

Grade 2

COMPUTING SYSTEMS CS

D. Devices CS.D

- a Select and operate commonly used devices to perform a variety of tasks. CS.D.2.A
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HS. Hardware and Software CS.HS

- a Select and use hardware and software necessary for accomplishing a task. CS.HS.2.A
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Troubleshooting

- a Use problem solving strategies to troubleshoot a problem. CS.T.2.A
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NETWORKS AND THE INTERNET NI

N. Networking NI.N

- a Describe how information can be communicated electronically to gain a deeper understanding of how information is transmitted (e.g., email, social media). NI.N.2.A
 - b Use computing devices that are connected to share and receive information from the global community. NI.N.2.B
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C. Cybersecurity NI.C

- a Explain and demonstrate secure practices (e.g., creating strong passwords) to protect private information. NI.C.2.A
 - b Identify and discuss examples of how devices can be used with good and bad intentions. NI.C.2.B
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IOT. Internet of Things (IoT) NI.IOT

- a With guidance and support, explain how devices connect and exchange data over different environments to explore how information is shared. NI.IOT.2.A
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DATA AND ANALYSIS DA

DCS. Data Collection and Storage DA.DCS

- a Collect and organize data to store, retrieve and modify. DA.DCS.2.A
 - b Manipulate data to perform various tasks. DA.DCS.2.B
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VC. Visualization and Communication DA.VC

- a Organize, analyze and present data in various formats. DA.VC.2.A

IM. Inference and Modeling DA.IM

- a Interpret and analyze data, graphs, models or charts. DA.IM.2.A
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**ALGORITHMIC THINKING
AND PROGRAMMING** ATP**A. Algorithms** ATP.A

- a Model a real-world process by constructing and following step-by-step instructions (i.e., algorithms) to complete tasks. ATP.A.2.A
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VDR. Variables and Data Representation ATP.VDR

- a Construct a model that shows the way programs store and manipulate data by using numbers or other symbols to represent information. ATP.VDR.2.A
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CS. Control Structures ATP.CS

- a Develop a program that uses sequencing and repetition (i.e., loops) to solve a problem or express ideas. ATP.CS.2.A
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M. Modularity ATP.M

- a Break down (i.e., decompose) a series of steps and separate the necessary from the unnecessary steps to create a precise sequence of instructions to solve a problem or express an idea. ATP.M.2.A
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PD. Program Development ATP.PD

- a Plan and create an artifact to illustrate thoughts, ideas and problems in a sequential (step-by-step) manner (e.g., story map, storyboard, sequential graphic organizer). ATP.PD.2.A
 - b Identify and fix (i.e., debug) a multi-step process that includes sequencing. ATP.PD.2.B
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**ARTIFICIAL
INTELLIGENCE** AI**P. Perception** AI.P

- a Tell where sensors are on computers, robots and intelligent appliances to relate their location with their function such as motion, pressure/touch, temperature, proximity, light, sound, moisture or gases. AI.P.2.A
 - b Apply the use of intelligent agents to assist in basic research (look up answers to specific questions). AI.P.2.B
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RR. Representation & Reasoning AI.RR

- a With guidance and support, create a simple decision tree (conditionals) to create a pathway for decisions. AI.RR.2.A
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ML. Machine Learning AI.ML

- a Use a classifier that recognizes drawings and discuss how the program knows what they are drawing. AI.ML.2.A

NI. Natural Interactions AI.NI

- a List possible attributions computers can use to distinguish humans from each other by comparing these attributions. AI.NI.2.A

SI. Societal Impacts AI.SI

- a To determine how AI can help in daily life, group applications used into two categories: “AI” and “Not AI.” AI.SI.2.A
- b Discuss AI and how it can be used for good or bad to discuss the ethical use of AI. AI.SI.2.B

**IMPACTS OF
COMPUTING** IC**Cu. Culture** IC.CU

- a Compare and contrast how the use of technology has changed to understand its impact on everyday life. IC.CU.2.A
- b Describe the ways people use technologies in their daily work and personal lives to understand technology's impact on one's community. IC.CU.2.B

SI. Social Interactions IC.SI

- a Compare and contrast safe and responsible behaviors to those that are not when using information and technology. IC.SI.2.A

SLE. Safety, Law and Ethics IC.SLE

- a Discuss appropriate and ethical uses of technology to guide informed decisions. IC.SLE.2.A
- b Compare and contrast appropriate and inappropriate behavior online, including cyberbullying, and the steps to keep yourself and others safe and out of harm's way. IC.SLE.2.B