CSTA: Level 1B: Grades 3-5 (Ages 8-11)

Taito LEARNING

CSTA Computer Science Teachers Association
K-12 Computer Science Standards
Revised 2017

Category & Standard code	Key Concept	Subconcept	Cyberbullying	Copyright	Digital Footprint	Reliable Information	Data Connectivity	Digital Citizen's Basic Skills	Selecting Correct Device	Selecting Correct Software	Office Software	Troubleshooting	Digital Progress	Critical Thinking †	Data †	Data collection tools †	Basics of AI †	CodeMonkey Curriculum
Computing Systems																		
1B-CS-01	Describe how internal and external parts of computing devices function to form a system.	Devices					•		•			•						
1B-CS-02	Model how computer hardware and software work together as a system to accomplish tasks.	Hardware & Software							•	•								
1B-CS-03	Determine potential solutions to solve simple hardware and software problems using common troubleshooting strategies.	Troubleshooting					•					•						
Networks and the Internet																		
1B-NI-04	Model how information is broken down into smaller pieces, transmitted as packets through multiple devices over networks and the Internet, and reassembled at the destination.	Network Communication & Organization																
1B-NI-05	Discuss real-world cybersecurity problems and how personal information can be protected.	Cybersecurity			•		•*	•				•						
Data and Analysis																		
1B-DA-06	Organize and present collected data visually to highlight relationships and support a claim.	Collection Visualization & Transformation									•				• †	• †		
1B-DA-07	Use data to highlight or propose cause-and-effect relationships, predict outcomes, or communicate an idea.	Inference & Models													• †	• †		

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Algorithms and Programming																		
1B-AP-08	Compare and refine multiple algorithms for the same task and determine which is the most appropriate.	Algorithms																• ††
1B-AP-09	Create programs that use variables to store and modify data.	Variables																• ††
1B-AP-10	Create programs that include sequences, events, loops, and conditionals.	Control																• ††
1B-AP-11	Decompose (break down) problems into smaller, manageable subproblems to facilitate the program development process.	Modularity																• ††
1B-AP-12	Modify, remix, or incorporate portions of an existing program into one's own work, to develop something new or add more advanced features.	Modularity																• ††
1B-AP-13	Use an iterative process to plan the development of a program by including others' perspectives and considering user preferences.	Program Development																• ††
1B-AP-14	Observe intellectual property rights and give appropriate attribution when creating or remixing programs.	Program Development		•														
1B-AP-15	Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended.	Program Development																• ††

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Algorithms and Programming																		
1B-AP-16	Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development.	Program Development																• ††
1B-AP-17	Describe choices made during program development using code comments, presentations, and demonstrations.	Program Development																
Impacts of Computing																		
1B-IC-18	Discuss computing technologies that have changed the world, and express how those technologies influence, and are influenced by, cultural practices.	Culture		•**				•					•					
1B-IC-19	Brainstorm ways to improve the accessibility and usability of technology products for the diverse needs and wants of users.	Culture											•**					
1B-IC-20	Seek diverse perspectives for the purpose of improving computational artifacts	Social Interactions																
1B-IC-21	Use public domain or creative commons media, and refrain from copying or using material created by others without permission.	Safety Law & Ethics		•				•*										

* Standard aligned in grade 5 material
** Standard aligned using offline materials
† To be released in Spring 2025
†† CodeMonkey curriculum available for purchase by existing customers.