









Skill Struck's alignment to

# Indiana Computer Science Standards

## Legend

-  = Standard aligned  
 = Not currently aligned

Data and Information (DI)	
Standard	Status
<b>K-2.DI.1</b> In order to solve a problem, sort information into a useful order.	
<b>K-2.DI.2</b> Identify and collect data using digital tools (e.g., take pictures of all blue items, create a document with things that start with "a").	
<b>K-2.DI.3</b> Define stored information as data and when appropriate, copy, search, retrieve, modify, and delete it.	
<b>K-2.DI.4</b> Model that data can be stored and manipulated using numbers or symbols to represent information.	
<b>K-2.DI.5</b> Organize and present data in different visual formats such as charts, graphs, and symbols, and identify and describe patterns to make predictions.	
<b>3-5.DI.1</b> Decompose problems and subproblems into parts as a means to solving complex problems.	

<b>3-5.DI.2</b> Organize and present collected data visually to highlight relationships and support a claim.	✓
<b>3-5.DI.3</b> Demonstrate how variables can represent data, and are used to store and modify information.	✓
<b>3-5.DI.4</b> Describe that data can be represented in different forms understandable by people, including words, symbols, and digital displays of color.	✓
<b>3-5.DI.5</b> Use data to highlight or propose cause-and-effect relationships, predict outcomes, or communicate an idea.	✓
<b>6-8.DI.1</b> Decompose (break down) problems into smaller, more manageable subsets by applying the algorithmic problem solving steps to make the possible solutions easier to follow, test, and debug.	✓
<b>6-8.DI.2</b> Collect data using computational tools (e.g., sensors, inputs like microphones) and transform the data to make it more useful and reliable.	✓
<b>6-8.DI.3</b> Examine the data represented by different program variables to ensure consistent format and remove errors.	✓
<b>6-8.DI.4</b> Describe that data can be represented in multiple encoding schemes such as binary, RGB values, hexadecimal codes.	✓
<b>6-8.DI.5</b> Create visuals such as flowcharts, diagrams, pseudocode to represent complex problems as algorithms.	✓

Computing Devices & Systems (CD)	
Standard	Status
<b>K-2.CD.1</b> Use appropriate terminology in identifying and describing computer hardware.	✓
<b>K-2.CD.2</b> Describe and troubleshoot basic hardware and software problems using appropriate terminology.	✓
<b>K-2.CD.3</b> 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.	✓
<b>3-5.CD.1</b> Model how computer hardware and software work together to accomplish tasks.	✓
<b>3-5.CD.2</b> Determine potential solutions to solve simple hardware and software problems using common troubleshooting strategies.	✓
<b>3-5.CD.3</b> Describe how internal and external parts of computing devices function to form a system.	✓
<b>3-5.CD.4</b> Describe what distinguishes humans from machines focusing on human intelligence versus machine intelligence.	♦
<b>6-8.CD.1</b> Design projects that combine hardware and software components to collect and exchange data.	✓

<b>6-8.CD.2</b> Systematically identify and fix problems (troubleshoot) with computing devices and their components (e.g. checklist, decision tree, flowchart).	✓
<b>6-8.CD.3</b> Recommend improvements to the design of computing devices, based on analysis of how users interact with the devices.	✓
<b>6-8.CD.4</b> Describe what distinguishes humans from machines focusing on ways we can communicate, as well as ways in which computers use models of intelligent behavior (e.g., robot motion, speech and language understanding, and computer vision).	✓
<b>Programs &amp; Algorithms (PA)</b>	
<b>Standard</b>	<b>Status</b>
<b>K-2.PA.1</b> Breakdown the steps needed for a desired outcome and plan the order to accomplish the goal.	✓
<b>K-2.PA.2</b> Using age-appropriate vocabulary, explain steps taken and choices made to improve the design of a sequence.	✓
<b>K-2.PA.3</b> Develop programs with sequences and simple loops, to express ideas or address a problem.	✓
<b>K-2.PA.4</b> Identify and fix (debug) errors in sequences and simple loops.	✓
<b>K-2.PA.5</b> Model daily processes by creating and following algorithms (sets of step-by-step instructions) to complete tasks.	✓

<b>K-2.PA.6</b> Give attribution when using the ideas and creations of others while developing programs.	✓
<b>3-5.PA.1</b> Collaborate with peers to implement problem solving steps to create a variety of programming solutions.	✓
<b>3-5.PA.2</b> Using age-appropriate vocabulary, explain steps taken and choices made to improve the design of a sequence.	✓
<b>3-5.PA.3</b> Design programs that incorporate sequences, events, loops, and conditionals.	✓
<b>3-5.PA.4</b> Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended.	✓
<b>3-5.PA.5</b> Construct and analyze solutions to problems using the basic steps of algorithmic problem solving.	✓
<b>3-5.PA.6</b> Observe intellectual property rights and give appropriate attribution when creating or remixing programs.	✓
<b>3-5.PA.7</b> Describe choices made during program development using code comments, presentations, and demonstrations.	✓
<b>6-8.PA.1</b> Demonstrate dispositions to open-ended problem solving within programming (e.g., persistence, brainstorming, creativity, debugging, iterating).	✓

<b>6-8.PA.2</b> Modify, remix, or incorporate portions of an existing program into one's own work to develop something new or add more advanced features.	✓
<b>6-8.PA.3</b> Design and iteratively develop programs that combine the following: sequencing, looping (including nested loops), conditionals (including compound conditionals), expressions, variables, functions, and parameters.	✓
<b>6-8.PA.4</b> Systematically test and refine programs using a range of test cases.	✓
<b>6-8.PA.5</b> Use the basic steps in the algorithmic problem-solving process to evaluate and revise solutions using a range of test cases.	✓
<b>6-8.PA.6</b> Incorporate existing code, media, and libraries into original programs and give attribution.	✓
<b>6-8.PA.7</b> Document programs in order to make them easier to follow, test, and debug.	✓
<b>Networking &amp; The Internet</b>	
<b>K-2.NI.1</b> Explain what passwords are, why they are used, and why it is important to develop strong passwords to protect devices and information.	✓
<b>3-5.NI.1</b> Discuss real-world cybersecurity problems and how personal information can be protected.	✓
<b>3-5.NI.2</b>	✓

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.	
<b>6-8.NI.1</b> Explain how physical and cybersecurity measures protect electronic information.	✓
<b>6-8.NI.2</b> Model the role of protocols in transmitting data across networks and the internet.	✓
<b>6-8.NI.3</b> Apply multiple methods of encryption to model the secure transmission of information.	✓
<b>Impact and Culture (IC)</b>	
<b>K-2.IC.1</b> Practice digital citizenship by giving credit when using the ideas and creations of others.	✓
<b>K-2.IC.2</b> Compare and contrast the effects of technology on communities and social interactions.	✓
<b>K-2.IC.3</b> Identify expected behaviors for working responsibly with others online.	✓
<b>K-2.IC.4</b> Keep login information private, and log off of devices appropriately.	✓
<b>3-5.IC.1</b> Access the responsible use of technology as well as the consequences of how inappropriate use can negatively impact society, cyber security, and one's own personal life.	✓

<b>3-5.IC.2</b> Describe the positive and negative impacts of technology on one's personal life, society, and our culture.	✓
<b>3-5.IC.3</b> Seek diverse perspectives for the purpose of improving computational artifacts.	✓
<b>3-5.IC.4</b> Identify which information should be kept private and which information can be shared.	✓
<b>3-5.IC.5</b> Critique computing technologies that have changed the world. Analyze how those technologies influence and/or are influenced by cultural practices and societal biases.	♦
<b>6-8.IC.1</b> Exhibit legal and ethical behaviors when using technology and information and discuss the consequences of misuse.	✓
<b>6-8.IC.2</b> Discuss issues of bias and accessibility in the design of existing technologies.	✓
<b>6-8.IC.3</b> Collaborate with many contributors through strategies such as crowdsourcing or surveys when creating a computational artifact.	✓
<b>6-8.IC.4</b> Describe tradeoffs between allowing information to be public and keeping information private and secure.	✓
<b>6-8.IC.5</b> Discuss how unequal distribution and participation in technology and computer science disadvantages marginalized populations resulting in	✓



issues of equity, access, power, and exclusion.	
<b>Digital Literacy (DL)</b>	
<b>K-2.DL.1</b> Use technology to research and create multimedia products that support learning across the curriculum.	♦
<b>K-2.DL.2</b> With support, communicate and work collaboratively with peers using technology.	✓
<b>K-2.DL.3</b> Use standard input and output devices to operate computers and other technologies.	✓
<b>3-5.DL.1</b> Working in a group, select the appropriate tool from a menu of options for general purpose productivity, skill remediation, written communication, and publishing activities.	✓
<b>3-5.DL.2</b> Collaborate to iteratively develop computational artifacts (e.g., videos, computer programs).	✓
<b>3-5.DL.3</b> Demonstrate proficiency with keyboards and other input and output devices.	✓
<b>6-8.DL.1</b> Select appropriate tools and technology resources to support learning and personal productivity, publish individual products, and design, develop, and publish data, accomplish a variety of tasks, and solve problems.	✓
<b>6-8.DL.2</b> Distribute tasks and maintain a project timeline when collaboratively	✓

developing computational artifacts.	
<b>6-8.DL.3</b> Demonstrate an understanding of the relationship between hardware and software.	✓