2026 CSTA PK–12

COMPUTER SCIENCE STANDARDS

Validated Alignment of CodeHS CodeHop

CodeHS CodeHop

CodeHop is CodeHS's comprehensive elementary CS platform and curriculum, featuring programming, computing, digital citizenship, and AI modules for every grade level. Students learn computer science concepts through interactive activities and open-ended ScratchJr- and Scratch-based projects. Physical computing and typing curriculum can also be integrated into courses.

Learn more: codehs.com/codehop

Alignment Summary

In June 2026, CSTA conducted a rigorous, independent process to validate how these curricular materials align to the 2026 CSTA PK-12 Standards. This process included reviews by multiple independent experts in the CSTA PK-12 Standards, CS teaching, and CS curriculum design. The findings are presented below in two formats: high-level tables summarizing alignment of the curriculum to each concept and/or specialty area, and more granular tables indicating alignment to each standard. Note that the data below reflects only standards that are fully aligned; in many cases, there is partial alignment not indicated below.

PK/Kindergarten

Concept	Aligned Standards	Total Standards	Percent Aligned
Algorithms & Design	2	3	67%
Programming	4	4	100%
Data & Analysis	2	3	67%
Systems & Security	2	3	67%
Computing & Society	3	3	100%
Overall	13	16	81%

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Grade 1

Concept	Aligned Standards	Total Standards	Percent Aligned
Algorithms & Design	3	3	100%
Programming	4	4	100%
Data & Analysis	2	3	67%
Systems & Security	2	3	67%
Computing & Society	1	3	33%
Overall	12	16	75%

Grade 2

Concept	Aligned Standards	Total Standards	Percent Aligned
Algorithms & Design	3	3	100%
Programming	4	4	100%
Data & Analysis	1	3	33%
Systems & Security	3	3	100%
Computing & Society	1	3	33%
Overall	12	16	75%

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Grade 3

Concept	Aligned Standards	Total Standards	Percent Aligned
Algorithms & Design	2	3	67%
Programming	4	5	80%
Data & Analysis	3	3	100%
Systems & Security	4	4	100%
Computing & Society	3	4	75%
Overall	16	19	84%

Grade 4

Concept	Aligned Standards	Total Standards	Percent Aligned
Algorithms & Design	2	3	67%
Programming	5	5	100%
Data & Analysis	3	3	100%
Systems & Security	4	4	100%
Computing & Society	3	4	75%
Overall	17	19	89%

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Grade 5

Concept	Aligned Standards	Total Standards	Percent Aligned
Algorithms & Design	3	3	100%
Programming	5	5	100%
Data & Analysis	3	3	100%
Systems & Security	4	4	100%
Computing & Society	3	4	75%
Overall	18	19	95%

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Alignment to PK/K Foundational Standards

Algorithms & Design

Identifier	Standard	Fully Aligned?
EK-ALG-PS-01	Carry out algorithms in daily activities.	✅
EK-ALG-ML-02	Recognize attributes of objects to notice patterns and make decisions.	✅
EK-ALG-IM-03	Describe how people create algorithms to solve problems.	

Programming

Identifier	Standard	Fully Aligned?
EK-PRO-PD-04	Create a sequence of commands to solve a problem or express an idea.	✅
EK-PRO-VD-05	Identify everyday gestures and symbols that represent information people use to make choices.	✅
EK-PRO-RD-06	Describe how a sequence of commands completes a task.	✅
EK-PRO-TR-07	Identify a step in a sequence of commands that does not work as expected.	✅

Data & Analysis

Identifier	Standard	Fully Aligned?
EK-DAT-DC-08	Use collected data to help answer questions.	✅
EK-DAT-DI-09	Investigate a question that can be answered by collecting data in students' everyday environments.	
EK-DAT-IM-10	Investigate how data can help a person make informed decisions in everyday life.	✅

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Systems & Security

Identifier	Standard	Fully Aligned?
EK-SYS-HW-11	Examine the use of tools to accomplish a task or solve a problem for different users.	
EK-SYS-SE-12	Differentiate between public and private information.	✅
EK-SYS-IM-13	Identify responsible behavior when using computing systems and digital tools.	✅

Computing & Society

Identifier	Standard	Fully Aligned?
EK-SOC-HI-14	Identify computing technologies used in daily life that have changed over time.	✅
EK-SOC-HU-15	Explain that people design and develop computing technologies.	✅
EK-SOC-CE-16	Identify how people use digital devices at home, at school, and at work.	✅

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Alignment to Grade 1 Foundational Standards

Algorithms & Design

Identifier	Standard	Fully Aligned?
E1-ALG-PS-01	Decompose a problem or task into individual parts to develop an algorithm.	✅
E1-ALG-ML-02	Recognize that AI systems are technologies that use patterns in data to make decisions or generate new things.	✅
E1-ALG-IM-03	Explain how a change to an algorithm leads to a different outcome.	✅

Programming

Identifier	Standard	Fully Aligned?
E1-PRO-PD-04	Create code from an algorithm that includes sequence to solve a problem or express an idea.	✅
E1-PRO-VD-05	Identify terms that refer to data values that change over time in everyday life.	✅
E1-PRO-RD-06	Explain the function of code that includes an event and sequence.	✅
E1-PRO-TR-07	Debug a program that includes a sequence of commands.	✅

Data & Analysis

Identifier	Standard	Fully Aligned?
E1-DAT-DC-08	Use multiple methods to collect both numeric and non-numeric data to help answer questions.	✅
E1-DAT-DI-09	Compare a question that can be answered through a data investigation and a question that can be answered through other means.	✅
E1-DAT-IM-10	Examine a variety of data questions that address the needs of a person or community.	

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Systems & Security

Identifier	Standard	Fully Aligned?
E1-SYS-HW-11	Describe the purpose of basic hardware components of a computing system, using accurate terminology.	
E1-SYS-SE-12	Describe how to keep devices and online accounts safe from unauthorized access.	✅
E1-SYS-IM-13	Describe an individual's role in responsibly using computing systems and digital tools.	✅

Computing & Society

Identifier	Standard	Fully Aligned?
E1-SOC-HI-14	Compare how an everyday activity changed after a specific computing technology was introduced.	✅
E1-SOC-HU-15	Differentiate between activities that humans do well and activities that computing technologies do well.	
E1-SOC-CE-16	Describe how computing is used by people at home, at school, and in the community.	

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Alignment to Grade 2 Foundational Standards

Algorithms & Design

Identifier	Standard	Fully Aligned?
E2-ALG-PS-01	Create an algorithm that includes sequence, events, and iteration to solve a problem or express an idea.	✅
E2-ALG-ML-02	Examine how data is used to train a machine learning model.	✅
E2-ALG-IM-03	Describe how an algorithm might impact peers in varied situations.	✅

Programming

Identifier	Standard	Fully Aligned?
E2-PRO-PD-04	Create code from an algorithm that includes sequence, events, and iteration to solve a problem or express an idea.	✅
E2-PRO-VD-05	Label different representations of information with a name and whether its value is constant or changes.	✅
E2-PRO-RD-06	Explain the steps taken to create a program.	✅
E2-PRO-TR-07	Debug a program that includes sequence, events, and iteration.	✅

Data & Analysis

Identifier	Standard	Fully Aligned?
E2-DAT-DC-08	Compare numeric and non-numeric types of data in terms of how they are collected and what information they provide.	
E2-DAT-DI-09	Develop a question that can be answered with data.	
E2-DAT-IM-10	Distinguish between data collection approaches, including those that may lead to inaccurate or biased data.	✅

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Systems & Security

Identifier	Standard	Fully Aligned?
E2-SYS-HW-11	Explain how the basic hardware components of a computing system work together to perform input and output (I/O) operations.	✅
E2-SYS-SE-12	Explain how online actions have real-world consequences.	✅
E2-SYS-IM-13	Describe the benefits and harms that arise from an individual's use of computing systems and digital tools.	✅

Computing & Society

Identifier	Standard	Fully Aligned?
E2-SOC-HI-14	Analyze the ways that people from different cultures, backgrounds, and time periods have designed computing technologies to help them solve problems and express ideas.	
E2-SOC-HU-15	Investigate situations where humans have created computing technologies to solve problems.	✅
E2-SOC-CE-16	Investigate how personal interests connect to computing in different industries and careers.	

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Alignment to Grade 3 Foundational Standards

Algorithms & Design

Identifier	Standard	Fully Aligned?
E3-ALG-PS-01	Create an algorithm that includes a combination of sequence, events, iteration, and selection to solve a problem or express an idea.	✅
E3-ALG-ML-02	Investigate how a machine learning model can change when new data is added to a training set.	✅
E3-ALG-IM-03	Compare how different algorithms may affect outcomes, situations, and people with a wide range of needs.	

Programming

Identifier	Standard	Fully Aligned?
E3-PRO-PD-04	Develop code from a student-created algorithm that includes a combination of sequence, events, iteration, and selection to solve a problem or express an idea.	
E3-PRO-PD-05	Use constructive feedback to improve a program.	✅
E3-PRO-VD-06	Identify the variables being stored and manipulated in a program.	✅
E3-PRO-RD-07	Articulate how a specific segment of code contributes to the overall purpose of a program.	✅
E3-PRO-TR-08	Debug a program that includes a combination of sequence, events, iteration, and selection.	✅

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Data & Analysis

Identifier	Standard	Fully Aligned?
E3-DAT-DC-09	Evaluate numeric and non-numeric data for accuracy and completeness.	✅
E3-DAT-DI-10	Investigate a data question involving relationships between multiple attributes.	✅
E3-DAT-IM-11	Design a data collection process that addresses the needs of people from different backgrounds or groups.	✅

Systems & Security

Identifier	Standard	Fully Aligned?
E3-SYS-HW-12	Describe the role of software in a computing system to accomplish tasks or solve problems.	✅
E3-SYS-SE-13	Evaluate how sharing information online might reveal personally identifiable information and other details.	✅
E3-SYS-NT-14	Explain how people access the internet to gain information and communicate with each other.	✅
E3-SYS-IM-15	Describe how widely used computing systems may impact an individual's life and community.	✅

Computing & Society

Identifier	Standard	Fully Aligned?
E3-SOC-HI-16	Examine how computing innovations have changed the ways people live, work, or communicate over time.	✅
E3-SOC-ET-17	Describe how new technologies create both benefits and risks in personal and family life.	
E3-SOC-HU-18	Examine why people design and build computing technologies.	✅
E3-SOC-CE-19	Explain how people in different industries use computing technologies and skills to accomplish their work.	✅

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Alignment to Grade 4 Foundational Standards

Algorithms & Design

Identifier	Standard	Fully Aligned?
E4-ALG-PS-01	Create a written representation of an algorithm that includes a combination of sequence, events, iteration, and selection to solve a problem or express an idea.	
E4-ALG-ML-02	Analyze relationships between the properties of training data and a machine learning model's output.	✅
E4-ALG-IM-03	Evaluate how different algorithms for solving the same problem produce outcomes that may benefit or disadvantage different groups of people.	✅

Programming

Identifier	Standard	Fully Aligned?
E4-PRO-PD-04	Compare different programming solutions to the same problem based on correctness and clarity.	✅
E4-PRO-PD-05	Collaborate with a team by offering a meaningful contribution to creating a program.	✅
E4-PRO-VD-06	Trace how data flows and changes variable values in a program.	✅
E4-PRO-RD-07	Document a program to clarify its functionality.	✅
E4-PRO-TR-08	Debug a program incrementally and repeatedly throughout the development process.	✅

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Data & Analysis

Identifier	Standard	Fully Aligned?
E4-DAT-DC-09	Organize collected data into a table using a computational tool, with rows representing records and columns representing attributes.	✅
E4-DAT-DI-10	Create an explanation that includes at least one data visualization to report the process and results of a data investigation.	✅
E4-DAT-IM-11	Investigate how data collected about people may affect individuals and groups.	✅

Systems & Security

Identifier	Standard	Fully Aligned?
E4-SYS-HW-12	Apply a basic troubleshooting process to identify and fix common hardware and software issues.	✅
E4-SYS-SE-13	Distinguish between authentication and authorization in protecting devices and private information.	✅
E4-SYS-NT-14	Compare wired and wireless methods that computing devices use to connect to the internet.	✅
E4-SYS-IM-15	Investigate the impacts of widely used computing systems on natural resources and the environment.	✅

Computing & Society

Identifier	Standard	Fully Aligned?
E4-SOC-HI-16	Investigate the contributions of diverse individuals and communities in the history of computing.	✅
E4-SOC-ET-17	Analyze how the limitations of existing technologies can lead to emerging technologies.	
E4-SOC-HU-18	Distinguish between human learning and machine learning processes.	✅
E4-SOC-CE-19	Investigate how the workforce adopts new computing technologies and continues to update their computing skills.	✅

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Alignment to Grade 5 Foundational Standards

Algorithms & Design

Identifier	Standard	Fully Aligned?
E5-ALG-PS-01	Create a visual representation of an algorithm that includes variables and a combination of sequence, events, iteration, and selection to solve a problem or express an idea.	✅
E5-ALG-ML-02	Train a machine learning model to make a classification or prediction.	✅
E5-ALG-IM-03	Articulate how human-centered design principles are incorporated into the development of a computing technology.	✅

Programming

Identifier	Standard	Fully Aligned?
E5-PRO-PD-04	Create a novel program by modifying or combining elements of existing programs.	✅
E5-PRO-PD-05	Construct individual components of a program that are collaboratively assembled into a programming project.	✅
E5-PRO-VD-06	Use variables to store, compare, and modify data within a program.	✅
E5-PRO-RD-07	Create embedded or external documentation for a programming project.	✅
E5-PRO-TR-08	Debug a program using systematic strategies.	✅

Data & Analysis

Identifier	Standard	Fully Aligned?
E5-DAT-DC-09	Use computational tools to collect and organize different types of data.	✅
E5-DAT-DI-10	Analyze a dataset to identify the nature and possible sources of variability in the data.	✅
E5-DAT-IM-11	Analyze the benefits and risks of a computing technology that uses collected data.	✅

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Systems & Security

Identifier	Standard	Fully Aligned?
E5-SYS-HW-12	Explain how hardware and software components of a computing system work together to perform input and output operations, processing, and storage.	✅
E5-SYS-SE-13	Describe the concepts of the CIA triad and how each component is important in protecting information.	✅
E5-SYS-NT-14	Distinguish between the components of wired and wireless networks.	✅
E5-SYS-IM-15	Examine how computing systems impact culture and the ways people live and work.	✅

Computing & Society

Identifier	Standard	Fully Aligned?
E5-SOC-HI-16	Analyze how the inclusion or exclusion of diverse individuals and communities has shaped the design, development, and societal impact of computing technologies.	
E5-SOC-ET-17	Examine how people decide whether or not to use emerging technologies.	✅
E5-SOC-HU-18	Evaluate when it is appropriate to use or not use computing technologies to solve a problem.	✅
E5-SOC-CE-19	Examine how professionals collaborate while using computing technologies to solve problems.	✅

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