



2nd Grade Digital Literacy & AI Course Syllabus

One Year for Elementary School, 21 Hours

Course Overview and Goals

The **Digital Literacy & AI Course** introduces students to essential digital skills and foundational computer science concepts needed to thrive in today's technology-driven world. Throughout the course, students build problem-solving skills and responsible technology practices while engaging in hands-on activities and real-world applications. They will develop an understanding of artificial intelligence, digital tools, online safety, and emerging technologies, building a strong foundation in digital literacy. This flexible course can be taught in any order to meet the needs of diverse classrooms.

Learning Environment: This course is designed to be teacher-led, with ready-to-use lesson plans that follow a structured format: **Introduction, Guided Practice, Independent Practice, Extension, and Reflection**. Lessons are built with spiral review to reinforce key concepts and culminate in engaging projects to showcase student understanding.

The lessons are delivered in an **"I do, we do, you do"** format, ensuring a gradual release of responsibility and fostering confidence in students as they learn. Teachers can adapt the content to fit their schedule and instructional needs. 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. The course includes a total of **21 lessons**, each approximately 45 minutes long.

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/28005/explore>



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

Course Breakdown

Unit 1: Getting Started (2 lessons)

In this module, students learn to log in and navigate the CodeHop Playground and are introduced to basic programming concepts by using the CodeHopJr interface to create interactive scenes with characters.

Objectives / Topics Covered	<ul style="list-style-type: none">● Log in and navigate the CodeHop Playground independently.● Explore the programming interface to create a simple programmed scene with characters.
Lessons	Welcome to CodeHop! (optional) <ul style="list-style-type: none">● Learn how to log in and use the CodeHop Playground. This short introductory lesson can be used on its own or right before a full lesson. Introduction to Programming <ul style="list-style-type: none">● Navigate the programming interface to create a scene with characters.

Unit 2: Computing & Society (4 lessons)

In this module, students explore how computing impacts the world around them, learn strategies for online safety and responsible digital citizenship, and discover how coding is used in careers such as fashion design through creative programming projects.

Objectives / Topics Covered	<ul style="list-style-type: none">● Identify how technology changes daily life and explain its impact.● Demonstrate safe username and password practices.● Describe responsible digital citizenship and digital footprints.● Explain how coding is used in fashion careers and create an animated design program.
Lessons	Impacts of Computing: Changing World <ul style="list-style-type: none">● Identify examples of computing devices in their daily lives and explain how technology has changed the way people live, work, and play. Password Protectors <ul style="list-style-type: none">● Understand the importance of usernames and passwords and demonstrate strategies to keep login information safe. Responsible Digital Citizens <ul style="list-style-type: none">● Explain what it means to be a responsible digital citizen, including understanding digital footprints, discussing cyberbullying, and knowing how to report concerns. Careers in CS: Fashion-Retail <ul style="list-style-type: none">● Explain how coding helps create and improve fashion designs and will create a program to design and animate a fashion character.

Unit 3: Research & Attribution (1 lesson)

In this module, students develop research skills by collecting and evaluating sources to answer a research question and creating a visual program to communicate their findings.

Objectives / Topics Covered	<ul style="list-style-type: none">● Develop and answer a research question.● Evaluate and select reliable sources.● Organize key information and create a visual project to present findings.
Lessons	Choice Research (2 classes)

	<ul style="list-style-type: none"> ● Collect and assess sources to answer a research question and communicate their findings visually.
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Unit 4: Systems & Security (3 lessons)

In this module, students review computer basics, practice responsible technology use, and explore how networks connect devices to share information.

Objectives / Topics Covered	<ul style="list-style-type: none"> ● Identify basic computer parts and functions. ● Practice safe and responsible technology use. ● Explain how networks share information.
Lessons	<p>Computer Basics: Connections</p> <ul style="list-style-type: none"> ● Learn what a computer is, how we use it, and what to do when it doesn't work. ● Identify input, output, hardware, and software, and explain how they work together. <p>Practicing Responsible Technology Use</p> <ul style="list-style-type: none"> ● Demonstrate ways to use technology safely and responsibly. <p>Exploring Computer Networks</p> <ul style="list-style-type: none"> ● Describe how networks connect devices to share information and model the sending and receiving of information using message blocks.

Unit 5: Productivity Tools (4 lessons)

In this module, students explore common productivity tools by creating documents, spreadsheets, and presentations, and practice collaborating digitally to create a shared program about their classroom.

Objectives / Topics Covered	<ul style="list-style-type: none"> ● Create a document using word processing tools. ● Use a spreadsheet to organize and present data. ● Design a simple presentation. ● Collaborate digitally on a shared project.
Lessons	<p>Exploring Word Processing</p> <ul style="list-style-type: none"> ● Use word processing tools to create a document explaining their favorite season of the year. <p>Exploring Spreadsheets</p> <ul style="list-style-type: none"> ● Use spreadsheet software to review and present data on class pets and favorite colors. <p>Exploring Presentations</p> <ul style="list-style-type: none"> ● Use presentation software to create a presentation on their favorite things. <p>Collaborating Digitally (2 classes)</p> <ul style="list-style-type: none"> ● Collaborate with others digitally to create a program telling about their classrooms.

Unit 6: Data & Analysis (3 lessons)

In this module, students investigate questions using data by collecting survey responses, identifying patterns and trends, creating programs to present predictions, and learning how computers store and manage data as files.

Objectives / Topics Covered	<ul style="list-style-type: none"> ● Develop a question and collect survey data. ● Identify patterns and make predictions from data. ● Create a program to present data findings. ● Explain how computers store data as files.
Lessons	<p>Data Explorers</p> <ul style="list-style-type: none"> ● Develop an investigative question and collect data using a survey. Then, students will create a program to present their collected data visually.

	<p>Data Patterns and Predictions</p> <ul style="list-style-type: none"> Identify and describe patterns and trends in data visualizations, then create a program using events to communicate patterns, trends and predictions from a given data set. <p>Managing Data Storage and Files</p> <ul style="list-style-type: none"> Recognize that computers store data as files and model how data is collected and stored.
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Unit 7: Artificial Intelligence (3 lessons)

In this module, students explore what AI can do, how it uses data to learn and make decisions, examine the positive and negative impacts of AI, and investigate machine learning concepts through pattern recognition and classification activities.

Objectives / Topics Covered	<ul style="list-style-type: none"> Identify tools that use AI. Explain how AI learns from data. Compare tasks suited for humans vs. AI. Describe one benefit and one risk of AI. Practice sorting and classifying data using simple algorithms.
Lessons	<p>What Can AI Do?</p> <ul style="list-style-type: none"> Identify tools that use AI, explain that AI uses data to learn and make decisions, and compare tasks that are better suited for humans versus AI. <p>Ethical AI: The Good and Bad</p> <ul style="list-style-type: none"> Identify one way AI can help people and one way it can cause problems. <p>Machine Learning: AutoDraw</p> <ul style="list-style-type: none"> Explain how AutoDraw uses AI to recognize patterns in drawings and practice sorting, organizing, and classifying objects by creating tables and designing simple algorithms.

2nd 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	This guides students in engaging with computational thinking concepts, preparing for discussions, reflecting on lessons, and applying their learning to

[\(Spanish\)](#)

real-world problem-solving.

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