

Grades 3, 4, 5

Adopted 2023

Data & Information

DI. Students select aspects and portions of data to be transformed, clustered, and categorized to provide views and insights about the data. 3-5.DI

1. Decompose problems and subproblems into parts as a means to solving complex problems. 3-5.DI.1
2. Organize and present collected data visually to highlight relationships and support a claim. 3-5.DI.2
3. Demonstrate how variables can represent data and are used to store and modify information. 3-5.DI.3
4. Describe that data can be represented in different forms understandable by people, including words, symbols, and digital displays of color. 3-5.DI.4
5. Use data to highlight or propose cause-and-effect relationships, predict outcomes, or communicate an idea. 3-5.DI.5

Computing Devices & Systems

CD. Students identify similarities between computing systems to troubleshoot common problems and choose appropriate combinations of hardware and software to accomplish desired tasks. 3-5.CD

1. Model how computer hardware and software work together to accomplish tasks. 3-5.CD.1
 2. Determine potential solutions to solve simple hardware and software problems using common troubleshooting strategies. 3-5.CD.2
 3. Describe how internal and external parts of computing devices function to form a system. 3-5.CD.3
 4. Describe what distinguishes humans from machines, focusing on human intelligence versus machine intelligence. 3-5.CD.4
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Programs & Algorithms

PA. Students collaboratively engage in computer program development with consideration of documenting design choices and giving appropriate attributions. 3-5.PA

1. Collaborate with peers to implement problem-solving steps to create a variety of programming solutions. 3-5.PA.1
 2. Design programs that incorporate sequences, events, loops, and conditionals. 3-5.PA.2
 3. Test and debug (i.e., identify and fix errors) a program or algorithm to ensure it runs as intended. 3-5.PA.3
 4. Observe intellectual property rights and give appropriate attribution when creating or remixing programs. 3-5.PA.4
 5. Describe choices made during program development using code comments, presentations, and demonstrations. 3-5.PA.5
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Networking & the Internet

NI. Students describe how personal information is protected as information is transmitted over computer networks. 3-5.NI

1. Discuss real-world cybersecurity problems and how personal information can be protected. 3-5.NI.1
 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. 3-5.NI.2
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Impact & Culture

IC. Students describe how local and global collaboration is impacted by computing technology. 3-5.IC

1. Describe the positive and negative impacts of technology on one's personal life, society, and our culture. 3-5.IC.1
2. Seek diverse perspectives for the purpose of improving computational artifacts. 3-5.IC.2
3. 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.IC.3