

# **Arkansas Computer Science and Computing Standards for Grades K-8**

## **K-4 Standards Document**

**2020**

## Arkansas Computer Science and Computing Standards for Grades K-8

### Introduction

The Arkansas Computer Science and Computing Standards for Grades K-8 provide an introduction to computing concepts which are to be embedded across content areas and are intended to support existing classroom learning activities. The standards support critical thinking through the essential skills of computational thinking and algorithmic problem solving. The course strands, content clusters, and content standards are to be taught in an integrated manner, not in isolation. Integration of basic computer science skills and knowledge through practical classroom experiences promote connections to all subject areas and to the real world. When appropriate, educators should determine and implement the most beneficial student collaboration strategies (e.g., pairs, small group, whole group) for optimal learning. Formal assessment of these standards is not required.

Implementation of the Arkansas Computer Science and Computing Standards for Grades K-8 begins during the 2021-2022 school year.

## Computer Science and Computing Practices

### Students exhibit proficiency in computer science and computing through:

**Communication** - Students effectively communicate, using accurate and appropriate terminology, when explaining the task completion or problem solving strategies used. They recognize that creating good documentation is an ongoing and important part of the communication process.

**Collaboration** - Students productively work with others while ensuring multiple voices are heard and considered. They understand that diverse thoughts may lead to creative solutions and that some problems may be best solved collaboratively.

**Storytelling** - Students creatively combine multimedia tools, such as graphics, animations, and videos with research, writing, and oral presentations to create ethical, data-driven stories.

**Professionalism** - Students embrace professionalism by demonstrating skills and behaviors necessary for success in technical careers.

**Ethics and Impact** - Students comprehend the ramifications of actions prior to taking them. They are aware of their own digital and cyber presence and its impact on other individuals and society.

**Inclusion** - Students encourage diversity in the field of computer science and computing regardless of race, ethnicity, gender, or other differences.

**Learning by Failure** - Students reflect upon and critique their work while embracing a willingness to seek feedback and constructive instruction from teachers and peers. They utilize the feedback to continually improve current projects, educational experiences, knowledge, and confidence.

**Perseverance** - Students expect difficulties and persist in overcoming challenges that occur when completing tasks. They recognize making and correcting mistakes is necessary for the learning process while problem solving.

**Understanding** - Students recognize patterns, utilize tools, and apply problem solving strategies to build understanding, find solutions, and successfully deliver high-quality work.

**Patterns** - Students understand and utilize the logical structure of information through identifying patterns and creating conceptual models. They decompose complex problems into simpler modules and patterns.

**Problem Solving** - Students exhibit proficiency through the process of identifying and systematically solving problems. They recognize problem solving is an ongoing process.

**Research** - Students purposefully gather information and seek to expand their knowledge through various methods and mediums. They embrace the practice of gaining knowledge to develop novel approaches for solving problems and addressing issues they have not previously encountered, in addition to merely searching for answers.

**Tools** - Students evaluate and select tools to be used when completing tasks and solving problems. They understand that appropriate tools may include, but are not limited to, their mind, pencil and paper, manipulatives, software applications, programming languages, or appropriate computing devices.

## Arkansas Computer Science and Computing Standards for Grades K-8

Strand	Content Cluster
Computational Thinking and Problem Solving	
	1. Students will analyze and utilize problem-solving strategies.
	2. Students will analyze and utilize connections between concepts of mathematics and computer science.
Data, Information, and Security	
	3. Students will analyze and utilize data through the use of computing devices.
	4. Students will analyze and utilize concepts of cybersecurity.
Algorithms and Programs	
	5. Students will create, evaluate, and modify algorithms.
	6. Students will create programs to solve problems.
Computers and Communications	
	7. Students will analyze the utilization of computers within industry.
	8. Students will analyze communication methods and systems used to transmit information among computing devices.
	9. Students will utilize appropriate hardware and software.
Professionalism and Impacts of Computing	
	10. Students will analyze the impacts of technology and professionalism within the computing community.
	11. Students will demonstrate understanding of storytelling with data and appropriately communicate about technical information.

### **Understanding the Arkansas Computer Science and Computing Standards Documents:**

- This Arkansas Department of Education curriculum standards document is intended to assist in district curriculum development, unit design, and to provide a uniform, comprehensive guide for instruction.
- The goal for each student is proficiency in all academic standards for the course/year in which the student is enrolled.
- The Practice Standards are intended to be habits of mind for all students and were written broadly in order to apply to all grades/levels. The Practice Standards are not content standards and are not intended to be formally assessed.
- Notes (NOTE:) and examples given (e.g.) found within the document are not mandated by the Arkansas State Board of Education, but are provided for clarification of the standards by the Arkansas Department of Education and/or the standards drafting committee. The notes and examples given are subject to change as understandings of the standards evolve.
- Within the high school documents, the numbering for standards is read as: Course Abbreviation - Year - Content Cluster - Standard. Example: “CSPG.Y1.2.3” would be Computer Science Programming - Year 1 - Content Cluster 2 - Standard 3.
- Within the Coding Block document, the numbering for standards is read as: Course Abbreviation - Content Cluster - Standard. Example: “CSCB.1.2” would be Coding Block, Content Cluster 1, Standard 2.
- Within the K-8 Computer Science Standards documents, the numbering for standards is read as: Course Abbreviation - Grade - Content Cluster - Standard. Example: “CSK8.G1.2.3” would be K-8, Grade 1, Content Cluster 2, Standard 3
- Ancillary documents and supporting information may be released to assist in further understanding of the standards with possible classroom implementation strategies included.

### **“Research” and Learning**

The Arkansas Department of Education Office of Computer Science recognizes that the use of the term “research” as an action verb within academic standards is not mainstream, though not unheard of, and exists as a measurable objective within other Arkansas K-12 academic standards. The members of the internal team, composed of the State Director of Computer Science and nine state-wide Computer Science Specialists, discussed this at length amongst ourselves and with many committee members. While there existed varying opinions for various reasons, the internal team opted to keep “research” as an action verb within the standards for the following reasons:

1. The internal team believes that this use of “research” and the skill-building activities students will undertake while performing said research will produce students that have a skillset which industry representatives have identified as missing from workers entering technical job fields.
2. As the field of Computer Science and Computing is ever changing and growing, professionals and students within this field must conduct informal research on an almost daily basis to maintain relevant knowledge and skills.
3. The use of “research” within this document does not determine classroom implementation; however, it is used to indicate that the student should take individual and active efforts to seek out knowledge to develop novel approaches for solving problems and addressing issues they have not previously encountered, in addition to merely searching for answers.
4. The use of “research” should not infer that a student should be required to do an extensive qualitative or quantitative research project from the use of “research” anywhere in this document; however, a more formal research project is not prohibited if the teacher feels it is appropriate.

**Strand:** Computational Thinking and Problem Solving

**Content Cluster 1:** Students will analyze and utilize problem-solving strategies.

Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4
<p>CSK8.K.1.1 Discuss the following basic steps when problem solving:</p> <ul style="list-style-type: none"> <li>• understanding the problem</li> <li>• considering various strategies</li> </ul>	<p>CSK8.G1.1.1 Demonstrate the following basic steps when problem solving:</p> <ul style="list-style-type: none"> <li>• understanding the problem</li> <li>• considering various strategies</li> </ul>	<p>CSK8.G2.1.1 Demonstrate the following basic steps when problem solving:</p> <ul style="list-style-type: none"> <li>• understanding the problem</li> <li>• considering and examining the efficiency of various strategies</li> </ul>	<p>CSK8.G3.1.1 Solve problems using a defined process</p>	<p>CSK8.G4.1.1 Examine the process of problem solving and how it applies to algorithmic problem solving</p>
<p>NOTE: Problem solving steps may include, but are not limited to, identifying, stating, and exploring a problem; decomposing a problem into subproblems; examination of sample instances; and solution design, implementation, and testing.</p>				
<p>CSK8.K.1.2 Begins in Grade 5</p>	<p>CSK8.G1.1.2 Begins in Grade 5</p>	<p>CSK8.G2.1.2 Begins in Grade 5</p>	<p>CSK8.G3.1.2 Begins in Grade 5</p>	<p>CSK8.G4.1.2 Begins in Grade 5</p>
<p>CSK8.K.1.3 Solve level-appropriate problems cooperatively</p>	<p>CSK8.G1.1.3 Solve level-appropriate problems cooperatively</p>	<p>CSK8.G2.1.3 Solve level-appropriate problems collaboratively</p>	<p>CSK8.G3.1.3 Construct innovative solutions to level-appropriate problems collaboratively</p>	<p>CSK8.G4.1.3 Construct innovative solutions to level-appropriate problems collaboratively</p>
<p>NOTE: Utilization of a computer-based program is not a requirement for this standard.</p>				
<p>CSK8.K.1.4 Identify simple hardware and software problems that may occur during use</p>	<p>CSK8.G1.1.4 Identify simple hardware and software problems that may occur during use</p>	<p>CSK8.G2.1.4 Identify simple hardware and software problems that may occur during use</p>	<p>CSK8.G3.1.4 Apply strategies for solving simple hardware and software problems that may occur during use</p>	<p>CSK8.G4.1.4 Apply strategies for solving simple hardware and software problems that may occur during use</p>
<p>NOTE: Strategies for solving simple hardware/software problems may include, but are not limited to, checking cable connections, refreshing a webpage, and restarting a device.</p>				

**Strand:** Computational Thinking and Problem Solving

**Content Cluster 2:** Students will analyze and utilize connections between elements of mathematics and computer science.

Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4
CSK8.K.2.1 Begins in Grade 6	CSK8.G1.2.1 Begins in Grade 6	CSK8.G2.2.1 Begins in Grade 6	CSK8.G3.2.1 Begins in Grade 6	CSK8.G4.2.1 Begins in Grade 6
CSK8.K.2.2 Begins in Grade 6	CSK8.G1.2.2 Begins in Grade 6	CSK8.G2.2.2 Begins in Grade 6	CSK8.G3.2.2 Begins in Grade 6	CSK8.G4.2.2 Begins in Grade 6
CSK8.K.2.3 Discuss the relative positions of objects within a program (e.g., up, down, left, right, over, under, on top of, behind, in front of, to the left, to the right)	CSK8.G1.2.3 Demonstrate understanding of the relative positions of objects within a program (e.g., up, down, left, right, over, under, on top of, behind, in front of, to the left, to the right)	CSK8.G2.2.3 Demonstrate understanding of the relative positions of objects within a program (e.g., up, down, left, right, diagonal)	CSK8.G3.2.3 Apply fractional rotations within a program (e.g., quarter turns and half turns)	CSK8.G4.2.3 Examine the relative position of objects using angles within a program (e.g., 30-degree turn)
NOTE: Utilization of computer programs, mobile device applications, or other coding devices (e.g., Bee-Bot, Blockly, Code and Go Mouse, Code.org, Scratch, Scratch Jr.) is required to meet this standard.				
CSK8.K.2.4 Begins in Grade 6	CSK8.G1.2.4 Begins in Grade 6	CSK8.G2.2.4 Begins in Grade 6	CSK8.G3.2.4 Begins in Grade 6	CSK8.G4.2.4 Begins in Grade 6

**Strand:** Data, Information, and Security

**Content Cluster 3:** Students will analyze and utilize data through the use of computing devices.

Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4
CSK8.K.3.1 Define data and provide examples	CSK8.G1.3.1 Describe why and how data is used	CSK8.G2.3.1 Compare types of data and describe how data is used	CSK8.G3.3.1 Describe how representation of data can exist in multiple formats	CSK8.G4.3.1 Compare the representation of existing data in multiple formats
NOTE: Data may include, but is not limited to, simple measuring points (e.g., color of shirt, hair or eye color, lunch order, transportation methods).				
CSK8.K.3.2 Recognize and discuss ways people represent data differently (e.g., thumbs up for yes; thumbs down for no)	CSK8.G1.3.2 Describe how numbers can be used to represent data (e.g., color by number, secret codes)	CSK8.G2.3.2 Use numbers to represent data (e.g., encoding and decoding a word with numbers)	CSK8.G3.3.2 Describe how 0s and 1s can be used to represent data	CSK8.G4.3.2 Use 0s and 1s to represent data (e.g., encoding and decoding a word with 0s and 1s)
NOTE: Encoding data includes, but is not limited to, using a series of 0s and 1s to represent information such as “no” and “yes” respectively.				
CSK8.K.3.3 Interpret and analyze concrete and pictorial graphs	CSK8.G1.3.3 Interpret and analyze concrete and pictorial graphs	CSK8.G2.3.3 Interpret and analyze graphs	CSK8.G3.3.3 Interpret and analyze graphs	CSK8.G4.3.3 Explore graphs as models for data analysis
CSK8.K.3.4 Collect and arrange data based on a characteristic (e.g., alphabetic, color, shape, size)	CSK8.G1.3.4 Collect and arrange data based on a characteristic (e.g., alphabetic, color, shape, size)	CSK8.G2.3.4 Collect and arrange data based on multiple characteristics (e.g., alphabetic and phonemic patterns, both size and color)	CSK8.G3.3.4 Collect and arrange data logically based on multiple characteristics	CSK8.G4.3.4 Collect and arrange data logically based on multiple characteristics
CSK8.K.3.5 Identify the purpose for data collection	CSK8.G1.3.5 Recognize and discuss various tools for data collection	CSK8.G2.3.5 Utilize various tools to collect data	CSK8.G3.3.5 Select and use appropriate tools to collect data	CSK8.G4.3.5 Select and use appropriate tools to collect data
NOTE: Data collection tools may include, but are not limited to, computer-generated graphs, paper, pencil, and sticky notes.				
CSK8.K.3.6 Represent data visually	CSK8.G1.3.6 Organize and visually represent data	CSK8.G2.3.6 Organize and visually represent data with bar graphs and pictographs	CSK8.G3.3.6 Organize and create visual representations of data with bar graphs and pictographs	CSK8.G4.3.6 Compare different ways to visually represent data with bar graphs, line plots, and pictographs



**Strand:** Data, Information, and Security

**Content Cluster 4:** Students will analyze and utilize concepts of cybersecurity.

Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4
CSK8.K.4.1 Model safe use of technology and authentication methods	CSK8.G1.4.1 Discuss the relationship between usernames and authentication methods and demonstrate utilization of both to access technology	CSK8.G2.4.1 Discuss strategies for protecting authentication methods	CSK8.G3.4.1 Identify strategies for protecting authentication methods and explore ways to secure compromised information	CSK8.G4.4.1 Identify strategies for protecting authentication methods and explore ways to secure compromised information
NOTE: Strategies for securing personal information may include, but are not limited to, reducing information shared on social media, resetting passwords, restricting access to online profiles, and setting permissions.				
CSK8.K.4.2 Discuss level-appropriate issues related to the appropriate use of technology and information, and the consequences of inappropriate use	CSK8.G1.4.2 Discuss level-appropriate issues related to the appropriate use of technology and information, and the consequences of inappropriate use	CSK8.G2.4.2 Discuss level-appropriate issues related to the appropriate use of technology and information, and the consequences of inappropriate use	CSK8.G3.4.2 Discuss level-appropriate issues related to the use of technology, acceptable use policies and codes of conduct, and the consequences of inappropriate use	CSK8.G4.4.2 Discuss level-appropriate issues related to the use of technology, acceptable use policies and codes of conduct, and the consequences of inappropriate use
NOTE: Issues may include, but are not limited to, cyber bullying, cyber presence, netiquette, online safety, protecting personal information, and the purpose of acceptable use policies and codes of conduct.				
CSK8.K.4.3 Begins in Grade 1	CSK8.G1.4.3 Discuss the concept of a digital footprint and the responsibilities and opportunities of living, learning, and working in a digitally connected world	CSK8.G2.4.3 Discuss the concept of a digital footprint and the responsibilities and opportunities of living, learning, and working in a digitally connected world	CSK8.G3.4.3 Identify individual digital footprint (e.g., game profiles, shares on social media and other online accounts) and the responsibilities and opportunities of living, learning, and working in a digitally connected world	CSK8.G4.4.3 Identify individual digital footprint (e.g., game profiles, shares on social media and other online accounts) and the responsibilities and opportunities of living, learning, and working in a digitally connected world

**Strand:** Algorithms and Programs

**Content Cluster 5:** Students will create, evaluate, and modify algorithms.

Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4
CSK8.K.5.1 Create and follow algorithms to accomplish a task or solve a problem	CSK8.G1.5.1 Create and follow algorithms to accomplish a task or solve a problem	CSK8.G2.5.1 Create and follow algorithms to accomplish a task or solve a problem	CSK8.G3.5.1 Create and follow algorithms to accomplish a task or solve a problem	CSK8.G4.5.1 Create and follow algorithms to accomplish a task or solve a problem
CSK8.K.5.2 Design algorithms to show a simple process	CSK8.G1.5.2 Design and test algorithms collaboratively	CSK8.G2.5.2 Design and test algorithms collaboratively	CSK8.G3.5.2 Design and test algorithms collaboratively using technology	CSK8.G4.5.2 Design and test algorithms collaboratively using technology
CSK8.K.5.3 Compare and contrast algorithms that include sequences and loops	CSK8.G1.5.3 Compare and contrast algorithms that include sequences and loops	CSK8.G2.5.3 Compare and contrast algorithms that include sequences and loops	CSK8.G3.5.3 Compare and refine algorithms that include sequences and loops	CSK8.G4.5.3 Compare and refine algorithms that include sequences and loops
CSK8.K.5.4 Demonstrate how to correct errors within an algorithm that includes sequences and loops and accomplishes a level-appropriate task	CSK8.G1.5.4 Identify and correct errors within an algorithm that includes sequences and loops and accomplishes a level-appropriate task	CSK8.G2.5.4 Identify and correct errors within an algorithm that includes sequences and loops and accomplishes a level-appropriate task	CSK8.G3.5.4 Identify and correct multiple errors within an algorithm that accomplishes a level-appropriate task or solves a level-appropriate problem	CSK8.G4.5.4 Identify and correct multiple errors within an algorithm that accomplishes a level-appropriate task or solves a level-appropriate problem

**NOTE:**

“Algorithm” in this standard refers to a sequence of steps followed when completing a particular task.

**Strand:** Algorithms and Programs

**Content Cluster 6:** Students will create programs to solve problems.

<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>	<b>Grade 3</b>	<b>Grade 4</b>
CSK8.K.6.1 Use a block-based programming language individually and collaboratively to solve level-appropriate problems	CSK8.G1.6.1 Use a block-based programming language individually and collaboratively to solve level-appropriate problems	CSK8.G2.6.1 Use a block-based programming language individually and collaboratively to solve level-appropriate problems	CSK8.G3.6.1 Use a block-based programming language individually and collaboratively to solve level-appropriate problems	CSK8.G4.6.1 Use a block-based programming language individually and collaboratively to solve level-appropriate problems
NOTE: Block-based programming editors may include, but are not limited to, Blockly, Code.org, and Scratch Jr.				
CSK8.K.6.2 Begins in Grade 5	CSK8.G1.6.2 Begins in Grade 5	CSK8.G2.6.2 Begins in Grade 5	CSK8.G3.6.2 Begins in Grade 5	CSK8.G4.6.2 Begins in Grade 5
CSK8.K.6.3 Begins in Grade 2	CSK8.G1.6.3 Begins in Grade 2	CSK8.G2.6.3 Improve or remix existing block-based programs	CSK8.G3.6.3 Improve or remix existing block-based programs	CSK8.G4.6.3 Improve or remix existing block-based programs

**Strand:** Computers and Communications

**Content Cluster 7:** Students will analyze the utilization of computers within industry.

<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>	<b>Grade 3</b>	<b>Grade 4</b>
CSK8.K.7.1 Discuss that computers perform actions or outputs based on human input (e.g., keyboard, microphone, mouse, video game controller)	CSK8.G1.7.1 Discuss that computers perform actions or outputs based on human input (e.g., keyboard, microphone, mouse, video game controller)	CSK8.G2.7.1 Discuss how computers perform actions or outputs based on human input (e.g., keyboard, microphone, mouse, video game controller)	CSK8.G3.7.1 Identify how computers perform actions or outputs based on human input (e.g., keyboard, microphone, mouse, video game controller)	CSK8.G4.7.1 Identify how computers perform actions or outputs based on human input (e.g., keyboard, microphone, mouse, video game controller)
CSK8.K.7.2 Demonstrate proper care of computer equipment	CSK8.G1.7.2 Demonstrate proper care of computer equipment	CSK8.G2.7.2 Recognize the expense of computer equipment and how care and protection of the computers can prolong use and save the cost of purchasing new equipment	CSK8.G3.7.2 Recognize the expense of computer equipment and how care and protection of the computers can prolong use and save the cost of purchasing new equipment	CSK8.G4.7.2 Recognize the expense of computer equipment and how care and protection of the computers can prolong use and save the cost of purchasing new equipment
<b>NOTE:</b> Proper care may include, but is not limited to, using clean hands and keeping drink, food, and magnets away from computers.				

**Strand:** Computers and Communications

**Content Cluster 8:** Students will analyze communication methods and systems used to transmit information among computing devices.

Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4
CSK8.K.8.1 Identify how information can be transmitted using computing devices via a network	CSK8.G1.8.1 Identify how information can be transmitted using computing devices via a network	CSK8.G2.8.1 Identify how information can be transmitted using computing devices via a network	CSK8.G3.8.1 Identify how information can be transmitted using computing devices via a network	CSK8.G4.8.1 Identify how information can be transmitted using computing devices via a network
NOTE: Networked computing devices may include, but are not limited to, cellular devices, Wi-Fi devices, and wired devices.				
CSK8.K.8.2 Practice locating: <ul style="list-style-type: none"> <li>enter key</li> <li>letter and number keys</li> <li>shift key for capital letters</li> <li>spacebar with thumb</li> </ul>	CSK8.G1.8.2 Practice locating: <ul style="list-style-type: none"> <li>enter key</li> <li>letter and number keys</li> <li>shift key for capital letters</li> <li>spacebar with thumb</li> </ul>	CSK8.G2.8.2 Use proper keyboarding technique and finger positioning: <ul style="list-style-type: none"> <li>enter key</li> <li>fingers on home row keys</li> <li>punctuation appropriate to writing level</li> <li>shift key for capital letters</li> <li>thumb on spacebar</li> </ul>	CSK8.G3.8.2 Demonstrate touch typing techniques while increasing speed and maintaining accuracy	CSK8.G4.8.2 Demonstrate touch typing techniques while increasing speed and maintaining accuracy
CSK8.K.8.3 Discuss proper seat posture	CSK8.G1.8.3 Demonstrate proper seat posture	CSK8.G2.8.3 Recognize proper keyboarding technique: <ul style="list-style-type: none"> <li>body centered in front of keyboard</li> <li>elbows down</li> <li>eyes focused on the screen</li> <li>proper posture</li> </ul>	CSK8.G3.8.3 Demonstrate proper keyboarding technique: <ul style="list-style-type: none"> <li>body centered in front of keyboard</li> <li>elbows down</li> <li>eyes focused on the screen</li> <li>proper posture</li> </ul>	CSK8.G4.8.3 Practice proper keyboarding technique: <ul style="list-style-type: none"> <li>body centered in front of keyboard</li> <li>elbows down</li> <li>eyes focused on the screen</li> <li>proper posture</li> </ul>

**Strand:** Computers and Communications

**Content Cluster 9:** Students will utilize appropriate hardware and software.

<b>Kindergarten</b>	<b>Grade 1</b>	<b>Grade 2</b>	<b>Grade 3</b>	<b>Grade 4</b>
CSK8.K.9.1 Begins in Grade 7	CSK8.G1.9.1 Begins in Grade 7	CSK8.G2.9.1 Begins in Grade 7	CSK8.G3.9.1 Begins in Grade 7	CSK8.G4.9.1 Begins in Grade 7
CSK8.K.9.2 Use various input/output devices	CSK8.G1.9.2 Demonstrate proficiency with various input/output devices	CSK8.G2.9.2 Demonstrate proficiency with keyboards and other input/output devices	CSK8.G3.9.2 Demonstrate proficiency with keyboards and other input/output devices	CSK8.G4.9.2 Demonstrate proficiency with keyboards and other input/output devices
NOTE: Input/output devices may include, but are not limited to, interactive boards, mice, microphones, monitors, speakers, touchscreens, and touchpads.				
CSK8.K.9.3 Begins in Grade 3	CSK8.G1.9.3 Begins in Grade 3	CSK8.G2.9.3 Begins in Grade 3	CSK8.G3.9.3 Identify and use productivity technology tools for writing, communicating, and publishing activities	CSK8.G4.9.3 Use productivity technology tools for writing, communicating, and publishing activities
NOTE: Productivity technology tools include, but are not limited to, email systems, file sharing services, presentation software, short message service, spreadsheet applications, video conferencing systems, and word processing software.				

**Strand:** Professionalism and Impacts of Computing

**Content Cluster 10:** Students will analyze the impacts of technology and professionalism within the computing community.

Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4
CSK8.K.10.1 Identify the dangers of social media and other online engagement platforms	CSK8.G1.10.1 Identify the dangers of social media and other online engagement platforms	CSK8.G2.10.1 Identify the dangers of social media and other online engagement platforms	CSK8.G3.10.1 Identify the dangers of social media and other online engagement platforms	CSK8.G4.10.1 Identify the dangers of social media and other online engagement platforms and strategies to address these dangers
NOTE: Dangers of social media include, but are not limited to, cyberbullying, echo chambers, impersonation, mood manipulation, population manipulation, and social media induced depression.				
CSK8.K.10.2 Begins in Grade 5	CSK8.G1.10.2 Begins in Grade 5	CSK8.G2.10.2 Begins in Grade 5	CSK8.G3.10.2 Begins in Grade 5	CSK8.G4.10.2 Begins in Grade 5
CSK8.K.10.3 Identify what and when information (e.g., address, age, passwords, phone numbers, pictures) should be shared/not shared with others	CSK8.G1.10.3 Identify what and when information (e.g., address, age, passwords, phone numbers, pictures) should be shared/not shared with others	CSK8.G2.10.3 Identify different relationships (e.g., parents, trusted adults, friends, strangers, anonymous users) and how they determine what information should be shared	CSK8.G3.10.3 Identify different relationships (e.g., parents, trusted adults, friends, strangers, anonymous users) and how they determine what information should be shared	CSK8.G4.10.3 Identify different relationships (e.g., parents, trusted adults, friends, strangers, anonymous users) and how they determine what information should be shared
CSK8.K.10.4 Begins in Grade 5	CSK8.G1.10.4 Begins in Grade 5	CSK8.G2.10.4 Begins in Grade 5	CSK8.G3.10.4 Begins in Grade 5	CSK8.G4.10.4 Begins in Grade 5
CSK8.K.10.5 Explore uses of computing and technology	CSK8.G1.10.5 Identify uses of computing and technology	CSK8.G2.10.5 Examine uses of computing and technology	CSK8.G3.10.5 Discuss various careers that require computing and technology	CSK8.G4.10.5 Identify various careers that require computing and technology

CSK8.K.10.6 Begins in Grade 1	CSK8.G1.10.6 Identify and discuss positive and negative impacts of technology on the daily life of individual students	CSK8.G2.10.6 Identify and discuss positive and negative impacts of technology on the daily life of individual people	CSK8.G3.10.6 Identify and discuss positive and negative impacts of technology on the daily life of individual people and the greater impact on society	CSK8.G4.10.6 Identify and discuss positive and negative impacts of technology on the daily life of individual people and the greater impact on society
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**NOTE:**

Technology may include, but is not limited to, digital security, mobile computing and communication, virtualization, and web technologies.

CSK8.K.10.7 Identify copyright in various media	CSK8.G1.10.7 Discuss copyright in various media	CSK8.G2.10.7 Identify and name resources used in the process of gathering information	CSK8.G3.10.7 Identify and name resources used in the process of gathering information	CSK8.G4.10.7 Demonstrate an understanding of ethical issues in copyright laws, fair use exemptions, and intellectual property rights in various media
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**Strand:** Professionalism and Impacts of Computing

**Content Cluster 11:** Students will demonstrate understanding of storytelling with data and appropriately communicate about technical information.

Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4
CSK8.K.11.1 Begins in Grade 5	CSK8.G1.11.1 Begins in Grade 5	CSK8.G2.11.1 Begins in Grade 5	CSK8.G3.11.1 Begins in Grade 5	CSK8.G4.11.1 Begins in Grade 5
CSK8.K.11.2 Begins in Grade 5	CSK8.G1.11.2 Begins in Grade 5	CSK8.G2.11.2 Begins in Grade 5	CSK8.G3.11.2 Begins in Grade 5	CSK8.G4.11.2 Begins in Grade 5
CSK8.K.11.3 Identify various electronic information sources	CSK8.G1.11.3 Identify various electronic information sources	CSK8.G2.11.3 Identify various electronic information sources and discuss the validity and accuracy of the information found	CSK8.G3.11.3 Identify and discuss the attributes (e.g., bias, credible, fact, opinion) of various electronic information sources	CSK8.G4.11.3 Identify and discuss the attributes (e.g., bias, credible, fact, opinion) of various electronic information sources
CSK8.K.11.4 Begins in Grade 5	CSK8.G1.11.4 Begins in Grade 5	CSK8.G2.11.4 Begins in Grade 5	CSK8.G3.11.4 Begins in Grade 5	CSK8.G4.11.4 Begins in Grade 5
CSK8.K.11.5 Begins in Grade 5	CSK8.G1.11.5 Begins in Grade 5	CSK8.G2.11.5 Begins in Grade 5	CSK8.G3.11.5 Begins in Grade 5	CSK8.G4.11.5 Begins in Grade 5

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