Kansas Computer Science

Grade 5

Computing Systems CS

D. Devices D

1 Model and communicate how computing devices can be connected to other devices to extend their capabilities. 5.CS.D.01

HS. Hardware and Software HS

1 Illustrate how information is translated into binary numbers between software and hardware. 5.CS.HS.01

IO. Input and Output IO

1 Demonstrate proper use of grade level appropriate input devices and produce digital artifacts selective publication based on audience/purpose. 5.CS.IO.01

T. Troubleshooting T

1 Using accurate terminology, identify simple hardware and software problems that may occur during everyday use. 5.CS.T.01

Networks & the Internet NI

NCO. Network Communication & Organization NCO

1 Model how information is broken down into smaller pieces and transmitted through multiple devices over networks and the internet, and how these pieces are assembled at the destination. 5.NI.NCO.01

C. Cybersecurity C

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

Data Analysis DA

S. Storage S

1 Evaluate trade-offs of file types, storage requirements, and sharing requirements, including comparisons of availability and quality. 5.DA.S.01

C. Collection C

1 Select the appropriate tool to collect relevant and reliable data that solves a problem. 5.DA.C.01

CVT. Visualization & Transformation CVT

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

IM. Inference and Models IM

1 Use data to discover or propose cause and effect relationships, predict outcomes, or communicate an idea. 5.DA.IM.01

Algorithms and Programming AP

A. Algorithms A

1 Analyze and refine multiple algorithms for the same task and determine which algorithm is the most efficient. 5.AP.A.01

V. Variables V

1 Utilize, create, and modify programs that use, modify, and combine variables with grade level appropriate data. 5.AP.V.01

C. Control C

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

M. Modularity M

1 Decompose (break down) large problems into smaller, more manageable subproblems to facilitate the program development process. 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 PD

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

2 Use proper citations and document when ideas are borrowed and changed for their own use (e.g., using pictures created by others, using music created by others, remixing programming projects). 5.AP.PD.02

3 Analyze, debug (identify/fix errors), and create a program that includes sequencing, repetition and variables in a programming language. 5.AP.PD.03

4 Take on varying roles collaborating with peers to give feedback at different stages of program development, including design and implementation. 5.AP.PD.04

Impacts of Computing IC

C. Culture C

1 Develop, test, and refine digital artifacts to improve accessibility and usability for a computing device or program. 5.IC.C.01

SI. Social Interactions 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. (Digital Citizenship - review of all nine components, but focused on Digital Commerce, Digital Law, and Digital Security. 5.IC.SI.01

2 As a team, collaborate with people and resources outside of your normal space to include diverse perspectives to improve computational products. 5.IC.SI.02

H. History H

1 Identify and explain the evolution of computing technologies that have changed the world. 5.IC.H.01

SLE. Safety, Law, & Ethics SLE

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

CP. Community Partnerships CP

1 Design a visual product depicting the connections between computer science and other fields. 5.IC.CP.01