

Computer Science Content Alignment Planning Third Grade



Integrating the K5 Computer Science Standards Across the Curriculum © L L Beazley
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[VDOE Computer Science Page](#)

[All K-12th CS Standards PDF](#)

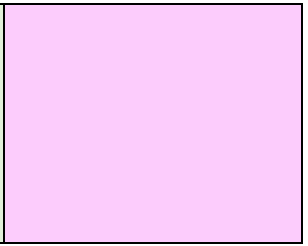
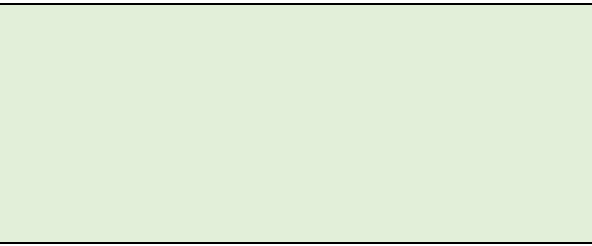
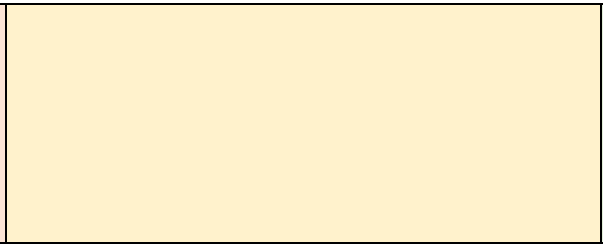
[CS SOL Curriculum Framework Draft PDF](#)

Algorithms and Programming

CS Standard	Related Core Content Area Standard	How could you integrate the CS Standard?	Tools needed to integrate CS standards?
3.1 The student will construct sets of step-by-step instructions (algorithms), both independently and collaboratively a) using sequencing; b) using loops (a wide variety of patterns such as repeating patterns or growing patterns); and [Related SOL: Math 3.16] c) using events.			
CS Standard	Related Core Content Area Standard	How could you integrate the CS Standard?	Tools needed to integrate CS standards?
3.2 The student will construct programs to accomplish tasks as a means of creative expression using a block or text based programming language, both independently and collaboratively a) using sequencing; b) using loops (a wide variety of patterns such as repeating patterns or growing patterns); and c) identifying events.			

CS Standard	Related Core Content Area Standard	How could you integrate the CS Standard?	Tools needed to integrate CS standards?
3.3 The student will analyze, correct, and improve (debug) an algorithm that includes sequencing, events, and loops. [Related SOL areas – Math: Problem Solving, English: Editing]			
CS Standard	Related Core Content Area Standard	How could you integrate the CS Standard?	Tools needed to integrate CS standards?
3.4 The student will create a plan as part of the iterative design process, independently and/or collaboratively using strategies such as pair programming (e.g., storyboard, flowchart, pseudo-code, story map. [Related SOL: English 3.8c]			
CS Standard	Related Core Content Area Standard	How could you integrate the CS Standard?	Tools needed to integrate CS standards?
3.5 The student will compare and contrast a group of items based on attributes or actions classified into at least two sets and two subsets. [Related SOL: Science 3.1c]			
CS Standard	Related Core Content Area Standard	How could you integrate the CS Standard?	Tools needed to integrate CS standards?
3.6 The student will break down (decompose) a larger problem into smaller sub-problems, independently or collaboratively. [Related SOL: Math 3.3b]			
CS Standard	Related Core Content Area Standard	How could you integrate the CS Standard?	Tools needed to integrate CS standards?

3.7 The student will give credit to sources when borrowing or changing ideas (e.g., using information and pictures created by others, using music created by others, remixing programming projects).
[Related SOL: English 3.10e]



Computing Systems

CS Standard	Related Core Content Area Standard	How could you integrate the CS Standard?	Tools needed to integrate CS standards?
3.8 The student will model how a computing system works including input and output. [Related SOL: Math 3.16]			
CS Standard	Related Core Content Area Standard	How could you integrate the CS Standard?	Tools needed to integrate CS standards?
3.9 The student will identify, using accurate terminology, simple hardware and software problems that may occur during use, and apply strategies for solving problems (e.g., rebooting the device, checking for power, checking network availability, closing and reopening an app			

Cybersecurity

CS Standard	Related Core Content Area Standard	How could you integrate the CS Standard?	Tools needed to integrate CS standards?
3.10 The student will identify problems that relate to inappropriate use of computing devices and networks.			
CS Standard	Related Core Content Area Standard	How could you integrate the CS Standard?	Tools needed to integrate CS standards?
3.11 The student will create examples of strong passwords, explain why strong passwords should be used, and demonstrate proper use and protection of personal passwords.			
Data and Analysis			
CS Standard	Related Core Content Area Standard	How could you integrate the CS Standard?	Tools needed to integrate CS standards?
3.12 The student will answer questions by using a computer to observe data in order for the student to draw conclusions and make predictions. [Related SOL: Math 3.15, HSS 3.1d]			
CS Standard	Related Core Content Area Standard	How could you integrate the CS Standard?	Tools needed to integrate CS standards?
3.13 The student will create an artifact using computing systems to model the attributes and behaviors associated with a concept (e.g., day and night, animal life cycles, plant life cycles). [Related SOL areas – Math: Models, Science: Moon Phases]			

Impacts of Computing

CS Standard	Related Core Content Area Standard	How could you integrate the CS Standard?	Tools needed to integrate CS standards?
3.14 The student will identify computing technologies that have changed the world and express how those technologies influence, and are influenced by, cultural practices.			
CS Standard	Related Core Content Area Standard	How could you integrate the CS Standard?	Tools needed to integrate CS standards?
3.15 The student will identify the positive and negative impacts of the pervasiveness of computers and computing in daily life (e.g., downloading videos and audio files, electronic appliances, wireless Internet, mobile computing devices, GPS systems, wearable computing).			
CS Standard	Related Core Content Area Standard	How could you integrate the CS Standard?	Tools needed to integrate CS standards?
3.16 The student will identify social and ethical issues that relate to computing devices and networks. [Related SOL: C/T: 6-8.3, #SS 3.11]			

Networking and the Internet

CS Standard	Related Core Content Area Standard	How could you integrate the CS Standard?	Tools needed to integrate CS standards?
<p>3.17 The students will discuss in partners and as a class that information can be transmitted using computing devices via a network (e.g., email, blogging, video messaging).</p>			