Ohio’s Learning Standards

Computer Science, Grade 1

ADOPTED JULY 2022

Ohio | Department of Education

Grade 1 Standards

COMPUTING SYSTEMS

Devices
CS.D.1.a Operate commonly used devices and their components to perform a variety of tasks.

Hardware and Software
CS.HS.1.a With guidance, describe and use hardware and software necessary for accomplishing a task.

Troubleshooting
CS.T.1.a With guidance, use problem-solving strategies to troubleshoot a problem.

NETWORKS AND THE INTERNET

Networking
NI.N.1.a Create a list of ways information can be shared electronically to gain a deeper understanding of how information is transmitted (e.g., email, social media).

NI.N.1.b Recognize that computing devices can be connected to retrieve information from the global community.

Cybersecurity
NI.C.1.a Identify and use secure practices (e.g., passwords) to protect private information.

NI.C.1.b Identify, use and discuss examples of how devices can be used with good and bad intentions.

Internet of Things (IoT)
NI.IOT.1.a Identify what smart devices are and how they connect to the internet.

NI.IOT.1.b Recognize how devices connect and exchange data over the internet to demonstrate how information is shared.

DATA AND ANALYSIS

Data Collection and Storage
DA.DCS.1.a With guidance, collect and organize data to retrieve for later use.

DA.DCS.1.b With guidance, demonstrate how data can be collected and stored in a variety of ways.

Visualization and Communication
DA.VC.1.a Organize and present data in various formats to make observations.

Inference and Modeling
DA.IM.1.a Create and explain a model of an object or process that includes patterns and key elements.

ALGORITHMIC THINKING AND PROGRAMMING

Algorithms
ATP.A.1.a With guidance, model a real-world process by constructing and following step-by-step directions (i.e., algorithms) to complete tasks.

Variables and Data Representation
ATP.VDR.1.a Categorize a group of items (e.g., numbers, symbols or pictures) based on the attributes or actions of each item, with or without a computing device.

Control Structures
ATP.CS.1.a With guidance, model a sequence of instructions (i.e., program) that includes repetition (i.e., loops) to solve a problem or express ideas.

Modularity
ATP.M.1.a With guidance, 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.

Program Development

ATP.PD.1.a With guidance, 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.1.b With guidance, identify and fix (i.e., debug) a multi-step process that includes sequencing.

ARTIFICIAL INTELLIGENCE

Perception

AI.P.1.a With guidance and support, recognize sensors on computers, robots and intelligent appliances to understand their function, such as motion, pressure/touch, temperature, proximity, light, sound, moisture or gases.

AI.P.1.b With guidance and support, use intelligent agents to help answer simple questions.

Representation & Reasoning

AI.RR.1.a Use a decision tree to make a decision.

Machine Learning

AI.ML.1.a With guidance and support, discuss how a classifier recognizes drawings to gain an understanding of how machine learning works.

Natural Interactions

AI.NI.1.a Using recognition software, identify attributes that computers use for identification to explain how computers recognize humans.

Societal Impacts

AI.SI.1.a Identify AI applications that are used in daily lives to predict AI use in the future.

AI.SI.1.b Discuss if computers and other technology are good or bad to create a working construct.

IMPACTS OF COMPUTING

Culture

IC.Cu.1.a Discuss different technologies and their impact on everyday life.

IC.Cu.1.b Identify how people use and are impacted by many types of technologies in their daily work and personal lives.

Social Interactions

IC.SI.1.a With guidance, describe safe and responsible behaviors for the use of information and technology.

Safety, Law and Ethics

IC.SLE.1.a With guidance, discuss appropriate and ethical uses of technology to guide informed decisions.

IC.SLE.1.b Discuss examples of appropriate and inappropriate behavior online, including cyberbullying, and the steps to keep yourself and others safe and out of harm's way.