



Indiana Department of Education

Dr. Katie Jenner, Secretary of Education

3-5 Grade Computer Science Correlation Guide 2022 Science Indiana Academic Standards to 2016 Indiana Academic Standards

Data & Information (DI)	
2022 Academic Standard	2016 Academic Standard
3-5.DI.1: Decompose problems and subproblems into parts as a means to solving complex problems.	3-5.DI.1 Understand and use the basic steps in algorithmic problem solving (e.g., problem statement and exploration, examination of sample instances, design, implementation, and testing).
3-5.DI.2: Organize and present collected data visually to highlight relationships and support a claim.	3-5.DI.4 Describe how a simulation can be used to solve a problem.
3-5.DI.3: Demonstrate how variables can represent data, and are used to store and modify information.	
3-5.DI.4: Describe that data can be represented in different forms understandable by people, including words, symbols, and digital displays of color.	3-5.DI.3 Demonstrate how a string of bits can be used to represent alphanumeric information and how 1's and 0's represent information.
3-5.DI.5: Use data to highlight or propose cause-and-effect relationships, predict outcomes, or communicate an idea.	3-5.DI.2 Develop a simple understanding of an algorithm (e.g., search, sequence of events, or sorting) using computer-free exercises.
Computing Devices & Systems (CD)	
2022 Academic Standard	2016 Academic Standard
3-5.CD.1: Model how computer hardware and software work together to accomplish tasks.	
3-5.CD.2: Determine potential solutions to solve simple hardware and software problems using common troubleshooting strategies.	3-5.CD.3 Apply troubleshooting strategies for identifying simple hardware and software problems that may occur during use.
3-5.CD.3: Describe how internal and external parts of computing devices function to form a system.	
3-5.CD.4: Describe what distinguishes humans from machines focusing on human intelligence versus machine intelligence.	3-5.CD.4 Recognize that computers model intelligent behavior (as found in robotics, speech and language recognition, and computer animation).
Programs & Algorithms (PA)	
2022 Academic Standards	2016 Academic Standard

3-5.PA.1: Collaborate with peers to implement problem solving steps to create a variety of programming solutions.	3-5.PA-1 Use technology resources (e.g., calculators, data collection probes, mobile devices, videos, educational software, and web tools) for problem-solving and self-directed learning, and general-purpose productivity tools and peripherals to support personal productivity, remediate skill deficits, facilitate learning, and individual/collaborative writing, communication, and publishing activities.
3-5.PA.2: Using age-appropriate vocabulary, explain steps taken and choices made to improve the design of a sequence.	
3-5.PA.3: Design programs that incorporate sequences, events, loops, and conditionals.	3-5.PA.3 Implement problem solutions using a block-based visual programming language.
3-5.PA.4: Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended.	
3-5.PA.5: Construct and analyze solutions to problems using the basic steps of algorithmic problem solving.	
3-5.PA.6: Observe intellectual property rights and give appropriate attribution when creating or remixing programs.	3-5.IC.4 Understand ethical issues that relate to computers and networks (e.g. equity of access, security, privacy, copyright, and intellectual property).
3-5.PA.7: Describe choices made during program development using code comments, presentations, and demonstrations.	

Networking & the Internet (NI)

2022 Academic Standard	2016 Academic Standard
3-5.NI.1: Discuss real-world cybersecurity problems and how personal information can be protected.	3-5.IC.1 Discuss basic issues related to responsible use of technology and information, and the consequences of inappropriate use.
3-5.NI.2: 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.	

Impact & Culture (IC)

2022 Academic Standard	2016 Academic Standard
3-5.IC.1: Assess 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.	3-5.IC.1 Discuss basic issues related to responsible use of technology and information, and the consequences of inappropriate use.
3-5.IC.2: Describe the positive and negative impacts of technology on one's personal life, society, and our culture.	3-5.IC.2 Identify the impact of technology (e.g., social networking, cyber bullying, mobile computing and communication, web technologies, cyber security, and virtualization) on personal life and society. 3-5.DI.5 Understand the connections between computer science

	and other fields.
3-5.IC.3: Seek diverse perspectives for the purpose of improving computational artifacts.	3-5.IC.3 Evaluate the accuracy, relevance, appropriateness, comprehensiveness, and biases that occur in electronic information sources.
3-5.IC.4: Identify which information should be kept private and which information can be shared.	
3-5.IC.5: Critique computing technologies that have changed the world. Analyze how those technologies influence and/or are influenced by cultural practices and societal biases.	3-5.CD.2 Understand the pervasiveness of computers and computing in daily life (e.g., voicemail, downloading videos and audio files, microwave ovens, thermostats, wireless internet, mobile computing devices, and GPS systems). 3-5.DI.5 Understand the connections between computer science and other fields.
Digital Literacy (DL)	
2022 Academic Standard	2016 Academic Standard
3-5.DL.1: Working in a group, select the appropriate tool from a menu of options for general purpose productivity, skill remediation, written communication, and publishing activities.	3-5.NC.2 Use productivity technology tools (e.g., word processing, presentation software) for individual and collaborative writing, communication, and publishing activities. 3-5.PA-1 Use technology resources (e.g., calculators, data collection probes, mobile devices, videos, educational software, and web tools) for problem-solving and self-directed learning, and general-purpose productivity tools and peripherals to support personal productivity, remediate skill deficits, facilitate learning, and individual/collaborative writing, communication, and publishing activities.
3-5.DL.2: Collaborate to iteratively develop computational artifacts (e.g., videos, computer programs).	3-5.NC.1 Use online resources (e.g., email, online discussions, and collaborative web environments) to participate in collaborative problem-solving activities for the purpose of developing solutions or products. 3-5.PA.2 Use digital tools to gather, manipulate, and modify data for use by a program.
3-5.DL.3: Demonstrate proficiency with keyboards and other input and output devices.	3-5.CD.1 Demonstrate proficiency with keyboards and other input and output devices.