Alaska Computer Science

Grade 6

Computing Systems

Devices

1 Review and analyze device(s) based on personal use and recommend improvements to the device. 6.CS.D.01

Hardware and Software

1 Identify ways that hardware and software (User Interface) design are combined to collect and exchange data. 6.CS.HS.01

Troubleshooting

1 Identify and discuss increasingly complex software and hardware problems with computing devices and their components. 6.CS.T.01

Network and the Internet

Network Communication and Organization

1 Model a simple protocol for transferring information using packets. 6.NI.NCO.01

Cybersecurity

1 Identify existing cybersecurity concerns with the Internet and systems it uses. 6.NI.C.01

2 Explain the importance of secured websites and describe how one method of encryption works. 6.NI.C.02

Data Analysis

Storage

1 Identify how the same data can be represented in multiple ways. 6.DA.S.01

Collection, Visualization and Transformation

1 Collect data using computational tools and transform the data to make it more useful (e.g., spreadsheet formulas) 6.DA.CVT.01

Inference and Models

1 Use models and simulations to formulate, refine, and test hypotheses. 6.DA.IM.01

Algorithms and Programming

Algorithms

1 Use an existing algorithm in natural language or pseudocode to solve complex problems. 6.AP.A.01

Variables

Skip to main content

1 Develop programs that utilize combinations of repetition, conditionals, functions, and the manipulation of variables representing different data types. 6.AP.V.01

Modularity

1 Decompose (break down) problems into abstraction layers to facilitate the design, implementation, and review of programs. 6.AP.M.01

Program Development

1 Seek and incorporate feedback from team members to refine a solution to a problem. 6.AP.PD.01

2 Incorporate existing code, media, and libraries into original programs and give attribution. 6.AP.PD.02

3 Test and refine programs using teacher provided inputs. 6.AP.PD.03

4 Break down tasks and follow an individual timeline when developing a computational artifact. 6.AP.PD.04

5 Document block-based or text-based programs in order to make them easier to follow, test, and debug. 6.AP.PD.05

Community, Global and Ethical Impacts

Culture

1 Explain how computing impacts people's' everyday activities and explore carriers related to the field of computer science. 6.GCEI.C.01

2 Identify and discuss the technology proficiencies needed in the classroom and the workplace, and how to meet the needs of diverse users. 6.GCEI.C.02

Social Interactions

1 Individually and collaboratively develop and conduct an online survey that seeks input from a broad audience. Describe and use safe, appropriate, and responsible practices (netiquette) when participating in online communities (e.g., discussion groups, blogs, social networking sites). 6.GCEI.SI.01

Safety, Law and Ethics

1 Differentiate between appropriate and inappropriate content on the Internet, and identify unethical and illegal online behavior. 6.GCEI.SLE.01

2 Identify what distinguishes humans from machines focusing on human intelligence versus machine intelligence (e.g., robot motion; speech and language understanding; computer vision) 6.GCEI.SLE.02