

Computer Science Teachers Association (CSTA) K-12 Computer Science Standards Level 1A (Ages 5-7)



		Level 1A (Ages 5-7)	BootUp PD Aligns to CSTA Standard
		By the end of Grade 2, students will be able to...	
Computing Systems	Devices	1A-CS-01 Select and operate appropriate software to perform a variety of tasks, and recognize that users have different needs and preferences for the technology they use. (P1.1)	
	Hardware & Software	1A-CS-02 Use appropriate terminology in identifying and describing the function of common physical components of computing systems (hardware). (P7.2)	
	Troubleshooting	1A-CS-03 Describe basic hardware and software problems using accurate terminology. (P6.2, P7.2)	
Networks & The Internet	Cybersecurity	1A-NI-04 Explain what passwords are and why we use them, and use strong passwords to protect devices and information from unauthorized access. (P7.3)	✓
Data & Analysis	Storage	1A-DA-05 Store, copy, search, retrieve, modify, and delete information using a computing device and define the information stored as data. (P4.2)	✓
	Collection, Visualization, & Transformation	1A-DA-06 Collect and present the same data in various visual formats. (P7.1, P4.4)	
	Inference & Models	1A-DA-07 Identify and describe patterns in data visualizations, such as charts or graphs, to make predictions. (P4.1)	
Algorithms & Programming	Algorithms	1A-AP-08 Model daily processes by creating and following algorithms (sets of step-by-step instructions)	✓
	Variables	1A-AP-09 Model the way programs store and manipulate data by using numbers or other symbols to represent information. (P4.4)	✓
	Control	1A-AP-10 Develop programs with sequences and simple loops, to express ideas or address a problem. (P5.2)	✓
	Modularity	1A-AP-11 Decompose (break down) the steps needed to solve a problem into a precise sequence of	✓
	Program Development	1A-AP-12 Develop plans that describe a program's sequence of events, goals, and expected outcomes. (P5.1, P7.2)	✓
		1A-AP-13 Give attribution when using the ideas and creations of others while developing programs. (P7.3)	✓
		1A-AP-14 Debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops. (P6.2)	✓
		1A-AP-15 Using correct terminology, describe steps taken and choices made during the iterative process of program development. (P7.2)	✓
Impacts of Computing	Culture	1A-IC-16 Compare how people live and work before and after the implementation or adoption of new computing technology. (P7.0)	✓
	Social Interactions	1A-IC-17 Work respectfully and responsibly with others online. (P2.1)	✓
	Safety, Law, & Ethics	1A-IC-18 Keep login information private, and log off of devices appropriately. (P7.3)	✓
Practices		P1. Fostering an Inclusive Computing Culture P2. Collaborating Around Computing	✓

Computer Science Teachers Association (CSTA) K-12 Computer Science Standards Level 1B (Ages 8-11)



Concept		Subconcept	Level 1B (Ages 8-11) <i>By the end of Grade 5, students will be able to...</i>	BootUp PD Aligns to CSTA Standard
Computing Systems		Devices	1B-CS-01 Describe how internal and external parts of computing devices function to form a system. (P7.2)	
		Hardware & Software	1B-CS-02 Model how computer hardware and software work together as a system to accomplish tasks. (P4.4)	
		Troubleshooting	1B-CS-03 Determine potential solutions to solve simple hardware and software problems using common troubleshooting strategies. (P6.2)	
Networks & The Internet		Network Communication & Organization	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. (P4.4)	
		Cybersecurity	1B-NI-05 Discuss real-world cybersecurity problems and how personal information can be protected. (P3.1)	
Data & Analysis		Storage	1A-DA-05 Store, copy, search, retrieve, modify, and delete information using a computing device and define the information stored as data. (P4.2)	✓
		Collection, Visualization, & Transformation	1B-DA-06 Organize and present collected data visually to highlight relationships and support a claim. (P7.1)	
		Inference & Models	1B-DA-07 Use data to highlight or propose cause-and-effect relationships, predict outcomes, or communicate an idea. (P7.1)	
Algorithms & Programming		Algorithms	1B-AP-08 Compare and refine multiple algorithms for the same task and determine which is the most appropriate. (P6.3, P3.3)	✓
		Variables	1B-AP-09 Create programs that use variables to store and modify data. (P5.2)	✓
		Control	1B-AP-10 Create programs that include sequences, events, loops, and conditionals. (P5.2)	✓
		Modularity	1B-AP-11 Decompose (break down) problems into smaller, manageable subproblems to facilitate the program development process. (P3.2)	✓
			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. (P5.3)	✓
		Program Development	1B-AP-13 Use an iterative process to plan the development of a program by including others' perspectives and considering user preferences. (P1.1, P5.1)	✓
			1B-AP-14 Observe intellectual property rights and give appropriate attribution when creating or remixing programs. (P7.3)	✓
			1B-AP-15 Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended. (P6.1, P6.2)	✓
			1B-AP-16 Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development. (P2.2)	✓

		1B-AP-17 Describe choices made during program development using code comments, presentations, and demonstrations. (P7.2)	✓
Impacts of Computing	Culture	1B-IC-18 Discuss computing technologies that have changed the world, and express how those technologies influence, and are influenced by, cultural practices. (P7.1)	✓
		1B-IC-19 Brainstorm ways to improve the accessibility and usability of technology products for the diverse needs and wants of users. (P1.2)	✓
	Social Interactions	1B-IC-20 Seek diverse perspectives for the purpose of improving computational artifacts. (P1.1)	✓
	Safety, Law, & Ethics	1B-IC-21 Use public domain or creative commons media, and refrain from copying or using material created by others without permission. (P7.3)	✓
Practices P3. Recognizing and Defining Computational Problems P4. Developing and Using Abstractions			✓

* BootUp covers all of the standards and practices checked (✓) within our typical professional development. Other standards can be included based on the needs and interests of each district.