Florida Unplugged Computer Science: 3rd-5th Grade Course Syllabus

One Year for Elementary School, 36 Hours

Course Overview and Goals

The **Florida Unplugged Computer Science 3rd-5th Grade Course** introduces students to foundational digital literacy and programming concepts through unplugged instruction and block-based programming. 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.

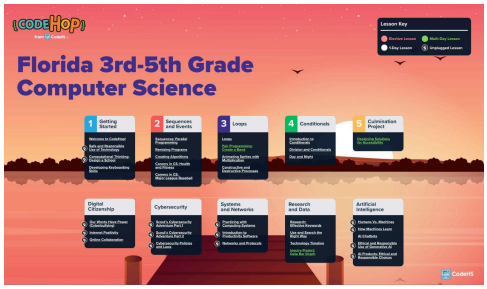
Learning Environment: This course is teacher-led and includes ready-to-use lessons following a consistent structure: Introduction, Guided Practice, Independent Practice, Extension, and Reflection. Instruction follows an "I do, we do, you do" model and incorporates spiral review to reinforce concepts 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. The units in this course are split between programming and digital literacy, providing students with an introduction to a variety of computer science concepts. For classrooms with limited technology, the programming lessons can be completed in small groups or through the use of pair programming, where students work with partners to create a program. 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_Unplugged/overview



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

Course Breakdown

Unit 1: Getting Started (2 lessons)

Students get oriented to CodeHop, explore responsible technology use, apply computational thinking, and build keyboarding skills.

Objectives / Topics Covered	● Log in and navigate CodeHop ● Balance screen time and responsible technology use ● Apply computational thinking to design ● Type with proper finger placement
Lessons	**Welcome to CodeHop!** ● Log in and explore the CodeHop Playground. **Safe and Responsible Use of Technology (SC.3.CC.2.1, SC.3.CC.2.2, SC.3.HS.1.3)** ● Create a personal screen time plan and explain balanced technology use. **Computational Thinking: Design a School (SC.3.PE.3.5, SC.4.PE.3.1, SC.3.PE.1.1)** ● Use computational thinking to design a school. **Developing Keyboarding Skills (SC.5.CO.1.3, SC.5.CO.1.4, SC.3.CO.1.6)** ● Use proper finger placement to type paragraphs.

Unit 2: Sequences and Events (5 lessons)

Students explore sequences and algorithms, learn to remix and credit work, and connect coding to careers.

Objectives / Topics Covered	● Create parallel sequences ● Program and compare algorithms ● Remix work and credit creators ● Connect coding to careers
Lessons	**Sequences: Parallel Programming (SC.K12.CTR.2.1, SC.3.PE.1.1)** ● Create a program using parallel sequences. **Remixing Programs (SC.3.TI.2.1, SC.3.TI.2.3, SC.5.TI.2.2)** ● Remix programs and give appropriate credit to original creators. **Creating Algorithms (SC.3.PE.1.1, SC.4.PE.3.2, SC.K12.CTR.4.1)** ● Program multiple algorithms and assess which best meets their needs. **Careers in CS: Health and Fitness (SC.4.PE.3.2, SC.4.TI.1.1, SC.5.TI.1.2)** ● Explore how technology can be used in health and fitness. **Careers in CS: Major League Baseball (SC.4.PE.3.2, SC.5.TI.1.2, SC.K12.CTR.2.1)** ● Abstract events from an article into a timeline program.

Unit 3: Loops (5 lessons)

Students learn how loops repeat instructions and apply them to collaboration, math, and science.

Objectives / Topics Covered	● Explain and use loops ● Collaborate with pair programming ● Apply loops to multiplication ● Model science processes
Lessons	**Loops (SC.3.PE.1.1, SC.3.PE.3.1, SC.4.PE.3.2)** ● Explain how a loop repeats instructions and use loops in CodeHop. **Pair Programming: Create a Band (2 classes | SC.3.CC.1.1, SC.3.CC.1.2, SC.3.PE.1.1)** ● Collaborate through pair programming to code a band using keyboard inputs. **Animating Sprites with Multiplication (SC.3.PE.1.1, SC.3.PE.3.1, SC.4.PE.3.2)** ● Use multiplication with loops and wait blocks to animate sprites.

	Constructive and Destructive Processes (SC.3.CC.1.4, SC.3.PE.1.1, SC.3.PE.3.4) ● Animate how volcanoes change surface features through a constructive process.

Unit 4: Conditionals (2 lessons)

Students use conditionals and comparison operators to build interactive programs and model math and science.

Objectives / Topics Covered	● Explain and use if/then conditionals ● Apply conditionals to division ● Use comparison operators ● Model science with conditionals
Lessons	**Division and Conditionals (SC.3.PE.1.1, SC.4.PE.3.2, SC.K12.CTR.5.1)** ● Use conditionals to program an interactive division game. **Day and Night (SC.3.PE.1.1, SC.4.PE.3.2, SC.3.CC.1.4)** ● Use comparison operators and conditionals to show how Earth's rotation causes day and night.

Unit 5: Culmination Project (2 lessons)

Students apply the design thinking process to redesign a game for accessibility.

Objectives / Topics Covered	● Apply the design thinking process ● Identify and solve real-world problems ● Improve accessibility and usability
Lessons	**Designing Solutions for Accessibility (2 classes | SC.3.CC.1.2, SC.3.PE.1.1, SC.3.PE.3.5)** ● Use the design thinking process to redesign a game for accessibility.

Unit 6: Digital Citizenship (4 lessons)

Students learn to recognize cyberbullying, spread positivity, and collaborate responsibly online.

Objectives / Topics Covered	● Recognize cyberbullying and be an upstander ● Spread positivity online ● Collaborate responsibly online
Lessons	**Our Words Have Power (Cyberbullying) (SC.3.CC.2.1, SC.3.CC.2.2, SC.3.HS.1.3)** ● Explain cyberbullying, its effects, and how to be an upstander. **Reporting Cyberbullying (SC.5.HS.3.1)** ● Demonstrate how to report cyberbullying and act as an upstander. **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. **Online Collaboration (SC.3.CC.1.1, SC.3.CC.2.1, SC.3.CC.2.2)** ● Explain how online collaboration provides diverse perspectives.

Unit 7: Cybersecurity (3 lessons)

Students learn cybersecurity concepts, secure habits, and how policies and laws protect information.

Objectives / Topics Covered	● Identify common cyber threats ● Practice secure online habits ● Explain cybersecurity policies and laws
Lessons	**Scout's Cybersecurity Adventure: Part 1 (SC.5.HS.1.3, SC.K12.CTR.3.1)** ● Identify common cyber threats and practical tips for staying safe online.

	Scout's Cybersecurity Adventure: Part 2 (SC.5.HS.1.3, SC.K12.CTR.3.1, SC.4.HS.1.1) ● Practice secure habits and tools that protect their information. **Cybersecurity Policies and Laws (SC.5.HS.1.3, SC.K12.CTR.3.1)** ● Explain school policies and research a state cybersecurity law.

Unit 8: Systems and Networks (4 lessons)

Students explore computing systems, productivity software, and how networks transfer data.

Objectives / Topics Covered	● Identify parts of a computing system ● Troubleshoot hardware and software ● Select appropriate software ● Explain networks and protocols
Lessons	**Practicing with Computing Systems (SC.3.CO.1.1, SC.4.CO.1.7, SC.5.CO.1.1)** ● Identify computing system parts and simple hardware and software problems. **Introduction to Productivity Software (SC.3.CO.1.3, SC.3.CO.1.7, SC.3.CO.1.4)** ● Compare and select appropriate software for different computing tasks. **Networks and Protocols (SC.3.CO.1.8, SC.4.CO.1.6, SC.5.CO.1.5)** ● Explain how protocols enable data transfer and compare network types. **Modeling Network Connections (SC.3.CO.1.8, SC.4.CO.1.6, SC.5.CO.1.5)** ● Create a program that shows how data travels from one device to another.

Unit 9: Research and Data (4 lessons)

Students evaluate sources, search and cite responsibly, and use the inquiry process to explore data.

Objectives / Topics Covered	● Evaluate keywords and source credibility ● Search and cite sources responsibly ● Build an interactive timeline ● Follow the inquiry process with data
Lessons	**Research: Effective Keywords (SC.3.CC.1.3, SC.3.TI.2.1, SC.3.TI.2.4)** ● Evaluate keyword effectiveness and determine source credibility and relevance. **Use and Search the Right Way (SC.3.TI.2.1, SC.3.TI.2.4, SC.3.HS.1.1)** ● Search online and provide proper attribution to sources. **Inquiry Project: Data Bar Graph (2 classes | SC.3.CO.1.4, SC.3.PE.2.2, SC.3.PE.2.3)** ● Follow the inquiry process and program a display of investigation results.

Unit 10: Artificial Intelligence (5 lessons)

Students compare humans and machines, explore machine learning, and evaluate the ethics of AI products.

Objectives / Topics Covered	● Compare human and computer performance ● Explain machine learning approaches ● Train and describe AI models ● Evaluate the ethics of AI products
Lessons	**Humans Vs. Machines (SC.3.TI.1.3, SC.4.TI.1.1, SC.4.TI.1.3)** ● Compare human and computer performance and describe computer perception. **How Machines Learn (SC.3.PE.3.5, SC.3.TI.1.3, SC.4.TI.1.3)** ● Explain machine learning approaches and model how AI is trained to make predictions. **AI Chatbots (SC.3.PE.1.1, SC.3.TI.1.3, SC.4.PE.3.2)** ● Train a model chatbot and describe how AI supports reasoning. **Ethical and Responsible Use of Generative AI (SC.3.TI.1.3, SC.4.TI.1.3, SC.K12.CTR.3.1)** ● Describe the pros and cons of generative AI and build a class code of conduct. **AI Products: Ethical and Responsible Choices (SC.3.TI.1.3, SC.4.TI.1.3, SC.5.PE.1.1)** ● Analyze the benefits and challenges of AI products from multiple perspectives.

Florida Unplugged Computer Science: 3rd-5th 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**.	