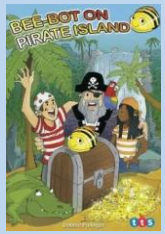
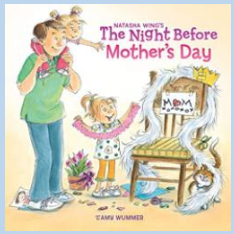
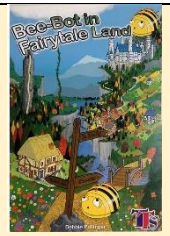
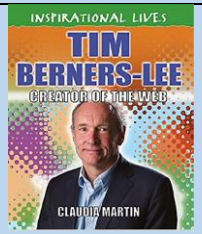
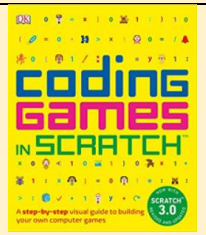
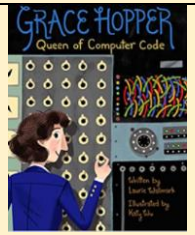
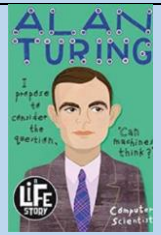
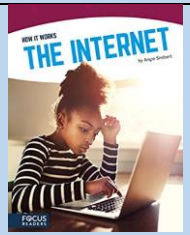
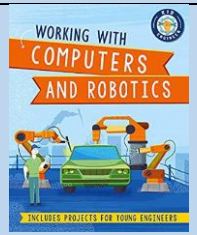
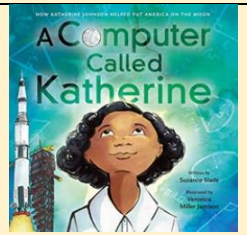
Book & selection rational overview for Computing

		Autumn	Spring	Summer
KS1	Cycle A	**Algorithms** **Beebots / Scratch Animation**	**Multimedia** **Invites**	**Algorithms** **Debugging**
	Book	 Bee-Bot on Pirate Island By TTS	 The Night Before Mother's Day by Natasha Wing	 Charles Babbage and the Curious Computer: The Time-Twisters Series by Smith
	Reason for book selection	*The book describes a beebot's adventure on an island inhabited by pirates.* Children in Year 1 will use Beebots to explore a Beebot mat.	*It's the night before Mother's Day, and Dad and the kids are determined to show Mom just how much they love her. They whip up a cake from scratch, and offer a special coupon for a day at the spa, right in their own kitchen! Kids and moms will love reading this sweet story aloud together for a fun way to celebrate Mother's Day* Children will be making an invtation for their mother.	*One ordinary meeting of the science club at Parkview Primary School becomes extraordinary when their teacher takes them back in time to 1843 to meet Christian inventor Charles Babbage. There they learn about his latest invention, the Difference Engine, but they have to be careful - if they're not back in an hour they'll be stuck in the nineteenth century forever!* Children will learn about how Babage made the first computer.
	Cycle B	**Algorithms** **Beebots / Scratch Animation**	**Data Handling** **Pictograms and Tables**	**Algorithms** **Debugging**

	Book	 Bee-Bot in Fairytale Land By TTS			 Ada Lovelace by Maria Isabel Sanchez Vegara	
	Reason for book selection	*The book describes a BeeBot exploring a fairytale world.* Children in Year 1 will use Beebots to explore a Beebot mat.			*As a child, Ada had a big imagination and a talent for mathematics. She grew up in a noble household in England, where she dedicated herself to studying. Her work with the famous inventor, Charles Babbage, on a very early kind of computer made her the world's first computer programmer* Children will lean how Ada was the first programmer.	
LKS2	Cycle A	**Scratch** **Pens and Drawing**	**Multimedia** **Invites**	**Networks**	**Scratch** **Quiz**	**Scratch Music** **(Taught in Music comprehension slot)**
	Book		 The Birthday Invitation By Lucy Rowland	 Tim Berners-Lee: Creator of the Web (Inspirational Lives) by Claudia Martin		
	Reason for book selection		*When handing out the invitations for her birthday party, Ella mistakenly drops one on the forest floor, and who should find it? A wizard, of course*	*This title explores how Tim Bernes-Lee, the British born computer scientist, became the man to invent the World Wide Web.*		

			... and a pirate and a parrot and then a whole host of wonderful characters! Children will be creating an invitation of their own.	The children will learn about how Tim Berners Lee invented the internet.		
	Cycle B	**Scratch Maze Games**	**Data Handling – Excel**		**Scratch Anglo Saxon animation**	
	Book	 Coding Games in Scratch by Jon Woodcock	 Microsoft Excel for Children by Lisa Diedrick		 Grace Hopper: Queen of Computer Code: 1 by Laurie Wallmark
	Reason for book selection	Written for children ages 8-12 with little to no coding experience, this straightforward visual guide uses fun graphics and easy-to-follow instructions to show young learners how to build their own computer projects using Scratch, a popular free programming language. Children will program their own game in Scratch during this unit.	*Microsoft Excel for Children is an introduction to the basic concepts of Microsoft Excel and is intended to kick-start the learning process of the software for children between the ages of 5 and 13. However, this book can also add value to anyone who is not familiar with Microsoft Excel and is interested in learning the basics* Children will be introduced to Microsoft Excel for the first time.		*Meet Grace Hopper: the woman who revolutionized computer coding. She coined the term computer bug and taught computers to speak English* Children will debug their projects and understand where the term comes from.	
UKS2	Cycle A	**Scratch – Clocks and Timers**	**Multimedia Invites**	**Networks**	**Scratch / BBC Microbit Rovers**	
	Book	 Alan Turing (A Life Story) by Joanna Nadin		 The Internet (How It Works	 Working with Computers and Robotics by Sonya Newland	

				by Angie Smibert	
	Reason for book selection	*Alan Turing: code-breaker, mathematician, father of modern computing. Award-winning children's author, Joanna Nadin, explores the extraordinary life of code-cracking genius, Alan Turing.* Children will learn about Alan Turing and his contribution to solving the enigma machine – cross curricular links to history topic.		*Introduces readers to the science that makes the Internet possible. Accessible text, helpful diagrams, and a "How Does It Work?" feature make this book an exciting introduction to understanding technology.* Children will look in detail at the infrastructure of the internet.	*Our world is in the middle of a computer and robotics revolution! These amazing machines are all around us, helping humans do everything from sending a text message to flying a plane. Get to grips with how hardware and software work, and discover how engineers are creating robots to help us out on Earth - and in space.* In this unit children will use a MICTObit to control a virtual space buggy – this links to how a space buggy on the moon could be controlled remotely.
	Cycle B	**Scratch – Coin Generator**	**Data Handling – Excel**		**Scratch / BBC GPIO Pins**
	Book		 A Computer Called Katherine: How Katherine Johnson Helped Put America on the Moon		
	Reason for book selection		*Katherine Johnson grew up during a time when women were not encouraged to excel in the fields of math and science, and when African-Americans were heavily discriminated against.* Children will use excel to do their own calculations		

CPD/ General Scratch:

Super Scratch Programming Adventure! (Scratch 3)

https://www.amazon.co.uk/Super-Scratch-Programming-Adventure/dp/1718500122/ref=sr_1_7?crid=ZYK5BSQCG4TS&keywords=scratch+3&qid=1652954633&s=books&sprefix=scratch+3%2Cstripbooks%2C72&sr=1-7

Computer Coding with Scratch 3.0 Made Easy, Ages 7-11 (Key Stage 2): Beginner Level Computer Coding Exercises (Made Easy Workbooks)

https://www.amazon.co.uk/Computer-Coding-Scratch-Made-Workbooks/dp/0241358639/ref=sr_1_6?crid=ZYK5BSQCG4TS&keywords=scratch+3&qid=1652954701&s=books&sprefix=scratch+3%2Cstripbooks%2C72&sr=1-6

Scratch 3 Programming Playground: Learn to Program by Making Cool Games

https://www.amazon.co.uk/Scratch-Programming-Playground-2nd/dp/1718500211/ref=sr_1_4?crid=ZYK5BSQCG4TS&keywords=scratch+3&qid=1652954701&s=books&sprefix=scratch+3%2Cstripbooks%2C72&sr=1-4

Coding for Kids: Scratch: Learn Coding Skills, Create 10 Fun Games, and Master Scratch

https://www.amazon.co.uk/dp/1641522453/ref=sspa_dk_detail_3?psc=1&pd_rd_i=1641522453&pd_rd_w=c0U9r&pf_rd_p=fa86e985-b347-4a90-a02a-c0dbdf852190&pd_rd_wg=8jCoB&pf_rd_r=1ZYSWF7HA9FSSRTZ5J00&pd_rd_r=0705d3f4-f2aa-4c0d-b4bd-cc97c5616e1d&s=books&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUEyUTRTMzk2QUw3S1QxJmVuY3J5cHRlZElkPUEwOTA2MjIwMk9RVlZQU0ZUQUNJQiZlbmNyeXB0ZWRBZElkPUEwMjExODc5MkJJODZNQ0pFRlg4VSZ3aWRnZXROYW1lPXNwX2RldGFpbCZhY3Rpb249Y2xpY2tSZWRpcmVjdCZkb05vdExvZ0NsaWNrPXRydWU=