Rhode Island Computer Science

Grades 3–5

Computational Thinking & Programming

Algorithms

1 Compare and refine multiple algorithms for the same task and determine which is more appropriate to complete the task. 1B-CT-A-1

Variables

1 Create programs that use variables 1B-CT-V-1

Data Structures and Data Types

1 Identify real-world examples of data structures and data types. 1B-CT-D-1

Control Structures

1 Create programs that combine sequences, loops, conditionals, and/or events. 1B-CT-C-1

Modularity

1 Continually decompose problems into smaller subtasks until each subtask is a manageable set of basic operations. 1B-CT-M-1

2 Create computational artifacts by incorporating existing modules into one's own work to solve a problem. 1B-CT-M-2

Computational Design

1 Use an iterative process to plan the development of a computational artifact by including others' perspectives and considering user preferences. 1B-CT-CD-1

2 Debug errors in an algorithm or program that includes sequences and simple loops. 1B-CT-CD-2

3 Describe steps taken and choices made during the process of creating a computational artifact. 1B-CT-CD-3

Computing Systems & Networks

Human-Computer Interfaces

1 Describe how people interact with the various parts of computing systems to accomplish tasks. 1B-CSN-H-1

Hardware and Software

- Model how computer hardware and software work together as a system to accomplish tasks. 1B-CSN-HS-1

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Troubleshooting

1 Determine potential solutions to solve simple hardware and software problems using common troubleshooting strategies. 1B-CSN-T-1

Networks and the Internet

1 Model how information is broken down into smaller pieces of data, transmitted as packets through multiple devices over networks and the Internet, and reassembled at the destination. 1B-CSN-N-1

Cybersecurity

Risks

1 Describe the risks of sharing personal information, on websites or other public forums. 1B-CY-R-1

2 Describe ways personal information can be obtained digitally. 1B-CY-R-2

3 Describe the risks of others using one's personal resources or devices. 1B-CY-R-3

Safeguards

1 Explain individual actions that protect personal electronic information and devices. 1B-CY-S-1

Response

1 Identify and describe unusual data or behaviors of applications and devices that should be reported to a responsible adult. 1B-CY-RP-1

Data & Analysis

Collection, Visualization, Transformation

1 Organize and present collected data to highlight relationships and support a claim. 1B-DA-CVT-1

Inferences and Models

1 Use data to highlight or propose cause-and-effect relationships, predict outcomes, or communicate an idea. 1B-DA-IM-1

Storage

1 Store, copy, search, retrieve, modify, and delete data using a computing device. 1B-DA-ST-1

Digital Literacy

Creation and Use

1 Use software tools to create and share multimedia artifacts 1B-DL-CU-1

Searching Digital Information

1 Conduct and refine multi-criteria searches over digital information. 1B-DL-SDI-1

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nderstanding Software Tools

1 Describe the different high-level tasks that are common to software tools that students use. 1B-DL-US-1

Responsible Computing & Society

Culture

1 Compare and contrast computing technologies that have changed the world, and express how those technologies influence, and are influenced by, cultural practices. 1B-RC-CU-1

2 Identify ways to improve the accessibility and usability of technology products for the diverse needs and wants of users. 1B-RC-CU-2

Safety, Law & Ethics

1 Incorporate public domain or creative commons media into a digital artifact, and refrain from copying or using material created by others without permission. 1B-RC-SLE-1

Social Interactions

1 Seek diverse perspectives for the purpose of improving computational artifacts. 1B-RC-SI-1