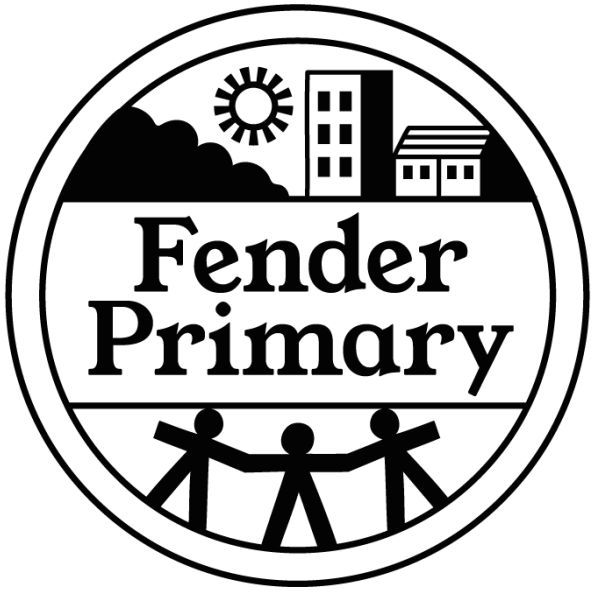

Computing at Fender

Intent

Our computing curriculum is designed to equip pupils with the knowledge, skills, and confidence to thrive in a digitally connected world. We aim to develop digitally literate learners who are not only competent users of technology but also critical thinkers, responsible digital citizens, and creative problem-solvers.

Through a rich, progressive curriculum, children will explore the three key strands of computing: computer science, information technology, and digital literacy. From early coding experiences to understanding networks and data, pupils will learn to design, create, and debug programs while developing a deep understanding of how technology works.

Online safety and responsible internet use are embedded throughout our curriculum. We prepare pupils to navigate the online world with integrity, resilience, and awareness, ensuring they can use technology safely and respectfully.

Our inclusive approach ensures all learners, regardless of background or ability, have access to high-quality computing experiences. We celebrate curiosity, creativity, and collaboration — laying the foundations for pupils to become lifelong digital learners and informed participants in a rapidly evolving technological landscape.

Implementation

Our pedagogy is built around three key concepts:

1. Command of the Content / Excellent Subject Knowledge
2. Consistent Environment, Relationships and Routines
3. Cornerstones of Teaching & Learning (outlined beneath)

Core Knowledge	Oracy Rich Opportunities	Adaptive Practice
The core knowledge for each lesson is clear and explicit. This learning is broken down into clear steps.	Oracy elevates learning and offers the opportunity to promote disciplinary talk. Oracy is a feature of every lesson and is the outcome of at least one lesson per unit.	Learning is adapted carefully to meet the needs of all learners regardless of need or starting point.
Diverse & High-Quality Texts	**Vocabulary**	**Revision & Assessment**
Our curriculum is underpinned by diverse and high-quality texts that allow themselves to see themselves and others.	Vocabulary is explicitly taught and revised. This builds a bank of disciplinary vocabulary that is revised regularly	Assessment is ongoing and purposeful. Each lesson begins with a review of last week's learning. Each unit ends with a summative assessment.
Careers	**Modelling**	**CPD**

Real life opportunities are woven into the curriculum including visits, trips and opportunities to look at careers within the subject. At our annual Careers' Festival, the subject is represented by professionals.	Modelling is one of our true cornerstones of teaching and learning. Whatever the task, high-quality modelling helps unlock student understanding.	Ongoing CPD for subject leaders, teachers and teaching assistants ensures fidelity to our pedagogy.
Cultural Capital	Parental Involvement	Monitoring
Children learn about significant events, people and places that bolster their knowledge of the world. This is supported through visitors, trips and visits, and strengthened through our careful curation of high-quality and diverse texts.	Parents are invited to share in the learning journey through our engaging road maps. Learning is shared routinely on Class Dojo. Parents are invited in for special occasions, events and celebrations.	Subjects are monitored routinely through book looks, learning walks, pupil voice and governor visits
Impact		
By the time children leave Fender, they will be confident, capable, and responsible users of technology. They will have developed a secure understanding of the core principles of computing (including coding, algorithms, data handling, and the structure of computer systems) and will be able to apply this knowledge creatively and independently. Pupils will be digitally literate and able to use a wide range of digital tools to support their learning across the curriculum. They will be equipped to express themselves through technology, collaborate effectively, and solve real-world problems using logical thinking and computational strategies. Children will understand how to keep themselves and others safe online, demonstrating a strong awareness of digital citizenship, online behaviours, and the implications of their digital footprint. They will have the resilience to manage risks and the skills to make informed decisions in an ever-changing digital world. Our computing curriculum will ensure pupils leave primary school with the foundational knowledge and skills required to succeed in an increasingly digital future — ready for the challenges of secondary education and confident in their role as safe, creative, and critical users of technology.		

Computing Long-Term Plan

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn	Computing is embedded into the EYFS Provision through Collaborating, Creating, Tinkering, Logic, Persevering, Patterns, Decomposition, Algorithms and Abstraction. EYFS provision includes the use of iPads, stereos, Beebots and IWB.	Technology Around Us	Information Technology Around Us	Connecting Computers	The Internet	Systems & Searching	Communication & Collaboration
Autumn 2		Digital Painting	Digital Photography	Stop Frame Animation	Audio Production	Video Production	Webpage Creation
Spring 1		Moving A Robot	Robot Algorithms	Sequencing Sounds	Repetition in Shapes	Selection in Physical Computing	Variables in Games
Spring 2		Grouping Data	Pictograms	Branching Databases	Data Logging	Flat-File Databases	Introduction to Spreadsheets
Summer 1		Digital Writing	Digital Music	Desktop Publishing	Photo Editing	Vector Graphics	3D Modelling
Summer 2		Programming Animations	Programming Quizzes	Events & Actions in Programs	Repetition in Games	Selection in Quizzes	Sensing Movement
Online Safety	Individual lesson each half-term						

FENDER PRIMARY SCHOOL

Long Term Plan - Computing

F2

Computing is embedded into the EYFS Provision through Collaborating, Creating, Tinkering, Logic, Persevering, Patterns, Decomposition, Algorithms and Abstraction. EYFS provision includes the use of iPads, stereos, Beebots and IWB.

YEAR 2

A1: Information Technology Around Us
A2: Digital Photography
Sp1: Robot Algorithms
Sp2: Pictograms
S1: Digital Music
S2: Programming Quizzes

YEAR 4

A1: The Internet
A2: Audio Production
Sp1: Repetition in Shapes
Sp2: Data Logging
S1: Photo Editing
S2: Repetition in Games

YEAR 6

A1: Communication & Collaboration
A2: Web Page Creation
Sp1: Programming: Variables in Games
Sp2: Introduction to Spreadsheets
S1: 3D Modelling
S2: Programming: Sensing Movement

F2
1
2
3
4
5
6

YEAR 1

A1: Technology Around Us
A2: Digital Painting
Sp1: Moving a Robot
Sp2: Grouping Data
S1: Digital Writing
S2: Programming Animations

YEAR 3

A1: Connecting Computers
A2: Stop-Frame animation
Sp1: Sequencing Sounds
Sp2: Branching Databases
S1: Desktop Publishing
S2: Events & Actions in Programs

YEAR 5

A1: Systems & Searching
A2: Video Production
Sp1: Selection in Physical Computing
Sp2: Flat-file Databases
S1: Introduction to Vector Graphics
S2: Selection in Quizzes

Careers

From F2 - Y6, careers education is woven throughout our computing curriculum and children are exposed to the opportunities available to them from studying computing.

Oracy

Voice 21 is embedded throughout our Computing lessons. Children provide reasonings, evaluate, question and clarify. Exploratory talk is carefully planned to enable children to be problem solvers independently.

Progression Map							
	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computing Systems & Networks	Explore simple technology (e.g. toys, tablets); begin to understand devices have functions	Technology Around Us: Identify parts of a computer, use simple technology in daily life	IT Around Us: Understand how technology is used in school and beyond	Connecting Computers: Understand how digital devices work and connect	The Internet: Understand how the internet enables sharing and communication	Sharing Information: Understand how digital systems process and share data	Communication: Explore collaborative technologies and evaluate their effectiveness
Creating Media	Use painting tools on a tablet; explore taking photos; listen to sounds and music	Digital Painting & Writing: Use drawing tools, type text	Digital Photography & Music: Capture/edit images, compose simple music	Animation & DTP: Create stop-frame animations and page layouts	Audio & Photo Editing: Record and edit digital media	Video & Vector: Film and edit video, create digital illustrations	Web Pages & 3D Modelling: Design functional web pages and virtual 3D models
Programming A	Explore cause and effect with toys (e.g. Bee-Bots); follow basic instructions	Moving a Robot: Create basic instructions and sequences	Robot Algorithms: Predict and sequence steps more accurately	Sequence in Music: Compose digital music using ordered commands	Repetition in Shapes: Use loops to create patterns	Selection in Physical Systems: Use logic to control hardware	Variables in Games: Program games using inputs and changeable data
Programming B	Recognise simple patterns and sequences through play and repetition	Introduction to Animation: Animate characters using block code	Quizzes: Build simple interactive quizzes	Events and Actions: Trigger events through user interaction	Repetition in Games: Build more complex games with loops	Selection in Quizzes: Design with if/then rules for interactivity	Sensing: Use real-world inputs to trigger actions in code
Data & Information	Sort and group familiar objects by colour, size, or type	Grouping Data: Label and group data objects	Pictograms: Represent data using charts and pictograms	Branching Databases: Sort and identify items using yes/no questions	Data Logging: Gather and present data from devices	Flat-File Databases: Input, search and sort records	Spreadsheets: Use formulas, analyse and present data clearly
Online Safety	Talk about being kind; begin to understand staying	Recognise kind vs unkind behaviour online; keep personal	Understand what to do if something online makes you	Explain how to protect personal information and use	Understand the risks of online sharing and how digital	Evaluate online content and understand how	Recognise online scams, phishing, and how digital

	safe and asking for help	info private	uncomfortable	secure passwords	content can be manipulated	search results are ranked or influenced	identity and reputation can be managed

Vocabulary							
	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	ipad, pattern, logic, tinker, create, algorithm, robot, instruction, move, button, code, sequence, draw, sound, photo, video, control, explore	computer, mouse, keyboard, screen, device, technology, paint, brush, tool, colour, undo, digital, robot, command, forward, turn, instructions, direction, sort, group, data, object, count, label, type, text, keyboard, spacebar, delete, cursor, program,	it, input, output, use, purpose, job, photo, capture, device, lighting, subject, image, algorithm, plan, precise, instruction, debug, test, pictogram, chart, data, title, compare, symbol, sound, tempo, pitch, loop, track, create, question, answer, interaction,	connection, network, device, sender, receiver, message, frame, sequence, storyboard, movement, speed, timing, sequence, sound, command, trigger, event, loop, classify, attribute, database, branch, question, decision, layout, format, font,	internet, network, web, server, content, website, record, edit, sound, effect, track, timeline, repeat, loop, command, pattern, shape, code, sensor, log, reading, interval, graph, device, edit, crop, filter, contrast, duplicate, enhancement, repeat, loop, sprite,	system, input, process, output, search, index, storyboard, film, cut, transition, audio, effect, condition, sensor, select, trigger, circuit, output, record, field, entry, table, filter, sort, vector, shape, layer, resize, arrange, group, selection, if, else, condition, response, feedback	communicate, collaborate, platform, share, permission, privacy, webpage, hyperlink, layout, navigation, content, audience, variable, score, timer, update, increase, store, spreadsheet, cell, formula, column, row, data, 3d, model, rotate, scale,

		sequence, animate, sprite, run, start	condition, correct, repeat	insert, image, align, event, action, input, output, algorithm, variable	interaction, behaviour, gameplay		object, depth, sensor, detect, motion, trigger, input, action

National Curriculum - Computing

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world.
Computing has deep links with mathematics, science and design and technology, and provides insights into both natural and artificial systems.
The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming.
Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content.
Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Aims

The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology

Subject content

Key Stage 1

Pupils should be taught to:

- 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
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- 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

Key Stage 2

Pupils should be taught to:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

- 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

- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content

- 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

- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Computing Lesson Structure
Revision & Recap Teacher revisits learning from last week, last term and last year. Absent children from the previous week/lesson find out the core learning from last week.
Vocabulary / Oracy Vocabulary is explicitly taught using oracy-rich strategies.
Explicit Teaching of New Knowledge Teacher uses the road map to place new learning in the context of the unit. Teacher uses core principles of our Fender Pedagogy to teach new core knowledge from that week.
Independence Children practice and develop their knowledge, through application of a historical skill in their independent (or group) work. This could be written or orally recorded, dependent on the knowledge, skill and task of that lesson.
Review...Revise...Reflect...Where Next? Teacher to make explicit the core knowledge from that lesson - three core facts! Revise that lesson's taught vocabulary Use the road map to look ahead - where does this knowledge take us next?

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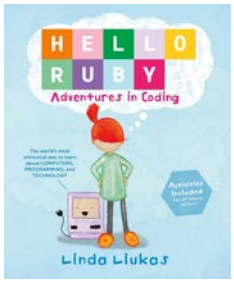
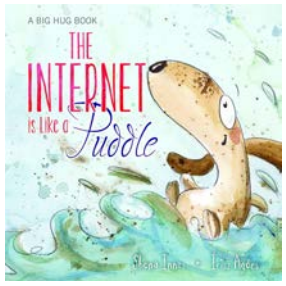
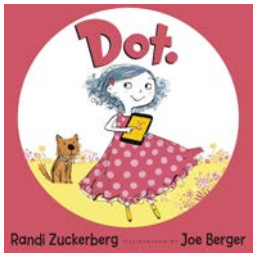
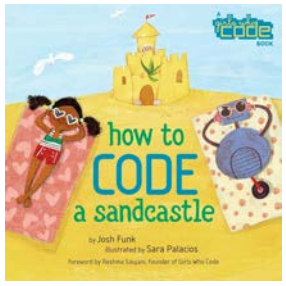
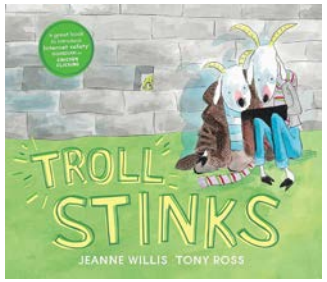
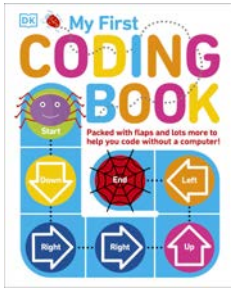
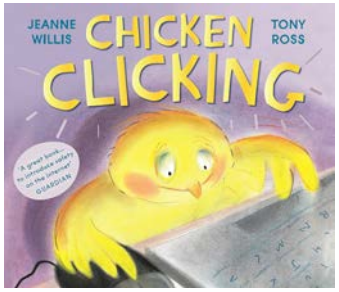
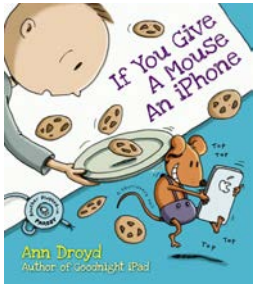
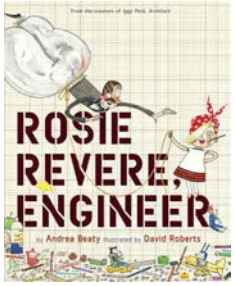
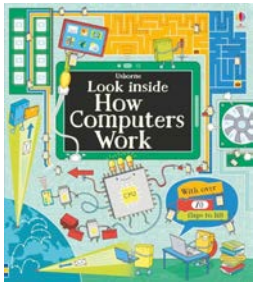
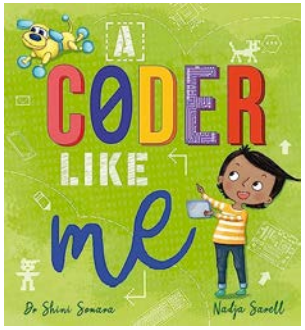
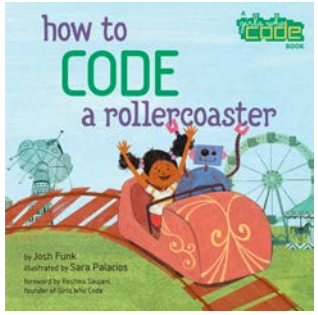
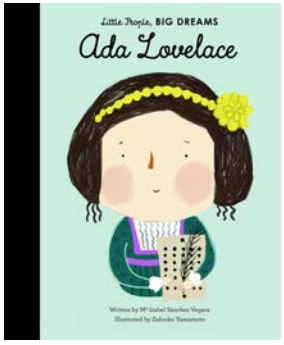
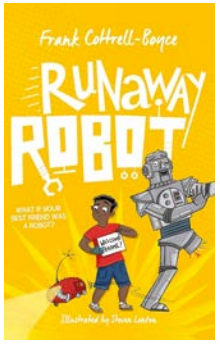
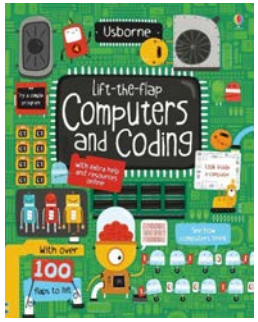
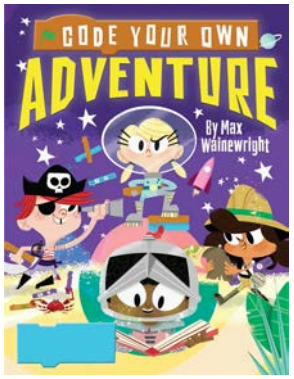
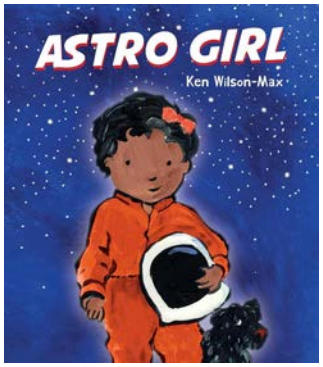
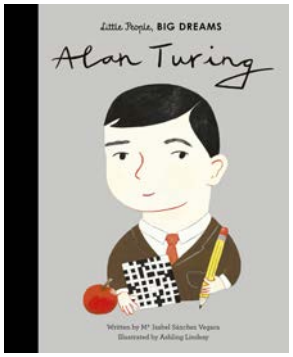
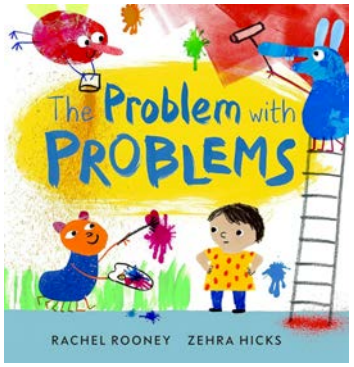
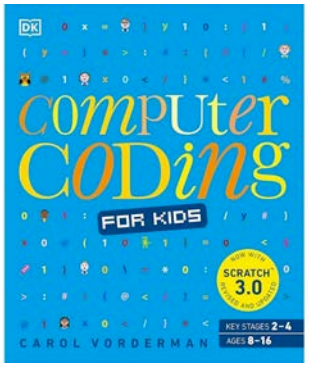
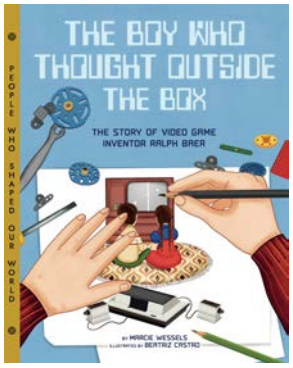
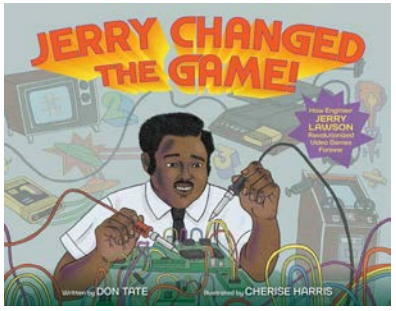
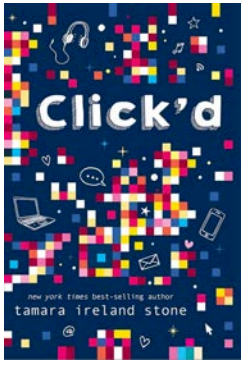
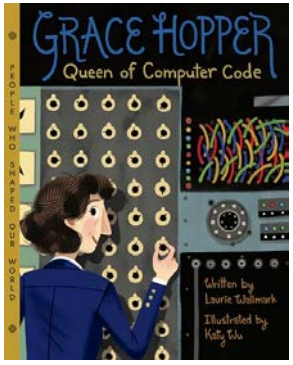
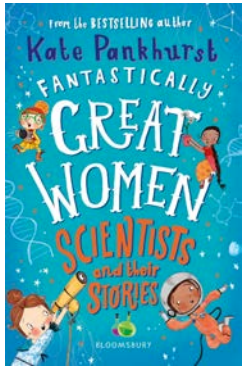
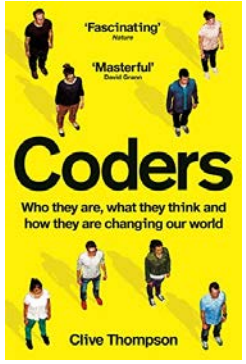
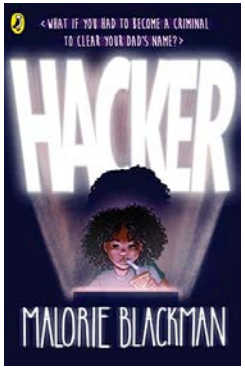
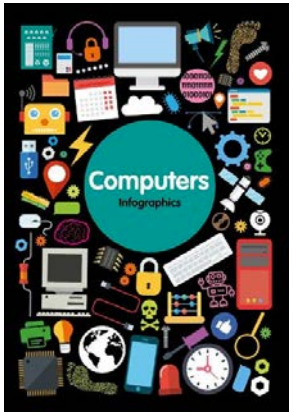
EYFS	     
Year 1	     
Year 2	     

Year 3	    
Year 4	     
Year 5	     

Year 6	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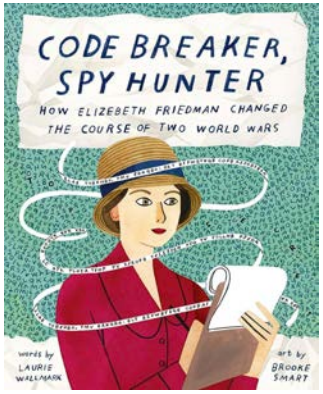
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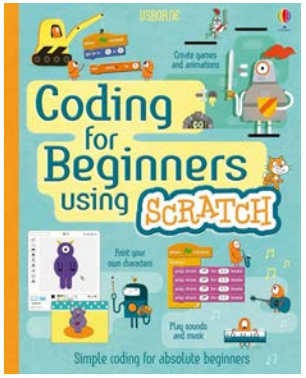
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