Computer Science Standards

Grade 2

# **Computing Systems**

# **Devices**

* 2.CS.D.01 Select and use a computing device to perform a variety of tasks for an intended outcome.

# **Hardware and Software**

* 2.CS.HS.01 Identify computer system components and peripherals, and their basic use (e.g., hard drive, memory, processor).

# **Troubleshooting**

* 2.CS.T.01 Identify simple hardware and software problems that may occur during use and discuss problems with peers and adults (e.g., app or program is not working as expected; no sound is coming from the device; caps lock turned on).

# **Network and the Internet**

# **Network Communication and Organization**

* 2.NI.NCO.01 Recognize that computing devices can be connected at various scales (e.g., Bluetooth, Wi‐Fi).

# **Cybersecurity**

* 2.NI.C.01 Explain what passwords are; why we use them, and write and design strong passwords to protect devices and information from unauthorized access. Identify other forms of authentication (biometrics).

# **Data Analysis**

# **Storage**

* 2.DA.S.01 With guidance, create, copy, locate, modify, and delete a file on a computing device and define the information stored as data.

# **Collection, Visualization and Transformation**

* **2.DA.CVT.01** With guidance, collect and present the same data in various visual formats.

# **Inference and Models**

* 2.DA.IM.01 With guidance, construct and interpret data and present it in a chart or graph (visualization) in order to make a prediction, with or without a computing device.

# **Algorithms and Programming**

# **Algorithms**

* 2.AP.A.01 With guidance, model daily processes by creating and following algorithms (sets of step‐by‐ step instructions) to complete tasks verbally, kinesthetically, with robot devices, or a programing language.

# **Variables**

* 2.AP.V.01 Model the way a computer program manipulates grade level appropriate data (e.g., print, numbers, kinesthetic movement, symbols and robot manipulatives).

# **Control**

* 2.AP.C.01 With guidance, create programs using a programming language, robot device or unplugged activity that utilize sequencing and repetition to solve a problem or express ideas both independently and collaboratively.

# **Modularity**

* 2.AP.M.01 Decompose (break down) and explain the steps needed to solve a problem into a precise sequence of instructions.

# **Program Development**

* 2.AP.PD.01 Independently or with guidance, create a grade level appropriate document to illustrate thoughts, ideas, and stories in a sequential (step‐by‐ step) manner (e.g., story map, storyboard, and sequential graphic organizer).
* **2.AP.PD.02** Independently or with guidance give credit to ideas, creations and solutions of others while writing and/or developing programs.
* **2.AP.PD.03** Independently and collaboratively, create and debug programs, which include sequencing and repetition to accomplish tasks as a means of creative expression or problem solving using a programming language and/or unplugged activities.
* 2.AP.PD.04 Use correct terminology (debug, program input/output, code ...) to explain the development of an algorithm to solve a problem in an unplugged activity, hands on manipulatives or a programming language.

# **Community, Global and Ethical Impacts**

# **Culture**

* 2.CGEI.C.01 List different technology tools, and describe how people use them in their daily work and personal lives.

# **Social Interactions**

* 2.CGEI.SI.01 Develop a code of conduct, explain, and practice grade‐level appropriate behavior and responsibilities while participating in a digital community. Identify and report inappropriate behavior.

# **Safety, Law and Ethics**

* 2.CGEI.SLE.01 Be able to explain the reasoning of keeping login information private. Keep log in information private, and log off of devices appropriately.