



# Library Support Services PATHFINDER



## CODING

## 2022

Coding and computational thinking are core to the development of 21<sup>st</sup> century learning skills.

Set up centres in your class to test out different approaches to coding through these kits and books from Library Support Services.

To acquire materials in this Pathfinder, **click** on the **image** or **title** of a resource below, then **click** on the **Place Hold** button and when prompted, log in to the catalogue with your Novell username (e.g. jsmith) plus password = 1234. All material is sent to you at your home school via the school courier.

You may browse the complete library here: [Library Resource Centre Online Catalogue](#)

Email inquiries to [wsslibrary@wsd1.org](mailto:wsslibrary@wsd1.org) or call 204-788-0203.

### SEARCH TERMS:

#### Keywords:

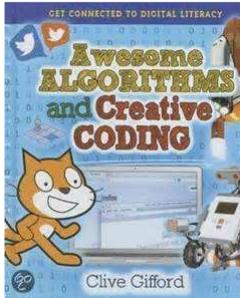
Coding, computational thinking, computing, Java, Minecraft, Scratch,

#### Subject Headings:

Computer programming, Electronic circuits, Makerspaces, Programming (Computers), Programming language, Robots, Scratch, STEM, STEAM



# Books for Students

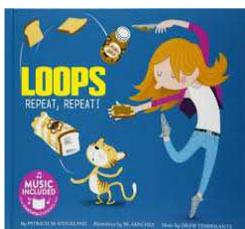


## J 005 GIF

Gifford, Clive. [Awesome algorithms and creative coding](#). St. Catharines, Ontario: Crabtree Publishing Company, 2015.

Awesome Algorithms and Creative Coding explores how computers work and explains how to think in a logical way. The bright and engaging design guides readers through clear explanations of binary code, simple algorithms, and computer language. Scratch and LOGO, are reviewed.

Audience: Grades 4 to Grade 6

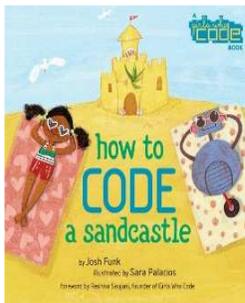


## J 005 STO

Stockland, Patricia M. [Loops: repeat, repeat!](#) North Mankato, MN: Cantata Learning, 2018.

Learn about the codes all around us in Loops: Repeat, Repeat! Sing along as you learn to Code It! This hardcover book comes with CD and online music access.

Audience: K to grade 5

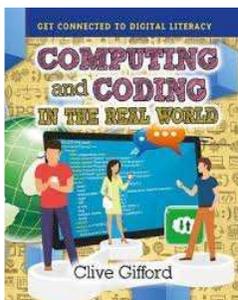


## J 005.1 FUN

Funk, Josh. [How to code a sandcastle](#). New York, New York: Viking, Penguin Young Readers, 2018.

The first picture book from the science nonprofit comes a lively and funny story that introduces kids to computer coding. Pearl and her robot friend Pascal use fundamental computer coding concepts to break down building a sandcastle into small, manageable steps.

Audience: Grade 1 and up

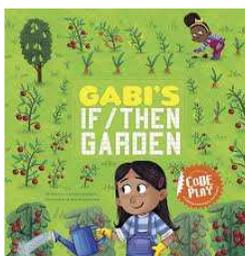


## J 005.1 GIF

Gifford, Clive. [Computing and coding in the real world](#). St. Catharine, ON: Crabtree Publishing, 2018.

Coding is all around us in the real world--if you know where to look. Find out how everyday machines, such as scanners and light sensors, use coding in order to operate. Easy-to-follow text breaks down the rules of coding that make things such as 3-D printers work.

Audience: Grade 4 to Grade 8.

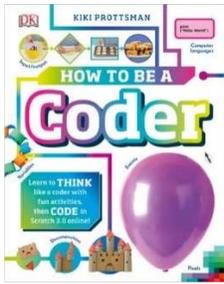


## J 005.1 KAR

Karanja, Caroline. [Gabi's if/then garden](#). North Mankato, Minnesota: Picture Window Books, 2019.

Gabi's garden needs some help. Gabi and Adi use if/then statements to decide what to plant, what to water, and what to pick. These scientific thinkers find ways every day to use computer coding concepts to make work and play more fun.

Audience: Kindergarten to grade 3

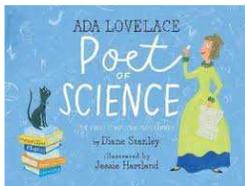


### J 005.1 PRO

Prattsman, Kiki. [How to be a coder](#). New York, NY: DK Publishing, 2019.

Each of the fun craft activities included in this book will teach you about a key concept of computer programming and can be done completely offline. Then you can put your skills into practice by trying out the simple programs provided in the online, child-friendly computer language Scratch.

Audience: Grade 2 and up

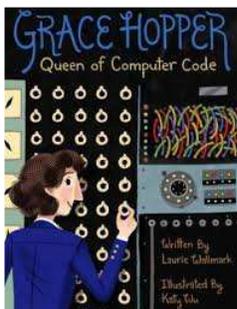


### J 005.1092 STA

Stanley, Diane. [Ada Lovelace, poet of science: the first computer programmer](#). New York: Simon & Schuster Books for Young Readers, 2016.

Beautifully illustrated biography of Ada Lovelace, known as the first computer programmer.

Audience: Kindergarten to Grade 3

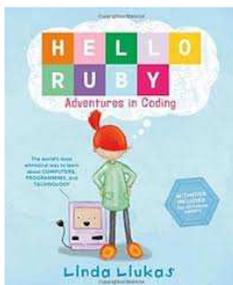


### J 005.1092 WAL

Wallmark, Laurie. [Grace Hopper: queen of computer code](#). New York: Sterling Children's Books, 2017.

The inspiring story of Grace Hopper--the boundary-breaking woman who revolutionized computer science--is told in an engaging picture book biography.

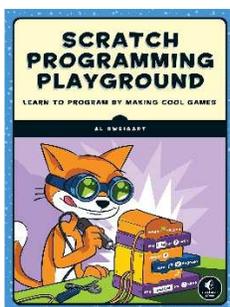
Audience: Kindergarten to grade 3



### J 005.13 LIU

Liukas, Linda. [Hello Ruby: adventures in coding](#). New York: Feiwel and Friends, 2015. Hello Ruby is the world's most whimsical way to learn about computers, programming and technology. Includes activities for all future coders.

Audience: Grade 2 and up

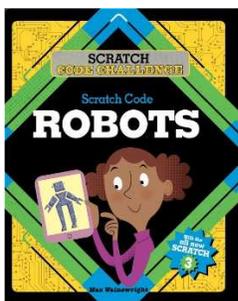


### J 005.13 SWE

Sweigart, Al. [Scratch programming playground: learn to program by making cool games](#). San Francisco: No Starch Press, 2016.

Scratch, the colorful drag-and-drop programming language, is used by millions of first-time learners. You'll learn to program by making cool games. Get ready to destroy asteroids, shoot hoops, and slice and dice fruit.

Audience: Grade 5 and up



### J 005.13 WAI

Wainwright, Max. [Scratch code robots](#). St. Catherines, ON: Crabtree Publishing, 2020.

Find out how the different systems within a robot work to make it move around, sense where it is, and interact with us. Use the algorithms and ideas that control real robots to create your own on-screen robots. Seven step-by-step projects use the latest version of Scratch, the free online coding program, to help you learn about sensors, create a robot arm game, program a robot, and much more!

Audience: Grades 7 to Grade 8.



### J 005.13 WAI

Wainwright, Max. [Scratch code smart homes](#). St. Catherines, ON: Crabtree Publishing, 2020.

Learn all about the computer technology used in smart homes and buildings that is making our lives easier and our homes more secure. Use the algorithms and ideas used to control devices within buildings to create your own coding programs. Five step-by-step projects use the latest version of Scratch, the free online coding program, to help you learn about motion sensors and create burglar alarms for your computer that use sound and motion to detect intruders.

Audience: Grades 7 to Grade 8

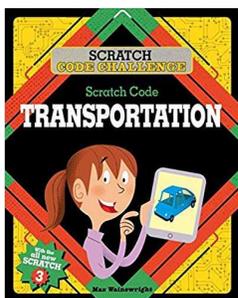


### J 005.13 WAI

Wainwright, Max. [Scratch code space tech](#). St. Catherines, ON: Crabtree Publishing, 2020.

Learn about the key concepts used in space technology, and explore them by coding your own simulations of how rockets and spaceships move. Seven step-by-step projects use the latest version of Scratch, the free online coding program, to help you learn about gravity, create a jetpack game, program a spaceship's return to Earth, and much more!

Audience: Grades 7 to Grade 8

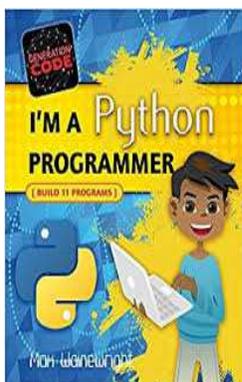


### J 005.13 WAI

Wainwright, Max. [Scratch code transportation](#). St. Catherines, ON: Crabtree Publishing, 2020.

Learn all about the computer technology used in modern transportation. Use the algorithms and ideas that control real forms of transportation technology to create your own on-screen vehicles. Six step-by-step projects use the latest version of Scratch, the free online coding program, to help you learn how sensors work, create a hoverboard game, program a drone, and much more!

Audience: Grades 7 to Grade 8

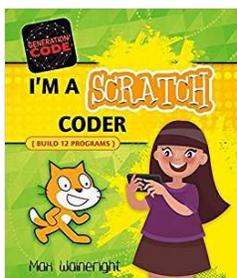


### J 005.133 WAI

Wainwright, Max. [I'm a Python programmer](#). St Catharines, Ontario: Crabtree Publishing, 2018.

Python is used by professional programmers to create 3-D graphics for special effects in movies, and is often used on web servers to handle searching. This fascinating book contains all the techniques and ideas you need to know to become a Python programming genius! Learn the basics and how to use loops and variables in Python. Discover how to create graphics, use random numbers, and build games, simulations, and other programs.

Audience: Grades 5 to Grade 8



### J 005.133 WAI

Wainwright, Max. [I'm a Scratch coder](#). St. Catharines, ON; Crabtree Publishing Company, 2018.

The next level of Scratch programming. Learn how to use loops, variables, IF statements, functions, and a range of coding techniques.

Audience: Grades 5 to Grade 8



### J 005.2 ROB

Robbins, Dean. [Margaret and the Moon: how Margaret Hamilton saved the first lunar landing](#). New York: Alfred A. Knopf, 2017.

Margaret Hamilton loved numbers as a young girl. She knew how many miles it was to the moon (and how many back). Soon math led her to MIT and then to helping NASA put a man on the moon! She handwrote code that would allow the spacecraft's computer to solve any problems it might encounter. Apollo 8. Apollo 9. Apollo 10. Apollo 11. Without her code, none of those missions could have been completed.

Audience: Kindergarten and up

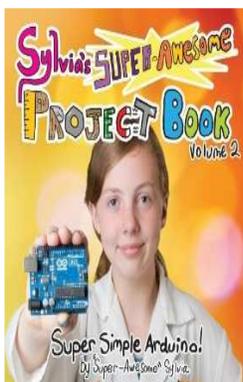


### J 005.2 SUP

[Super Scratch programming adventure!: learn to program by making cool games!](#) San Francisco: No Starch Press, 2014.

The LEAD Project (Learning through Engineering, Art and Design) promotes hands-on, design-based activities with the creative use of technology and is part of the Hong Kong Federation of Youth Groups, a non-profit educational group with years of practical experience teaching children how to make cool things.

Audience: Grade 2 and up

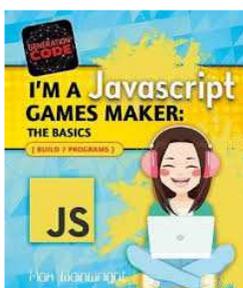


### J 005.2 TOD

Todd, Sylvia. [Super simple Arduino!](#) Torrance, California: Constructing Modern Knowledge Press, 2014.

Sylvia teaches you to understand Arduino microcontroller programming by inventing an adjustable strobe and two digital musical instruments you can play! Along the way, you'll learn a lot about electronics, coding, science, and engineering. Written and illustrated by a kid, for kids of all ages, Sylvia's whimsical graphics and clever explanations make powerful STEM (Science, Technology, Engineering, and Math) concepts accessible and fun.

Audience: Grade 4 and up



### J 005.2 WAI

Wainwright, Max. [I'm a JavaScript games maker: the basics.](#) St. Catharines, ON: Crabtree Publishing Company, 2018.

Step by step guide through the basics of programming with JavaScript. Create interactive web pages, and bring online games to life using smooth and colourful animation.

Audience: Grades 5 to Grade 8

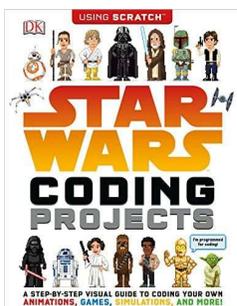


### J 005.2 WAI

Wainwright, Max. [I'm a JavaScript games maker: advanced coding.](#) St. Catharines, ON: Crabtree Publishing Company, 2018.

Learn how to create interactive webpages and more complex online games with Javascript.

Audience: Grades 5 to Grade 8



### J 005.262 WOO

Woodcock, Jon. [Star Wars coding projects.](#) New York: DK Publishing, 2017.

A step-by-step visual guide to coding fun projects in Scratch and shows everything needed in order to create computer projects, animations, and games.

Also available in **eBook**

Audience: Grade 5 and up



### J 005.3 WAI

Wainwright, Max. [I'm an app developer.](#) St. Catharines, Ontario: Crabtree Publishing, 2018.

Learn how to create your own amazing apps using App Inventor! You will find out how to connect up your computer to an Android phone or emulator. Then you'll discover how to build simple tools and games, and even how to code apps that use a camera. Step-by-step instructions make it easy for you to become an expert app builder!

Audience: Grades 5 to Grade 8

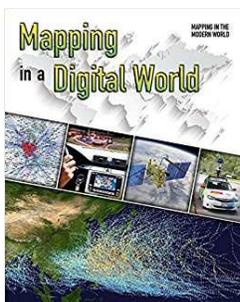


### J 006.74 WAI

Wainwright, Max. [I'm an HTML web page builder](#). St. Catharines, ON: Crabtree Publishing Company, 2018.

Easy-to-follow instruction teaches you how to code your own amazing web pages using Hyper Text Mark Up Language, or HTML. You'll find out how to add text, images, links and even videos to a web page. Once you have completed every project, you will be on your way to becoming an HTML expert!

Audience: Grades 5 to Grade 8



### J 526 BOW

Bow, James. [Mapping in a digital world](#). St. Catharines, Ontario: Crabtree Publishing, 2017.

Mapmakers are using satellite data to map the locations of people and objects on Earth, making video maps using the Internet to show wind and weather systems, and creating specialized maps that show human behavior. Computer game technology, such as Minecraft, is even being used to map real places.

Audience: Grades 5 to Grade 8



### J 794.8 KOV

Kovacs, Vic. [Get into Minecraft](#). St. Catharines, Ontario: Crabtree Publishing Company, 2017.

One of the most popular video games in the world, Minecraft is all about using creativity, collaboration, and skill to create and protect exciting digital worlds. Reveals tips and tricks for using the digital version of the video game as well as creative offline projects.

Audience: Grades 4 to Grade 6

# eBooks

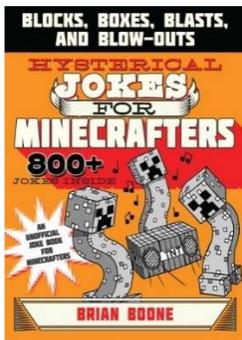


## eBook

Bers, Marina Umaschi. [The official Scratch Jr. book: help your kids learn to code.](#) San Francisco: No Starch Press, 2015.

ScratchJr is a free, introductory computer programming language that runs on iPads, Android tablets, Amazon tablets, and Chromebooks. Inspired by Scratch, the wildly popular programming language used by millions of children worldwide, ScratchJr helps even younger kids create their own playful animations, interactive stories, and dynamic games.

Audience: Grades 1 to Grade 5. Teachers of grades 1 to grades 5

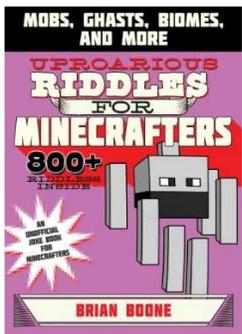


## eBook

Boone, Brian. [Hysterical jokes for Minecrafters: blocks, boxes, blasts, and blow-outs.](#) New York: Sky Pony Press, 2017.

The third book in the Jokes for Minecrafters series, which includes more than 800 hysterical jokes.

Audience: Grade 2 and up

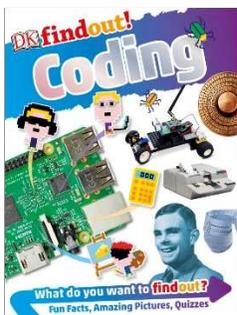


## eBook

Boone, Brian. [Uproarious riddles for Minecrafters.](#) New York: Skyhorse Publishing, 2018.

The fifth book in the Jokes for Minecrafters series, which is complete with more than eight hundred riddles! "Dig in" to these funny brainteasers about Minecraft mobs, tools, and biomes that will really make you think!

Audience: Grade 2 and up



## eBook

[Coding.](#) New York: DK Publishing, 2017.

This book explains coding clearly with beautiful photography, lively illustrations, and key curriculum information. It is packed with up-to-date information and fun quizzes, while key curriculum text tells students why we use code, how computers use code and covers the history of coding from early computer programming languages to Python and Scratch.

Audience: Grades 4 and up



**eBook**

Cube Kid. [Diary of an 8-bit warrior](#). Kansas City, Missouri: Andrews McMeel Publishing, 2016.

First book of Minecraft meets Diary of a Wimpy Kid of the very popular 8-Bit Warrior series of the journal of a young Minecraft villager who dares to dream of becoming a Minecraft warrior!

Audience: Grade 2 and up



**eBook**

Cube Kid. [Path of the diamond](#). Kansas City, Missouri: Andrews McMeel Publishing, 2017.

Minecraft meets Diary of a Wimpy Kid in book 4 of the very popular 8-Bit Warrior series of the journal of a young Minecraft villager who dares to dream of becoming a Minecraft warrior!

Audience: Grade 3 and up

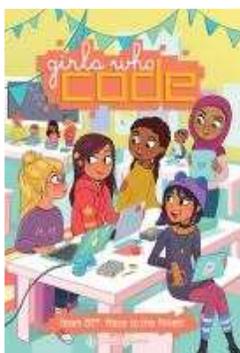


**eBook**

Deutsch, Stacia. [The friendship codes](#). New York: Penguin Young Readers Group, 2017.

Lucy is super excited about coding club at school. She has an idea for an app, and can't wait to get started! But her excitement turns to disappointment when she sees who else is at the first meeting: her ex-best friend Sophia; Maya, a cool seventh grader who Lucy's never dared talk to; and Erin, a quiet new girl. Lucy doesn't get to work on her app, and she's paired with Sophia, Maya, and Erin for a group project. But when Lucy starts receiving cryptic notes that seem to be in coding language, the girls join forces to figure out the mystery. They discover that coding takes time, patience, and dedication and so does friendship!

Audience: Grade 5 and up



**eBook**

Deutsch, Stacia. [Team BFF: race to the finish!](#) New York: Penguin Young Readers Group, 2017.

Sophia and her coding club BFFs have the best time together. Sure, they work on coding projects, but mostly they gossip about crushes, eat cookies, and do totally silly impersonations. Now they're about to participate in their first hackathon--a full day of coding and meeting other coders--so it's time to step up their game!

Audience: Grade 5 and up

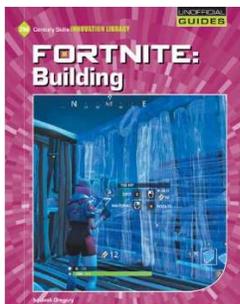


**eBook**

Gregory, Josh. [Fortnite: beginner's guide](#). Ann Arbor, Michigan: Cherry Lake Publishing, 2020.

With hundreds of millions of players around the world, Fortnite is the video game sensation that has taken the world by storm. Its unique design combines the construction and problem solving of games like Minecraft with competitive online battles. In this book, readers will learn everything they need to know to get started in their first online Battle Royale matches.

Audience: Grades 4 and up



**eBook**

Gregory, Josh. [Fortnite: building](#). Ann Arbor, Michigan: Cherry Lake Publishing, 2020.

With hundreds of millions of players around the world, Fortnite is the video game sensation that has taken the world by storm. Its unique design combines the construction and problem solving of games like Minecraft with competitive online battles. In this book, readers will learn all about the game's building system, from how different structures are built to how they can be used in battle situations.

Audience: Grades 4 and up

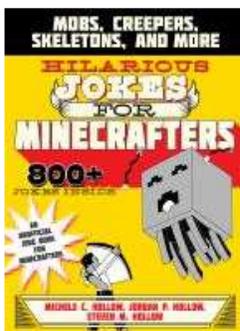


**eBook**

Gregory, Josh. [Fortnite: combat](#). Ann Arbor, Michigan: Cherry Lake Publishing, 2020.

With hundreds of millions of players around the world, Fortnite is the video game sensation that has taken the world by storm. Its unique design combines the construction and problem solving of games like Minecraft with competitive online battles. In this book, readers will learn all about the different strategies they can use to succeed when competing against other players online.

Audience: Grades 4 and up

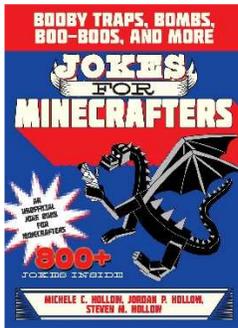


**eBook**

Hollow, Michele C. [Hilarious jokes for minecrafters: Mobs, Creepers, Skeletons, and More](#). New York: Sky Pony Press, 2016.

*Jokes for Minecrafters: Mobs, Creepers, Skeletons, and More* is the second book in the Jokes for Minecrafters series, which boasts more than eight hundred jokes.

Audience: Grade 2 and up



**eBook**

Hollow, Michele C. [Jokes for Minecrafters: booby traps, bombs, boo-boos, and more.](#) New York: Sky Pony Press, 2016.

The first book in the new Jokes for Minecrafters series, which celebrate the humor in Minecraft from skeleton mobs to zombie pigmen.

Audience: Grade 2 and up

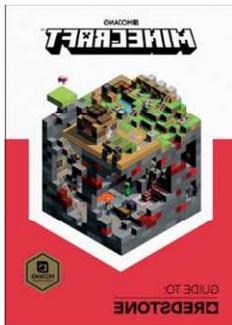


**eBook**

Jefferson, Ed. [Land of zombies.](#) New York: Del Rey, 2016.

Inside you'll find build ideas for everything from a zombie arena and a zombie-infested graveyard to an undead city and a top-secret lab where zombies are created and cured.

Audience: Grade 2 and up



**eBook**

Jelley, Craig. [Minecraft: Guide to Redstone.](#) New York: Random House Publishing Group, 2017.

Learn the art of redstone and become a master engineer, then put theory into practice to construct intricate contraptions in Minecraft.

Audience: Grade 2 and up

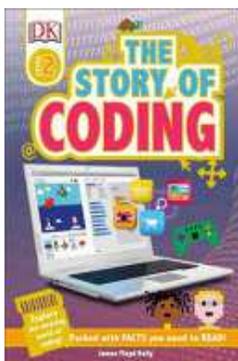


**eBook**

Joyner, Joseph. [Minecraft: top 35 Minecraft mods you should know.](#) Newark: Speedy Publishing LLC, 2013.

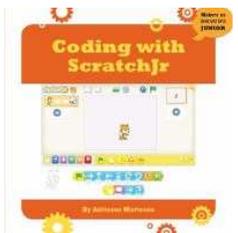
Minecraft is a creation, development and adventure game that can be whatever you want it to be. Using mods is a way to make your Minecraft adventure come to life. There are thousands of mods online and there are many more in production and development. There are mods for conjuring new powers, witchcraft, alchemy, engineering, mapping, enhancing mining, gardening, forestry and for so many other wonderful options that you can only do in Minecraft.

Audience: Grade 4 and up



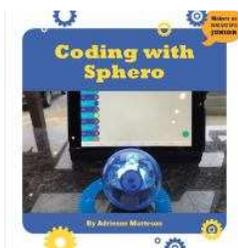
### eBook

Kelly, James F. [The story of coding](#). New York: DK Publishing, 2017.  
Learn about the history of coding and computers. Young readers will find out what coding is, how it developed, and how modern codes are used for everyday purposes. There's a message in ASCII for readers to decode, plus tips for writing their own code with Scratch programming.  
Audience: Grade 4 and up



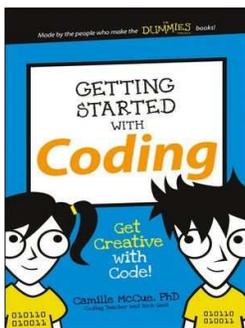
### eBook

Matteson, Adrienne. [Coding with ScratchJr](#). Ann Arbor, Michigan: Cherry Lake Publishing, 2017.  
ScratchJr is a beginner's programming language that is fun and easy to use. Through simple text written to foster creativity and problem solving, students will the art of innovation. Large, colorful images show students how to complete activities.  
Audience: Kindergarten to grade 3



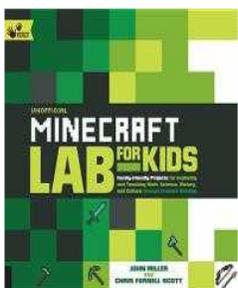
### eBook

Matteson, Adrienne. [Coding with Sphero](#). Ann Arbor, Michigan: Cherry Lake Publishing, 2017.  
Learn how to program Sphero robots to complete a variety of fun activities.  
Audience: Kindergarten to grade 3



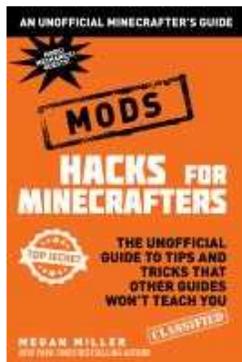
### eBook

McCue, Camille. [Getting started with coding](#). New York: Wiley, 2014.  
When your kid is ready to add coding to their creativity toolbox but you are not ready to ship them off to coding camp, *Getting Started with Coding* is here to help them get started with the basics of coding.  
Audience: Elementary and middle school teachers



### eBook

Miller, John. [Unofficial Minecraft lab for kids: family-friendly projects for exploring and teaching math, science, history, and culture through creative building](#). Beverly: Rockport Publishers, 2016.  
Use this widely-popular video game's creative environment to teach fun educational lessons. This book will guide parents in Minecraft gaming goals.  
Audience  
Grade 1 and up

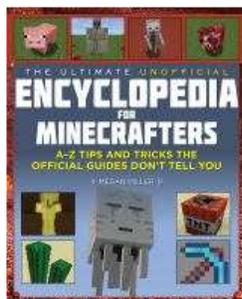


### eBook

Miller, Megan. [Hacks for minecrafters: mods: the unofficial guide to tips and tricks that other guides won't teach you](#). New York: Sky Pony Press, 2016.

Minecraft was designed to allow other people to modify it. And while there are several successful game guides on the market already, this book is the first unofficial "hacker's" super-guide dedicated to adding mods (modifications) to your Minecraft game.

Audience: Grade 3 and up



### eBook

Miller, Megan. [The ultimate unofficial encyclopedia for minecrafters: An A-Z book of tips and tricks the official guides don't teach you](#). New York: Sky Pony Press, 2015.

Covers everything players need to know about mining, farming, building, villagers, the Nether, and more! A big book of players' hacks for Minecrafters organized in an easy-to-reference A-Z encyclopedia format, this book will show readers the ins and outs of the game, how to survive and thrive, and various mods that can improve play

Audience: Grade 3 and up



### eBook

Milton, Stephanie. [Minecraft for beginners: a step-by-step guide](#). New York: Random House Publishing Group, 2019.

Introduction to Survival mode on Bedrock Edition for true beginners. Parents can read and use this book easily with young children aged 6+, or even on their own!

Audience: Grade 2 and up



### eBook

Milton, Stephanie. [Minecraft: guide to enchantments & potions](#). New York: Random House Publishing Group, 2018.

This official guide will teach you how to enchant your equipment with useful effects and brew all manner of potions to protect yourself from harm. Includes insider tips from the experts at Mojang.

Audience: Grade 3 and up

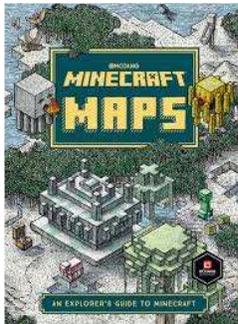


### eBook

Milton, Stephanie. [Minecraft: guide to survival](#). New York: Del Rey, 2020.

The mysterious world of Minecraft is just waiting to be explored. Learn how to find resources, craft equipment, and protect yourself. Discover which biomes to avoid when starting out, how to build a mob-proof shelter, where to look for naturally-generated structures laden with loot, and so much more.

Audience: Grade 2 and up



### eBook

Milton, Stephanie. [Minecraft maps](#). New York: Del Rey, 2016.

Discover the hidden corners of the many weird and wonderful locations in Minecraft with this beautifully illustrated, full-color guide--written in official partnership with the experts at game-creator Mojang.

Audience: Grade 2 and up



### eBook

[Minecraft: stories from the overworld](#). New York: Dark Horse Comics, 2019.

The first graphic novel anthology from the massively popular world of Minecraft.

Audience: Grade 3 and up



### eBook

Mojang Ab. [Theme park adventure](#). New York: Random House Publishing Group, 2019.

You'll find build ideas for everything from a classic carousel and a haunted mansion ride to thrilling jungle river rapids and a terrifying alternate dimensions roller coaster.

Audience: Grade 3 and up



### eBook

Monster, Sfé R. [Minecraft. Volume 1](#). New York: Dark Horse Comics, 2020.

The first installment in the best-selling Plants vs. Zombies graphic novel series. Based on the world's best-selling videogame *Minecraft*!

Audience: Grade 4 and up



### eBook

Monster, Sfé R. [Minecraft. Volume 2](#). New York: Dark Horse Comics, 2020.

The second installment in the best-selling Plants vs. Zombies graphic novel series. Based on the world's best-selling videogame *Minecraft*!

Audience: Grade 4 and up

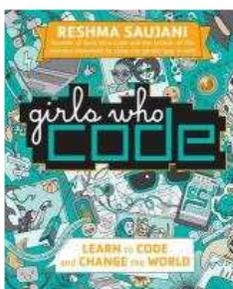


### eBook

Monster, Sfé R. [Minecraft. Volume 3](#). New York: Dark Horse Comics, 2020.

The third installment in the best-selling Plants vs. Zombies graphic novel series. Based on the world's best-selling videogame *Minecraft*!

Audience: Grade 4 and up



### eBook

Saujani, Reshma. [Girls who code: learn to code and change the world](#). New York: Penguin Young Readers Group, 2017.

Introduces the relevance of coding and shares down-to-earth explanations about coding principles and real-life stories of women programmers who work at such places as Pixar and NASA.

Audience: Grade 4 and up

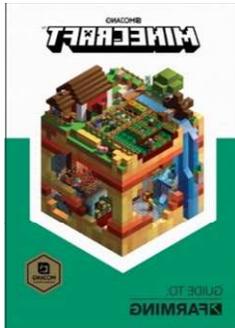


### eBook

Talley, Trevor. [Minecraft: the unofficial guide to Minecraft & other building games](#). Chicago: Triumph Books, 2013.

The unofficial comprehensive guide for this virtual world, beginners, experts, and general enthusiasts of Minecraft will learn how to get more out of their valuable playtime -- how to build better structures and cooler worlds and how to cooperate more efficiently in multiplayer mode.

Audience: Grade 4 and up

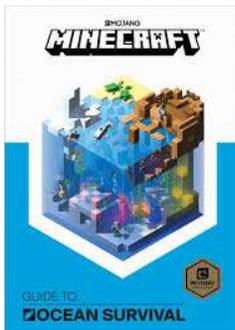


### eBook

Wiltshire, Alex. [Minecraft: guide to farming](#). New York: Random House Publishing Group, 2018.

Will teach you about everything from basic crop farming and animal breeding to hostile mob and block farming.

Audience: Grade 2 and up



### eBook

Wiltshire, Alex. [Minecraft: guide to ocean survival](#). New York: Random House Publishing Group, 2019.

Will teach you how to breathe underwater, find valuable sunken loot and fight off guardians and other menacing mobs of the deep.

Audience: Grade 2 and up

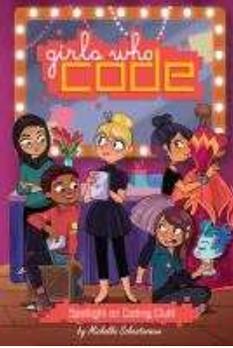


### eBook

Whittemore, Susan. [Lights, music, code!](#) New York: Penguin Young Readers Group, 2018.

Maya and her friends from coding club have an exciting new project: they're coding lights and music for the winter dance! But when Maya's old troublemaking friend Maddie moves to town, Maya starts spending a lot of time with her, and less time with her coding friends.

Audience: Grade 5 and up



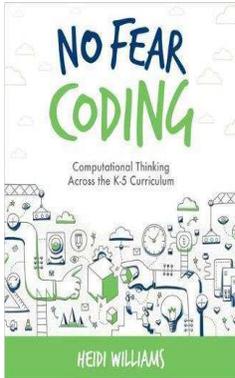
**eBook**

Whittemore, Susan. [Spotlight on coding club!](#) New York: Penguin Young Readers Group, 2018.

The girls in the coding club are preparing their voting app for the school talent show, but when they discover Erin is secretly suffering from anxiety they band together to find her help.

Audience: Grade 5 and up

# Books for Educators

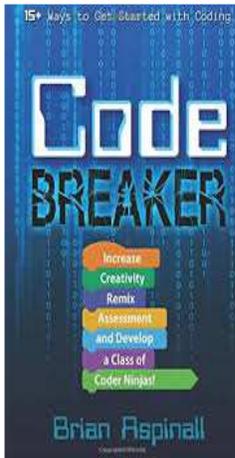


## 004.071 WIL

Watkins, Heidi. [No fear coding: computational thinking across the K-5 curriculum.](#)

Portland, Oregon: International Society for Technology in Education, 2017.

Coding goes beyond websites and software; it is an essential component in finding solutions to everyday problems. Computational thinking teaches reasoning, creativity and expression, and is an innovative way to demonstrate content knowledge and see mathematical processes in action. No-Fear Coding shows K-5 educators how to bring coding into their curriculum by embedding computational thinking skills into activities for every content area. At the same time, embedding these skills helps students prepare for coding in the middle grades as they build their knowledge.

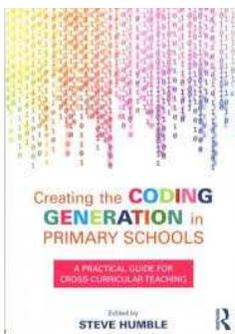


## 005.1 ASP

Aspinall, Brian. [Codebreaker: increase creativity, remix assessment, and develop a class of coder ninjas!](#) San Diego, CA: Dave Burgess Consulting, Inc., 2017.

The author shares his insights on how to turn curriculum expectations into skills. Students identify problems, develop solutions, and use coding and computational thinking to apply and demonstrate their learning. From Aspinall's collection of real-life examples and practical lesson ideas, you'll discover how to: Use computational thinking and coding across all subjects and grade levels; Encourage students to let their skills and passions shine; Teach learners to take risks so they can grow from failure and feedback; Make assessment meaningful--and fun--for you and your students.

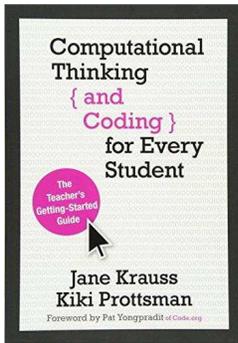
Also available in **eBook**



## 005.1 CRE

[Creating the coding generation in primary schools: a practical guide for cross-curricular teaching.](#) London; New York: Routledge, 2018.

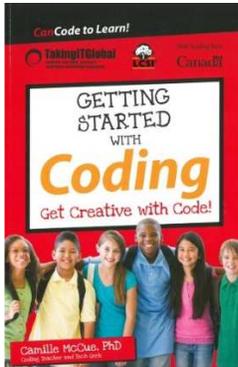
Packed with a range of inspirational ideas for the cross curricular teaching of coding, from demystifying algebra in maths, to teaching music, to designing digital storytelling, as well as an insight into the global movement of free coding clubs for young people such as *Coderdojo* and *Girls Learning Code*.



### 005.1 KRA

Krauss, Jane. [Computational thinking and coding for every student: the teacher's getting-started guide](#). Thousand Oaks, California: Corwin, a SAGE Publishing Company, 2017.

The beginner's guide for K-12 educators who want to learn to integrate the basics of computer science into their curriculum.



### 005.1 MCC

McCue, Camille. [Getting started with coding](#). Hoboken, NJ: John Wiley & Sons, Inc., 2018.

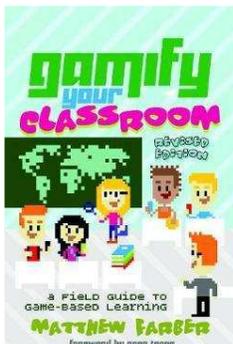
Are you ready to get creative with code? All you need is a computer connected to the Internet, MicroWorlds EX coding software, which is free for use in Canada, and the fun projects you'll find inside this book! Follow simple steps to build your first apps and games. For Grades 3 and up.



### 005.2 SIX

[60 ready-to-use coding projects](#). Chicago: ALA Editions, 2020.

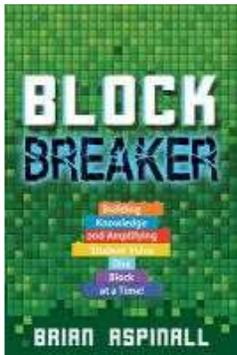
Provides 60 ready-to-use coding projects that can be implemented in classrooms or libraries for people from age three to adult.



### 371.337 FAR

Farber, Matthew. [Gamify your classroom: a field guide to game-based learning](#). New York: Peter Lang, 2017.

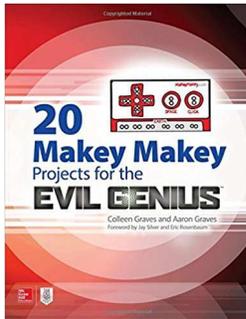
This completely revised and expanded field guide is packed with new innovative ideas on how to implement game-based learning and gamification techniques in everyday teaching.



### 371.35 ASP

Aspinall, Brian. [Block breaker: building knowledge and amplifying student voice one block at a time!](#) San Diego, CA: Dave Burgess Consulting, Inc., 2019.

This book shows how the adaptable tools in the popular game Minecraft can be leveraged to engage learners and empower them to find success. These tools include immediate feedback on a personalized learning platform, and tasks that encourage collaboration, problem solving, and exploring multiple approaches to finding a solution.



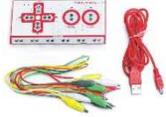
### 621.398 GRA

Graves, Colleen. [20 Makey Makey projects for the evil genius.](#) New York, NY: McGraw-Hill Education, 2017.

This hands-on guide is filled with DIY projects that show readers, step-by-step, how to start creating and making cool inventions with the Makey Makey invention kit. Each project features easy-to-follow, fully-illustrated instructions and detailed photographs of the finished gadget. Readers will see how to apply these skills and start building their own Makey Makey projects.

Also Available in [eBook](#)

# Multimedia



## **KIT1570 [005.2]**

[Makey Makey classroom pack](#). Santa Cruz, CA: JoyLabz LLC, 2016.

With Makey Makey, students can make any conductive material act as the input device for a computer. Because it comes preprogrammed, students with no coding experience can use it and learn to experiment with it as they start to learn coding. Students can invent projects that combine the tactile materials of the classroom with the coding projects they're creating on the computer to bring their creations to life.



## **KIT1573 [005.2]**

[Sphero kit](#). Boulder, CO: Sphero., 2017.

Designed to inspire curiosity, creativity, and invention through connected play and coding. SPRK+ is far more than just a robot. Powered by the Sphero Edu app, you can easily learn programming, complete hands-on activities, and share your creations with the community. Navigate a maze. Program a painting. Mimic the solar system. Swim across the water. Have a dance party. The only limit is your imagination. SPRK+ will foster a love of robotics, coding, and STEAM for Grades 4 and up.



## **KIT1585 [005.2]**

[Micro:bit club pack](#). London: Microbit Educational Foundation, 2015.

The Micro:bit is a pocket-sized computer that you can code, customise and control to bring your digital ideas, games and apps to life. The Micro:bit club pack is a 10 pack containing all the pieces needed to enjoy the Micro:bit in STEM groups, coding clubs, or in the classroom.



## **KIT1595 [005.2]**

[Turing tumble kit](#). Shoreville, MN: Turing Tumble LLC, 2018.

Build mechanical computers to solve puzzles. See & feel how computers work. Create patterns, count, add, subtract, multiply, divide, compare numbers, do logic, and more! Simply choose a puzzle (included puzzle book contains 60 puzzles that challenge you to build increasingly smart mechanical computers), plan your approach (each puzzle gives you an objective that your computer must complete), build a computer (use ramps, crossovers, bits, interceptors, gears, and gear bits to engineer a computer that executes your approach), then start the computer (press down one of the levers to release a marble. If your computer works correctly, it will continue to run until it completes the objective).



## **KIT1618 [005.1]**

[Cubetto playset](#). London: Primo Toys, 2020.

Cubetto is the friendly wooden robot that will teach your child the basics of computer programming through adventure and hands on play. Children learn to create and update a sequence: the essence of coding. They learn storytelling, logical thinking, spatial awareness and problem solving - even if they're not yet reading.

**KIT1631 [005.1]**

[Dash robot](#). San Mateo, CA: Wonder Workshop, 2019.

Must be used with an Apple iOS, Android, or Kindle mobile device.

Dash is a real robot for students in grade 2 and up that is responsive to its world; students can bring it to life with free apps available on iOS and Android. Dash comes with hundreds of exciting coding adventures and projects available in Wonder and Blockly apps. Use your Apple or Android smart phone or tablet to program Dash to move, dance, light up, make sounds, avoid obstacles, and even react to their voice. With the revolutionary free app Wonder, kids can program Dash to be the real robot pet, pal or sidekick of their dreams.

**KIT1632 [005.1]**

[Dash robot, set of 5](#). San Mateo, CA: Wonder Workshop, 2019.

Must be used with an Apple iOS, Android, or Kindle mobile device.

Dash is a real robot for students in grade 2 and up that is responsive to its world; students can bring it to life with free apps available on iOS and Android. Dash comes with hundreds of exciting coding adventures and projects available in Wonder and Blockly apps. Use your Apple or Android smart phone or tablet to program Dash to move, dance, light up, make sounds, avoid obstacles, and even react to their voice. With the revolutionary free app Wonder, kids can program Dash to be the real robot pet, pal or sidekick of their dreams.

**KIT1633 [005.1]**

[Code & go robot mouse activity set](#). Vernon Hills, IL: Learning Resources, 2019.

The race is on to build hands-on coding skills! Build your maze, and then use the coding cards to create a step-by-step path for Colby, the Programmable Robot Mouse. Program the sequence of steps, and then watch Colby race to find the cheese! Colby lights-up, makes sounds, and features 2 speeds along with colorful buttons to match coding cards for easy programming and sequencing.

**KIT1634 [005.1]**

[Code & go robot mouse activity set, set of 5](#). Vernon Hills, IL: Learning Resources, 2019.

The race is on to build hands-on coding skills! Build your maze, and then use the coding cards to create a step-by-step path for Colby, the Programmable Robot Mouse. Program the sequence of steps, and then watch Colby race to find the cheese! Colby lights-up, makes sounds, and features 2 speeds along with colorful buttons to match coding cards for easy programming and sequencing.



**KIT1637 [005.1]**

[Botley the Coding Robot](#). Vernon Hills, IL: Learning Resources, 2018.

Botley teaches the basics of coding through active play, completely screen-free. Perfect for promoting critical thinking and problem-solving skills. Botley has an easy-to-use remote programmer, which transmits your commands - and off he'll go



**KIT1656 [005.1]**

[Bee-bot](#). Nottingham, United Kingdom: TTS Group Ltd., 2019.

Bee-Bot is an engaging classroom robot for early-age kids to learn STEM with a variety of cross-curricular activities. It's a Bee-shaped robot, yellow in colour with controls to move forward/backward and turn left/right. It teaches kids ages 3+ about controls, directions, algorithms, sequencing, estimation and basic programming too! It's a perfect first robot for kids to get familiar with the rudiments of robotics & robot components themselves.



**KIT1657 [005.1]**

[Bee-bot, set of 5](#). Nottingham, United Kingdom: TTS Group Ltd., 2019.

Set of 5 Bee-bots with docking station is ideal to use with a group of young learners who are just beginning to explore coding. Bee-Bot is an engaging classroom robot for early-age kids to learn STEM with a variety of cross-curricular activities. Children can learn the foundations of code with this brightly-coloured robot with large buttons. Makes sounds and eyes light up to confirm instructions when sequencing. Memory of up to 40 steps and pause commands. Single Bee-bot is KIT 1656.

## Related Websites

### [Blockly.](#)

Blockly teaches kids to code through a series of block programming puzzles.

### [Code.org.](#) Seattle WA. 2022

The home of Hour of Code, Code.org includes interactive tutorials and projects for grades K-5 and 6-12, starting off with block coding before moving into Javascript, HTML and CSS.

### [Code for life.](#)

Blockly teaches kids to code through a series of block programming puzzles.

### [Code Maven](#)

A sister site to Code Monster, Code Maven teaches teens and adults about Javascript through 59 interactive lessons – coders follow the instructions, typing the code as they go, with the results presented live on the screen in front of them.

### [Code monster](#)

Code Monster teaches kids Javascript programming through fun, interactive sessions with a cute, blue monster.

### [Code Wars](#)

Designed for high school age coders with experience, this website provides a platform with real coding problem solving challenges.

### [Codingame](#)

CodinGame allows high schoolers to improve existing coding skills by exploring game play and creation.

### [Gamestar Mechanic](#)

Gamestar Mechanic uses fun, game based quests to help coders learn game design, with the goal to code and share their own video games.

### [Khan Academy](#)

Khan Academy offers a clear instructive stream for kids wanting to learn how to code.

### [Scratch & Scratch Jr.](#)

Scratch is the world's largest coding community for children and a coding language with a simple visual interface that allows young people to create digital stories, games, and animations. Scratch is designed, developed, and moderated by the [Scratch Foundation](#), a nonprofit organization.