Ohio’s Learning Standards

Computer Science Grade 5

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Ohio | Department of Education

Grade 5

COMPUTING SYSTEMS

Devices

CS.D.5.a Explore the internal parts of the computing system and their function to understand and describe the role they play in a computer system.

Hardware and Software

CS.HS.5.a Evaluate digital learning tools/devices to support planning, implementing and reflecting across curricular areas.

Troubleshooting

CS.T.5.a Diagnose problems and develop strategies to resolve technology issues.

NETWORKS AND THE INTERNET

Networking

NI.N.5.a Model how information is broken down to be transmitted and then reassembled to help students gain a better understanding of the internet and networks.

NI.N.5.b Apply knowledge of network addresses, names and rules (i.e., protocols) to discuss real-world scenarios.

Cybersecurity

NI.C.5.a Demonstrate password creation techniques to develop and use a strong password used on personal accounts.

DATA AND ANALYSIS

Data Collection and Storage

DA.DCS.5.a Gather and organize multiple quantitative data elements using a tool to perform various tasks.

DA.DCS.5.b Compare and contrast file formats to demonstrate the advantages and disadvantages of each.

Visualization and Communication

DA.VC.5.a Organize and present collected data using visual or other types of representations to highlight relationships and support a claim.

Inference and Modeling

DA.IM.5.a Utilize data to propose cause and effect relationships and predict outcomes.

ALGORITHMIC THINKING AND PROGRAMMING

Algorithms

ATP.A.5.a Evaluate a multi-step process to diagram the proper steps to solve a problem.

Variables and Data Representation

ATP.VDR.5.a Create a variable, a placeholder for storing a value, to understand how it is used in a multi-step process (i.e., algorithm).

Control Structures

ATP.CS.5.a Create a program using sequences, events, loops and conditionals to solve a problem.

Modularity

ATP.M.5.a Decompose (i.e., break down) the steps needed or not needed (i.e., abstraction) into precise sequences of instructions to design an algorithm.

ATP.M.5.b 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.

Program Development

ATP.PD.5.a Use a design process to plan and develop a program that includes multiple steps and end user preferences.

ATP.PD.5.b Using guided questions, work through a program to identify errors and discuss possible solutions to repair the program.

IMPACTS OF COMPUTING

Culture

IC.Cu.5.a Explain how computing technologies have changed the global community and express how those technologies influence and are influenced by cultural practices.

IC.Cu.5.b Develop, test and refine digital artifacts to improve accessibility and usability.

Social Interactions

IC.SI.5.a Collaborate and consider diverse perspectives to improve digital artifacts.

Safety, Law and Ethics

IC.SLE.5.a Use public domain or Creative Commons media, and refrain from copying or using material created by others without permission.

IC.SLE.5.b Communicate the effects of sharing personal information on the safety of student identity to determine how to protect students.

IC.SLE.5.c Evaluate the need to keep personal information secure and protect the digital footprint.