Arkansas Computer Science: 3rd Grade Course Syllabus

One Year for Elementary School, 36 Hours

Course Overview and Goals

The **Arkansas Computer Science: 3rd Grade Course** introduces students to foundational programming concepts through a block-based programming language. Students explore digital literacy and computer science skills while learning to create interactive projects, animations, and games. This course emphasizes creativity, collaboration, and real-world connections, providing students with a strong foundation in computer science concepts and digital literacy.

Learning Environment: This course is designed to be teacher-led, with ready-to-use lesson plans. Each programming lesson follows a structured format: **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. Many digital literacy lessons contain unplugged activities, requiring printed handouts and class activities to support hands-on learning.

The course includes a total of **36 lessons,** each approximately 45 minutes long. The concepts taught in this course spiral across grade levels, ensuring that students can revisit and build upon their understanding year after year, even if all lessons are not completed within a single year.

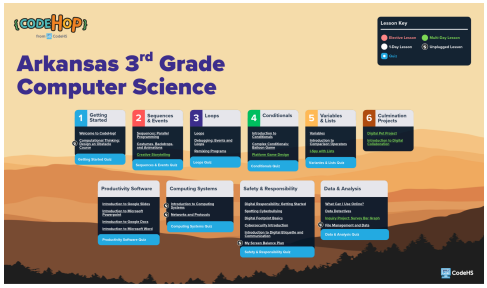
Standards Alignment Note: Lessons that list standards in bold parentheses (below) are required to fully meet state computer science standards.

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/AR_3/overview



A clickable PDF can be found at https://codehs.com/AR-K-4Roadmaps

Course Breakdown

Unit 1: Getting Started (1 week)

In this unit, students log in to the Playground and apply computational thinking to design an obstacle course.

Objectives / Topics Covered	● Log in and navigate the Playground ● Apply computational thinking to solve a problem
Lessons	**Welcome to CodeHop! (Optional)** ● Learn how to log in and explore the Playground to prepare for future lessons. **Computational Thinking: Design an Obstacle Course (CSK4.3.2.1.1, CSK4.3.2.1.2, CSK4.3.2.1.3, CSK4.3.2.1.4)** ● Use computational thinking to design an obstacle course. **Getting Started Quiz (4 questions)**

Unit 2: Sequences & Events (4 weeks)

In this unit, students create parallel sequences, animate sprites with costumes and backdrops, and plan and program an animated story.

Objectives / Topics Covered	● Run sequences in parallel ● Animate sprites with costumes and backdrops ● Plan and program an animated story
Lessons	**Sequences: Parallel Programming** ● Create a program that runs sequences in parallel. **Costumes, Backdrops, and Animations** ● Create a program with animated sprites and interactive backdrops. **Creative Storytelling (2 part lesson | CSK4.3.2.1.2, CSK4.3.2.2.1)** ● Plan and animate a story using events and sequences. **Sequences & Events Quiz (5 questions)**

Unit 3: Loops (3 weeks)

In this unit, students use loops to repeat instructions, decompose programs to debug them, and remix programs while giving credit.

Objectives / Topics Covered	● Use loops to repeat instructions ● Decompose a program to debug it ● Remix programs and give credit to creators
Lessons	**Loops (CSK4.3.2.1.1)** ● Use loops to repeat one or more instructions in a program. **Debugging: Events and Loops (CSK4.3.2.1.3, CSK4.3.2.2.2)** ● Decompose a program to find and fix bugs so it runs as intended. **Remixing Programs (CSK4.3.1.3.2)** ● Remix a digital program and give appropriate credit to the original creator. **Loops Quiz (5 questions)**

Unit 4: Conditionals (4 weeks)

In this unit, students use if/then and if/then/else conditionals to make programs respond to different conditions and build a platform game.

Objectives / Topics Covered	● Use if/then and if/then/else blocks ● Use keyboard events and loops to check game conditions ● Debug and improve a game
Lessons	**Introduction to Conditionals** ● Explain what a conditional is and create a program with if/then blocks. **Complex Conditionals: Balloon Game** ● Use "if/then/else" conditionals to program a balloon game. **Platform Game Design (2 part lesson | CSK4.3.2.3.2)** ● Build a platform game with keyboard controls, conditionals, and forever loops, then debug and improve it. **Conditionals Quiz (5 questions)**

Unit 5: Variables & Lists (4 weeks)

In this unit, students store and change data with variables, compare values with operators, and organize items with lists.

Objectives / Topics Covered	● Create and change variables ● Use comparison operators in conditionals ● Use lists to organize data
Lessons	**Variables (CSK4.3.2.3.1, CSK4.3.2.3.2)** ● Create a variable and change its value in a program. **Introduction to Comparison Operators (CSK4.3.2.3.2)** ● Use comparison operators with numbers and variables as conditions in if/else blocks. **I-Spy with Lists (2 part lesson | CSK4.3.2.3.1, CSK4.3.2.3.2)** ● Create an I-Spy style activity using variables and lists. **Variables & Lists Quiz (5 questions)**

Unit 6: Culmination Projects (5 weeks)

In this unit, students combine programming concepts to build a digital pet and collaborate digitally on a community event program.

Objectives / Topics Covered	● Combine events, conditionals, variables, and broadcasts in a project ● Collaborate with others digitally
Lessons	**Digital Pet Project (3 part lesson | CSK4.3.2.2.1)** ● Create a digital pet using events, conditionals, variables, comparison operators, and broadcasts. **Introduction to Digital Collaboration (2 part lesson | CSK4.3.1.1.4)** ● Collaborate digitally to complete a program that promotes a community event.

Unit 7: Productivity Software (2 weeks)

In this unit, students create presentations and edit documents using Google or Microsoft productivity tools.

Objectives / Topics Covered	● Create a presentation ● Edit a document using word processing tools

Lessons	**Introduction to Google Slides™ or Microsoft PowerPoint™ (CSK4.3.4.2.1)** ● Create an "All About Me" presentation using the software your school uses. **Introduction to Google Docs™ or Microsoft Word™ (CSK4.3.4.2.2)** ● Make edits in a word processing document using the software your school uses. **Productivity Software Quiz (5 questions)**

Unit 8: Computing Systems (2 weeks)

In this unit, students identify the parts of a computing system, solve simple hardware and software problems, and explore how network protocols move data.

Objectives / Topics Covered	● Identify parts of a computing system ● Troubleshoot simple hardware and software problems ● Explain how network protocols transfer data
Lessons	**Introduction to Computing Systems (CSK4.3.4.1.1, CSK4.3.4.1.4)** ● Identify parts of a computing system and solve simple hardware and software problems. **Networks and Protocols (CSK4.3.4.3.1, CSK4.3.4.3.2, CSK4.3.4.3.3)** ● Compare WiFi, wired, and cellular networks and explain how protocols transfer data. **Computing Systems Quiz (5 questions)**

Unit 9: Safety & Responsibility (6 weeks)

In this unit, students learn to recognize online dangers and cyberbullying, protect their digital footprint, practice good digital etiquette, and balance screen time.

Objectives / Topics Covered	● Recognize online dangers and cyberbullying ● Explain how choices affect a digital footprint ● Practice digital etiquette and healthy technology habits
Lessons	**Digital Responsibility: Getting Started (CSK4.3.1.3.3, CSK4.3.4.1.2)** ● Identify online dangers and practice making responsible choices to stay safe. **Spotting Cyberbullying (CSK4.3.1.1.2)** ● Identify forms of cyberbullying and practice safe ways to respond as a victim or witness. **Digital Footprint Basics (CSK4.3.1.1.3)** ● Describe safe and unsafe online behaviors and how they affect a digital footprint. **Cybersecurity Introduction (CSK4.3.1.1.2, CSK4.3.1.2.1, CSK4.3.1.2.2, CSK4.3.1.2.3)** ● Recognize online threats and identify ways to stay safe online. **Introduction to Digital Etiquette and Communication (CSK4.3.1.1.1, CSK4.3.1.1.4)** ● Demonstrate proper digital etiquette when communicating in an online community. **My Screen Balance Plan (CSK4.3.1.3.1)** ● Develop healthy technology routines and write an opinion on the most important screen-time rule. **Safety & Responsibility Quiz (5 questions)**

Unit 10: Data & Analysis (5 weeks)

In this unit, students search for and credit online sources, evaluate and analyze data, display survey results, and learn how digital data is stored.

Objectives / Topics Covered	● Search for information and give proper attribution ● Evaluate data and draw conclusions ● Display survey results in a program ● Explain how digital data is stored

Lessons	**What Can I Use Online? (CSK4.3.1.3.2, CSK4.3.2.1.4)** ● Search for information online and give proper credit to sources. **Data Detectives (CSK4.3.3.1.1, CSK4.3.3.1.3, CSK4.3.3.2.1, CSK4.3.3.2.2, CSK4.3.3.3.1, CSK4.3.3.3.2)** ● Evaluate data for reliability and analyze it to draw conclusions and make predictions. **Inquiry Project: Survey Bar Graph (2 part lesson | CSK4.3.3.1.2, CSK4.3.3.2.2, CSK4.3.3.2.3, CSK4.3.3.3.1, CSK4.3.3.3.2)** ● Follow the inquiry process and modify a program to display survey results as a bar graph. **File Management and Data (CSK4.3.4.1.3, CSK4.3.4.2.3)** ● Explain how different types of data take up different amounts of space and where data can be stored. **Data & Analysis Quiz (5 questions)**

3rd Grade Course 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**.	