Skill Struck ®

Skill Struck's alignment to

Arizona's K-12 Computer Science Standards

Legend

✅ = Standard aligned

🔷 = Not currently aligned

Standard	Status
K.CS.D.1 With teacher guidance, select and operate an appropriate device to perform a task.	✅
K.CS.HS.1 Use appropriate terminology in identifying and describing the function of common physical components of computing systems.	✅
K.CS.T.1 Discuss basic hardware and software problems.	✅
K.NI.C.1 Explain that a password helps protect the privacy of information.	✅
K.NI.NCO.1 With teacher guidance, students define computer networks and how they can be used to connect people to other people, places, information, and	✅

ideas.	
K.DA.CVT.1 With teacher guidance, collect and transform data using digital devices; Display data for communication in various visual formats.	✅
K.DA.S.1 Recognize that data can be collected and stored on different computing devices over time and retrieved later.	✅
K.DA.IM.1 Discuss patterns in data to make inferences or predictions.	✅
K.AP.A.1 With teacher assistance, model daily processes by following algorithms (sets of step-by-step instructions) to complete tasks.	✅
K.AP.V.1 With teacher assistance, model the way programs store and manipulate data by using numbers or other symbols to represent information.	✅
K.AP.C.1 With teacher assistance, identify programs with sequences and simple loops, to express ideas or address a problem.	✅
K.AP.M.1 With teacher assistance, solve a problem by breaking it down into smaller parts.	✅
K.AP.PD.1 With teacher assistance, develop plans that describe a program's sequence of events, goals, and expected outcomes.	✅
K.AP.PD.2 With teacher assistance, identify attribution (credit) when using the ideas and creations of others while developing programs.	✅

K.AP.PD.3 With teacher assistance, debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops.	✅
K.AP.PD.4 With teacher assistance, using correct terminology, describe steps taken and choices made during program development.	✅
K.IC.C.1 Discuss how people lived and worked before and after the implementation or adoption of new computing technology.	✅
K.IC.SI.1 Work respectfully and responsibly with others online.	✅
K.IC.SLE.1 Keep login information private, and log off of devices appropriately.	✅
1.CS.D.1 With teacher guidance, select and operate appropriate devices and software to perform a task.	✅
1.CS.HS.1 Use appropriate terminology in identifying and describing the function of common physical components of computing systems.	✅
1.CS.T.1 Identify basic hardware and software problems using accurate terminology.	✅
1.CS.T.2 With teacher guidance, begin to use basic troubleshooting strategies.	✅
1.NI.C.1 Explain what passwords are and why we use them to protect personal information (e.g., name, location, phone number, home	✅

address) and keep it private.	
1.NI.NCO.1 With teacher guidance, students discuss how computer networks can be used to connect people to other people, places, information, and ideas.	✅
1.DA.CVT.1 With teacher guidance, collect and transform data using digital devices; Display data for communication in various visual formats.	✅
1.DA.S.1 Explain that a variety of data (e.g., music, video, images, and text) can be stored in and retrieved from a computing device.	✅
1.DA.IM.1 Identify patterns in data to make inferences or predictions.	✅
1.AP.A.1 Model daily processes by following algorithms (sets of step-by-step instructions) to complete tasks.	✅
1.AP.V.1 Model the way programs store and manipulate data by using numbers or other symbols to represent information.	✅
1.AP.C.1 Identify programs with sequences and simple loops, to express ideas or address a problem.	✅
1.AP.M.1 Solve a problem by breaking it down into smaller parts.	✅
1.AP.PD.1 With teacher assistance identify plans that describe a program's sequence of events, goals, and expected outcomes.	✅

1.AP.PD.2 With teacher assistance, give attribution (credit) when using the ideas and creations of others while developing programs.	✅
1.AP.PD.3 With teacher assistance, debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops.	✅
1.AP.PD.4 Using correct terminology, describe steps taken and choices made during program development.	✅
1.IC.C.1 Discuss how people live and work before and after the implementation or adoption of new computing technology.	✅
1.IC.SI.1 Work respectfully and responsibly with others online.	✅
1.IC.SLE.1 Keep login information private, and log off devices appropriately.	✅
2.CS.D.1 Recognize that users have different needs and preferences for technology they used by selecting and operating appropriate devices.	✅
2.CS.HS.1 Understand how computing systems use both hardware (device) and software (program/app) to process information.	✅
2.CS.T.1 Explain basic hardware (device) and software (program/app) problems using accurate terminology.	✅
2.CS.T.2 With teacher guidance, use basic troubleshooting strategies.	✅

2.NI.C.1 Explain what passwords are and why we use them, and use strong passwords to protect devices and information from unauthorized access.	✅
2.NI.NCO.1 Students can discuss how computer networks can be used to connect people to other people, places, information, and ideas.	✅
2.DA.CVT.1 Collect and transform data using digital devices; Display data for communication in various visual formats.	✅
2.DA.S.1 Store, copy, search, retrieve, modify, and delete information using a computing device and define the information stored as data.	✅
2.DA.IM.1 Describe patterns in data to make inferences or predictions.	✅
2.AP.PD.1 Develop plans that describe a program's sequence of events, goals, and expected outcomes.	✅
2.AP.PD.2 Give attribution (credit) when using the ideas and creations of others while developing programs.	✅
2.AP.PD.3 Debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops.	✅
2.AP.PD.4 Using correct terminology, describe steps taken and choices made during the iterative process of program (procedure) development.	✅

2.IC.C.1 Compare how people live and work before and after the implementation or adoption of new computing technology.	✅
2.IC.SI.1 Work respectfully and responsibly with others online.	✅
2.IC.SLE.1 Keep login information private, and log off of devices appropriately.	✅
3.CS.D.1 Identify how internal and external parts of computing devices function to form a system within a single device and hardware that connects to the device to extend capability.	✅
3.CS.HS.1 Recognize that hardware (devices) and software (programs/apps) communicate in a special language that the computing system can understand.	✅
3.CS.HS.2 Recognize that hardware (devices) can only accomplish the specific tasks the software (programs/apps) is designed to accomplish.	✅
3.CS.T.1 Identify and use common troubleshooting strategies to solve simple hardware and software problems.	✅
3.NI.C.1 Identify real-world cybersecurity problems and how personal information can be protected.	✅
3.NI.NCO.1 Model how information flows in a physical or wireless path to travel to be sent and received is sent and received through a physical or wireless path.	✅

3.DA.CVT.1 Select tools from a specified list to collect, organize, and present data visually to highlight relationships and support a claim.	✅
3.DA.S.1 Recognize different file extensions.	✅
3.DA.IM.1 Use a computational tool to draw conclusions, make predictions, and answer questions utilizing a specified data set.	✅
3.AP.A.1 Recognize and compare multiple algorithms for the same task and determine which are effective.	✅
3.AP.V.1 Create programs that use variables to store and modify data.	✅
3.AP.C.1 Create programs that include sequences, events, loops, and/or conditionals.	✅
3.AP.M.1 Decompose problems into smaller, manageable subproblems to facilitate the program development process.	✅
3.AP.PD.1 With teacher guidance, use an iterative process to plan the development of a program by including others' perspectives and considering user preferences.	✅
3.AP.PD.2 Observe intellectual property rights and give appropriate attribution when creating or remixing programs.	✅
3.AP.PD.3	✅

Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended.	
3.AP.PD.4 With teacher guidance, students take on varying roles, when collaborating with peers during the design, implementation, and review stages of program development.	✅
3.AP.PD.5 Describe choices made during program (procedure) development using code comments, presentations, and/or demonstrations.	✅
3.IC.C.1 Identify computing technologies that have changed the world.	✅
3.IC.C.2 With teacher guidance, brainstorm ways to improve the accessibility and usability of technology products for the diverse needs and wants of users.	✅
3.IC.SI.1 Seek opportunities for local collaboration to facilitate communication and innovation.	✅
3.IC.SLE.1 Use material that is publicly available and/or permissible to use.	✅
4.CS.D.1 With teacher guidance, model how internal and external parts of computing connect multiple devices in a computing system.	✅
4.CS.HS.1 Recognize that bits serve as the basic unit of data in computing systems and can represent a variety of information.	🔷
4.CS.HS.2 Recognize that a single piece of hardware can accomplish different tasks	✅

depending on its software.	
4.CS.T.1 Develop and apply simple troubleshooting strategies to solve simple hardware and software problems.	✅
4.NI.C.1 Discuss real-world cybersecurity problems and how personal information can be protected.	✅
4.NI.NCO.1 Model how information is decomposed, transmitted as packets through multiple devices over networks and reassembled at the destination.	✅
4.DA.CVT.1 Select tools to collect, organize, and present data visually to highlight relationships and support a claim.	✅
4.DA.S.1 Recognize different file extensions and the different amounts of storage required for each type.	✅
4.DA.IM.1 Use a computational tool to manipulate data to draw conclusions, make predictions, and answer questions.	✅
4.AP.A.1 Compare and refine multiple algorithms for the same task and determine which is the most effective.	✅
4.AP.V.1 Create programs that use variables to store and modify data	✅
4.AP.C.1 Create programs that include sequences, events, loops, and/or conditionals.	✅

4.AP.M.1 Decompose problems into smaller, manageable subproblems to facilitate the program development process.	✅
4.AP.M.2 Modify, remix, or incorporate portions of an existing program into one's own work to add more advanced features.	✅
4.AP.PD.1 Use an iterative process to plan the development of a program by including others' perspectives and considering user preferences.	✅
4.AP.PD.2 Observe intellectual property rights and give appropriate attribution when creating or remixing programs.	✅
4.AP.PD.3 Test and debug (identify and fix errors) a program/app or algorithm to ensure it runs as intended.	✅
4.AP.PD.4 With teacher guidance, students take on varying roles when collaborating with peers during the design, implementation, and review stages of program development.	✅
4.AP.PD.5 Describe choices made during program development using code comments, presentations, and/or demonstrations.	✅
4.IC.C.1 Identify and discuss computing technologies that have changed the world.	✅
4.IC.C.2 Brainstorm ways to improve the accessibility and usability of technology products for the diverse needs and wants of users.	✅

4.IC.SI.1 Seek opportunities for local and nationally collaboration to facilitate communication and innovation.	✅
4.IC.SLE.1 Use material that is publicly available and/or permissible to use.	✅
5.CS.D.1 Analyze and model how internal and external parts of computing devices communicate as a system.	✅
5.CS.D.2 Explain how computing devices affect humans in positive and negative ways.	✅
5.CS.HS.1 Model how information is transformed into binary digits to be stored or processed.	✅
5.CS.HS.2 Demonstrate and explain how hardware can accomplish different tasks depending on the software.	✅
5.CS.T.1 Apply potential solutions and solve simple hardware and software problems using common troubleshooting strategies.	✅
5.NI.C.1 Identify solutions to real-world cybersecurity problems and how personal information can be protected.	✅
5.NI.NCO.1 Analyze the advantages and disadvantages of various network types.	✅
5.DA.CVT.1 Select tools to collect, organize, manipulate, and present data visually	✅

through multiple representations to highlight relationships and support a claim.	
5.DA.S.1 Discuss different file extensions and how they are stored and retrieved on a computing device.	✅
5.DA.IM.1 Use data to propose cause-and-effect relationships, predict outcomes, or communicate an idea.	✅
5.AP.A.1 Compare, test, and refine multiple algorithms for the same task and determine which is the most effective.	✅
5.AP.V.1 Recognizing that the data type determines the values that can be stored and the operations that can be performed on the data.	✅
5.AP.C.1 Create programs that include sequences, events, loops, and conditionals.	✅
5.AP.M.1 Decompose problems into manageable subproblems to facilitate the program development process.	✅
5.AP.M.2 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.PD.1 Use an iterative process to plan the development of a program by including others' perspectives and considering user preferences.	✅
5.AP.PD.2 Observe intellectual property rights and give appropriate attribution when	✅

creating or remixing programs.	
5.AP.PD.3 Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended.	✅
5.AP.PD.4 Take on varying roles when collaborating with peers during the design, implementation, and review stages of program development.	✅
5.AP.PD.5 Describe choices made during program development using code comments, presentations, and demonstrations.	✅
5.IC.C.1 Discuss computing technologies that have changed the world.	✅
5.IC.C.2 Design ways to improve the accessibility and usability of technology products for the diverse needs and wants of users.	✅
5.IC.SI.1 Seek opportunities for local and global collaboration to facilitate communication and innovation.	✅
5.IC.SLE.1 Use public domain or creative commons media, and refrain from copying or using material created by others without permission.	✅
6.CS.D.1 Compare computing device designs based on how humans interact with them.	✅
6.CS.HS.1 Explain how hardware and software can be used to collect and exchange data.	✅

6.CS.T.1 Identify problems that can occur in computing devices and their components within a system.	✅
6.NI.C.1 Identify multiple methods of encryption to secure the transmission of information.	✅
6.NI.C.2 Identify different physical and digital security measures that protect electronic information.	✅
6.NI.NCO.1 Discuss how protocols are used in transmitting data across networks and the Internet.	✅
6.DA.CVT.1 Compare different computational tools used to collect, analyze and present data that is meaningful and useful.	✅
6.DA.S.1 Identify multiple encoding schemes used to represent data, including binary and ASCII.	✅
6.DA.IM.1 Discuss the validity of a computational model based on the reliability of the data.	✅
6.AP.A.1 Identify planning strategies such as flowcharts or pseudocode, to simulate algorithms that solve problems.	✅
6.AP.V.1 Identify variables that represent different data types and perform operations on their values.	✅

6.AP.C.1 Design programs that combine control structures, including nested loops and compound conditionals.	✅
6.AP.M.1 Decompose problems into parts to facilitate the design, implementation, and review of programs.	✅
6.AP.M.2 Use procedures to organize code and make it easier to reuse.	✅
6.AP.PD.1 Seek and incorporate feedback from team members and users to refine a solution that meets user needs.	✅
6.AP.PD.2 Incorporate existing code into programs and give attribution.	✅
6.AP.PD.3 Test programs using a range of inputs and identify expected outputs.	✅
6.AP.PD.4 Maintain a timeline with specific tasks while collaboratively developing computational artifacts.	✅
6.AP.PD.5 Document programs in order to make them easier to follow, test, and debug.	✅
6.IC.C.1 Identify some of the tradeoffs associated with computing technologies that can affect people's everyday activities and career options.	✅
6.IC.C.2 Identify issues of bias and accessibility in the design of existing technologies.	✅

6.IC.SI.1 Identify the advantages of creating a computational product by collaborating with others using digital technologies.	✅
6.IC.SLE.1 Describe how some digital information can be public or can be kept private and secure.	✅
7.CS.D.1 Identify some advantages, disadvantages, and consequences with the design of computer devices based on an analysis of how users interact with devices.	✅
7.CS.HS.1 Design projects that combine hardware and software to collect and exchange data.	✅
7.CS.T.1 Evaluate strategies to fix problems with computing devices and their components within a system.	✅
7.NI.C.1 Evaluate multiple methods of encryption for the secure transmission of information.	✅
7.NI.C.2 Explain how physical and digital security measures protect electronic information.	✅
7.NI.NCO.1 Compare and contrast models to understand the many protocols used for data transmission.	✅
7.DA.CVT.1 Collect and analyze data using computational tools to create models that are meaningful and useful.	✅

7.DA.S.1 Use multiple encoding schemes to represent data, including binary and ASCII.	✅
7.DA.IM.1 Use computational models and determine the reliability and validity of data they generate.	✅
7.AP.A.1 Use planning strategies, such as flowcharts or pseudocode, to develop algorithms to address complex problems.	✅
7.AP.V.1 Compare and contrast variables that represent different data types and perform operations on their values.	✅
7.AP.C.1 Design and develop programs that combine control structures, including nested loops and compound conditionals.	✅
7.AP.M.1 Decompose problems into parts to facilitate the design, implementation, and review of programs.	✅
7.AP.M.2 Use procedures with parameters to organize code and make it easier to reuse.	✅
7.AP.PD.1 Seek and incorporate feedback from team members and users to refine a solution that meets user needs.	✅
7.AP.PD.2 Incorporate existing code and media into programs, and give attribution.	✅
7.AP.PD.3	✅

Systematically test and refine programs using a range of possible inputs.	
7.AP.PD.4 Distribute and execute tasks while maintaining a project timeline when collaboratively developing computational artifacts.	✅
7.AP.PD.5 Document programs to make them easier to follow, test, and debug.	✅
7.IC.C.1 Explain how some of the tradeoffs associated with computing technologies can affect people's everyday activities and career options.	✅
7.IC.C.2 Discuss how bias and accessibility issues can impact the functionality of existing technologies.	✅
7.IC.SI.1 Describe the process for creating a computational product by collaborating with others using digital technologies.	✅
7.IC.SLE.1 Identify the benefits and risks associated with sharing information digitally.	✅
8.CS.D.1 Improve the design of computing devices based on an analysis of how users interact them, and consider unintended consequences.	✅
8.CS.HS.1 8.CS.HS.1 Design and evaluate projects that combine hardware and software components to collect and exchange data.	✅
8.CS.T.1 Systematically identify and develop strategies to fix problems with computing devices and their components.	✅
8.NI.C.1	✅

Apply multiple methods of encryption to model the secure transmission of information.	
8.NI.C.2 Evaluate how various physical and digital security measures protect electronic information and how a lack of such measures could lead to vulnerabilities.	✅
8.NI.NCO.1 Develop models to illustrate the role of protocols in transmitting data across networks and the Internet.	✅
8.DA.CVT.1 Collect data using computational tools and transform the data to make it more meaningful and useful.	✅
8.DA.S.1 Represent data using multiple encoding schemes including binary and ASCII.	✅
8.DA.IM.1 Design computational models and evaluate them based on the reliability and validity of the data they generate.	✅
8.AP.A.1 Develop planning strategies, such as flowcharts or pseudocode, to develop algorithms to address complex problems.	✅
8.AP.V.1 Create named variables that represent different data types and perform operations on their values.	✅
8.AP.C.1 Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals.	✅

8.AP.M.1 Decompose problems into parts to facilitate the design, implementation, and review of programs.	✅
8.AP.M.2 Create procedures with parameters to organize code and make it easier to reuse.	✅
8.AP.PD.1 Seek and incorporate feedback from team members and users to refine a solution that meets user needs.	✅
8.AP.PD.2 Incorporate existing code, media, and libraries into original programs, and give attribution.	✅
8.AP.PD.3 Systematically test and refine programs using a range of possible inputs.	✅
8.AP.PD.4 Distribute and execute tasks while maintaining a project timeline when collaboratively developing computational artifacts.	✅
8.AP.PD.5 Document programs to make them easier to follow, test, and debug.	✅
8.IC.C.1 Compare and contrast tradeoffs associated with computing technologies that affect people's everyday activities and career options.	✅
8.IC.C.2 Develop a solution to address an issue of bias or accessibility in the design of existing technologies.	✅
8.IC.SI.1 Collaborate with contributors by using digital technologies when creating	✅

a computational product.	
8.IC.SLE.1 Evaluate the benefits and risks associated with sharing information digitally.	✅
HS.CS.D.1 Explain how abstractions hide the underlying implementation details of computing systems embedded in everyday objects.	✅
HS.CS.HS.1 Describe levels of abstraction and interactions between application software, system software, and hardware layers.	✅
HS.CS.T.1 Develop guidelines that convey systematic troubleshooting strategies that others can use to identify and fix errors.	✅
HS.NI.C.1 Describe how sensitive data can be affected by malware and other attacks.	✅
HS.NI.C.2 Recommend security measures to address various scenarios based on factors such as efficiency, feasibility, and ethical impacts.	✅
HS.NI.C.3 Compare various security measures, considering tradeoffs between the usability and security of a computing system.	✅
HS.NI.NCO.1 Evaluate the scalability and reliability of networks, by describing the relationship between routers, switches, servers, topology, and addressing.	✅
HG.DA.CVT.1	✅

Create interactive data visualizations using software tools to help others better understand real-world phenomena.	
HS.DA.S.1 Translate between different bit representations of real-world phenomena, such as characters, numbers, and images.	✅
HS.DA.S.2 Evaluate the tradeoffs in how and where data is stored.	✅
HS.DA.IM.1 Analyze computational models to better understand real-world phenomena.	✅
HS.AP.A.1 Evaluate the benefits and risks associated with sharing information digitally.	✅
HS.AP.V.1 Use lists to simplify solutions, generalizing computational problems instead of repeatedly using simple variables.	✅
HS.AP.C.1 Justify the selection of specific control structures and explain the benefits and drawbacks of choices made, when tradeoffs involve readability and program performance.	✅
HS.AP.C.2 Use events that initiate instructions to design and iteratively develop computational artifacts	✅
HS.AP.M.1 Decompose problems into smaller components using constructs such as procedures, modules, and/or objects.	✅
HS.AP.M.2	✅

Use procedures within a program, combinations of data and procedures, or independent but interrelated programs to design and iteratively develop computational artifacts.	
HS.AP.PD.1 Evaluate and refine computational artifacts to make them more usable and accessible.	✅
HS.AP.PD.2 Use team roles and collaborative tools to design and iteratively develop computational artifacts.	✅
HS.AP.PD.3 Document design decisions using text, graphics, presentations, and/or demonstrations in the development of complex programs.	✅
HS.IC.C.1 Evaluate the ways access to computing impacts personal, ethical, social, economic, and cultural practices.	✅
HS.IC.C.2 Test and refine computational artifacts to reduce bias and equity deficits.	✅
HS.IC.C.3 Demonstrate ways a given algorithm applies to problems across disciplines.	✅
HS.IC.SI.1 Analyze the impact of collaborative tools and methods that increase social connectivity.	✅
HS.IC.SLE.1 Explain the beneficial and harmful effects that intellectual property laws can have on innovation.	✅
HS.IC.SLE.2	✅

Explain the privacy concerns related to the collection and generation of data through automated processes that may not be evident to users.	
HS.IC.SLE.3 Evaluate the social and economic implications of privacy in the context of safety, law, or ethics.	✅