



3rd Grade Massachusetts Digital Literacy and Computer Science Course Syllabus

One Year for Elementary School, 36 Hours

Course Overview and Goals

The 3rd Grade Massachusetts Digital Literacy and Computer Science course introduces students to foundational programming concepts through a block-based programming language. Students will develop computational thinking and problem-solving skills while learning to create interactive projects, animations, and games. This course emphasizes creativity and collaboration, providing students with a solid base in computer science concepts and digital literacy.

Learning Environment: This course is teacher-led and includes ready-to-use lessons following a consistent structure: Introduction, Guided Practice, Independent Practice, Extension, and Reflection. Instruction follows an “I do, we do, you do” model and incorporates spiral review to reinforce concepts and build confidence over time. The course includes 36 lessons, each approximately 45 minutes long, providing a full year of instruction when taught once per week. While the course allows for instructional flexibility, some lessons are required to fully meet state computer science standards and are clearly identified within the syllabus. All Digital Literacy lessons are required to ensure full standards alignment, as they address essential non-programming computer science concepts. Required lessons are labeled with the specific standards they address to support planning and compliance.

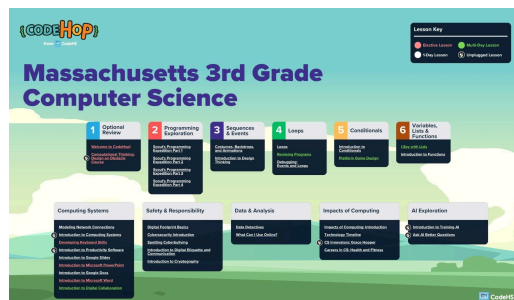
Standards Alignment Note: Lessons that list “*Standards Met*” (below) are required to fully meet state computer science standards. Lessons without a standards tag support spiral review, practice, or enrichment.

Programming Environment: Students will write and run programs that are saved in students’ accounts. The environment supports interactive, hands-on programming, enabling students to create and debug projects in a user-friendly interface.

Assessments: Some units conclude with a brief 5-question quiz designed to assess student understanding of the concepts and skills introduced in the unit. Quizzes can be assigned digitally, completed as a QuizBuzz activity, or printed for paper-based completion.

Prerequisites: There are no prerequisites for this course. It is designed to support all learners, regardless of prior computer science experience.

More Information: Browse the content of this course at <https://codehs.com/course/28648/overview>



A clickable PDF can be found at https://codehs.com/MA_Roadmaps

Course Breakdown

Optional Review

Reviews CodeHop basics and computational thinking for students who need extra practice before starting 3rd grade content.

Objectives / Topics Covered	• Review logging into CodeHop • Review computational thinking concepts
Lessons	Welcome to CodeHop! • Log in and use the CodeHop Playground. Computational Thinking: Design an Obstacle Course • Use computational thinking to design an obstacle course.

Unit 1: Programming Exploration (4 lessons)

Follows Scout through a story-driven expedition that introduces the CodeHop Blocks programming interface, sprites, and motion.

Objectives / Topics Covered	• Program a sprite to move and talk • Create sequences to animate a story • Use loops and events in an animated story
Lessons	Scout's Programming Expedition: Part 1 (3-5.CT.b.4, 3-5.CT.d.1) • Use basic programming commands to program a sprite to move and talk. Scout's Programming Expedition Part 2 • Add sprites and create a sequence to animate a story. Scout's Programming Expedition Part 3 • Create an animated Scout story using loops, events, looks, and motion blocks. Scout's Programming Expedition Part 4 • Create an animated Scout story using events, looks, and motion blocks. 3rd Grade Programming Exploration Quiz (5 questions)

Unit 2: Sequences & Events (2 lessons)

Builds on sequencing and events with costumes, backdrops, and an introduction to design thinking.

Objectives / Topics Covered	• Create animated sprites and interactive backdrops • Use design thinking to improve accessibility
Lessons	Costumes, Backdrops, and Animations • Create a program that includes animated sprites and interactive backdrops. Introduction to Design Thinking (3-5.CT.a.3) • Use the design thinking process to make a tool accessible to more users.

Unit 3: Loops (4 lessons)

Introduces loops, remixing others' code with attribution, and debugging events and loops.

Objectives / Topics Covered	• Use loops to repeat instructions • Remix code and give proper credit • Debug a program using decomposition
Lessons	Loops

	- Explain that a loop repeats one or more instructions, and use loops in CodeHop. Remixing Programs (2 classes 3-5.CAS.b.2, 3-5.CAS.b.3, 3-5.CAS.b.4) - Develop code from a classmate's algorithm and give appropriate credit to the original creator. Debugging: Events and Loops (3-5.CT.b.5, 3-5.CT.d.3) - Decompose a program to debug and make it run as intended. 3rd Grade Sequences, Events & Loops Quiz (5 questions)
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Unit 4: Conditionals (3 lessons)

Introduces conditionals and applies them in a platform game design project.

Objectives / Topics Covered	- Use if/then blocks in a program - Use keyboard events and loops to control a game
Lessons	Introduction to Conditionals (3-5.CT.d.2) - Explain what a conditional is in programming and create a program that uses if/then blocks. Platform Game Design (2 classes 3-5.CT.b.3) - Implement platform-game mechanics, use keyboard events for player movement, and use a forever loop to check game conditions.

Unit 5: Variables, Lists & Functions (3 lessons)

Introduces variables, lists, and functions as tools for organizing and reusing code.

Objectives / Topics Covered	- Use variables and lists in a program - Create and use functions
Lessons	I-Spy with Lists (2 classes 3-5.CT.a.2) - Create an I-Spy style activity using variables and lists. Introduction to Functions - Create and use functions in a program. 3rd Grade Conditionals, Variables, Lists & Functions Quiz (5 questions)

Unit 6: Computing Systems (7 lessons)

Explores computing systems, keyboarding, and productivity software including slides and word processing tools.

Objectives / Topics Covered	- Identify parts of a computing system - Compare productivity software applications - Collaborate digitally on a shared project
Lessons	Modeling Network Connections (3-5.CS.c.1, 3-5.CS.c.4) - Describe how messages move between devices using a network and create a program that models data traveling between devices. Introduction to Computing Systems (3-5.CS.a.1, 3-5.CS.a.2, 3-5.CS.a.3, 3-5.CS.a.4) - Identify parts of the computing system and solve simple hardware and software problems. Developing Keyboard Skills - Use proper finger placement to practice typing paragraphs. Introduction to Productivity Software (3-5.CS.a.5) - Compare and select appropriate software applications to complete different computing tasks. Introduction to Google Slides (3-5.DTC.a.3) - Use Google Slides to create an "All About Me" presentation.

	Introduction to Microsoft PowerPoint - Use Microsoft PowerPoint to create an “All About Me” presentation. Introduction to Microsoft Word - Make edits in the Microsoft Word word-processing application. Introduction to Google Docs - Make edits in the Google Docs word-processing application. Introduction to Digital Collaboration (2 classes 3-5.DTC.b.1, 3-5.DTC.b.2) - Collaborate with others digitally to complete a program that promotes a community event. 3rd Grade Computing Systems Quiz (5 questions)
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Unit 6: Safety & Responsibility (5 lessons)

Introduces digital footprints, cybersecurity, cyberbullying, digital etiquette, and cryptography.

Objectives / Topics Covered	- Explain how choices affect a digital footprint - Recognize online threats and cybersecurity practices - Identify and report cyberbullying - Demonstrate digital etiquette
Lessons	Digital Footprint Basics (3-5.CAS.a.3, 3-5.CAS.b.1) - Describe safe and unsafe online behaviors and explain how those choices affect a digital footprint. Cybersecurity Introduction (3-5.CAS.a.2, 3-5.CAS.a.4) - Learn about cybersecurity, recognize online threats, and identify how to stay safe online. Spotting Cyberbullying (3-5.CAS.a.6, 3-5.CAS.a.7, 3-5.CAS.c.7) - Identify types of cyberbullying and explain how to report it to a trusted adult. Introduction to Digital Etiquette and Communication (3-5.CAS.a.3) - Demonstrate proper digital etiquette when communicating in an online community. Introduction to Cryptography (3-5.CT.a.1) - Learn basic cryptography and demonstrate how to solve multiple ciphers. 3rd Grade Safety & Responsibility Quiz (5 questions)

Unit 7: Data & Analysis (2 lessons)

Introduces evaluating data reliability and searching for and attributing information found online.

Objectives / Topics Covered	- Evaluate data for reliability - Draw conclusions and make predictions from data - Attribute sources found online
Lessons	Data Detectives (3-5.DTC.c.3, 3-5.CT.a.2) - Evaluate data for reliability, then analyze it to draw conclusions and make predictions. What Can I Use Online? (3-5.DTC.c.1, 3-5.DTC.c.2, 3-5.DTC.c.4, 3-5.DTC.c.6) - Search for information to answer questions online and provide proper attribution to sources. 3rd Grade Data & Analysis Quiz (5 questions)

Unit 8: Impacts of Computing (4 lessons)

Explores how technology and culture influence each other through history, innovators, and careers in computer science.

Objectives / Topics Covered	- Explain how technology and culture influence each other - Describe a CS innovator's contributions - Connect coding to careers in health and fitness
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Lessons	Impacts of Computing: Introduction (3-5.CAS.c.4) - Explain how technology and culture influence each other and create a project comparing a past technology to its present version. Technology Timeline - Create an interactive timeline of key developments in music player technology and explain its cultural influence. CS Innovators: Grace Hopper - Explain how Grace Hopper's work was important to computer science and use binary code to decompose mystery words. Careers in CS: Health and Fitness - Explain how fitness and coding can amplify human strengths and create an animation demonstrating technology in health and fitness. 3rd Grade Impacts of Computing Quiz (5 questions)
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Unit 9: AI Exploration (2 lessons)

Introduces how AI systems are trained and how to write effective prompts for AI.

Objectives / Topics Covered	- Explain how more data changes AI decisions - Write clear prompts and evaluate AI responses
Lessons	Introduction to Training AI (3-5.CS.b.1) - Observe and explain how an AI system's decisions change when it is given more data. Ask AI Better Questions (3-5.CT.e.3) - Write clear prompts for AI and decide if the responses are reasonable. 3rd Grade AI Exploration Quiz (5 questions)

3rd Grade Massachusetts Digital Literacy and Computer Science Supplemental Materials

Resources	Description
Parent Welcome Letter (Spanish)	Send this letter home to introduce families to their new computer science curriculum.
Warm-Up Activities	This warm-up activity slide deck provides 5-10 minute problems aligned with computer science skills to engage students at the start of class, allowing teachers to preview or review concepts with answer keys and discussion tips included in the Speaker Notes.
Program Self-Assessment (Spanish)	This is a student self-assessment tool designed to help K-6 learners reflect on their programming projects, evaluate their skills in algorithms, debugging, collaboration, and reflection, and set goals for improvement.
Peer Review Resources (Spanish)	This provides structured worksheets to facilitate student feedback during collaborative coding projects. It encourages reflection by guiding students to highlight successes, ask questions, and offer constructive feedback on their partner's work.
Lesson Reflection & Computational Thinking (Spanish)	This guides students in engaging with computational thinking concepts, preparing for discussions, reflecting on lessons, and applying their learning to real-world problem-solving.
Design-Your-Own-Lesson	Empower your students to explore and express their knowledge creatively with

[Templates](#)

our versatile graphic organizer templates. Designed with adaptability and ease of use in mind, these interactive tools transform any subject into an engaging, hands-on learning experience.

These resources and more are found on the [CodeHop Resources Page](#).