

MILLBROOK PRIMARY SCHOOL COMPUTING 2025/26

By the end of their time at Millbrook Community Primary School our Year 6 children will:

- use computational thinking and creativity to understand and change the world;
- think and work creatively, analytically and solve problems;
- be digitally literate;
- use a variety of software and hardware;
- understand how to use technology safely and appropriately.

Early Years Foundations Stage Framework and National Curriculum Coverage

EYFS	Key Stage 1	Key Stage 2	
Reception	Year 1 and Year 2	Year 3 and Year 4	Year 5 and Year 6
<p>First and foremost, it is important to recognise that there will be no statutory requirement to use and learn about technology in the EYFS. Since the new Early Years Foundation Stage curriculum commenced in September 2021, the 'Technology' strand has been removed from 'Understanding the World' and has not been replaced with any updated guidance. At Millbrook we believe computing and technology are still vitally important subjects to deliver to Reception children. Not only will teaching a well-planned Computing curriculum ensure that children enter Year 1 with a strong foundation of knowledge, but Computing lessons in the EYFS also ensure that children develop listening skills, problem-solving abilities and thoughtful questioning — as well as improving subject skills across the seven areas of learning. We live in a technological world and there is no escape from the reality that technology is integrated into the lives of young children.</p> <p>Technology is now, and, in all likelihood, will always be in some form or other, a significant part of children's lives. Just as we ensure the children in our care are ready for the adult world by teaching them maths and literacy, we should also make sure that they are fluent in computer literacy and all-important e-safety. Life is very digital. In reception much of what happens is about helping children to develop their understanding of the world around them and their place within it. At Millbrook we spend time with children exploring relationships, emotion, behaviour and culture in a bid to help them relate to others and understand what happens around them. We feel it is important to help them to understand how technology is used both in school and in their wider lives. It is important that we still talk about the technology we are using with children, answer their questions about technology and continue to include technology within role play areas.</p>	<p>Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.</p> <p>Create and debug simple programs use logical reasoning to predict the behaviour of simple programs.</p> <p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <p>Recognise common uses of information technology beyond school.</p> <p>Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</p>	<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</p> <p>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p> <p>Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration.</p> <p>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</p> <p>Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</p> <p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>	

Teach Computing Curriculum

Primary Journey



Our school has adapted the Department for Education's 'Teach Computing Curriculum for KS1 and KS2' (<https://teachcomputing.org/>) to reflect our mixed age class structure and need for a two-year rolling computing curriculum (Cycle A Data & Information progression Cycle B Computing & Information Systems). Each unit has a knowledge organiser that will be shared with parents and children. KS1 and KS2 teacher's use the 'Teach Computing' lesson plans to inform their computing planning and meet the needs of the pupils in their class. Lessons have clear learning objectives and key vocabulary is identified. Every lesson includes formative assessment. Summative assessment opportunities are built in across the year. EYFS follow Knowsley Computing Scheme. The Knowsley Computing Scheme is a curriculum that meets the needs and interests of all learners. It contains a range of fun, exciting and creative activities, all based on the essential requirements of the computing program of study. EYFS, KS1 and KS2 have two afternoon sessions per year with a Learning Technologies Officer which cover the three areas of Computing: Computer Science, Information Technology and Digital Literacy. The Teach Computing Curriculum is a progressive learning curriculum with a recommended, but not prescriptive, teaching order that is structured in units. For these units to be coherent, **the lessons within a unit must be taught in order**. However, across a year group, the units themselves do not need to be taught in order, with the exception of 'Programming' units, where concepts and skills rely on prior learning and experiences. Every unit of work in the Teach Computing Curriculum contains: a unit overview; a learning graph, to show the progression of skills and concepts in a unit; lesson content — including a detailed lesson plan, slides for learners, and all the resources you will need; and formative and summative assessment opportunities. The units for key stages 1 and 2 are based on a spiral curriculum. This means that each of the themes is revisited regularly (at least once in each year group), and pupils revisit each theme through a new unit that consolidates and builds on prior learning within that theme. This style of curriculum design reduces the amount of knowledge lost through forgetting, as topics are revisited yearly. It also ensures that connections are made even if different teachers are teaching the units within a theme in consecutive years. The Teach Computing Curriculum has been developed by the National Centre for Computing Education's (NCCE). All learning outcomes can be described through a high level taxonomy of ten strands, ordered alphabetically as follows:

- Algorithms — Be able to comprehend, design, create, and evaluate algorithms
- Computer networks — Understand how networks can be used to retrieve and share information, and how they come with associated risks
- Computer systems — Understand what a computer is, and how its constituent parts function together as a whole
- Creating media — Select and create a range of media including text, images, sounds, and video
- Data and information — Understand how data is stored, organised, and used to represent real-world artefacts and scenarios
- Design and development — Understand the activities involved in planning, creating, and evaluating computing artefacts
- Effective use of tools — Use software tools to support computing work
- Impact of technology — Understand how individuals, systems, and society as a whole interact with computer systems
- Programming — Create software to allow computers to solve problems
- Safety and security — Understand risks when using technology, and how to protect individuals and systems

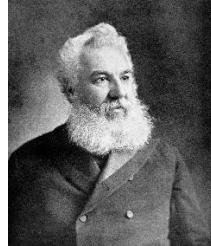
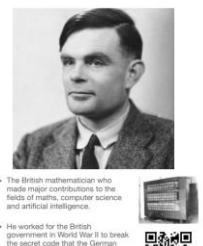
The curriculum also links with the Education for a Connected World Framework to ensure a high level of online safety skills are developed and progressed throughout pupils' time at Millbrook Community Primary School.

Using the Chris Quigley Essentials Curriculum as a starting point, we have identified progress milestones across the key stages for computing. Teachers use these as a working document that supports their planning through the year and enables them to make teacher judgements about children who have met, not met or exceeded the expected standard for each year group. Where appropriate, children may be made aware of a specific milestone they are working towards. Progress milestones are identified at the planning stage. Teachers note progress towards these milestones. Leaders use the progress milestones when looking at children's work, talking to children or observing lessons. Each July when the curriculum is reviewed, the curriculum leader takes a snap shot of the attainment across all subjects and identifies strengths and areas for development. This information then informs the curriculum for the coming year.

2. Computing milestones						
To code (using scratch)	Operators					
Motion	<ul style="list-style-type: none"> Control motion by specifying the number of steps to travel, direction and turn. 	<ul style="list-style-type: none"> Use specified screen coordinates to control movement. 	<ul style="list-style-type: none"> Set IF conditions for movements. Specify types of rotation giving the number of degrees. 			<ul style="list-style-type: none"> Use the Reporter operators to perform calculations.
Looks	<ul style="list-style-type: none"> Add text strings, show and hide objects and change the features of an object. 	<ul style="list-style-type: none"> Set the appearance of objects and create sequences of changes. 	<ul style="list-style-type: none"> Change the position of objects between screen layers (send to back, bring to front). 			<ul style="list-style-type: none"> (0 + 0) (0 - 0) (0 * 0) (0 / 0)
Sound	<ul style="list-style-type: none"> Select sounds and control when they are heard, their duration and volume. 	<ul style="list-style-type: none"> Create and edit sounds. Control when they are heard, their volume, duration and rests. 	<ul style="list-style-type: none"> Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation. 			<ul style="list-style-type: none"> Collaborate with others online on sites approved and moderated by teachers. Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems.
Draw	<ul style="list-style-type: none"> Control when drawings appear and set the pen colour, size and shape. 	<ul style="list-style-type: none"> Control the shade of pens. 	<ul style="list-style-type: none"> Combine the use of pens with movement to create interesting effects. 			<ul style="list-style-type: none"> Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express written permission, from the copyright holder. Understand the effect of online comments and show responsibility and sensitivity when online. Understand how simple networks are set up and used.
Events	<ul style="list-style-type: none"> Specify user inputs (such as clicks) to control events. 	<ul style="list-style-type: none"> Specify conditions to trigger events. 	<ul style="list-style-type: none"> Set events to control other events by 'broadcasting' information as a trigger. 			
Control	<ul style="list-style-type: none"> Specify the nature of events (as a single event or a loop). 	<ul style="list-style-type: none"> Use IF THEN ELSE conditions to control events or objects. 				
Sensing	<ul style="list-style-type: none"> Create conditions for actions by waiting for a user input (such as responses to questions like: What is your name?). 	<ul style="list-style-type: none"> Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or a line or responses to questions). 	<ul style="list-style-type: none"> Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions. 			<ul style="list-style-type: none"> Choose the most suitable applications and devices for the purposes of communication.
Variables and lists	<ul style="list-style-type: none"> From Year 3 onwards. 	<ul style="list-style-type: none"> Use variables to store a value. Use the functions define, set, change, show and hide to control the variables. 	<ul style="list-style-type: none"> Use lists to create a set of variables. 			<ul style="list-style-type: none"> Use many of the advanced features in order to create high quality, professional or efficient communications.
Operators	<ul style="list-style-type: none"> From Year 3 onwards. 	<ul style="list-style-type: none"> Use the Reporter operators to perform calculations. 	<ul style="list-style-type: none"> Use the Boolean operators to define conditions. 	<ul style="list-style-type: none"> (0 < 0) (0 = 0) (0 > 0) (Hand) (Loop) (Next) 	<ul style="list-style-type: none"> Use simple databases to record information in areas across the curriculum. 	<ul style="list-style-type: none"> Devise and construct databases using applications designed for this purpose in areas across the curriculum.
					Milestone 1 (Y1 & Y2)	Milestone 2 (Y3 & Y4)
						Milestone 3 (Y5 & Y6)

At the start of the year each year group will look at an important person:

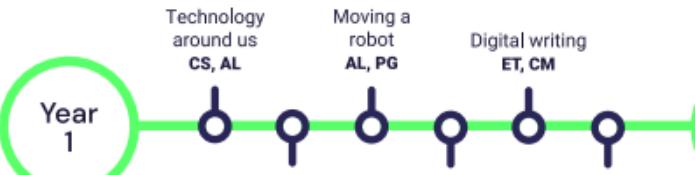
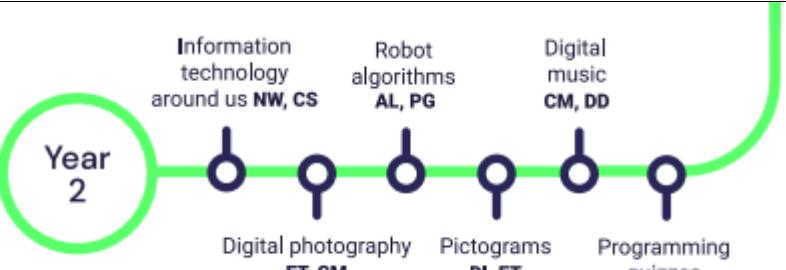
SEPTEMBER 2025

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Alexander Graham Bell</p>  <p>Year 1's Important Person: Steve Jobs </p>  <p>Co-founder of Apple. He left college but never gave up and never gave up on his dream to create the technology company Apple. His invention, the iPhone is now one of the most popular phones in the world.</p> <p>Watch video about Steve Jobs </p>	<p>Year 2's Important Person: Bill Gates </p>  <p>Founder of the world's biggest software company. Born in Washington in 1955, he learned to program computers at age 13. Owns a charity which helps people in developing countries by improving their health and wellbeing.</p> <p>Watch video about Bill Gates </p>	<p>Year 3's Important Person: Ada Lovelace</p>  <p>A brilliant mathematician known as 'the first computer programmer'. Her notes on technology in her time inspired Alan Turing to create the first computer in the 1940s. Born in 1815 when there were no computers, she was able to understand what technology could look like in the future.</p> <p>Watch video about Ada Lovelace </p>	<p>Year 4's Important Person: Dr Shirley Jackson</p>  <p>The first black woman to earn a doctorate in physics at the University of Massachusetts. The second black woman to earn a doctorate in physics in the United States of America. Her work helped to make many advancements in technology such as color television, optic cables and touch tone telephones.</p> <p>Watch video about Dr Shirley Jackson </p>	<p>Year 5's Important Person: Alan Turing</p>  <p>A computer scientist who was one of the leaders of a special effects company. He worked for the British government during World War II to break the secret code that the German army used to communicate. Turing helped to develop the first input - output system for the first computer.</p> <p>Watch video about Alan Turing </p>	<p>Year 6's Important Person: Marc Hannah</p>  <p>A computer scientist who was one of the leaders of a special effects company. His work created the life-like special effects we see in films today, like Jurassic Park. He was instrumental in the design of the early gaming system Nintendo 64.</p> <p>Watch video about Marc Hannah </p>

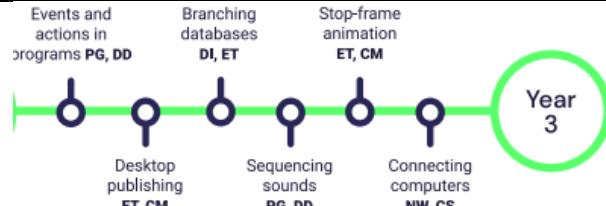
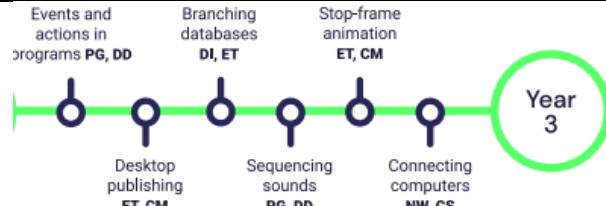
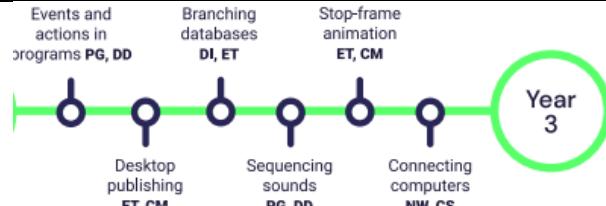
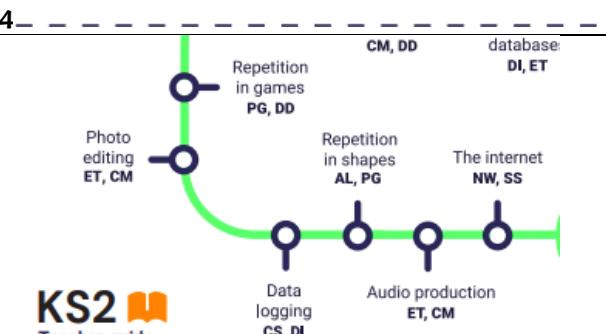
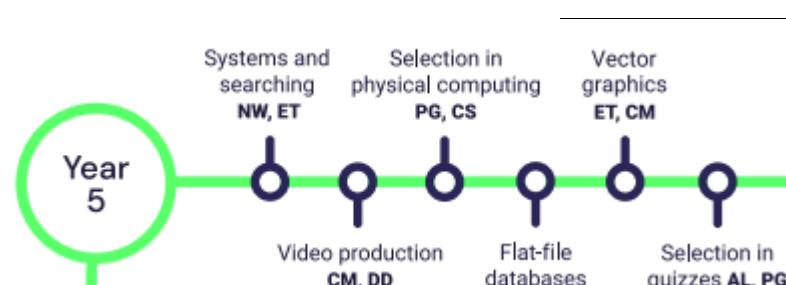
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception - Elm	My Online Life My Online Life Planning - Reception (knowsleyclcs.org.uk)	Technology & Me Technology & Me Planning - Reception (knowsleyclcs.org.uk)	Pretty Pictures Pretty Pictures Planning - Reception (knowsleyclcs.org.uk)	Talking Technology Talking Technology Planning - Reception (knowsleyclcs.org.uk)	Nursery Rhyme Coding Nursery-Rhyme-Coding-Planning-Reception.pdf (knowsleyclcs.org.uk)	Beats & Rhythms Beats & Rhythms Planning - Reception (knowsleyclcs.org.uk)
Online Safety Book Focus	Smartie the Penguin Childnet EYFS Story A	Smartie the Penguin Childnet EYFS Story B	Digiduck's Big Decision Childnet	Digiduck's Famous Friend Childnet	Chicken Clicking by Jeanne Willis and Tony Ross #Safer Internet day - YouTube	Detective Digiduck Childnet
Reception - Pine	My Online Life My Online Life Planning - Reception (knowsleyclcs.org.uk)	Technology & Me Technology & Me Planning - Reception (knowsleyclcs.org.uk)	Pretty Pictures Pretty Pictures Planning - Reception (knowsleyclcs.org.uk)	Talking Technology Talking Technology Planning - Reception (knowsleyclcs.org.uk)	Nursery Rhyme Coding Nursery-Rhyme-Coding-Planning-Reception.pdf (knowsleyclcs.org.uk)	Beats & Rhythms Beats & Rhythms Planning - Reception (knowsleyclcs.org.uk)
Online Safety Book Focus	Smartie the Penguin Childnet EYFS Story A	Smartie the Penguin Childnet EYFS Story B	Digiduck's Big Decision Childnet	Digiduck's Famous Friend Childnet	Chicken Clicking by Jeanne Willis and Tony Ross #Safer Internet day - YouTube	Detective Digiduck Childnet

Mandatory Skills: Reception	Computer Science (Computational Thinking) Reception <p>The children learn: about types of technology both in and outside of school. how to use classroom technology safely and responsibly, including the basic use of a camera and going online.</p>	Computer Science (Coding) Reception <p>The children learn: that an algorithm is a list of instructions that solves a problem. to sequence a series of events and explain the importance of sequencing.</p>	Computer Science (Logical Reasoning) Reception <p>The children learn: to experiment controlling a range of 'toys' using remote controls and do this with purpose and direction.</p>	Digital Literacy (Online Safety) Reception <p>The children learn: through play about action/reaction and will be asked "what do you think will happen?" when using technology or attempting to solve a problem.</p>	Digital Literacy (Technology in the Real World) Reception <p>The children learn: the Internet can be used to communicate with others. simple online safety rules. people create online content such as video and websites.</p>	Information Technology (Online) Reception <p>The children learn: to recognise and discuss common uses of information technology in school and outside of school.</p>
Breadth of Study EYFS	<p>These activities are to support EYFS practitioners in providing a range of Computing/ICT opportunities and experiences for children in the Foundation Stage that provide continuity and stepping stones into the KS1 curriculum. Early Years Computing assessment is based on pupils having the initial skills in place to progress them to the expected attainment at the end of KS1. The 'My Online Life' activity supports one of the key aims of the government's Internet Safety Strategy (Digital Literacy) of supporting children to stay safe and make a positive contribution online, as well enabling teachers to develop effective strategies for understanding and handling online risks. The framework has been produced by the UK Council for Child Internet Safety (UKCCIS).</p> <p>Understanding the World: People and communities, the world and technology. Practitioners should support children in experiencing a range of technologies – using cameras, photocopiers, CD players, tape recorders and programmable toys, in addition to computers. Essential (MS): Age appropriate skills for the use of core devices and applications within their setting. Computer Science (CS): Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs. Information Technology (IT): Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Digital Literacy (DL): Recognise common uses of information technology beyond school. Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</p>					

Online Safety Book Focus	Smartie the Penguin Childnet EYFS Story A	Digiduck's Big Decision Childnet	Smartie the Penguin Childnet Year 1 Book B	Digiduck's Famous Friend Childnet	Chicken Clicking by Jeanne Willis and Tony Ross #Safer Internet day - YouTube	Detective Digiduck Childnet
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1 Cedar Teach Computing curriculum 	Computing systems and networks – Technology around us (teachcomputing.org)	Creating media – Digital painting (teachcomputing.org)	Programming A – Moving a robot (teachcomputing.org)	Data and information – Grouping data (teachcomputing.org)	Creating media – Digital writing (teachcomputing.org)	Programming B – Programming animations (teachcomputing.org)

 	<p>Year 1 Online Safety Book Focus: Smartie the Penguin Childnet</p> <p>Year 1 Book A Smartie the Penguin Childnet</p> <p>Year 1 Book B Digiduck and the Magic Castle Childnet Digiduck Saves the Day Childnet</p> <p>Troll Stinks Troll Stinks.pdf</p>
	<p>Year 2 Online Safety Book Focus: Smartie the Penguin Childnet Year 2 Book A Smartie the Penguin Childnet Book B Troll Stinks.pdf</p> <p>Once Upon a Time ONLINE By David Bedford - YouTube</p> <p>Discover how exploring the online world affects young people - Own It - BBC goldilocks.pdf</p> <p>Jessie Friends videos (thinkuknow.co.uk)</p> <p>Watching videos Sharing pictures Playing games</p>

Year 1/2 Willow	Autumn1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<u>Computing systems and networks – Technology around us</u> (teachcomputing.org) YEAR 1 -WATCH PPPTS FIRST <u>Computing systems and networks – IT around us</u> (teachcomputing.org)	<u>Creating media – Digital photography</u> (teachcomputing.org)	<u>Programming A – Robot algorithms</u> (teachcomputing.org)	<u>Data and information – Pictograms</u> (teachcomputing.org)	<u>Creating Media-Digital Writing</u> (teachcomputing.org)	<u>Programming B – Programming quizzes</u> (teachcomputing.org)
Year 2 Cherry	Autumn1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<u>Computing systems and networks – IT around us</u> (teachcomputing.org)	<u>Creating media – Digital photography</u> (teachcomputing.org)	<u>Programming A – Robot algorithms</u> (teachcomputing.org)	<u>Data and information – Pictograms</u> (teachcomputing.org)	<u>Creating Media-Digital Music</u> (teachcomputing.org)	<u>Programming B – Programming quizzes</u> (teachcomputing.org)
Year 3 Maple	Autumn1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<u>Computing systems and networks – Connecting computers</u> (teachcomputing.org)	<u>Creating media – Stop-frame animation</u> (teachcomputing.org)	<u>Sequencing Sounds</u> (teachcomputing.org)	<u>Data and information – Branching databases</u> (teachcomputing.org)	<u>Creating media – Desktop publishing</u> (teachcomputing.org)	<u>Programming B – Events and actions in programs</u> (teachcomputing.org)
Year 3 Rowan	Autumn1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2

	<u>Computing systems and networks – Connecting computers (teachcomputing.org)</u>	<u>Creating media - Stop-frame animation (teachcomputing.org)</u>	<u>Sequencing Sounds (teachcomputing.org)</u>	<u>Data and information – Branching databases (teachcomputing.org)</u>	<u>Creating media – Desktop publishing (teachcomputing.org)</u>	<u>Programming B – Events and actions in programs (teachcomputing.org)</u>
	Events and actions in programs PG, DD 	Branching databases DI, ET 	Stop-frame animation ET, CM 	Sequencing Sounds (teachcomputing.org)	Data and information – Branching databases (teachcomputing.org)	<u>Creating media – Desktop publishing (teachcomputing.org)</u>
4	 KS2  Teacher guide	Repetition in games PG, DD Photo editing ET, CM	CM, DD Repetition in shapes AL, PG The internet NW, SS	database DI, ET Data logging CS, DI Audio production ET, CM	Year 3 Online Safety Book Focus: <u>Read Out Loud TEK: THE MODERN CAVE BOY - YouTube</u> <u>Band Runner 8-10s CEOP Education (thinkuknow.co.uk)</u>	Year 4 Online Safety Book Focus: <u>Band Runner 8-10s CEOP Education (thinkuknow.co.uk)</u> <u>Teachers - online safety teaching resources for 7-11s - Own It - BBC</u> Online Relationships Online Bullying
		Systems and searching NW, ET Selection in physical computing PG, CS Video production CM, DD	Selection in quizzes AL, PG Flat-file databases	Vector graphics ET, CM	Year 5 Online Safety Book Focus: <u>Teachers - online safety teaching resources for 7-11s - Own It - BBC</u> Managing Online Information Online Reputation	
Year 4 – Holly	Autumn1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2

	<u>Computing systems and networks – The Internet (teachcomputing.org)</u>	<u>Audio production – (teachcomputing.org)</u>	<u>Programming A – Repetition in shapes (teachcomputing.org)</u>	<u>Data logging – (teachcomputing.org)</u>	<u>Creating media – Photo editing (teachcomputing.org)</u>	<u>Programming B – Repetition in games (teachcomputing.org)</u>
Year 4/5 -Hazel	Autumn1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<u>Computing systems and networks – The Internet (teachcomputing.org)</u> <u>Computing systems and networks – Systems and searching (teachcomputing.org)</u>	<u>Creating media – Audio production (teachcomputing.org)</u>	<u>Data logging – (teachcomputing.org)</u>	<u>Data and information – Flat-file databases (teachcomputing.org)</u>	<u>Vector graphics (teachcomputing.org)</u>	<u>Video production (teachcomputing.org)</u>

	<p>Year 6 Online Safety Book Focus:</p> <p><u>Teachers – online safety teaching resources for 7-11s – Own It – BBC</u></p> <p>Self-image & Identity Privacy & Security Health, Wellbeing & Lifestyle</p>
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Year 5 / 6 Chestnut	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<u>Computing systems and networks – Systems and searching</u> <u>(teachcomputing.org)</u>	<u>Creating media – Video production</u> <u>(teachcomputing.org)</u>	<u>Data and information – Flat-file databases</u> <u>(teachcomputing.org)</u>	<u>Repetition in shapes</u> <u>(teachcomputing.org)</u>	<u>Programming A – Selection in physical computing</u> <u>(teachcomputing.org)</u>	<u>Programming B – Selection in quizzes</u> <u>(teachcomputing.org)</u>
Year 6 Sycamore	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<u>Programming A – Variables in games</u> <u>(teachcomputing.org)</u>	<u>Creating media – 3D Modelling</u> <u>(teachcomputing.org)</u>	<u>Creating media – Web page creation</u> <u>(teachcomputing.org)</u> Throughout the year due to SATs	Using the micro:bit For primary to secondary transition <u>(teachcomputing.org)</u>	<u>Data and information – Introduction to Spreadsheets</u> <u>(teachcomputing.org)</u>	