve the presentation of their work by changing the size and appearance of text. L6 – Children can create, save and reopen a simple piece of digital writing independently.	L1 – Children can confidently use a keyboard and word processing software to create digital writing for different purposes. L2 – Children can accurately type, edit and correct text using appropriate keyboard functions. L3 – Children can independently add, delete, move and amend text to improve the quality of their work. L4 – Children can compare digital and handwritten writing, explaining why digital writing is useful in different situations. L5 – Children can format text by changing font, size, colour and layout to improve presentation and readability. L6 – Children can independently create, save, retrieve and evaluate a piece of digital writing, explaining how technology has improved the final outcome.
Vocabulary	keyboard, word processor, text, type, letter, word, sentence, space bar, enter, backspace, cursor, save, open, edit, delete, digital writing, font	Y1+ format, document, retrieve, layout, presentation, bold, underline, font size, font colour, typing, improve
Experiences	Explore a word processing program by typing names, words and simple sentences. Compare handwritten and digital writing, discussing the advantages and disadvantages of each. Edit and improve digital writing by changing text, font size and presentation. Create and save a finished digital document to share with classmates or display in the classroom.	
SMSC	Social – Working collaboratively to edit digital work, share ideas and support others when using technology. Moral – Understanding the importance of presenting work carefully and using digital technology responsibly. Cultural – Recognising that digital writing is used for communication, learning and work across the world.	

British Values	Individual Liberty – Making independent choices when creating and presenting digital writing. Mutual Respect – Respecting the work and ideas of others when sharing and reviewing digital documents. Rule of Law – Understanding that digital work belongs to its creator and should be used responsibly.
School Values	We are happy – Enjoying creating and improving digital writing using technology. We are safe – Using computers and digital devices safely and responsibly. We enjoy a challenge – Developing resilience by editing and improving digital work independently. We celebrate diversity – Recognising that technology enables people from different backgrounds to communicate and share ideas. We show respect – Respecting computers, shared resources and the digital work of others. We are ready and fit for our future – Developing typing, editing, communication and digital literacy skills that prepare us for learning and life in an increasingly digital world

Spring 2		
KS1	Information Technology Around Us	
	Year 1	Year 2
	L1 – What is information technology? L2 – Where is information technology used in school? L3 – Where is information technology used in the wider world? L4 – What are the benefits of information technology? L5 – How do I use information technology safely?	L1 – What is information technology? L2 – Where is information technology used in school? L3 – Where is information technology used in the wider world? L4 – What are the benefits of information technology? L5 – How do I use information technology safely?
Key Concepts to assess	L1 – Children know that information technology (IT) helps people complete tasks and can identify examples of IT used in everyday life. L2 – Children can identify examples of information technology used around school and explain what each device is used for. L3 – Children know that information technology is used in many different places, including homes, shops, hospitals and libraries. L4 – Children can explain how information technology helps people by making tasks quicker, easier and more efficient. L5 – Children understand that there are rules for using information technology safely and can explain how these rules help keep people safe.	L1 – Children can explain what information technology is and distinguish between devices that are IT and those that are not. L2 – Children can identify and classify information technology used in school, explaining how different devices support learning and communication. L3 – Children can describe how information technology is used in different workplaces and explain why it is important in everyday life. L4 – Children can explain how different information technology devices work together to help people complete tasks more efficiently. L5 – Children can explain why rules for using information technology are important and describe how responsible behaviour keeps themselves and others safe online and offline.
Vocabulary	information technology (IT), computer, laptop, tablet, device, barcode scanner, printer, interactive whiteboard, till, camera, communication, information, school, workplace, digital, safe, rules	Y1+ network, system, efficient, technology, workplace, responsible, communication, organisation, digital device, online safety
Experiences	Go on an IT Hunt around school to identify and photograph examples of information technology. Compare information technology used in different places such as supermarkets, libraries, hospitals and homes. Sort a variety of devices into "Information Technology" and "Not Information Technology", explaining decisions. Create a class poster or presentation showing how to use information technology safely and responsibly.	
SMSC	Social – Working collaboratively to identify information technology, discuss its uses and share ideas respectfully. Moral – Understanding the importance of using information technology responsibly and following rules that keep everyone safe.	

	Cultural – Recognising that information technology supports communication, work and learning in communities across the world.
British Values	Individual Liberty – Making safe and responsible choices when using information technology. Mutual Respect – Respecting shared devices and the digital work of others. Rule of Law – Understanding that rules for using information technology help keep everyone safe both online and offline.
School Values	We are happy – Enjoying exploring how information technology helps us every day. We are safe – Using information technology responsibly and following online safety rules. We enjoy a challenge – Developing confidence by learning about new technologies and solving simple digital problems. We celebrate diversity – Recognising that technology helps people from different cultures, communities and backgrounds communicate and work together. We show respect – Respecting digital equipment, shared resources and the ideas of others. We are ready and fit for our future – Developing digital literacy, communication and responsible technology skills that prepare us for future learning and life.

Summer 1		
KS1	Creating Media – Robot Algorithms	
	Year 1	Year 2
	L1 – What is an algorithm? L2 – How do I follow an algorithm? L3 – How do I create an algorithm? L4 – How can I programme a robot to follow an algorithm? L5 – How do I find and fix mistakes in an algorithm? L6 – How can I create my own algorithm challenge?	L1 – What is an algorithm? L2 – How do I follow an algorithm? L3 – How do I create an algorithm? L4 – How can I programme a robot to follow an algorithm? L5 – How do I find and fix mistakes in an algorithm? L6 – How can I create my own algorithm challenge?
Key Concepts to assess	L1 – Children know that an algorithm is a set of instructions and can explain that instructions must be followed in the correct order. L2 – Children can follow a simple algorithm to complete a task and identify what happens when instructions are followed correctly. L3 – Children can create a simple algorithm using clear, ordered instructions. L4 – Children can programme a floor robot to follow a simple algorithm and predict where it will finish. L5 – Children can identify and correct simple mistakes in an algorithm by testing and debugging. L6 – Children can create and test their own algorithm for a partner to follow and explain how it works.	L1 – Children can explain that algorithms are used by computers and programmable devices to complete tasks accurately. L2 – Children can follow and interpret more complex algorithms, identifying why instructions must be precise and in sequence. L3 – Children can independently create algorithms to solve a problem, using logical thinking and sequencing. L4 – Children can programme a floor robot to complete a more complex route, testing and refining their algorithm. L5 – Children can debug algorithms by identifying errors, explaining why they occurred and making improvements. L6 – Children can design, test and evaluate their own algorithm challenge, explaining how different algorithms can achieve the same outcome.
Vocabulary	algorithm, instruction, sequence, command, programme, robot, floor robot, Bee-Bot, route, direction, forwards, backwards, left, right, turn, predict, debug, test	Y1+ logical, programmable, efficient, precise, outcome, refine, improve, problem-solving, repetition, evaluate
Experiences	Explore a Bee-Bot or floor robot by following and creating simple algorithms. Work collaboratively to create obstacle courses and write algorithms for partners to follow. Test and debug algorithms, identifying and correcting errors to improve outcomes.	

	Design a robot challenge where children create, test and evaluate their own algorithms.
SMSC	Social – Working collaboratively to create, test and improve algorithms while communicating ideas clearly. Moral – Understanding the importance of perseverance, resilience and learning from mistakes when debugging programs. Cultural – Recognising that programmable technology is used in many aspects of everyday life to solve problems and improve people's lives.
British Values	Individual Liberty – Making independent decisions when creating and refining algorithms. Mutual Respect – Respecting the ideas and solutions of others during collaborative programming activities. Democracy – Working together to discuss, test and agree on the most effective solution to a programming challenge.
School Values	We are happy – Enjoying creating, testing and improving algorithms using programmable robots. We are safe – Using computing equipment and programmable devices safely and responsibly. We enjoy a challenge – Developing resilience by debugging and improving algorithms until they work successfully. We celebrate diversity – Recognising that different people may solve programming problems in different ways and valuing each approach. We show respect – Respecting equipment, taking turns and valuing the ideas of others during collaborative tasks. We are ready and fit for our future – Developing computational thinking, logical reasoning, resilience and problem-solving skills that prepare us for future learning and an increasingly digital world.

Summer 2		
KS1	Creating Media – Digital Music	
	Year 1	Year 2
	L1 – How can music represent different feelings? L2 – How can I create digital music? L3 – How can I change a piece of digital music? L4 – How do different sounds work together? L5 – How can I improve my digital music? L6 – How can I create and perform a piece of digital music?	L1 – How can music represent different feelings? L2 – How can I create digital music? L3 – How can I change a piece of digital music? L4 – How do different sounds work together? L5 – How can I improve my digital music? L6 – How can I create and perform a piece of digital music?
Key Concepts to assess	L1 – Children know that digital devices can be used to create music and can describe how different sounds make them feel. L2 – Children can use a digital music program to select and play different sounds. L3 – Children can change sounds by adjusting simple features such as tempo, pitch or instrument and describe the effect. L4 – Children can combine different sounds to create a simple piece of digital music. L5 – Children can listen to their own composition and make simple improvements by changing sounds or timing. L6 – Children can create, save and share a short piece of digital music, explaining the choices they have made.	L1 – Children can explain how digital technology can be used to create and perform music for different purposes. L2 – Children can confidently use a digital music program to select, organise and sequence a range of sounds. L3 – Children can independently modify tempo, pitch, volume and instrument sounds to achieve a desired effect. L4 – Children can combine layers of sound to create a purposeful piece of digital music. L5 – Children can evaluate and refine their composition by making improvements based on listening and feedback. L6 – Children can independently create, save, perform and evaluate a digital composition, explaining how digital technology has helped them communicate ideas and emotions.

Vocabulary	music, sound, instrument, digital, composition, rhythm, beat, tempo, pitch, volume, sequence, play, record, save, perform	Y1+ layer, melody, accompaniment, pattern, audience, evaluate, refine, composition, digital audio, effect
Experiences	Explore a range of digital instruments and discuss how different sounds create different moods and feelings. Use a digital music program to compose a short piece of music using a variety of instruments and rhythms. Experiment with changing tempo, pitch and volume to improve a musical composition. Perform finished digital compositions to classmates and evaluate how effectively the music communicates ideas or emotions.	
SMSC	Social – Working collaboratively to compose, perform and evaluate digital music while valuing the ideas of others. Moral – Understanding the importance of giving constructive feedback and respecting the creative work of others. Cultural – Exploring how music is created and enjoyed in different cultures and recognising that technology has changed how music is composed and shared.	
British Values	Individual Liberty – Making independent creative choices when composing and refining digital music. Mutual Respect – Respecting the musical ideas, performances and opinions of others. Tolerance – Appreciating that people enjoy different styles of music and express themselves in different ways.	
School Values	We are happy – Enjoying creating, performing and sharing digital music. We are safe – Using computers, headphones and digital equipment safely and responsibly. We enjoy a challenge – Developing resilience by experimenting with sounds and refining musical compositions. We celebrate diversity – Appreciating music from different cultures and recognising that everyone expresses creativity differently. We show respect – Respecting equipment, the performances of others and the creative process. We are ready and fit for our future – Developing creativity, confidence, listening skills and digital literacy through composing and performing music using technology.	

Autumn 1		
LKS2	Computing Systems and Networks – Connecting Computers	
	Year 3	Year 4
	L1 – How do digital devices work together? L2 – What parts make up a computer? L3 – How do computers connect together? L4 – What is a computer network? L5 – How do computers share information? L6 – How do networks help us every day?	L1 – How do digital devices work together? L2 – What parts make up a computer? L3 – How do computers connect together? L4 – What is a computer network? L5 – How do computers share information? L6 – How do networks help us every day?
Key Concepts to assess	L1 – Children know that digital devices have different purposes and can explain how devices work together to complete tasks. L2 – Children can identify the main parts of a computer, explaining the purpose of input and output devices. L3 – Children know that computers can be connected together and can identify different ways devices communicate. L4 – Children know that a computer network is a group of connected computers that share information and resources. L5 – Children can explain how information is shared across a network and identify examples of networks used in school.	L1 – Children can explain how different digital devices communicate and work together to perform a range of functions. L2 – Children can identify and explain the role of input, output and processing devices within a computer system. L3 – Children can describe how computers are physically and wirelessly connected to form networks. L4 – Children can explain how computer networks enable users to share files, information and resources efficiently. L5 – Children can compare different types of computer networks and explain why schools, businesses and homes use them.

	L6 – Children can explain how computer networks support communication, learning and everyday life.	L6 – Children can evaluate the advantages of computer networks and explain how they support communication and collaboration in everyday life.
Vocabulary	computer, device, digital device, input, output, keyboard, mouse, monitor, speaker, processor, network, connection, cable, wireless, router, information, communicate, share, internet	Y3+ server, client, network switch, Wi-Fi, hardware, system, processing, data, resource, communication, collaboration, infrastructure
Experiences	Investigate a range of digital devices around school and discuss how they work together. Explore the parts of a computer by identifying input, output and processing devices. Create a simple model of a computer network using classroom resources to demonstrate how devices connect. Take a tour of the school's ICT network (where possible), identifying how computers, printers and interactive whiteboards are connected.	
SMSC	Social – Working collaboratively to investigate computer systems and discuss how technology supports communication. Moral – Understanding the importance of using shared digital resources responsibly and respecting school technology. Cultural – Recognising how computer networks enable people across the world to communicate, learn and work together.	
British Values	Individual Liberty – Using digital technology responsibly and making informed choices when using networked devices. Mutual Respect – Respecting shared technology, digital resources and the work of others. Rule of Law – Understanding why schools have rules for using networks and digital devices safely and responsibly.	
School Values	We are happy – Enjoying exploring how computers connect and communicate with one another. We are safe – Using networked devices responsibly and following online safety expectations. We enjoy a challenge – Developing resilience by investigating how computer systems work and solving technical problems. We celebrate diversity – Recognising that technology connects people from different cultures, countries and communities. We show respect – Respecting shared computing equipment, digital resources and the contributions of others. We are ready and fit for our future – Developing digital literacy, computational thinking and an understanding of computer networks that prepares us for an increasingly connected world.	

Autumn 2		
LKS2	Programming A – Sequencing Sounds	
	Year 1	Year 2
	L1 – What is a sequence in a program? L2 – How do I create a sequence of sounds? L3 – How can I change a sequence? L4 – How can I use repetition in my program? L5 – How do I debug my program? L6 – How can I create my own sound program?	L1 – What is a sequence in a program? L2 – How do I create a sequence of sounds? L3 – How can I change a sequence? L4 – How can I use repetition in my program? L5 – How do I debug my program? L6 – How can I create my own sound program?
Key Concepts to assess	L1 – Children know that a sequence is a set of instructions that are followed in order and can explain why the order of commands matters. L2 – Children can create a simple program that produces a sequence of sounds using programming blocks. L3 – Children can modify the order of commands and predict how this changes the outcome of a program.	L1 – Children can explain why sequencing is fundamental to programming and describe what happens when commands are placed in the wrong order. L2 – Children can independently create a program using sequences of commands to produce purposeful sound outputs. L3 – Children can refine and adapt programs by changing the sequence of commands, explaining how these changes affect the outcome.

	L4 – Children know that repetition can make programs shorter and more efficient and can use repeat blocks in simple programs. L5 – Children can test and debug a program by identifying and correcting errors. L6 – Children can design, create and evaluate a simple sound-based program that meets a given purpose.	L4 – Children can use repetition effectively to improve the efficiency and readability of a program. L5 – Children can systematically debug a program by identifying, explaining and correcting errors. L6 – Children can independently design, create, evaluate and improve a sound-based program, justifying their programming decisions.
Vocabulary	algorithm, program, sequence, command, code, block, sound, output, input, sprite, event, run, test, debug, repeat, predict	Y3+ repetition, efficiency, modify, refine, variable, logical, programming environment, computational thinking, evaluate, iteration
Experiences	Explore a block-based programming environment by creating simple sequences of sounds. Investigate how changing the order of commands affects the outcome of a program. Use repetition blocks to make programs shorter, more efficient and easier to understand. Design and create a sound-based project, testing, debugging and evaluating it before sharing with others.	
SMSC	Social – Working collaboratively to plan, test and improve programs while discussing ideas and solving problems together. Moral – Developing resilience by recognising that mistakes are a valuable part of programming and learning through debugging. Cultural – Exploring how digital technology is used to create music, games and multimedia experiences enjoyed by people around the world.	
British Values	Individual Liberty – Making independent decisions when designing, creating and improving programs. Mutual Respect – Respecting the ideas, solutions and programming approaches of others during collaborative activities. Democracy – Listening to and considering different ideas when working together to solve programming challenges.	
School Values	We are happy – Enjoying creating programs that produce sounds and interactive outcomes. We are safe – Using computers and digital devices safely and responsibly. We enjoy a challenge – Developing resilience by testing, debugging and improving programs until they work successfully. We celebrate diversity – Recognising that programming problems can be solved in different ways and valuing the creativity of others. We show respect – Respecting shared equipment, digital resources and the contributions of others. We are ready and fit for our future – Developing computational thinking, creativity, logical reasoning and programming skills that prepare us for future learning and an increasingly digital world.	

Spring 1		
LKS2	Creating Media – Desktop Publishing	
	Year 1	Year 2
	L1 – What is desktop publishing? L2 – How do I edit text? L3 – How can I change the layout of a page? L4 – How do images improve a publication? L5 – How can I design an effective publication? L6 – How do I evaluate and improve my publication?	L1 – What is desktop publishing? L2 – How do I edit text? L3 – How can I change the layout of a page? L4 – How do images improve a publication? L5 – How can I design an effective publication? L6 – How do I evaluate and improve my publication?
Key Concepts to assess	L1 – Children know that desktop publishing software is used to create professional documents and can identify examples of published materials.	L1 – Children can explain the purpose of desktop publishing and compare it with word processing, identifying the advantages of each.

	L2 – Children can enter, edit and format text using a range of basic tools within desktop publishing software. L3 – Children can change the layout of a page by moving and resizing text boxes and images. L4 – Children understand that images can improve the appearance and purpose of a publication and can insert and position pictures appropriately. L5 – Children can create a simple publication that combines text and images to communicate information clearly. L6 – Children can evaluate their publication and make improvements to the layout, presentation and readability.	L2 – Children can confidently use formatting tools to organise and present information clearly for a specific audience. L3 – Children can independently manipulate text boxes, images and page layouts to create an attractive and well-organised publication. L4 – Children can select and position images carefully, explaining how they improve communication and engage the reader. L5 – Children can independently design and create a publication that meets a design brief and is suitable for its intended audience. L6 – Children can critically evaluate and refine their publication, explaining how layout, formatting and images improve the effectiveness of the finished product.
Vocabulary	desktop publishing, publication, layout, text box, image, font, heading, title, subtitle, page, format, resize, align, design, audience, template, presentation	Y3+ publisher, document, formatting, orientation, columns, readability, consistency, balance, white space, visual hierarchy, refine, evaluate
Experiences	Explore a range of real publications, such as newsletters, posters and leaflets, identifying effective design features. Use desktop publishing software to create and format text, images and page layouts. Design and produce a poster or leaflet for a school event or curriculum topic, considering the intended audience. Evaluate completed publications with peers, identifying strengths and suggesting improvements to layout, presentation and communication.	
SMSC	Social – Working collaboratively to design, review and improve publications while giving constructive feedback. Moral – Understanding the importance of presenting information accurately and respecting the work of others. Cultural – Exploring how publications are used to communicate information, ideas and events within different communities and cultures.	
British Values	Individual Liberty – Making independent design choices when creating publications for different audiences. Mutual Respect – Respecting the ideas and creative work of others when designing and evaluating publications. Democracy – Listening to feedback from others and using it to improve the quality of a publication.	
School Values	We are happy – Enjoying designing attractive and informative digital publications. We are safe – Using computers and digital resources safely and responsibly. We enjoy a challenge – Developing resilience by refining layouts and improving the presentation of digital work. We celebrate diversity – Creating publications that reflect different audiences, cultures and viewpoints. We show respect – Respecting digital resources, copyright and the work of others. We are ready and fit for our future – Developing creativity, communication, digital literacy and presentation skills that prepare us for future learning and the workplace.	

Spring 2		
LKS2	Computing Systems and Networks – The Internet	
	Year 3	Year 4
	L1 – What is the internet? L2 – How does the internet work? L3 – How do websites work? L4 – How can I use the internet safely?	L1 – What is the internet? L2 – How does the internet work? L3 – How do websites work? L4 – How can I use the internet safely?

	L5 – How can I search for information online? L6 – How can I judge whether information online is trustworthy?	L5 – How can I search for information online? L6 – How can I judge whether information online is trustworthy?
Key Concepts to assess	L1 – Children know that the internet is a network that connects computers around the world and allows information to be shared. L2 – Children can explain that information travels across the internet between connected devices. L3 – Children know that websites contain different types of information and can use hyperlinks to navigate between web pages. L4 – Children can explain how to stay safe when using the internet and identify trusted adults who can help if something worries them online. L5 – Children can use a search engine to find information by entering suitable keywords. L6 – Children know that not everything online is true and can identify simple ways to check whether information is reliable.	L1 – Children can explain how the internet connects computers and devices worldwide to share information and services. L2 – Children can describe how information is transferred across the internet and explain why a reliable connection is important. L3 – Children can navigate websites efficiently using hyperlinks and explain how webpages are connected. L4 – Children can explain why online safety is important and describe how to use the internet responsibly and respectfully. L5 – Children can refine searches using effective keywords and explain why different searches produce different results. L6 – Children can evaluate information found online by comparing sources and explaining why some websites are more reliable than others.
Vocabulary	internet, website, webpage, browser, hyperlink, search engine, keyword, online, information, network, connection, search, link, download, upload, digital, safe	Y3+ URL, web address, reliable, source, evaluate, accuracy, communication, world wide web, server, data, connectivity, credibility
Experiences	Explore a range of websites to identify their purpose and how hyperlinks connect pages. Investigate how search engines work by comparing search results using different keywords. Work collaboratively to identify reliable and unreliable online information through simple research activities. Create a class guide to using the internet safely and responsibly, including tips for searching effectively and checking information.	
SMSC	Social – Working collaboratively to research information online and discuss how the internet supports communication and learning. Moral – Understanding the importance of using the internet responsibly, safely and respectfully, and recognising that not all online information is trustworthy. Cultural – Exploring how the internet enables people from different cultures and countries to communicate, learn and share ideas.	
British Values	Individual Liberty – Making informed and responsible choices when searching for and using information online. Mutual Respect – Respecting others when communicating online and recognising the importance of positive digital behaviour. Rule of Law – Understanding that there are rules and laws that help keep people safe when using the internet.	
School Values	We are happy – Enjoying using the internet to learn, explore and discover new information. We are safe – Using the internet responsibly and following online safety guidance at all times. We enjoy a challenge – Developing resilience by refining searches, evaluating information and solving digital problems. We celebrate diversity – Recognising that the internet connects people from different cultures, countries and communities around the world. We show respect – Respecting others online, using digital resources responsibly and acknowledging the work of others. We are ready and fit for our future – Developing digital literacy, research skills and critical thinking to become safe, responsible and confident users of the internet.	

Summer 1		
LKS2	Programming B – Repetition in Shapes	
	Year 1	Year 2

	L1 – What is repetition in a program? L2 – How do repeat loops make programs more efficient? L3 – How can I use repetition to create shapes? L4 – How can I improve my program using repetition? L5 – How do I debug programs with repetition? L6 – How can I create a repeated pattern independently?	L1 – What is repetition in a program? L2 – How do repeat loops make programs more efficient? L3 – How can I use repetition to create shapes? L4 – How can I improve my program using repetition? L5 – How do I debug programs with repetition? L6 – How can I create a repeated pattern independently?
Key Concepts to assess	L1 – Children know that repetition allows instructions to be repeated automatically and can identify repeated patterns in simple programs. L2 – Children can use a repeat loop to shorten a sequence of commands and explain why this makes a program more efficient. L3 – Children can create simple geometric shapes using repetition within a block-based programming environment. L4 – Children can modify a program by changing the number of repeats and predict how this affects the outcome. L5 – Children can test and debug programs containing repetition by identifying and correcting errors. L6 – Children can independently design, create and evaluate a program that uses repetition to draw a repeated pattern or shape.	L1 – Children can explain how repetition improves the efficiency of a program and identify opportunities to use repeat loops. L2 – Children can confidently replace repeated sequences of commands with repeat loops to produce more efficient programs. L3 – Children can create increasingly complex geometric shapes and patterns using repetition and accurate sequencing. L4 – Children can refine programs by adjusting repeat values, angles and commands to improve accuracy and efficiency. L5 – Children can systematically debug programs containing repetition, explaining how changes affect the final outcome. L6 – Children can independently design, create, evaluate and improve a program using repetition, justifying how repeat loops make programs shorter, clearer and more efficient.
Vocabulary	algorithm, program, sequence, repetition, repeat loop, command, block, code, debug, pattern, shape, angle, turn, sprite, predict, test	Y3+ iteration, efficiency, refine, modify, geometric pattern, decomposition, logical reasoning, computational thinking, variable, evaluate
Experiences	Explore repeated patterns in everyday life before identifying repetition within computer programs. Use block-based programming software to create geometric shapes using repeat loops. Investigate how changing angles and repeat values affects the shapes and patterns produced. Design and create an original repeated pattern or digital artwork using repetition, before testing, debugging and evaluating the finished program.	
SMSC	Social – Working collaboratively to solve programming challenges and evaluate different coding solutions. Moral – Developing resilience by recognising that debugging and refining programs are important parts of the programming process. Cultural – Exploring how digital technology can be used creatively to produce artwork, patterns and designs.	
British Values	Individual Liberty – Making independent decisions when designing and refining computer programs. Mutual Respect – Respecting the ideas, programming approaches and solutions developed by others. Democracy – Listening to different viewpoints and working together to identify effective programming solutions.	
School Values	We are happy – Enjoying creating digital patterns and solving coding challenges using repetition. We are safe – Using computers and digital resources safely and responsibly. We enjoy a challenge – Developing resilience by testing, debugging and improving programs until they work successfully. We celebrate diversity – Recognising that there are many different ways to solve the same programming problem and valuing creative solutions. We show respect – Respecting computing equipment, digital resources and the ideas of others throughout programming activities. We are ready and fit for our future – Developing computational thinking, logical reasoning, creativity and problem-solving skills that prepare us for future learning and careers in a digital world.	

Summer 2		
LKS2	Creating Media – Photo Editing	
	Year 1	Year 2
	L1 – What makes a good digital photograph? L2 – How can I improve a photograph? L3 – How can I crop and rotate images? L4 – How can I use editing tools effectively? L5 – How can I change the appearance of an image? L6 – How can I create a final edited image?	L1 – What makes a good digital photograph? L2 – How can I improve a photograph? L3 – How can I crop and rotate images? L4 – How can I use editing tools effectively? L5 – How can I change the appearance of an image? L6 – How can I create a final edited image?
Key Concepts to assess	L1 – Children know that digital photographs can be edited and can explain the difference between an original and an edited image. L2 – Children can use simple editing tools to improve the quality of a photograph by adjusting brightness, contrast and colour. L3 – Children can crop, rotate and resize photographs for a specific purpose. L4 – Children can use a range of editing tools to improve an image while recognising that changes can alter its appearance. L5 – Children can explain how editing changes the way an image is viewed and can compare different edited versions. L6 – Children can create and evaluate a final edited photograph that is suitable for its intended purpose.	L1 – Children can explain why photographs are edited and identify situations where editing improves communication. L2 – Children can confidently use editing tools to enhance photographs while maintaining an appropriate purpose. L3 – Children can independently crop, rotate, resize and position images to improve composition and presentation. L4 – Children can apply a range of editing techniques to achieve a desired effect, explaining the impact of each change. L5 – Children can evaluate edited images critically, recognising that photographs can be manipulated and may not always represent reality. L6 – Children can independently create, evaluate and refine a digitally edited image, justifying the editing choices they have made for a specific audience and purpose.
Vocabulary	photograph, image, digital image, edit, crop, rotate, resize, brightness, contrast, colour, filter, composition, original, save, digital media	Y3+ Saturation, exposure, enhancement, manipulation, perspective, resolution, audience, purpose, evaluate, refine, digital editing, copyright
Experiences	Take a range of digital photographs around school, considering composition, lighting and subject. Explore photo editing software to crop, rotate, resize and enhance digital images. Compare original and edited photographs, discussing how editing changes the message or purpose of an image. Create a final edited photograph for a school display, leaflet or newsletter, explaining the editing decisions made.	
SMSC	Social – Working collaboratively to review photographs, provide constructive feedback and improve digital work. Moral – Understanding that edited images can influence people's opinions and recognising the importance of representing information honestly. Cultural – Exploring how photographs are used in advertising, media and communication across different cultures and communities.	
British Values	Individual Liberty – Making independent creative decisions when editing photographs for different purposes. Mutual Respect – Respecting the photographs, ideas and creative work of others. Rule of Law – Understanding the importance of copyright, permission and responsible use of digital images.	
School Values	We are happy – Enjoying capturing and editing photographs using digital technology. We are safe – Using digital devices responsibly and following online safety and copyright guidance. We enjoy a challenge – Developing resilience by experimenting with editing tools and refining images. We celebrate diversity – Appreciating that photographs capture different people, places, cultures and perspectives.	

	We show respect – Respecting the work of others, using photographs responsibly and giving constructive feedback. We are ready and fit for our future – Developing creativity, digital literacy, communication and critical thinking skills through creating and evaluating digital images.
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Autumn 1		
UKS2	Computing Systems and Networks – Communication and Collaboration	
	Year 5	Year 6
	L1 – How does the internet enable communication? L2 – What is a network? L3 – How is information shared across the internet? L4 – What are the benefits of online collaboration? L5 – How can we work collaboratively online? L6 – How can we communicate safely and responsibly online?	L1 – How does the internet enable communication? L2 – What is a network? L3 – How is information shared across the internet? L4 – What are the benefits of online collaboration? L5 – How can we work collaboratively online? L6 – How can we communicate safely and responsibly online?
Key Concepts to assess	L1 – Children know that the internet enables communication between people and devices around the world and can describe a range of online communication methods. L2 – Children can explain that data is transferred across networks using connected devices and identify the purpose of servers and routers. L3 – Children understand that websites and online services exchange information across the internet and can describe how this supports communication. L4 – Children can explain how online collaboration allows people to work together on shared documents and projects. L5 – Children can use collaborative online tools to create, edit and share work with others safely. L6 – Children can explain how to communicate respectfully online and recognise the importance of protecting personal information.	L1 – Children can explain how internet services enable communication and collaboration across the world, evaluating the benefits and limitations of different communication methods. L2 – Children can describe how routers, servers and network infrastructure transfer data efficiently across the internet. L3 – Children can explain how online services exchange information securely and evaluate how different communication technologies meet users' needs. L4 – Children can evaluate the advantages of collaborative technologies, explaining how they improve productivity, communication and teamwork. L5 – Children can confidently use collaborative digital tools to plan, create, edit and evaluate shared work while managing permissions appropriately. L6 – Children can demonstrate responsible online communication, explaining how digital etiquette, privacy and security contribute to safe online collaboration.
Vocabulary	internet, network, communication, collaboration, router, server, data, device, online, website, email, shared document, cloud storage, upload, download, digital communication, permissions	Y5+ network infrastructure, protocol, cloud computing, collaboration tools, cybersecurity, privacy, digital footprint, encryption, bandwidth, productivity, online etiquette, authentication
Experiences	Investigate how information travels across the internet using diagrams and practical demonstrations. Explore collaborative online tools by creating and editing a shared document with classmates. Compare different methods of digital communication, discussing when each is most appropriate. Develop a class guide for effective, safe and respectful online collaboration.	
SMSC	Social – Working collaboratively using digital tools to communicate, solve problems and share ideas effectively. Moral – Understanding the importance of responsible online behaviour, protecting personal information and communicating respectfully. Cultural – Exploring how digital communication connects people, cultures and communities across the world.	
British Values	Individual Liberty – Making responsible choices when communicating and collaborating online.	

	Mutual Respect – Communicating respectfully with others and valuing different viewpoints during online collaboration. Rule of Law – Understanding the importance of following school policies, online safety rules and copyright when using digital technologies.
School Values	We are happy – Enjoying using technology to communicate, collaborate and share ideas with others. We are safe – Protecting personal information and using online communication tools responsibly. We enjoy a challenge – Developing resilience by learning new collaborative technologies and solving digital problems together. We celebrate diversity – Appreciating that technology enables people from different backgrounds, cultures and countries to communicate and work together. We show respect – Respecting the ideas, opinions and digital work of others during online collaboration. We are ready and fit for our future – Developing communication, teamwork, digital literacy and collaboration skills that prepare us for further education, employment and life in an increasingly connected world.

Autumn 2		
UKS2	Creating Media – Vector Graphics	
	Year 5	Year 6
	L1 – What are vector drawings? L2 – How can I create shapes in a vector drawing? L3 – How can I layer and group objects? L4 – How can I use different editing tools? L5 – How can I create an effective vector image? L6 – How can I evaluate and improve my design?	L1 – What are vector drawings? L2 – How can I create shapes in a vector drawing? L3 – How can I layer and group objects? L4 – How can I use different editing tools? L5 – How can I create an effective vector image? L6 – How can I evaluate and improve my design?
Key Concepts to assess	L1 – Children know that vector graphics are created using shapes and lines and can explain how they differ from digital photographs. L2 – Children can use a range of tools to create, resize and edit simple vector shapes accurately. L3 – Children can arrange, layer and group objects to organise a vector drawing effectively. L4 – Children can use editing tools, including duplication, alignment and colour changes, to improve a vector design. L5 – Children can create a vector graphic for a specific purpose, selecting appropriate colours, shapes and layout. L6 – Children can evaluate their finished design, explaining how it meets the design brief and suggesting improvements.	L1 – Children can explain the advantages of vector graphics for logos, icons and illustrations, comparing them with bitmap images. L2 – Children can confidently use a range of vector drawing tools to create accurate and detailed designs. L3 – Children can independently layer, group and align objects to produce professional-looking vector graphics. L4 – Children can apply advanced editing techniques to refine designs, explaining how each tool improves the finished outcome. L5 – Children can independently create a high-quality vector graphic for a specific audience and purpose, justifying their design decisions. L6 – Children can critically evaluate and refine their vector graphic, explaining how layout, colour, shape and composition contribute to an effective final product.
Vocabulary	vector graphic, shape, line, object, layer, group, align, resize, rotate, duplicate, fill, outline, colour, design, illustration, icon, logo, edit	Y5+ bitmap, composition, transparency, precision, scalable, symmetry, proportion, refinement, graphic design, audience, evaluate, design brief
Experiences	Explore the differences between vector graphics and digital photographs by examining real-world examples such as logos and icons. Use vector drawing software to create, edit and combine shapes into	
SMSC	Social – Working collaboratively to create, edit and evaluate vector graphics while sharing ideas and giving constructive feedback.	

	Moral – Understanding the importance of creating original digital artwork, respecting copyright and representing information honestly through graphic design.
	Cultural – Exploring how vector graphics are used across different cultures in logos, branding, advertising, signs and digital media to communicate ideas and identity.
British Values	Individual Liberty – Making independent creative decisions when designing and refining vector graphics for different audiences and purposes. Mutual Respect – Respecting the creative ideas, opinions and digital work of others when reviewing and evaluating designs. Rule of Law – Understanding the importance of copyright, licensing and using digital images and graphics responsibly.
School Values	We are happy – Enjoying creating digital artwork and developing graphic design skills using vector drawing software. We are safe – Using computers and digital resources safely, responsibly and in line with online safety expectations. We enjoy a challenge – Developing resilience by refining designs, solving problems and improving graphics through evaluation and feedback. We celebrate diversity – Appreciating how symbols, logos and artwork represent different cultures, communities and organisations around the world. We show respect – Respecting digital resources, the creative work of others and providing constructive feedback during the design process. We are ready and fit for our future – Developing creativity, digital design, communication and problem-solving skills that prepare us for future learning and careers in the creative and digital industries.

Spring 1		
UKS2	Creating Media – Web Page Creation	
	Year 5	Year 6
	L1 – What makes an effective website? L2 – How do I plan a web page? L3 – How can I create and organise web pages? L4 – How can I add and edit different media? L5 – How can I improve navigation and accessibility? L6 – How do I evaluate and improve my website?	L1 – What makes an effective website? L2 – How do I plan a web page? L3 – How can I create and organise web pages? L4 – How can I add and edit different media? L5 – How can I improve navigation and accessibility? L6 – How do I evaluate and improve my website?
Key Concepts to assess	L1 – Children know that websites are designed for different audiences and purposes and can identify the features of an effective web page. L2 – Children can plan the structure and layout of a website using a simple site map and design brief. L3 – Children can create linked web pages containing organised text and images. L4 – Children can add and edit text, images and other media to improve the appearance and purpose of a website. L5 – Children can improve navigation by creating clear menus and hyperlinks that help users move around a website. L6 – Children can evaluate a completed website against a design brief and identify improvements to content, layout and usability.	L1 – Children can explain how web pages are designed to meet the needs of different audiences, evaluating the effectiveness of existing websites. L2 – Children can independently plan a multi-page website, considering structure, navigation, accessibility and audience. L3 – Children can create and organise multiple linked web pages using consistent layouts and effective navigation. L4 – Children can confidently integrate and edit a range of digital media to enhance communication and user experience. L5 – Children can evaluate and refine navigation, accessibility and design features to improve the effectiveness of a website. L6 – Children can independently create, evaluate and refine a website, justifying design decisions and explaining how the final product meets the needs of its intended audience.

Vocabulary	website, webpage, homepage, hyperlink, navigation, layout, site map, browser, media, image, text, audience, purpose, design brief, accessibility, publish, edit	Y5+ user experience, usability, consistency, hierarchy, multimedia, copyright, optimisation, accessibility features, interface, refinement, evaluate, web design
Experiences	Explore a variety of websites, identifying features that make them easy to use and suitable for different audiences. Plan a website using a site map before creating linked web pages with text, images and hyperlinks. Test websites created by classmates, providing constructive feedback on navigation, layout and accessibility. Design, create and evaluate a finished website for a real curriculum topic or school event.	
SMSC	Social – Working collaboratively to plan, review and improve websites while sharing ideas and giving constructive feedback. Moral – Understanding the importance of presenting accurate information, respecting copyright and designing websites responsibly. Cultural – Exploring how websites are used around the world to share information, celebrate cultures and communicate with different audiences.	
British Values	Individual Liberty – Making independent design decisions when creating websites for different purposes and audiences. Mutual Respect – Respecting the ideas, opinions and digital work of others during collaborative evaluation. Rule of Law – Understanding the importance of copyright, permission and responsible use of online content when creating websites.	
School Values	We are happy – Enjoying creating informative and engaging websites using digital technology. We are safe – Using online resources safely, responsibly and in accordance with copyright and online safety guidance. We enjoy a challenge – Developing resilience by refining website layouts, improving navigation and responding to feedback. We celebrate diversity – Creating websites that represent and celebrate different people, cultures, communities and viewpoints. We show respect – Respecting digital resources, the work of others and providing thoughtful, constructive feedback. We are ready and fit for our future – Developing digital literacy, creativity, communication and web design skills that prepare us for future learning, employment and life in a digital society.	

Spring 2		
UKS2	Programming A – Variables in Games	
	Year 5	Year 6
	L1 – What is a variable? L2 – How are variables used in programs? L3 – How can variables keep score? L4 – How can variables control a game? L5 – How can I debug programs using variables? L6 – How can I create my own game using variables?	L1 – What is a variable? L2 – How are variables used in programs? L3 – How can variables keep score? L4 – How can variables control a game? L5 – How can I debug programs using variables? L6 – How can I create my own game using variables?
Key Concepts to assess	L1 – Children know that a variable is a value that can change while a program is running and can identify variables in simple programs. L2 – Children can create and use variables to store and change information within a program. L3 – Children can use variables to keep score, count lives or record values in a simple game. L4 – Children can combine variables with selection and events to make games more interactive.	L1 – Children can explain the purpose of variables in programming and describe how they make programs more dynamic and interactive. L2 – Children can confidently create, update and use variables to control different aspects of a program. L3 – Children can use multiple variables to manage scoring, timers and game events within an interactive program. L4 – Children can combine variables, selection and repetition to develop more complex games and explain how each element contributes to the program.

	L5 – Children can test and debug programs containing variables by identifying and correcting errors. L6 – Children can design, create and evaluate a simple game that uses variables to achieve its purpose.	L5 – Children can systematically debug programs containing variables, explaining how changes improve functionality and reliability. L6 – Children can independently design, create, evaluate and refine a game using variables, justifying programming decisions and explaining how variables improve the user experience.
Vocabulary	variable, value, score, lives, timer, event, algorithm, program, sequence, selection, repetition, sprite, input, output, debug, test, code	Y5+ initialise, update, conditional statement, Boolean, parameter, iteration, user interaction, computational thinking, refine, efficiency, evaluate, interactive program
Experiences	Explore existing games to identify where variables are used, such as scores, timers and lives. Create simple programs that use variables to store and update changing values. Develop an interactive game using variables, selection and repetition to increase challenge and user engagement. Test classmates' games, providing constructive feedback before refining and evaluating the final product.	
SMSC	Social – Working collaboratively to design, test and evaluate games while sharing ideas and giving constructive feedback. Moral – Developing resilience by recognising that debugging and refining programs are essential parts of the design process. Cultural – Exploring how computer games are created and enjoyed by people from different cultures and communities around the world.	
British Values	Individual Liberty – Making independent decisions when designing, programming and refining games. Mutual Respect – Respecting the ideas, creativity and programming approaches of others during collaborative work. Democracy – Listening to feedback from others and using it to improve the quality and usability of a game.	
School Values	We are happy – Enjoying designing and creating interactive games using programming. We are safe – Using computers, online resources and digital tools safely and responsibly. We enjoy a challenge – Developing resilience by debugging programs and refining games until they work effectively. We celebrate diversity – Appreciating that games can be designed for different audiences and that programming problems can be solved in many different ways. We show respect – Respecting digital resources, the work of others and providing constructive feedback during testing and evaluation. We are ready and fit for our future – Developing computational thinking, creativity, logical reasoning and programming skills that prepare us for future learning, employment and life in a digital world.	

Summer 1		
UKS2	Data and Information – Introduction to Spreadsheets	
	Year 5	Year 6
	L1 – What is a spreadsheet? L2 – How do I enter and organise data? L3 – How can I use formulae to calculate? L4 – How can I present data clearly? L5 – How can I use spreadsheets to solve problems? L6 – How do I evaluate the effectiveness of a spreadsheet?	L1 – What is a spreadsheet? L2 – How do I enter and organise data? L3 – How can I use formulae to calculate? L4 – How can I present data clearly? L5 – How can I use spreadsheets to solve problems? L6 – How do I evaluate the effectiveness of a spreadsheet?
Key Concepts to assess	L1 – Children know that spreadsheets are used to organise, store and analyse data and can identify rows, columns and cells.	L1 – Children can explain how spreadsheets improve the organisation, analysis and presentation of data in a range of real-life situations.

	L2 – Children can enter, edit and organise data accurately within a spreadsheet. L3 – Children can use simple formulae to perform calculations automatically within a spreadsheet. L4 – Children can present data using appropriate formatting and create simple charts to communicate information clearly. L5 – Children can use spreadsheets to answer questions, solve simple problems and identify patterns within data. L6 – Children can evaluate the effectiveness of a spreadsheet, explaining how it could be improved to make data easier to interpret.	L2 – Children can confidently enter, organise and manage larger sets of data using appropriate spreadsheet features. L3 – Children can independently create and adapt formulae to perform calculations accurately and efficiently. L4 – Children can select and create appropriate charts and formatting techniques to present data for different audiences and purposes. L5 – Children can analyse spreadsheet data to solve more complex problems, identify trends and justify conclusions. L6 – Children can critically evaluate and refine a spreadsheet, explaining how layout, formulae and presentation improve accuracy, efficiency and usability.
Vocabulary	spreadsheet, cell, row, column, data, value, formula, calculation, table, chart, graph, format, sort, analyse, spreadsheet software	Y5+ function, SUM, AVERAGE, formula bar, dataset, organise, filter, efficiency, accuracy, interpret, conditional formatting, evaluate
Experiences	Explore a spreadsheet by identifying rows, columns and cells before entering and organising data. Use simple formulae to perform automatic calculations and compare these with manual calculations. Create charts and graphs to present collected class data and discuss which formats communicate information most effectively. Investigate real-life scenarios where spreadsheets are used, such as budgeting, surveys or sports results, before creating and evaluating a spreadsheet solution.	
SMSC	Social – Working collaboratively to collect, organise and interpret data while discussing findings respectfully. Moral – Understanding the importance of entering data accurately and presenting information honestly and responsibly. Cultural – Exploring how spreadsheets are used in schools, businesses and organisations around the world to make informed decisions.	
British Values	Individual Liberty – Making informed decisions when selecting the most appropriate ways to organise and present data. Mutual Respect – Respecting the work, ideas and interpretations of others when analysing and presenting data. Rule of Law – Understanding the importance of handling information responsibly and following agreed procedures when using digital data.	
School Values	We are happy – Enjoying exploring data and discovering how spreadsheets help solve real-life problems. We are safe – Using computers and digital information responsibly while protecting personal data. We enjoy a challenge – Developing resilience by solving increasingly complex problems using spreadsheet tools and formulae. We celebrate diversity – Appreciating that data can represent different people, communities and viewpoints, and that information should be interpreted fairly. We show respect – Respecting digital resources, shared data and the work of others during collaborative activities. We are ready and fit for our future – Developing digital literacy, analytical thinking, problem-solving and data-handling skills that prepare us for secondary education, future employment and everyday life.	

Summer 2		
UKS2	Programming B – Selection in Physical Computing	
	Year 5	Year 6
	L1 – What is physical computing? L2 – How do inputs and outputs work? L3 – How can selection control an output? L4 – How do I create a program using inputs and outputs? L5 – How do I test and debug a physical computing program?	L1 – What is physical computing? L2 – How do inputs and outputs work? L3 – How can selection control an output? L4 – How do I create a program using inputs and outputs? L5 – How do I test and debug a physical computing program?

	L6 – How can I design and evaluate a physical computing project?	L6 – How can I design and evaluate a physical computing project?
Key Concepts to assess	L1 – Children know that physical computing combines hardware and software to create programmable systems and can identify examples of physical computing in everyday life. L2 – Children can explain the purpose of inputs and outputs and create simple programs that respond to user input. L3 – Children know that selection uses conditions to control program outcomes and can use simple selection statements within a program. L4 – Children can create a physical computing program that uses inputs, outputs and selection to solve a simple problem. L5 – Children can test and debug a physical computing project by identifying and correcting errors in code and hardware. L6 – Children can design, build, evaluate and improve a simple physical computing project that meets a given design brief.	L1 – Children can explain how physical computing systems use hardware and software together to solve real-world problems. L2 – Children can confidently use a range of inputs and outputs to create responsive physical computing systems. L3 – Children can apply selection statements accurately, explaining how conditions affect the behaviour of a physical computing system. L4 – Children can independently create programs that combine inputs, outputs and selection to solve increasingly complex problems. L5 – Children can systematically test, debug and refine physical computing projects, explaining how changes improve reliability and performance. L6 – Children can independently design, create, evaluate and refine a physical computing solution, justifying programming decisions and explaining how the finished product meets the needs of its intended user.
Vocabulary	physical computing, microcontroller, input, output, sensor, button, LED, buzzer, program, selection, condition, algorithm, code, debug, test, hardware, software	Y5+ conditional statement, Boolean, if statement, programmable device, circuit, controller, automation, prototype, reliability, refine, evaluation, user-centred design
Experiences	Explore a programmable microcontroller by investigating how inputs and outputs interact. Create simple programs using buttons, LEDs and buzzers to understand how selection controls physical devices. Design and build a physical computing project that responds to user input using conditional programming. Test, debug and evaluate completed projects, refining both hardware and software to improve performance and reliability.	
SMSC	Social – Working collaboratively to design, build and evaluate physical computing systems while sharing ideas and solving problems together. Moral – Understanding the importance of designing reliable, safe and inclusive technology that meets the needs of different users. Cultural – Exploring how physical computing is used around the world in engineering, healthcare, transport, manufacturing and everyday technology.	
British Values	Individual Liberty – Making informed programming and design decisions when creating physical computing projects. Mutual Respect – Respecting the ideas, designs and solutions of others during collaborative programming and evaluation. Democracy – Listening to feedback from others and working together to improve physical computing solutions.	
School Values	We are happy – Enjoying designing, programming and testing physical computing projects. We are safe – Using electronic components, programmable devices and computing equipment safely and responsibly. We enjoy a challenge – Developing resilience by debugging code, refining hardware and solving increasingly complex programming problems. We celebrate diversity – Appreciating that technology can be designed to improve the lives of people with different needs, abilities and backgrounds. We show respect – Respecting equipment, digital resources and the ideas of others throughout the design and programming process. We are ready and fit for our future – Developing computational thinking, engineering, programming and problem-solving skills that prepare us for secondary education and careers in science, technology, engineering and computing.	



Medium Term

Cycle B

Autumn 1		
KS1	Computing Systems and Networks – IT Around Us	
	Year 1	Year 2
	L1 – What is information technology? L2 – Where is information technology used? L3 – How does information technology help us? L4 – Which devices are information technology? L5 – How do we use information technology safely? L6 – How does information technology improve our lives?	L1 – What is information technology? L2 – Where is information technology used? L3 – How does information technology help us? L4 – Which devices are information technology? L5 – How do we use information technology safely? L6 – How does information technology improve our lives?
Key Concepts to assess	L1 – Children know that information technology (IT) is technology used to create, store or communicate information and can identify simple examples. L2 – Children can identify examples of information technology used in school, at home and in the local community. L3 – Children can explain how information technology helps people complete everyday tasks more easily. L4 – Children can distinguish between information technology and other types of technology. L5 – Children understand the importance of using information technology safely and following simple online safety rules. L6 – Children can explain how information technology makes everyday life easier and describe ways it supports learning and communication.	L1 – Children can explain what information technology is and describe how it collects, stores and communicates information. L2 – Children can identify and classify information technology used in different environments, explaining its purpose. L3 – Children can explain how information technology improves communication, learning and everyday tasks. L4 – Children can justify whether a device is information technology by explaining how it processes or communicates information. L5 – Children can explain why responsible use of information technology is important and describe how to stay safe when using digital devices. L6 – Children can evaluate how information technology benefits different people and communities, recognising its importance in modern life.
Vocabulary	information technology (IT), computer, laptop, tablet, device, digital, communication, information, technology, screen, keyboard, mouse, internet, data, safe, responsible	Y1+ process, network, digital device, communication, online safety, classify, system, community, organisation, technology
Experiences	Go on an IT Hunt around school to identify examples of information technology and explain their purpose. Compare everyday devices to decide whether they are information technology, justifying decisions. Interview members of staff about how they use information technology in their jobs around school. Create a class poster or presentation explaining how to use information technology safely and responsibly.	
SMSC	Social – Working collaboratively to investigate how information technology supports learning, communication and everyday life. Moral – Understanding the importance of using technology responsibly, following online safety rules and respecting digital devices. Cultural – Exploring how information technology connects people and communities across the world and supports communication between different cultures.	
British Values	Individual Liberty – Making responsible choices when using information technology independently. Mutual Respect – Respecting shared devices, digital resources and the work of others. Rule of Law – Understanding that rules help keep everyone safe when using technology both online and offline.	
School Values	We are happy – Enjoying discovering how information technology helps us learn, communicate and solve problems. We are safe – Using digital devices responsibly and following online safety guidance. We enjoy a challenge – Developing confidence by exploring new technologies and solving simple digital tasks. We celebrate diversity – Recognising that information technology enables people from different backgrounds and cultures to connect and work together. We show respect – Respecting computing equipment, digital resources and the ideas of others.	

We are ready and fit for our future – Developing digital literacy, communication and responsible technology skills that prepare us for future learning and everyday life.

Autumn 2		
KS1	Creating Media – Digital Photography	
	Year 1	Year 2
	L1 – What makes a good photograph? L2 – How can I take a clear photograph? L3 – How can I change the viewpoint of a photograph? L4 – How can I choose the best photograph? L5 – How can I improve a digital photograph? L6 – How can I present my photographs?	L1 – What makes a good photograph? L2 – How can I take a clear photograph? L3 – How can I change the viewpoint of a photograph? L4 – How can I choose the best photograph? L5 – How can I improve a digital photograph? L6 – How can I present my photographs?
Key Concepts to assess	L1 – Children know that digital devices can be used to take photographs and can identify the features of a good photograph. L2 – Children can safely use a digital camera or tablet to take clear photographs. L3 – Children can experiment with different viewpoints, distances and angles when taking photographs. L4 – Children can compare photographs and explain why one image is more effective than another. L5 – Children can make simple improvements to a photograph using basic editing tools such as crop or rotate. L6 – Children can select and present their favourite photographs, explaining the choices they have made.	L1 – Children can explain how photographers use composition to create effective digital images. L2 – Children can confidently use a digital device to capture clear photographs for a specific purpose. L3 – Children can independently choose appropriate viewpoints, framing and composition to improve photographs. L4 – Children can evaluate digital photographs using appropriate vocabulary and justify why certain images are more successful. L5 – Children can use a range of editing tools to enhance photographs while maintaining their intended purpose. L6 – Children can create and present a collection of digital photographs, evaluating how effectively they communicate with an audience.
Vocabulary	photograph, camera, tablet, image, digital, landscape, portrait, viewpoint, angle, composition, frame, zoom, focus, crop, rotate, edit, gallery	Y1+ foreground, background, lighting, perspective, enhance, audience, presentation, quality, evaluate, digital media
Experiences	Explore different digital cameras or tablets to take photographs around the school grounds. Investigate how changing angle, distance and viewpoint affects the final image. Compare and evaluate photographs	
SMSC	Social – Working collaboratively to take, compare and discuss photographs while sharing equipment responsibly. Moral – Understanding the importance of asking permission before taking or sharing photographs of others. Cultural – Exploring how photographs are used to capture people, places, events and experiences in different communities.	
British Values	Individual Liberty – Making independent creative choices when taking and selecting photographs. Mutual Respect – Respecting the privacy, choices and photographs of others. Rule of Law – Understanding that there are rules around taking, using and sharing images safely and responsibly.	
School Values	We are happy – Enjoying taking, editing and sharing digital photographs. We are safe – Using devices safely and understanding when it is appropriate to take or share photographs. We enjoy a challenge – Developing confidence by experimenting with viewpoints, framing and editing tools. We celebrate diversity – Appreciating that photographs can show different people, places, cultures and experiences.	

	We show respect – Respecting equipment, privacy and the creative work of others. We are ready and fit for our future – Developing digital creativity, communication and responsible image-use skills.
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Spring 1		
KS1	Data and Information – Pictograms	
	Year 1	Year 2
	L1 – What is data? L2 – How can I collect data? L3 – How can I create a pictogram? L4 – How can I use a computer to create a pictogram? L5 – How can I answer questions using a pictogram? L6 – How can I compare information in pictograms?	L1 – What is data? L2 – How can I collect data? L3 – How can I create a pictogram? L4 – How can I use a computer to create a pictogram? L5 – How can I answer questions using a pictogram? L6 – How can I compare information in pictograms?
Key Concepts to assess	L1 – Children know that data is information that can be collected and organised and can identify different types of simple data. L2 – Children can collect data by asking questions and recording answers accurately. L3 – Children can organise collected data into a simple pictogram. L4 – Children can use a computer to create a pictogram using collected data. L5 – Children can answer simple questions by interpreting information shown in a pictogram. L6 – Children can compare groups of data and describe what the pictogram shows.	L1 – Children can explain what data is and why it is collected to answer questions and solve problems. L2 – Children can independently collect, record and organise data using suitable methods. L3 – Children can create accurate pictograms that clearly represent collected data. L4 – Children can confidently use digital software to input, organise and present data as a pictogram. L5 – Children can interpret pictograms by answering increasingly complex questions and identifying patterns. L6 – Children can compare and explain information presented in pictograms, drawing simple conclusions from the data.
Vocabulary	data, information, pictogram, chart, graph, survey, question, answer, collect, record, organise, compare, count, tally, category	Y1+ interpret, conclusion, results, digital graph, represent, analyse, pattern, database, organise, compare
Experiences	Carry out a simple class survey (e.g. favourite fruit, pets or transport to school) and collect data. Use a computing program to create a pictogram from class survey results. Compare different pictograms and discuss what information they show. Create a pictogram to present findings from another curriculum area, such as science or geography.	
SMSC	Social – Working collaboratively to collect, organise and interpret data while listening to the views and responses of others. Moral – Understanding the importance of collecting and presenting data honestly and accurately. Cultural – Exploring how data is used in everyday life to understand people, communities and the wider world.	
British Values	Individual Liberty – Making independent decisions when collecting, organising and presenting data. Mutual Respect – Respecting the opinions and responses of others during surveys and discussions. Democracy – Recognising that everyone's response contributes equally to the results of a survey.	
School Values	We are happy – Enjoying collecting information and discovering what data tells us. We are safe – Using computers and digital tools safely and responsibly. We enjoy a challenge – Developing confidence by interpreting data and answering increasingly challenging questions.	

	We celebrate diversity – Recognising and valuing the different responses, opinions and experiences represented in class data. We show respect – Respecting the ideas, opinions and contributions of others when collecting and discussing information. We are ready and fit for our future – Developing digital, mathematical and analytical skills that help us make informed decisions and understand the world through data.
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Spring 2		
KS1	Programming A – Robot Algorithms	
	Year 1	Year 2
	L1 – What is an algorithm? L2 – How do I follow an algorithm? L3 – How do I create an algorithm? L4 – How can I programme a robot to follow an algorithm? L5 – How do I debug an algorithm? L6 – How can I create my own robot challenge?	L1 – What is an algorithm? L2 – How do I follow an algorithm? L3 – How do I create an algorithm? L4 – How can I programme a robot to follow an algorithm? L5 – How do I debug an algorithm? L6 – How can I create my own robot challenge?
Key Concepts to assess	L1 – Children know that an algorithm is a sequence of instructions and can explain why instructions need to be in the correct order. L2 – Children can follow a simple algorithm and predict the outcome before carrying it out. L3 – Children can create a simple algorithm using clear, ordered instructions. L4 – Children can programme a floor robot to follow a simple algorithm using a sequence of commands. L5 – Children can identify and correct simple mistakes in an algorithm by testing and debugging. L6 – Children can create, test and explain their own algorithm for a simple robot challenge.	L1 – Children can explain that algorithms are used by computers and programmable devices to complete tasks accurately. L2 – Children can interpret and follow increasingly complex algorithms, explaining why precise sequencing is important. L3 – Children can independently create algorithms to solve simple problems using logical thinking. L4 – Children can programme a floor robot to complete more complex routes by combining commands accurately. L5 – Children can debug algorithms by identifying errors, explaining why they occurred and improving the program. L6 – Children can design, test, evaluate and refine their own robot challenge, explaining how different algorithms can achieve the same outcome.
Vocabulary	algorithm, instruction, sequence, command, program, robot, Bee-Bot, floor robot, forwards, backwards, left, right, turn, route, predict, debug, test	Y1+ logical, programmable, outcome, efficient, refine, improve, problem-solving, repetition, evaluate
Experiences	Explore a Bee-Bot or other floor robot to investigate how commands control movement. Create obstacle courses and write algorithms for partners to follow using directional language. Test and debug algorithms, identifying and correcting errors before trying again. Design a robot challenge where children create, test and evaluate their own algorithms to solve a problem.	
SMSC	Social – Working collaboratively to create, test and improve algorithms while communicating ideas clearly. Moral – Developing resilience by recognising that mistakes are a valuable part of programming and learning through debugging. Cultural – Exploring how programmable technology is used in homes, schools and workplaces to solve everyday problems.	
British Values	Individual Liberty – Making independent decisions when creating and refining algorithms. Mutual Respect – Respecting the ideas and programming solutions of others during collaborative activities. Democracy – Listening to different viewpoints and working together to identify effective solutions to programming challenges.	
School Values	We are happy – Enjoying creating, testing and improving algorithms using programmable robots.	

	We are safe – Using computing equipment and programmable devices safely and responsibly. We enjoy a challenge – Developing resilience by debugging and improving programs until they work successfully. We celebrate diversity – Recognising that there are many different ways to solve the same programming problem and valuing the ideas of others. We show respect – Respecting equipment, taking turns and valuing the contributions of others during programming activities. We are ready and fit for our future – Developing computational thinking, logical reasoning, resilience and problem-solving skills that prepare us for future learning and an increasingly digital world.
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Summer 1		
KS1	Programming B – Programming Animations	
	Year 1	Year 2
	L1 – What is an animation? L2 – How do I make a character move? L3 – How can I add more than one movement? L4 – How can I improve my animation? L5 – How do I debug my animation? L6 – How can I create my own animated project?	L1 – What is an animation? L2 – How do I make a character move? L3 – How can I add more than one movement? L4 – How can I improve my animation? L5 – How do I debug my animation? L6 – How can I create my own animated project?
Key Concepts to assess	L1 – Children know that animations are created by programming a sequence of movements and can identify simple animations. L2 – Children can create a simple program that makes a character move using programming blocks. L3 – Children can combine more than one movement to create a short animated sequence. L4 – Children can add and change commands to improve an animation. L5 – Children can test and debug an animation by identifying and correcting simple mistakes. L6 – Children can create, test and explain a simple animated project that meets a given purpose.	L1 – Children can explain how programming is used to create animations and interactive digital content. L2 – Children can confidently programme a character to move using an ordered sequence of commands. L3 – Children can combine movement, timing and events to create more interesting animations. L4 – Children can refine animations by modifying commands to improve the final outcome. L5 – Children can debug animations independently by identifying errors and explaining how they were corrected. L6 – Children can independently design, create, evaluate and improve an animated project, explaining how their program achieves its intended purpose.
Vocabulary	animation, program, algorithm, sequence, command, sprite, character, movement, event, code, block, debug, test, predict, run	Y1+ timing, repeat, interaction, project, refine, evaluate, programming environment, outcome, logical thinking, improve
Experiences	Explore simple animations to identify how movement is created through programming. Use block-based programming software to animate a character using sequences of commands. Experiment with changing movement, timing and events to improve an animation. Design, create and present an animated story or scene, testing and debugging throughout the process.	
SMSC	Social – Working collaboratively to create, test and evaluate animations while sharing ideas and giving constructive feedback. Moral – Developing resilience by recognising that testing and debugging are valuable parts of the creative process.	

	Cultural – Exploring how animation is used in films, games, education and digital media across different cultures and communities.
British Values	Individual Liberty – Making independent creative decisions when designing and programming animations. Mutual Respect – Respecting the ideas, creativity and programming solutions of others. Democracy – Listening to feedback from others and working together to improve animated projects.
School Values	We are happy – Enjoying creating animations and bringing ideas to life through programming. We are safe – Using computers, software and digital resources safely and responsibly. We enjoy a challenge – Developing resilience by testing, debugging and improving animations until they work effectively. We celebrate diversity – Appreciating that animations can tell different stories, represent different cultures and reflect a variety of creative ideas. We show respect – Respecting digital resources, shared equipment and the work of others during collaborative activities. We are ready and fit for our future – Developing creativity, computational thinking, digital literacy and problem-solving skills that prepare us for future learning and life in a digital world.

Summer 2		
KS1	Programming B: Programming Quizzes	
	Year 1	Year 2
	L1 – What is a quiz? L2 – How can we design a quiz? L3 – How can we make our quiz interactive? L4 – How can we improve our quiz? L5 – How can we test and debug our quiz? L6 – How can we evaluate and share our quiz?	L1 – What is a quiz? L2 – How can we design a quiz? L3 – How can we make our quiz interactive? L4 – How can we improve our quiz? L5 – How can we test and debug our quiz? L6 – How can we evaluate and share our quiz?
Key Concepts to assess	L1 – Children know that a quiz is a program that asks questions and gives responses. L2 – Children can create a simple sequence of questions using a block-based programming environment. L3 – Children can add answers and simple responses to make a quiz interactive. L4 – Children can make simple improvements by changing text, pictures or sounds. L5 – Children can test their quiz, identify simple mistakes and correct them with support. L6 – Children can explain how their quiz works and save and share their finished program.	L1 – Children can explain the purpose of a digital quiz and identify the features of an effective quiz. L2 – Children can independently plan and create a logical sequence of questions for a chosen audience. L3 – Children can use selection to produce different outcomes depending on the user's answer. L4 – Children can refine their quiz by improving instructions, responses and presentation. L5 – Children can systematically test, debug and improve their quiz, explaining why changes were needed. L6 – Children can evaluate the effectiveness of their quiz, justify improvements made and share it appropriately.
Vocabulary	quiz, question, answer, program, algorithm, sequence, instruction, block, sprite, event, response, test, debug, predict, improve	Y1+ selection, condition, outcome, feedback, navigation, user, evaluate, refine, interactive, logical
Experiences	Explore examples of digital quizzes and discuss what makes them engaging. Create a simple interactive quiz using a block-based programming environment. Test quizzes with a partner and identify ways to improve them.	

	Debug errors by finding and correcting mistakes in the program. Add sounds, images or additional questions to improve the finished quiz. Share completed quizzes with classmates and evaluate how well they work.
SMSC	Social – Working collaboratively to create, test and improve digital quizzes. Moral – Giving honest and respectful feedback while recognising the importance of correcting mistakes. Spiritual – Expressing creativity by designing engaging quizzes. Cultural – Recognising that quizzes are used for learning, entertainment and assessment in many different settings.
British Values	Individual Liberty – Making independent choices when designing and programming a quiz. Mutual Respect – Respecting the ideas and creations of others during testing and evaluation. Democracy – Listening to feedback and using others' opinions to improve digital work.
School Values	We are happy – Enjoying creating and sharing interactive quizzes. We are safe – Using technology responsibly and protecting personal information. We enjoy a challenge – Persevering when testing, debugging and improving programs. We celebrate diversity – Creating quizzes that reflect different interests, experiences and ideas. We show respect – Valuing the work and opinions of others when giving feedback. We are ready and fit for our future – Developing computational thinking, creativity and digital problem-solving skills for the future.

Autumn 1		
LKS2	Creating Media: Stop-Frame Animation	
	Year 3	Year 4
	L1 – Can a picture move? L2 – What changes are made frame-by-frame? L3 – What are the key parts of the story? L4 – Can I create a stop-frame animation? L5 – How do I refine an animation? L6 – How do I add other media to my animation?	L1 – Can a picture move? L2 – What changes are made frame-by-frame? L3 – What are the key parts of the story? L4 – Can I create a stop-frame animation? L5 – How do I refine an animation? L6 – How do I add other media to my animation?
Key Concepts to assess	L1 – Children know that animation is created from a sequence of images and can create a simple flipbook animation. L2 – Children can create a basic stop-frame animation by making small changes between each frame. L3 – Children can plan a simple animation using a storyboard with characters, settings and events. L4 – Children can create a stop-frame animation, taking care to make consistent movements between frames. L5 – Children can review and improve an animation by identifying simple changes that make it smoother.	L1 – Children can explain how stop-frame animation creates the illusion of movement using sequential images. L2 – Children can confidently create a smooth stop-frame animation by applying consistent frame-by-frame changes. L3 – Children can independently plan a detailed storyboard that includes sequencing, timing and achievable scenes. L4 – Children can use features such as onion skinning to create accurate and consistent animations. L5 – Children can evaluate, refine and improve an animation by making purposeful edits to timing, movement and continuity.

	L6 – Children can add simple text or sound to an animation and explain how these additions improve the final outcome.	L6 – Children can combine animation with text, audio or other media to produce a polished digital project for a specific audience.
Vocabulary	animation, stop-frame, frame, sequence, image, photograph, flipbook, storyboard, character, setting, scene, movement, capture, play, preview	Y3+ onion skinning, continuity, transition, timing, media, refine, evaluate, consistency, digital editing, audience
Experiences	Create flipbook animations to explore how movement is created. Use tablets and stop-frame software to capture frame-by-frame images. Plan an animation using a storyboard before filming. Create and refine a stop-frame animation using onion skinning tools. Add sound effects, music or captions to enhance animations. Share and evaluate completed animations with classmates.	
SMSC	Social – Working collaboratively to plan, create and evaluate animations while sharing equipment responsibly. Moral – Understanding that improving work through review and editing is an important part of the creative process. Spiritual – Expressing imagination and creativity by bringing stories and ideas to life through animation. Cultural – Exploring how animation is used in films, education, advertising and storytelling across different cultures.	
British Values	Individual Liberty – Making independent creative choices when planning and producing animations. Mutual Respect – Respecting the ideas, creativity and feedback of others throughout the animation process. Democracy – Listening to different viewpoints and using peer feedback to improve digital projects.	
School Values	We are happy – Enjoying creating animations and bringing stories to life. We are safe – Using tablets, cameras and digital equipment safely and responsibly. We enjoy a challenge – Developing resilience by refining animations and solving problems during production. We celebrate diversity – Creating animations that reflect a range of ideas, cultures and perspectives. We show respect – Respecting shared equipment and valuing the contributions of others. We are ready and fit for our future – Developing creativity, digital literacy, planning and problem-solving skills that prepare us for future learning and employment.	

Autumn 2		
LKS2	Data and Information: Branching Databases	
	Year 3	Year 4
	L1 – What is a branching database? L2 – How do I identify and group objects? L3 – How do I create yes/no questions? L4 – How do I create a branching database? L5 – How do I use a branching database? L6 – How can I evaluate and improve a branching database?	L1 – What is a branching database? L2 – How do I identify and group objects? L3 – How do I create yes/no questions? L4 – How do I create a branching database? L5 – How do I use a branching database? L6 – How can I evaluate and improve a branching database?
Key Concepts to assess	L1 – Children know that a branching database sorts information using yes/no questions. L2 – Children can identify similarities and differences to group objects.	L1 – Children can explain how branching databases organise information efficiently using binary decisions. L2 – Children can select suitable characteristics to classify objects accurately.

	L3 – Children can create simple yes/no questions to classify items. L4 – Children can create a basic branching database using appropriate questions. L5 – Children can use a branching database to identify objects accurately. L6 – Children can explain how their branching database works and identify simple improvements.	L3 – Children can create precise and logical yes/no questions that avoid ambiguity. L4 – Children can independently design and create an effective branching database for a specific purpose. L5 – Children can test and refine a branching database to improve its accuracy and usability. L6 – Children can evaluate the effectiveness of their branching database, justifying improvements and explaining its strengths and limitations.
Vocabulary	branching database, classify, group, sort, criteria, question, yes, no, object, characteristic, identify, data, database, compare, classify	Y3+ attribute, binary, logical, efficient, refine, evaluate, hierarchy, classification, accuracy, ambiguity
Experiences	Sort real objects using different characteristics. Create paper-based branching databases using yes/no questions. Use computing software to build a digital branching database. Test classmates' databases to identify objects accurately. Refine branching databases by improving questions and classifications. Compare different methods of organising and classifying information.	
SMSC	Social – Working collaboratively to classify objects and test each other's databases. Moral – Recognising the importance of asking fair, accurate and unbiased questions when organising information. Spiritual – Appreciating that there are different ways to organise and interpret information. Cultural – Exploring how classification systems are used in science, libraries, museums and everyday life across the world.	
British Values	Individual Liberty – Making independent decisions about how information should be organised. Mutual Respect – Respecting different approaches to classifying and organising data. Democracy – Listening to others' ideas and using collaborative discussion to improve branching databases.	
School Values	We are happy – Enjoying investigating, sorting and organising information. We are safe – Using digital technology responsibly when creating and storing information. We enjoy a challenge – Developing logical thinking by creating increasingly accurate classification systems. We celebrate diversity – Recognising that there can be different valid ways to group and classify information. We show respect – Listening to and valuing the ideas of others during collaborative problem-solving. We are ready and fit for our future – Developing logical reasoning, data-handling and computational thinking skills for future learning and the digital world.	

Spring 1		
LKS2	Programming A: Events and Actions in Programs	
	Year 3	Year 4
	L1 – What is an event? L2 – How do events control actions? L3 – How can different sprites have different programs? L4 – How can I create an interactive program?	L1 – What is an event? L2 – How do events control actions? L3 – How can different sprites have different programs? L4 – How can I create an interactive program?

	L5 – How can I test and debug my program? L6 – How can I design and create my own interactive project?	L5 – How can I test and debug my program? L6 – How can I design and create my own interactive project?
Key Concepts to assess	L1 – Children know that an event starts a program or action. L2 – Children can create a simple program where an event causes an action. L3 – Children can program different sprites to perform different actions. L4 – Children can combine events and actions to create a simple interactive project. L5 – Children can test their program, identify simple errors and make improvements. L6 – Children can create and explain an interactive project that meets a given purpose.	L1 – Children can explain how events are used to control programs and create interactivity. L2 – Children can independently use a range of events to trigger appropriate actions. L3 – Children can create coordinated programs where multiple sprites respond to different events. L4 – Children can design and develop an interactive project using events, sequencing and purposeful actions. L5 – Children can systematically test, debug and refine programs, explaining how changes improve functionality. L6 – Children can evaluate their completed project, justifying design choices and suggesting further improvements.
Vocabulary	event, action, program, algorithm, sequence, sprite, block, command, code, start, click, keyboard, debug, test, project	Y3+ trigger, interaction, broadcast, input, output, condition, evaluate, refine, functionality, computational thinking
Experiences	Explore how different events trigger actions in block-based programming software. Create programs using mouse clicks and keyboard inputs. Program multiple sprites to perform different actions. Design and build an interactive game or animation. Test and debug programs with a partner. Evaluate completed projects and improve them using peer feedback.	
SMSC	Social – Working collaboratively to design, test and improve interactive programs. Moral – Developing resilience by recognising that debugging and improving programs is a valuable part of the design process. Spiritual – Expressing creativity and imagination through interactive digital projects. Cultural – Exploring how interactive programs are used in games, education and everyday technology around the world.	
British Values	Individual Liberty – Making independent decisions when designing and programming interactive projects. Mutual Respect – Respecting the ideas, programs and feedback of others during collaborative work. Democracy – Listening to different viewpoints and using peer feedback to improve digital outcomes.	
School Values	We are happy – Enjoying creating interactive programs and exploring how events control actions. We are safe – Using computing equipment and software safely and responsibly. We enjoy a challenge – Developing resilience by testing, debugging and refining programs. We celebrate diversity – Appreciating that there are many creative ways to solve programming problems and design interactive projects. We show respect – Valuing the ideas of others and working collaboratively when developing and testing programs. We are ready and fit for our future – Developing computational thinking, creativity and problem-solving skills that prepare us for future learning and the digital world.	

Spring 2		
LKS2	Computing Systems and Networks: The Internet	
	Year 3	Year 4
	L1 – What is the internet? L2 – How does information travel across the internet? L3 – How do websites work? L4 – Who owns information on the internet? L5 – How can I use the internet effectively? L6 – How can I evaluate information I find online?	L1 – What is the internet? L2 – How does information travel across the internet? L3 – How do websites work? L4 – Who owns information on the internet? L5 – How can I use the internet effectively? L6 – How can I evaluate information I find online?
Key Concepts to assess	L1 – Children know that the internet is a network that connects computers around the world. L2 – Children can explain that information travels between connected devices over the internet. L3 – Children can identify that websites contain different types of information and are accessed using a web browser. L4 – Children can recognise that information online belongs to someone and should be used responsibly. L5 – Children can use search tools to find information for a given purpose. L6 – Children can identify whether online information is useful and explain simple ways to check if it can be trusted.	L1 – Children can explain how the internet connects networks and enables communication and information sharing. L2 – Children can describe how data is transferred across the internet between devices. L3 – Children can explain the relationship between websites, web pages and web browsers. L4 – Children can explain the importance of copyright, ownership and acknowledging sources of information. L5 – Children can use effective search strategies to locate relevant information efficiently. L6 – Children can evaluate the reliability of online information by comparing sources and justifying whether information is trustworthy.
Vocabulary	internet, network, website, web page, browser, search, search engine, online, information, device, link, homepage, data, web address, download	Y3+ server, router, World Wide Web, copyright, reliability, source, hyperlink, URL, domain, evaluate
Experiences	Explore how computers connect to form the internet using practical network activities. Navigate websites using hyperlinks and web browsers. Compare search engine results for the same question. Investigate how to identify trustworthy websites. Discuss copyright and responsible use of online content. Complete a research task using a range of reliable online sources.	
SMSC	Social – Working collaboratively to research information and discuss the reliability of online sources. Moral – Understanding the importance of using online information honestly, respecting copyright and acknowledging the work of others. Spiritual – Developing curiosity by exploring the vast range of knowledge available through the internet. Cultural – Exploring how the internet connects people, cultures and communities across the world.	
British Values	Individual Liberty – Making informed and responsible choices when searching for and using information online. Mutual Respect – Respecting the ideas, opinions and intellectual property of others online. Rule of Law – Understanding that laws such as copyright protect digital content and that online behaviour should be responsible.	
School Values	We are happy – Enjoying discovering and exploring information through the internet. We are safe – Using the internet safely, responsibly and critically. We enjoy a challenge – Developing resilience by refining searches and evaluating information carefully.	

	We celebrate diversity – Appreciating that the internet provides access to a wide range of cultures, perspectives and experiences. We show respect – Respecting online content, copyright and the contributions of others. We are ready and fit for our future – Developing digital literacy, research skills and critical thinking to prepare for an increasingly connected world.
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Summer 1		
LKS2	Data and Information: Data Logging	
	Year 3	Year 4
	L1 – How do we collect data? L2 – How can I use a digital device to collect data? L3 – What is a data logger and what is it used for? L4 – How can a computer analyse data? L5 – What data is required to answer given questions? L6 – How can I collect, analyse and present data?	L1 – How do we collect data? L2 – How can I use a digital device to collect data? L3 – What is a data logger and what is it used for? L4 – How can a computer analyse data? L5 – What data is required to answer given questions? L6 – How can I collect, analyse and present data?
Key Concepts to assess	L1 – Children know that data collected over time can be used to answer questions. L2 – Children can explain that sensors can automatically collect data using digital devices. L3 – Children can identify what a data logger does and recognise that it records data at regular intervals. L4 – Children can use simple software to view and interpret data collected by a data logger. L5 – Children can choose suitable data to answer a simple question and plan how data could be collected. L6 – Children can collect, present and explain findings from a simple data logging activity.	L1 – Children can explain why collecting data over time helps answer questions and solve problems. L2 – Children can explain how sensors and data loggers automatically collect accurate data from the physical environment. L3 – Children can describe how data loggers record data points at set intervals and explain why interval choice is important. L4 – Children can analyse logged data using appropriate software to identify patterns, trends and anomalies. L5 – Children can independently plan a data logging investigation by selecting appropriate data, sensors and collection intervals. L6 – Children can evaluate the effectiveness of a data logging investigation, presenting conclusions and suggesting improvements to data collection methods.
Vocabulary	data, data logger, sensor, input, output, collect, record, data set, data point, interval, measure, graph, analyse, results, environment	Y3+ automatic, accuracy, trend, anomaly, variable, investigation, monitoring, digital sensor, evaluate, interpret
Experiences	Use data loggers or digital sensors to collect temperature, light or sound data. Compare manual data collection with automatic data logging. Download and analyse logged data using graphing software. Identify patterns and trends in real-life data. Plan and carry out a simple data logging investigation around school. Present findings using graphs and explain conclusions.	
SMSC	Social – Working collaboratively to collect, analyse and interpret data during investigations. Moral – Recognising the importance of collecting and presenting data accurately and honestly. Spiritual – Developing curiosity by investigating patterns and changes in the world through data.	

	Cultural – Exploring how data logging is used in science, engineering, weather forecasting and environmental monitoring across the world.
British Values	Individual Liberty – Making informed decisions when planning investigations and selecting methods of data collection. Mutual Respect – Valuing the ideas and findings of others during collaborative investigations. Democracy – Discussing evidence together and using data to reach reasoned conclusions.
School Values	We are happy – Enjoying investigating the world through collecting and analysing real data. We are safe – Using digital equipment and sensors safely and responsibly. We enjoy a challenge – Developing resilience when interpreting data and solving problems. We celebrate diversity – Recognising that different investigations may produce different but equally valuable findings. We show respect – Respecting equipment, evidence and the contributions of others during investigations. We are ready and fit for our future – Developing analytical, investigative and digital skills that prepare us for future learning and careers involving technology and data.

Summer 2		
LKS2	Programming B: Repetition in Games	
	Year 3	Year 4
	L1 – What is repetition in a program? L2 – How can repetition make a game more efficient? L3 – How do I use a repeat loop? L4 – How can I improve my game using repetition? L5 – How can I test and debug my game? L6 – How can I evaluate and improve my finished game?	L1 – What is repetition in a program? L2 – How can repetition make a game more efficient? L3 – How do I use a repeat loop? L4 – How can I improve my game using repetition? L5 – How can I test and debug my game? L6 – How can I evaluate and improve my finished game?
Key Concepts to assess	L1 – Children know that repetition means repeating instructions in a program. L2 – Children can identify where repeated commands can be replaced with a repeat loop. L3 – Children can use a repeat loop to create a simple game or animation. L4 – Children can improve a program by using repetition to make it shorter and more efficient. L5 – Children can test a program, identify simple errors and correct them. L6 – Children can explain how repetition has improved their game and suggest simple improvements.	L1 – Children can explain how repetition improves the efficiency and readability of computer programs. L2 – Children can identify opportunities to use repeat loops within increasingly complex programs. L3 – Children can independently create programs that use repetition accurately to control actions within a game. L4 – Children can refine games by selecting appropriate repetition structures to improve functionality and user experience. L5 – Children can systematically test, debug and improve programs, explaining how repetition affects the final outcome. L6 – Children can evaluate their completed game, justify programming choices and suggest further developments using repetition.
Vocabulary	program, algorithm, repetition, repeat, loop, command, sequence, block, code, sprite, game, debug, test, predict, event	Y3+ iteration, efficient, optimise, refine, functionality, computational thinking, variable, interaction, evaluate, logical
Experiences	Explore games to identify repeated actions and patterns. Create programs using repeat loops in a block-based programming environment. Compare programs with and without repetition to identify which is more efficient. Design and create a simple game using repetition.	

	Test games with partners and debug any errors. Evaluate completed games and improve them using peer feedback.
SMSC	Social – Working collaboratively to create, test and improve games while sharing ideas and giving constructive feedback. Moral – Developing perseverance by recognising that testing and debugging are important parts of programming. Spiritual – Using imagination and creativity to design engaging games for others to enjoy. Cultural – Exploring how computer games are created and enjoyed by people across different cultures and communities.
British Values	Individual Liberty – Making independent programming decisions when designing and improving games. Mutual Respect – Respecting the ideas, creativity and feedback of others throughout the design process. Democracy – Listening to others' opinions and using collaborative feedback to improve digital projects.
School Values	We are happy – Enjoying creating and playing games that use repetition. We are safe – Using computing equipment and software safely and responsibly. We enjoy a challenge – Developing resilience by testing, debugging and improving programs. We celebrate diversity – Appreciating that there are many creative ways to design and solve programming challenges. We show respect – Respecting equipment and valuing the ideas and contributions of others. We are ready and fit for our future – Developing computational thinking, logical reasoning and problem-solving skills that prepare us for future learning and an increasingly digital world.

Autumn 1		
UKS2	Creating Media: Video Production	
	Year 5	Year 6
	L1 – What makes a good video? L2 – How do I plan a video? L3 – How do I record effective video clips? L4 – How do I edit a video? L5 – How can I improve my video? L6 – How can I evaluate and share my finished video?	L1 – What makes a good video? L2 – How do I plan a video? L3 – How do I record effective video clips? L4 – How do I edit a video? L5 – How can I improve my video? L6 – How can I evaluate and share my finished video?
Key Concepts to assess	L1 – Children know that videos are planned for a specific purpose and audience and can identify the features of an effective video. L2 – Children can create a storyboard and plan a sequence of shots for a short video. L3 – Children can record clear video clips using appropriate camera angles and steady filming techniques. L4 – Children can use video editing software to trim clips, arrange sequences and add simple transitions. L5 – Children can improve a video by adding titles, music or captions where appropriate.	L1 – Children can explain how planning, filming and editing influence the effectiveness of a video for different audiences. L2 – Children can independently produce a detailed storyboard, selecting suitable shot types and sequencing to communicate ideas effectively. L3 – Children can confidently apply filming techniques, considering camera angles, framing, lighting and audio quality. L4 – Children can edit videos using a range of tools including transitions, titles, sound, timing and effects to create a polished outcome. L5 – Children can critically review and refine a video, justifying editing decisions to improve communication and audience engagement.

	L6 – Children can evaluate their completed video, explaining how it meets its intended purpose and audience.	L6 – Children can evaluate the effectiveness of a completed video, reflecting on strengths, limitations and improvements for future productions.
Vocabulary	video, clip, storyboard, sequence, scene, camera, recording, edit, timeline, transition, title, caption, audio, playback, audience	Y5+ composition, framing, perspective, narration, continuity, export, production, soundtrack, refine, evaluate
Experiences	Analyse a range of short videos to identify effective filming techniques. Plan a video using a storyboard. Film a sequence of clips using tablets or cameras. Edit videos using digital software to trim clips and add transitions, titles and audio. Work collaboratively to create a finished video for a chosen audience. Present and evaluate completed videos, using peer feedback to improve future work.	
SMSC	Social – Collaborating effectively by planning, filming and editing videos as part of a team. Moral – Understanding the importance of obtaining permission before filming others and using media responsibly. Spiritual – Expressing creativity, imagination and personal ideas through digital storytelling. Cultural – Exploring how video is used to communicate information, entertain and celebrate cultures across the world.	
British Values	Individual Liberty – Making creative decisions about how to communicate ideas through video. Mutual Respect – Respecting the ideas, contributions and privacy of others during filming and editing. Rule of Law – Understanding copyright, permissions and responsible use of digital media.	
School Values	We are happy – Enjoying creating and sharing digital videos. We are safe – Using cameras, tablets and online media safely and responsibly. We enjoy a challenge – Developing resilience by refining and improving video productions. We celebrate diversity – Creating videos that reflect a range of perspectives, cultures and experiences. We show respect – Respecting the views, ideas and contributions of others throughout the production process. We are ready and fit for our future – Developing communication, creativity, collaboration and digital media skills that prepare us for future learning and employment.	

Autumn 2		
UKS2	Data and Information: Flat-File Databases	
	Year 5	Year 6
	L1 – What is a database? L2 – How is information organised in a database? L3 – How can I search a database? L4 – How can I sort and group data? L5 – How can I answer questions using a database? L6 – How can I evaluate and improve a database?	L1 – What is a database? L2 – How is information organised in a database? L3 – How can I search a database? L4 – How can I sort and group data? L5 – How can I answer questions using a database? L6 – How can I evaluate and improve a database?
Key Concepts to assess	L1 – Children know that a flat-file database stores information in records and fields and can explain its purpose. L2 – Children can identify records and fields within a database and enter data accurately. L3 – Children can use simple searches to find specific information within a database.	L1 – Children can explain how flat-file databases organise and manage large amounts of information efficiently. L2 – Children can accurately create, edit and maintain records using appropriate field types.

	L4 – Children can sort data using one criterion and explain how sorting helps answer questions. L5 – Children can use database searches and sorting tools to answer simple questions from data. L6 – Children can explain the strengths of using a database and identify simple improvements to its organisation.	L3 – Children can perform complex searches using multiple criteria to locate specific information. L4 – Children can sort, filter and compare data using multiple fields to identify patterns and trends. L5 – Children can interpret database results to answer complex questions and justify conclusions using evidence. L6 – Children can evaluate the effectiveness of a flat-file database, suggesting improvements to structure, organisation and usability.
Vocabulary	database, flat-file database, record, field, data, information, search, sort, filter, criteria, value, table, query, results, record	Y5+ multiple criteria, data validation, attribute, efficiency, accuracy, interpret, analyse, refine, usability, structure
Experiences	Explore real-life databases and discuss how they are used. Create and populate a simple flat-file database. Use search, sort and filter tools to answer questions. Compare different ways of organising information within a database. Investigate patterns and trends using database queries. Evaluate and improve databases to make them easier to use.	
SMSC	Social – Working collaboratively to organise, search and interpret information accurately. Moral – Understanding the importance of recording, storing and using data honestly and responsibly. Spiritual – Developing curiosity by investigating how data can answer questions and solve real-world problems. Cultural – Exploring how databases are used in healthcare, business, education and other organisations around the world.	
British Values	Individual Liberty – Making informed decisions when organising and analysing information. Mutual Respect – Respecting the work and ideas of others when collaborating with shared data. Rule of Law – Understanding the importance of handling information responsibly and respecting privacy and data protection.	
School Values	We are happy – Enjoying using databases to investigate and solve problems. We are safe – Handling digital information responsibly and understanding the importance of data security. We enjoy a challenge – Developing resilience by analysing increasingly complex sets of data. We celebrate diversity – Recognising that data can represent a wide range of people, places and experiences. We show respect – Respecting shared information, equipment and the contributions of others. We are ready and fit for our future – Developing analytical, organisational and digital literacy skills that prepare us for future education, employment and life in a data-driven world.	

Spring 1		
UKS2	Programming A: Selection in Quizzes	
	Year 5	Year 6
	L1 – What is selection? L2 – How can I use selection in a quiz? L3 – How can I create different outcomes? L4 – How can I improve my quiz using selection?	L1 – What is selection? L2 – How can I use selection in a quiz? L3 – How can I create different outcomes? L4 – How can I improve my quiz using selection?

	L5 – How can I test and debug my quiz? L6 – How can I evaluate and refine my completed quiz?	L5 – How can I test and debug my quiz? L6 – How can I evaluate and refine my completed quiz?
Key Concepts to assess	L1 – Children know that selection allows a program to make decisions based on conditions. L2 – Children can use simple selection statements to produce different responses in a quiz. L3 – Children can create a quiz with more than one possible outcome depending on the user's answers. L4 – Children can improve a quiz by adding clear feedback and appropriate responses. L5 – Children can test and debug a quiz by identifying and correcting errors in selection statements. L6 – Children can evaluate their completed quiz, explaining how selection makes it interactive.	L1 – Children can explain how selection controls the flow of a program and why it is used in interactive applications. L2 – Children can independently create accurate selection statements using appropriate conditions. L3 – Children can develop a quiz with multiple decision pathways that respond correctly to user input. L4 – Children can refine a quiz by improving the efficiency, functionality and user experience of selection structures. L5 – Children can systematically test, debug and optimise a quiz, explaining how corrections improve performance. L6 – Children can critically evaluate their completed quiz, justifying programming decisions and identifying realistic improvements.
Vocabulary	selection, condition, quiz, input, output, program, algorithm, sequence, variable, block, code, debug, test, response, user	Y5+ Boolean, true, false, operator, branching, logical expression, efficiency, functionality, optimise, evaluate
Experiences	Investigate how quizzes use selection to produce different responses. Create quizzes using selection blocks in a block-based programming environment. Experiment with different conditions to produce a range of outcomes. Test quizzes with partners to identify programming errors. Debug and refine quizzes to improve functionality and user experience. Present completed quizzes and evaluate their effectiveness.	
SMSC	Social – Working collaboratively to design, test and improve interactive quizzes while giving constructive feedback. Moral – Recognising the importance of testing thoroughly and producing accurate, reliable digital content. Spiritual – Expressing creativity by designing engaging and purposeful interactive quizzes. Cultural – Exploring how interactive quizzes are used in education, entertainment and professional training across the world.	
British Values	Individual Liberty – Making independent programming decisions to create original interactive quizzes. Mutual Respect – Respecting the ideas, feedback and programming solutions of others. Democracy – Listening to different viewpoints and using peer feedback to improve digital projects.	
School Values	We are happy – Enjoying creating interactive quizzes that engage and challenge users. We are safe – Using computing equipment and digital resources safely and responsibly. We enjoy a challenge – Developing resilience by testing, debugging and refining increasingly complex programs. We celebrate diversity – Creating quizzes that reflect a range of ideas, cultures and perspectives. We show respect – Valuing the ideas and contributions of others throughout the design and testing process. We are ready and fit for our future – Developing computational thinking, logical reasoning and problem-solving skills that prepare us for future learning, employment and an increasingly digital world.	

Spring 2		
UKS2	Creating Media: Web Page Creation	
	Year 5	Year 6
	L1 – What makes a good website? L2 – How do I plan a web page? L3 – How do I create and organise content? L4 – How can I improve the design of a web page? L5 – How do hyperlinks improve a website? L6 – How can I evaluate and improve my website?	L1 – What makes a good website? L2 – How do I plan a web page? L3 – How do I create and organise content? L4 – How can I improve the design of a web page? L5 – How do hyperlinks improve a website? L6 – How can I evaluate and improve my website?
Key Concepts to assess	L1 – Children know that websites are created for different purposes and audiences and can identify the features of an effective web page. L2 – Children can plan the layout and content of a simple web page using a storyboard or wireframe. L3 – Children can create a web page by adding and organising text and images appropriately. L4 – Children can improve the appearance of a web page by selecting suitable colours, fonts and layouts. L5 – Children can create hyperlinks to connect pages and improve website navigation. L6 – Children can evaluate their web page, explaining how it meets the needs of its intended audience.	L1 – Children can explain how website structure and design influence the user experience and the effectiveness of communication. L2 – Children can independently design a website structure that meets the needs of a specific audience and purpose. L3 – Children can create well-organised web pages using appropriate layouts, media and formatting to communicate information clearly. L4 – Children can refine the design of a website by applying principles of consistency, accessibility and visual hierarchy. L5 – Children can create and test effective navigation using hyperlinks between multiple pages, ensuring users can move through the site efficiently. L6 – Children can critically evaluate a completed website, justifying design decisions and identifying improvements to enhance usability and accessibility.
Vocabulary	website, web page, homepage, browser, hyperlink, navigation, layout, text, image, content, design, audience, purpose, publish, preview	Y5+ accessibility, consistency, visual hierarchy, usability, wireframe, multimedia, formatting, interface, refine, evaluate
Experiences	Explore and evaluate a range of websites for different audiences and purposes. Plan a website using a storyboard or wireframe. Create web pages using text, images and appropriate layouts. Add hyperlinks to connect pages and improve navigation. Test websites with classmates to identify strengths and areas for improvement. Evaluate completed websites and refine designs using peer feedback.	
SMSC	Social – Working collaboratively to design, review and improve websites while valuing the ideas of others. Moral – Understanding the importance of creating accurate, respectful and appropriate online content. Spiritual – Expressing creativity by designing websites that communicate ideas and information effectively. Cultural – Exploring how websites are used by organisations and communities around the world to share information and celebrate different cultures.	
British Values	Individual Liberty – Making independent decisions when designing and creating web pages. Mutual Respect – Respecting the ideas, opinions and digital work of others when creating and reviewing websites. Rule of Law – Understanding the importance of copyright, acknowledging sources and using online content responsibly.	
School Values	We are happy – Enjoying designing and creating engaging websites. We are safe – Using online resources responsibly and understanding how to publish digital content safely. We enjoy a challenge – Developing resilience by refining website design and improving navigation.	

	We celebrate diversity – Creating websites that represent a range of people, cultures and viewpoints. We show respect – Respecting copyright, digital content and the feedback provided by others. We are ready and fit for our future – Developing digital communication, creativity and web design skills that prepare us for future learning and the modern workplace.
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Summer 1		
UKS2	Data and Information: Spreadsheets	
	Year 5	Year 6
	L1 – What is a spreadsheet? L2 – How can I enter and organise data? L3 – How can formulas perform calculations? L4 – How can I use a spreadsheet to answer questions? L5 – How can I create charts from data? L6 – How can I evaluate and improve my spreadsheet?	L1 – What is a spreadsheet? L2 – How can I enter and organise data? L3 – How can formulas perform calculations? L4 – How can I use a spreadsheet to answer questions? L5 – How can I create charts from data? L6 – How can I evaluate and improve my spreadsheet?
Key Concepts to assess	L1 – Children know that a spreadsheet is used to organise, calculate and present data. L2 – Children can accurately enter, edit and organise data into rows and columns. L3 – Children can use simple formulas to perform calculations automatically. L4 – Children can use spreadsheet data to answer questions and identify simple patterns. L5 – Children can create and interpret simple charts to present data clearly. L6 – Children can evaluate the effectiveness of a spreadsheet and explain how it supports data handling.	L1 – Children can explain how spreadsheets are used to analyse and manage data efficiently in real-life situations. L2 – Children can organise data effectively using appropriate formatting and structure. L3 – Children can create and apply a range of formulas and functions to solve increasingly complex problems. L4 – Children can analyse spreadsheet data to identify trends, make predictions and justify conclusions. L5 – Children can select and create the most appropriate chart to communicate data effectively to an audience. L6 – Children can critically evaluate a spreadsheet, identifying improvements to increase accuracy, efficiency and usability.
Vocabulary	spreadsheet, cell, row, column, data, value, formula, function, calculate, chart, graph, table, format, spreadsheet software, worksheet	Y5+ range, autofill, relative reference, function, SUM, AVERAGE, efficiency, analyse, interpret, visualise
Experiences	Explore the layout and features of spreadsheet software. Enter and organise data into rows and columns. Use formulas to perform automatic calculations. Investigate data by sorting, calculating and answering questions. Create charts and graphs to present findings visually. Evaluate spreadsheets and suggest ways to improve accuracy and presentation.	
SMSC	Social – Working collaboratively to collect, organise and interpret data using spreadsheets.	

	Moral – Understanding the importance of entering accurate data and presenting information honestly. Spiritual – Developing curiosity by exploring patterns and relationships within data. Cultural – Exploring how spreadsheets are used in businesses, schools, healthcare and organisations around the world.
British Values	Individual Liberty – Making informed choices about how to organise and present information effectively. Mutual Respect – Respecting the work, ideas and interpretations of others when analysing data. Democracy – Discussing findings collaboratively and using evidence to support conclusions.
School Values	We are happy – Enjoying investigating data and discovering patterns using spreadsheets. We are safe – Using digital technology responsibly and handling information appropriately. We enjoy a challenge – Developing resilience by solving increasingly complex spreadsheet problems. We celebrate diversity – Recognising that data can represent a wide range of people, places and experiences. We show respect – Respecting shared digital work and valuing the contributions of others. We are ready and fit for our future – Developing data analysis, mathematical reasoning and digital skills that prepare us for future education, employment and everyday life.

Summer 2		
UKS2	Programming B: Sensing Movement	
	Year 5	Year 6
	L1 – What is physical computing? L2 – How can a program respond to movement? L3 – How can I use a movement sensor? L4 – How can I improve my program using sensing? L5 – How can I test and debug a physical computing project? L6 – How can I evaluate and improve my finished project?	L1 – What is physical computing? L2 – How can a program respond to movement? L3 – How can I use a movement sensor? L4 – How can I improve my program using sensing? L5 – How can I test and debug a physical computing project? L6 – How can I evaluate and improve my finished project?
Key Concepts to assess	L1 – Children know that physical computing combines hardware and software to interact with the real world. L2 – Children can create a simple program that responds to movement using a sensor. L3 – Children can use movement sensor inputs to control actions within a program. L4 – Children can improve a physical computing project by adapting code to respond appropriately to different movements. L5 – Children can test and debug a sensing program by identifying and correcting errors. L6 – Children can evaluate their completed project, explaining how movement sensing improves its functionality.	L1 – Children can explain how physical computing systems use sensors to collect input and control outputs in real-world applications. L2 – Children can independently develop programs that use movement sensing to trigger appropriate responses. L3 – Children can combine sensing, selection and sequencing to create reliable and purposeful physical computing projects. L4 – Children can refine programs by improving responsiveness, efficiency and accuracy when interpreting sensor inputs. L5 – Children can systematically test, debug and optimise physical computing projects, explaining how changes improve reliability and performance. L6 – Children can critically evaluate a completed physical computing project, justifying design decisions and suggesting realistic future developments.
Vocabulary	physical computing, sensor, movement, input, output, program, sequence, selection, algorithm, device, code, microcontroller, debug, test, project	Y5+ accelerometer, orientation, responsiveness, calibration, efficiency, optimise, prototype, functionality, automation, evaluate
Experiences	Explore physical computing devices and investigate how movement sensors work. Create programs that respond to movement using a microcontroller or programmable device.	

	Test how different movements affect program outputs. Design and build a movement-controlled physical computing project. Debug programs by identifying and correcting faults in code and sensor responses. Present completed projects and evaluate how effectively they respond to user movement.
SMSC	Social – Working collaboratively to design, build and test physical computing projects while supporting others to solve problems. Moral – Understanding the importance of creating reliable technology that responds safely and accurately to user input. Spiritual – Using creativity and curiosity to explore how digital systems interact with the physical world. Cultural – Exploring how movement-sensing technology is used in healthcare, sport, gaming, transport and industry across the world.
British Values	Individual Liberty – Making independent decisions when designing and programming physical computing solutions. Mutual Respect – Respecting the ideas, feedback and contributions of others throughout the design process. Democracy – Listening to peer evaluations and using collaborative discussion to improve digital products.
School Values	We are happy – Enjoying creating physical computing projects that respond to movement. We are safe – Using electronic equipment and programmable devices safely and responsibly. We enjoy a challenge – Developing resilience by testing, debugging and refining increasingly complex programs. We celebrate diversity – Recognising that there are many different creative solutions to the same computing challenge. We show respect – Respecting equipment, shared resources and the ideas of others during collaborative work. We are ready and fit for our future – Developing computational thinking, engineering, problem-solving and digital technology skills that prepare us for future education, employment and an increasingly technology-driven world.