Missouri Computer Science

5th Grade

Computing Systems

Hardware & Software

1 Model that information is translated into bits in order to transmit and process between software to accomplish tasks. 5.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, apply strategies for solving these problems and explain why the strategy should work. 5.CS.T.01

Networks & the Internet

Network Communication & Organization

1 Model how information is broken down into packets, transmitted through multiple computing devices over networks and the internet and reassembled at the destination. 5.NI.NCO.01

Cybersecurity

1 Analyze the credibility of digital information (e.g., comparing multiple accounts and sources, the author's point of view). 5.NI.C.01

2 Discuss cybersecurity problems caused by information that is published for different reasons (e.g., inform, advertise, persuade, harm). 5.NI.C.02

Data & Analysis

Storage

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

Collection, Visualization & Transformation

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

Inference & Models

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

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gorithms

1 Compare and simplify multiple algorithms (sets of step-by-step instructions) for accomplishing the same task verbally and kinesthetically, with robot devices or a programming language, then determine which is the most efficient. 5.AP.A.01

Variables

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

Control

1 Create a program using control structures (e.g., sequence, conditionals, interactive-looping), event handlers and variables to solve a problem or express ideas both independently and collaboratively. 5.AP.C.01

Modularity

1 Decompose (break down) large problems into smaller, manageable sub problems 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

Program Development

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

2 Observe intellectual property rights and give appropriate credit when creating or remixing programs. 5.AP.PD.02

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

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

Impacts of Computing

Culture

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

2 Develop, test and refine digital artifacts to improve accessibility and usability. 5.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., talking safely online, promoting good digital citizens, privacy settings, cyberbullying). Identify and report inappropriate behavior and know how to report cyberbullying. 5.IC.SI.01

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Safety, Law & Ethics

1. Observe intellectual property rights and give appropriate credit when using resources. 5.IC.SLE.01
2. Continue to discuss and understand the implications of positive and negative digital footprints and that they never go away. 5.IC.SLE.02