Oklahoma Computer Science

Fifth Grade

Computing Systems 5.CS

D. Devices 5.CS.D

1 Select and use the most efficient computing systems to perform a variety of tasks for an intended outcome while recognizing that users have different needs for the technology they use. 5.CS.D.01

HS. Hardware & Software 5.CS.HS

1 Model that information is translated into bits to transmit and process between hardware and software to accomplish tasks. 5.CS.HS.01

T. Troubleshooting 5.CS.T

1 Identify, using accurate terminology, simple hardware and software problems that may occur during everyday use. Discuss problems with peers and adults, apply strategies for solving these problems and explain why the strategies should work. 5.CS.T.01

Networks & The Internet 5.NI

NCO. Network Communication & Organization 5.NI.NCO

1 Model how information is broken down into packets (i.e., smaller pieces), transmitted through multiple devices over networks and the Internet, and reassembled at the destination. 5.NI.NCO.01

CY. Cybersecurity 5.NI.CY

1 Discuss real-world cybersecurity problems and identify strategies for how personal information can be protected. 5.NI.CY.01

Data Analysis 5.DA

S. Storage 5.DA.S

1 Evaluate trade-offs, including availability and quality, based on the type of file, storage requirements (e.g., file size, availability, available memory), and sharing requirements. 5.DA.S.01

CVT. Collection, Visualization, & Transformation 5.DA.CVT

1 Organize and present collected data to highlight comparisons and support a claim. 5.DA.CVT.01

IM. Inference & Models 5.DA.IM

1 Determine how the accuracy of conclusions is influenced by the amount of data collected. 5.DA.IM.01

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Algorithms & Programming 5.AP

A. Algorithms 5.AP.A

1 Model, compare and refine multiple algorithms for the same task and determine which is the most efficient. 5.AP.A.01

V. Variables 5.AP.V

1 Create programs that use variables to store and modify grade level appropriate data. 5.AP.V.01

C. Control 5.AP.C

1 Create programs using a programming language that utilize sequencing, repetition, conditionals, event handlers and variables using math operations to manipulate values to solve a problem or express ideas both independently and collaboratively. 5.AP.C.01

M. Modularity 5.AP.M

1 Decompose (break down) large problems into smaller, manageable subproblems and then into a precise sequence of instructions. 5.AP.M.01

2 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. 5.AP.M.02

PD. Program Development 5.AP.PD

1 Use an iterative process to plan the development of a program that includes others' perspectives and user preferences while solving simple problems. 5.AP.PD.01

2 Observe intellectual property rights and give appropriate credit when creating programs using original code or code reuse. 5.AP.PD.02

3 Analyze, create, and debug a program that includes sequencing, repetition, conditionals, and variables in a programming language. 5.AP.PD.03

4 Communicate and explain program development choices using comments, presentations, and demonstrations. 5.AP.PD.04

Impacts of Computing 5.IC

CU. Culture 5.IC.CU

1 Give examples and explain how computing technologies have changed the world, and express how computing technologies influence and are influenced by cultural practices within your community. 5.IC.CU.01

2 Develop, test, and refine digital artifacts to improve accessibility and usability. 5.IC.CU.02

SI. Social Interactions 5.IC.SI

1 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. 5.IC.SI.01

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2 As a team, collaborate with outside resources (other grade levels, online spaces) to include different perspectives to improve computational artifacts. 5.IC.SI.02

SLE. Internet Safety, Law, & Ethics 5.IC.SLE

1 Observe intellectual property rights and give appropriate credit when using resources. 5.IC.SLE.01