Oklahoma Computer Science

Fourth Grade

Computing Systems 4.CS

D. Devices 4.CS.D

01. Select and use appropriate computing systems to perform a variety of tasks for an intended outcome while recognizing that users have different needs for the technology they use. 4.CS.D.01

HS. Hardware & Software 4.CS.HS

01. Model that information is translated, transmitted, and processed in order to flow through hardware and software. 4.CS.HS.01

T. Troubleshooting 4.CS.T

01. Identify, using accurate terminology, simple hardware and software problems that may occur during everyday use, discuss problems with peers and adults, and apply strategies for solving these problems (e.g., rebooting the device, force shut down). 4.CS.T.01

Networks & The Internet 4.NI

NCO. Network Communication & Organization 4.NI.NCO

01. Explain how information is sent and received across physical or wireless paths (e.g., It is broken down into smaller pieces called packets and transmitted from one location to another). 4.NI.NCO.01

CY. Cybersecurity 4.NI.CY

01. Identify and explain issues related to responsible use of technology and information, and describe personal consequences of inappropriate use. 4.NI.CY.01

Data Analysis 4.DA

S. Storage 4.DA.S

01. Choose different storage locations (physical, shared, or cloud) based on the type of file, storage requirements (file size, availability, available memory), and sharing requirements. 4.DA.S.01

CVT. Collection, Visualization, & Transformation 4.DA.CVT

01. Organize and present collected data visually to highlight comparisons. 4.DA.CVT.01

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IM. Inference & Models 4.DA.IM

01. Utilize data to create models, answer investigative questions, and make predictions. 4.DA.IM.01

Algorithms & Programming 4.AP

A. Algorithms 4.AP.A

01. Model, compare, and refine multiple algorithms for the same task. 4.AP.A.01

V. Variables 4.AP.V

01. Create programs that use variables to store and modify grade level appropriate data. 4.AP.V.01

C. Control 4.AP.C

01. Create programs using a programming language that utilize sequencing, repetition, conditionals, and variables; using math operations manipulate values to solve a problem or express ideas both independently and collaboratively. 4.AP.C.01

M. Modularity 4.AP.M

01. Decompose (break down) large problems into smaller, manageable subproblems to facilitate the program development process. 4.AP.M.01
02. With grade appropriate complexity, modify, remix, or incorporate portions of an existing program into one's own work, to develop something new or add more advanced features. 4.AP.M.02

PD. Program Development 4.AP.PD

01. Use an iterative process to plan the development of a program that includes user preferences while solving simple problems. 4.AP.PD.01
02. Observe intellectual property rights and give appropriate credit when creating programs using original code or code reuse. 4.AP.PD.02
03. Analyze, create, and debug a program that includes sequencing, repetition, conditionals, and variables in a programming language. 4.AP.PD.03
04. Communicate and explain program development choices using comments, presentations, and demonstrations. 4.AP.PD.04

Impacts of Computing 4.IC

CU. Culture 4.IC.CU

01. Give examples of computing technologies that have changed the world, and express how those technologies influence and are influenced by cultural practices. 4.IC.CU.01
02. Consider a variety of users' backgrounds and needs to brainstorm ways to improve computing devices to increase accessibility. 4.IC.CU.02

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Social Interactions 4.IC.SI

01. Develop a code of conduct, explain, and practice grade-level appropriate behavior and responsibilities while participating in an online community. Identify and report inappropriate behavior. 4.IC.SI.01

02. As a team, consider each others' perspectives on improving a computational artifact. 4.IC.SI.02

SLE. Internet Safety, Law, & Ethics 4.IC.SLE

01. Discuss the social impact of violating intellectual property rights. 4.IC.SLE.01