Ohio Computer Science

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

HS. Hardware and Software CS.HS

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

Troubleshooting

a Use problem solving strategies to troubleshoot a problem. CS.T.2.A

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

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

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

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

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

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

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

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

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

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

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

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

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