



Florida Foundations of Computer Science: 3rd Grade Course Syllabus

One Year for Elementary School, 36 Hours

Course Overview and Goals

The Florida Foundations of Computer Science: 3rd Grade 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.

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.

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/FL_3/overview



A clickable PDF can be found at <https://codehs.com/FL-K-5Roadmaps>

Course Breakdown

Unit 1: Getting Started (2 lessons)

Students log in to CodeHop, explore computing systems, and apply computational thinking to a design challenge.

Objectives / Topics Covered	• Log in and navigate CodeHop • Identify parts of a computing system • Solve simple hardware and software problems • Apply computational thinking to a design task
Lessons	Welcome to CodeHop! • Log in and explore the CodeHop Playground. Introduction to Computing Systems (SC.3.CO.1.1, SC.3.TI.1.2) • Identify computing system parts and solve simple hardware and software problems. Computational Thinking: Design an Obstacle Course (SC.3.PE.3.5, SC.3.PE.3.2, SC.3.CC.1.1) • Use computational thinking to design an obstacle course.

Unit 2: Programming Exploration (4 lessons)

Through the story-driven Scout's Programming Expedition, students program sprites to move, talk, and animate stories using sequences, loops, and events.

Objectives / Topics Covered	• Program sprites to move and talk • Sequence actions to animate a story • Use loops, events, looks, and motion blocks • Create custom sprites and backdrops
Lessons	Scout's Programming Expedition: Part 1 (SC.3.PE.1.1, SC.3.PE.3.3, SC.K12.CTR.2.1) • Use basic commands to program a sprite to move and talk. Scout's Programming Expedition Part 2 (SC.3.PE.3.3, SC.K12.CTR.2.1, SC.K12.CTR.5.1) • Add sprites and sequence actions to animate a story. Scout's Programming Expedition Part 3 (SC.3.PE.1.1, SC.3.PE.3.3, SC.3.PE.3.1) • Animate a Scout story using loops, events, looks, and motion blocks. Scout's Programming Expedition Part 4 (SC.K12.CTR.2.1) • Extend a Scout animation using events, looks, and motion blocks.

Unit 3: Sequences and Events (5 lessons)

Students create programs with parallel sequences, events, animations, and broadcast messages while learning to remix and give credit.

Objectives / Topics Covered	• Create parallel sequences • Program with events and animations • Use broadcast messages between sprites • Remix programs and credit creators
Lessons	Sequences: Parallel Programming (SC.K12.CTR.2.1) • Create a program using parallel sequences. Events (SC.3.PE.1.1, SC.3.PE.3.3, SC.K12.CTR.5.1) • Create a program using events. Remixing Programs (SC.3.TI.2.1, SC.3.TI.2.2, SC.3.TI.2.3) • Remix programs and give appropriate credit to original creators. Broadcast Messages: Marco Polo (SC.3.PE.1.1, SC.3.PE.3.3, SC.K12.CTR.2.1) • Use broadcast messages to trigger action between sprites.

	Nonfiction Animated Recordings (SC.3.PE.1.1, SC.3.PE.3.3, SC.K12.CTR.5.1) • Use events to create an animated reading of a nonfiction text.
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Unit 4: Loops (8 lessons)

Students use and compare loops to repeat commands, debug programs, and apply loops to poetry, math, and networks.

Objectives / Topics Covered	• Explain and use loops in CodeHop • Debug programs by decomposing them • Compare loop algorithms • Apply loops to math and ELA
Lessons	Loops (SC.3.PE.1.1, SC.3.PE.3.3, SC.3.PE.3.1) • Explain how a loop repeats instructions and use loops in CodeHop. Debugging: Events and Loops (SC.3.CO.1.6) • Decompose a program to debug and make it run as intended. Animating Poetry (SC.3.PE.1.1, SC.3.PE.3.3, SC.K12.CTR.2.1) • Break a poem into sections and create an animated reading. Adding with Loops (SC.3.PE.1.1, SC.3.PE.3.3, SC.3.PE.3.1) • Use loops to add multi-digit whole numbers based on place value. Modeling Network Connections (SC.3.CO.1.8, SC.3.TI.1.1) • Program how data travels between devices on a network. Loops: Falling Objects (2 classes SC.3.PE.1.1, SC.3.PE.3.2, SC.3.PE.3.3) • Compare the advantages and disadvantages of different loop algorithms. Animating Sprites with Multiplication (SC.3.PE.1.1, SC.3.PE.3.3, SC.3.PE.3.1) • Use multiplication with loops and wait blocks to animate sprites.

Unit 5: Conditionals and Variables (5 lessons)

Students learn conditionals, variables, and comparison operators, applying them to science and fractions.

Objectives / Topics Covered	• Use if/then conditionals • Create and change variables • Use comparison operators in conditions • Apply conditionals and variables to content
Lessons	Introduction to Conditionals (SC.3.PE.1.1, SC.3.PE.1.2, SC.3.PE.3.3) • Explain conditionals and create a program using if/then blocks. Fossils and Past Environments (SC.3.CC.1.4, SC.3.PE.1.1, SC.3.PE.3.4) • Use conditionals and loops to model interpreting data from fossils. Variables (SC.3.PE.1.1, SC.3.PE.3.3, SC.K12.CTR.5.1) • Explain variables and create and change a variable's value in a program. Introduction to Comparison Operators (SC.3.PE.1.1, SC.3.PE.1.2, SC.3.PE.3.3) • Use comparison operators as the condition in an if/else block. Fractions and Variables (SC.3.PE.1.1, SC.3.PE.1.2, SC.3.PE.3.3) • Represent fractions on a number line using variables and conditionals.

Unit 6: Culmination Project (3 lessons)

Students combine events, conditionals, variables, comparison operators, and broadcasts to build a digital pet.

Objectives / Topics Covered	• Combine conditionals, variables, and events • Use comparison operators and broadcasts • Plan and build a complete project
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Lessons	Digital Pet Project (3 classes SC.3.CC.1.2, SC.3.PE.1.1, SC.3.PE.1.2) Create a digital pet using events, conditionals, variables, comparison operators, and broadcasts.
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Unit 7: Digital Literacy (10 lessons)

Students develop keyboarding, online safety, cybersecurity, machine learning, productivity, and research skills.

Objectives / Topics Covered	- Type with proper finger placement - Build a positive digital identity and footprint - Explain cybersecurity and machine learning - Research and cite sources online
Lessons	Developing Keyboarding Skills (SC.3.CO.1.2, SC.3.CO.1.6) - Use proper finger placement to type paragraphs. Internet Positivity (SC.3.CC.2.1, SC.3.CC.2.2, SC.3.HS.1.3) - Create a code of conduct for spreading positivity online. Digital Identity (SC.3.CC.2.1, SC.3.CC.2.2, SC.3.CO.1.3) - Connect real-world and online identity and build a positive digital footprint. Introduction to Digital Collaboration (2 classes SC.3.CC.1.1, SC.3.CC.2.1, SC.3.CO.1.3) - Collaborate with others digitally to create a community event flyer. Scout's Cybersecurity Adventure: Part 1 (SC.K12.CTR.3.1) - Identify common cyber threats and practical tips for staying safe online. How Machines Learn (SC.3.TI.1.3, SC.3.PE.3.5, SC.3.TI.1.2) - Explain machine learning approaches and model how AI is trained to make predictions. Introduction to Productivity Software (SC.3.CO.1.3, SC.3.CO.1.5, SC.3.CO.1.7) - Compare and select appropriate software for different computing tasks. What Can I Use Online? (SC.3.TI.2.1, SC.3.TI.2.3, SC.3.TI.2.4) - Search for information online and provide proper attribution to sources. Inquiry Project: Survey Bar Graph (2 classes SC.3.CO.1.4, SC.3.CO.1.5, SC.3.PE.2.1) - Follow the inquiry process and program a display of survey results.

Interdisciplinary Connections (Supplemental)

These optional lessons apply computer science to math, science, and social studies through events, conditionals, and variables.

Objectives / Topics Covered	- Apply programming across subject areas - Model math concepts and data - Model science and environmental concepts - Use conditionals and variables in context
Lessons	Measuring Lengths (SC.3.PE.1.1, SC.3.PE.3.3, SC.K12.CTR.5.1) - Program an interactive game to measure lengths and plot data on a number line. Classifying Shapes by Category (SC.3.PE.1.1, SC.3.PE.3.3, SC.K12.CTR.5.1) - Use events to classify quadrilaterals based on their properties. Multiplication and Conditionals (SC.3.PE.1.1, SC.3.PE.1.2, SC.3.PE.3.3) - Use if/then blocks to review multiplication. Animating Unit Fractions (SC.3.PE.1.1, SC.3.PE.3.3, SC.3.PE.3.1) - Use loops to animate repeated addition of unit fractions on a number line. Weather and Climate (SC.3.CC.1.4, SC.3.PE.1.1, SC.3.PE.3.3) - Use climate data and events to predict typical weather for a month. Exploring Adaptations (SC.3.PE.1.1, SC.3.PE.3.3, SC.K12.CTR.5.1) - Program how adaptations help animals survive in their habitats. Modeling Life Cycles (SC.3.CC.1.4, SC.3.PE.1.1, SC.3.PE.1.2) - Use broadcast messages to model the stages of a frog's life cycle. Nutrition Maze (SC.3.PE.1.1, SC.3.PE.1.2, SC.3.PE.3.3) - Use conditionals to build an interactive nutrition maze game.

	Classifying Rocks (SC.3.CC.1.4, SC.3.PE.1.1, SC.3.PE.1.2) • Use if/then statements to classify rocks by the Mohs Hardness Scale. Balanced and Unbalanced Forces (SC.3.CC.1.4, SC.3.PE.1.1, SC.3.PE.3.3) • Model balanced and unbalanced forces using conditionals and variables. Parts of Speech: Random Sentence Generator (SC.3.PE.1.1, SC.3.PE.3.3, SC.K12.CTR.5.1) • Generate random numbers to build simple sentences with parts of speech. Punctuation Game • Use if/then/else conditionals to add punctuation to dialogue and addresses. Communities Adapt to & Modify Their Environment (SC.3.CC.1.4, SC.3.PE.1.1, SC.3.PE.3.3) • Use click events to show how communities adapt to or modify their environments.
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Florida Foundations of Computer Science: 3rd Grade 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 Templates	Empower your students to explore and express their knowledge creatively with 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 .	