Missouri Computer Science

3rd Grade

Computing Systems

Hardware & Software

1 Model how information flows through hardware and software to accomplish tasks. 3.CS.HS.01

Troubleshooting

1 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., refresh the screen, closing and reopening an application or file, unmuting or adjusting the volume on headphones). 3.CS.T.01

Networks & the Internet

Network Communication & Organization

1 Recognize how information changes when sent and received over physical or wireless paths. (Information is broken into smaller parts, sent to the destination and then reassembled into a whole.) 3.NI.NCO.01

Cybersecurity

1 Identify problems that relate to inappropriate use of computing devices and networks. 3.NI.C.01

Data & Analysis

Storage

1 Recognize that different types of information are stored in different formats that have associated programs (e.g., documents open in a word processor) and varied storage requirements. 3.DA.S.01

Collection, Visualization & Transformation

1 Collect data using various programs and formats (e.g., surveys, forms) and organize the data in various visual formats (e.g., charts, graphs, tables). 3.DA.CVT.01

Inference & Models

1 With guidance, utilize data to make predictions and discuss whether there is adequate data to be useful and to make reliable predictions. 3.DA.IM.01

Algorithms & Programming

Algorithms

1 Compare multiple algorithms (sets of step-by-step instructions) for accomplishing the same task verbally and kinesthetically, with robot devices or a programming language. 3.AP.A.01

Variables

1 Create programs that use variables to store and modify grade level appropriate data. 3.AP.V.01

Control

1 Collaboratively create a program using control structures (e.g., sequence, conditionals, interactive- looping) to make decisions within a program. 3.AP.C.01

Modularity

1 Decompose (break down) the steps needed to solve a problem into precise sequence of instructions. 3.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. 3.AP.M.02

Program Development

1 Use an iterative and collaborative process to plan the development of a program while solving simple problems. 3.AP.PD.01

2 Observe intellectual property rights and give appropriate credit when creating or remixing programs. 3.AP.PD.02

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

4 Communicate and explain your program development using comments, presentations and interactive demonstrations. 3.AP.PD.04

Impacts of Computing

Culture

1 Identify computing technologies that have changed the world and express how those technologies influence, and are influenced by, cultural practices. 3.IC.C.01

2 Identify possible problems and how computing devices have built in features for increasing accessibility to all users. 3.IC.C.02

Social Interactions

1 Develop a code of conduct, explain and practice grade-level appropriate behavior and responsibilities while participating in an online community (e.g., responsibilities of being a good digital citizen, private and personal information, showing respect for other people's work). Identify and report inappropriate behavior and know how to report cyberbullying. 3.IC.SI.01

Safety, Law & Ethics

1 Identify types of digital data that may have intellectual property rights that prevent copying or require attribution. 3.IC.SLE.01

2 Discuss the importance of a positive digital footprint. 3.IC.SLE.02