

Grade 3

Concept: Computing Systems (CS) 3.CS

D. Subconcept: Devices (D) 3.CS.D

- 1 Identify how internal and external parts of computing devices function to form a system within a single device and hardware that connects to the device to extend capability. 3.CS.D.1
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HS. Subconcept: Hardware and Software (HS) 3.CS.HS

- 1 Recognize that hardware (devices) and software (programs/apps) communicate in a special language that the computing system can understand. 3.CS.HS.1
 - 2 Recognize that hardware (devices) can only accomplish the specific tasks the software (programs/apps) is designed to accomplish. 3.CS.HS.2
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T. Subconcept: Troubleshooting (T) 3.CS.T

- 1 Identify and use common troubleshooting strategies to solve simple hardware and software problems. 3.CS.T.1
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Concept: Networks and the Internet (NI) 3.NI

C. Subconcept: Cybersecurity (C) 3.NI.C

- 1 Identify real-world cybersecurity problems and how personal information can be protected. 3.NI.C.1
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NCO. Subconcept: Network, Communication, and Organization (NCO) 3.NI.NCO

- 1 Model how information flows in a physical or wireless path to travel to be sent and received is sent and received through a physical or wireless path. 3.NI.NCO.1
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Concept: Data and Analysis (DA) 3.DA

CVT. Subconcept: Collection, Visualization and Transformation (CVT) 3.DA.CVT

- 1 Select tools from a specified list to collect, organize, and present data visually to highlight relationships and support a claim. 3.DA.CVT.1
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S. Subconcept: Storage (S) 3.DA.S

- 1 Recognize different file extensions. 3.DA.S.1
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IM. Subconcept: Inference and Models (IM) 3.DA.IM

- 1 Use a computational tool to draw conclusions, make predictions, and answer questions utilizing a specified data set. 3.DA.IM.1
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Concept: Algorithms and Programming (AP) 3.AP

A. Subconcept: Algorithms (A) 3.AP.A

- 1 Recognize and compare multiple algorithms for the same task and determine which are effective. 3.AP.A.1
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V. Subconcept: Variables (V) 3.AP.V

- 1 Create programs that use variables to store and modify data. 3.AP.V.1
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C. Subconcept: Control (C) 3.AP.C

- 1 Create programs that include sequences, events, loops, and/or conditionals. 3.AP.C.1
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M. Subconcept: Modularity (M) 3.AP.M

- 1 Decompose problems into smaller, manageable subproblems to facilitate the program development process. 3.AP.M.1
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PD. Subconcept: Program Development (PD) 3.AP.PD

- 1 With teacher guidance, use an iterative process to plan the development of a program by including others' perspectives and considering user preferences. 3.AP.PD.1
 - 2 Observe intellectual property rights and give appropriate attribution when creating or remixing programs. 3.AP.PD.2
 - 3 Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended. 3.AP.PD.3
 - 4 With teacher guidance, students take on varying roles, when collaborating with peers during the design, implementation, and review stages of program development. 3.AP.PD.4
 - 5 Describe choices made during program (procedure) development using code comments, presentations, and/or demonstrations. 3.AP.PD.5
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Concept: Impacts of Computing (IC) 3.IC

C. Subconcept: Culture (C) 3.IC.C

- 1 Identify computing technologies that have changed the world. 3.IC.C.1
 - 2 With teacher guidance, brainstorm ways to improve the accessibility and usability of technology products for the diverse needs and wants of users. 3.IC.C.2
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SI. Subconcept: Social Interactions (SI) 3.IC.SI

- 1 Seek opportunities for local collaboration to facilitate communication and innovation. 3.IC.SI.1
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SLE. Subconcept: Safety, Law, and Ethics (SLE) 3.IC.SLE

- 1 Use material that is publicly available and/or permissible to use. 3.IC.SLE.1