

Concept	Subconcept	Kindergarten	Grade 1
K-5 COMPUTER SCIENCE STANDARDS			
Algorithms and Programming	Algorithms	K.AP.A.1 – Model daily processes by creating and following sets of step-by-step instructions (algorithms) to complete tasks. (P4.4)	
	Program Development	K.AP.PD.1 - Identify and fix (debug) errors in a sequence of instructions (algorithms) that includes loops. (P6.2)	1.AP.PD.1 - Describe the iterative process of program development (including terminology, steps taken, and the logic of choices). (P7.2)

Concept	Subconcept	Grade 2	Grade 3
K-5 COMPUTER SCIENCE STANDARDS			
Algorithms and Programming	Algorithms		
	Program Development	<p>2.AP.PD.1 - Develop plans that describe a program's sequence of events, goals, and expected outcomes. (P5.1, 7.2)</p> <p>2.AP.PD.2 - Give attribution (credit) when using the ideas and creations of others while developing programs. (P7.3)</p>	<p>3.AP.PD.1 - Debug (identify and fix) errors in an algorithm or program that includes sequences and loops. (P6.1-.2)</p> <p>3.AP.PD.2 - Take on varying roles (e.g., researcher, programmer, test developer, designer, recorder) with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development. (P2.2)</p>

Concept	Subconcept	Grade 4	Grade 5
K-5 COMPUTER SCIENCE STANDARDS			
Algorithms and Programming	Algorithms	4.AP.A.1 - Test, compare, and refine multiple algorithms for the same task and determine which is the most appropriate. (P3.3, 6.1-3)	
	Program Development	4.AP.PD.1 - Test and debug (identify and fix) errors in a program or algorithm to ensure it runs as intended. (P6.1-2)	5.AP.PD.1 – Use the iterative process to develop a program to express an idea or address a problem while considering others’ perspectives and preferences. (P1.1, 5.1) 5.AP.PD.2 – Describe choices made during program development using code comments, presentations, and demonstrations. (P7.2) 5.AP.PD.3 – Observe intellectual property rights and give appropriate attribution (credit) when creating or remixing programs. (P5.2, 7.3)

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K-5 COMPUTER SCIENCE STANDARDS						
Algorithms and Programming	Algorithms					
	Program Development					

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Algorithms and Programming	Algorithms				
	Program Development				

Concept	Subconcept	Kindergarten	Grade 1
	Variables		1.AP.V.1 - Model the way programs store and manipulate data by using numbers or other symbols to represent information. (P4.4)
	Control		
	Modularity		

Concept	Subconcept	Grade 2	Grade 3
	Variables		3.AP.V.1 - Create programs that use variables to store and modify data. (P5.2)
	Control	2.AP.C.1 - Develop programs with sequences and loops, to express ideas or address a problem. (P5.2)	
	Modularity	2.AP.M.1 - Break down (decompose) the steps needed to solve a problem into a precise sequence of instructions. (P3/2)	

Concept	Subconcept	Grade 4	Grade 5
	Variables		
	Control	4.AP.C.1 - Develop programs that include sequences, events, loops, and conditionals. (P5.2)	
	Modularity	4.AP.M.1 - Explore how complex tasks can be decomposed into simple tasks and how simple tasks can be composed into complex tasks. (P3.2)	5.AP.M.1 - Demonstrate how to decompose a task of complexity into simple tasks and compose a simple task into tasks of complexity. (P3.2) 5.AP.M.2 - Modify, incorporate, and test portions of an existing program into their own work, to develop something new or add more advanced features. (P5.3)

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[Redacted]	Variables					
[Redacted]	Control					
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Concept	Subconcept	Kindergarten	Grade 1
Computing Systems	Hardware and Software	<p>K.CS.HS.1 - Use appropriate terminology in identifying and describing the function of common physical components of computing systems (hardware). For example: monitor, keyboard, mouse, earbuds, headphones, printer. (P7.2)</p> <p>K.CS.HS.2 - Recognize some computing devices (e.g., computer, smartphone) can perform a variety of tasks and some computing devices are specialized (e.g., navigation system, game controller). (P7.2)</p>	
	Devices		<p>1.CS.D.1 - Select and operate appropriate device and software to perform a variety of tasks, and recognize that users have different needs and preferences for the technology they use.(P1.1)</p>

Concept	Subconcept	Grade 2	Grade 3
Computing Systems	Hardware and Software		
	Devices		3.CS.D.1 - Describe how internal and external parts of computing devices function to form a system. (P7.2)

Concept	Subconcept	Grade 4	Grade 5
Computing Systems	Hardware and Software	4.CS.HS.1 - Model how computer hardware and software work together as a system to accomplish tasks. (P4.4)	
	Devices		

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Concept	Subconcept	Kindergarten	Grade 1
	Troubleshooting		
Data and Analysis	Storage	K.DA.S.1 - Recognize that data can be collected and stored on different computing devices over time. (P4.2)	1.DA.S.1 - Recognize that a variety of data (e.g., music, video, images, text) can be stored in and retrieved from a computing device. (P4.2)
	Collection, Visualization, and Transformation		
	Inference and Models		

Concept	Subconcept	Grade 2	Grade 3
	Troubleshooting	2.CS.T.1 - Describe basic hardware and software problems using accurate terminology. (P6.2, 7.2)	
Data and Analysis	Storage	2.DA.S.1 - Store, copy, search, retrieve, modify, and delete information using a computing device and define the information stored as data. (P4.2)	
	Collection, Visualization, and Transformation		3.DA.CVT.1 - Organize and present collected data visually to highlight relationships and support a claim. (P7.1)
	Inference and Models		

Concept	Subconcept	Grade 4	Grade 5
	Troubleshooting		5.CS.T.1 - Determine potential solutions to solve simple hardware and software problems using common troubleshooting strategies. (P6.2)
Data and Analysis	Storage		
	Collection, Visualization, and Transformation		
	Inference and Models	4.DA.IM.1 - Use data to highlight or propose cause-and-effect relationships, predict outcomes, or communicate ideas. (P7.1)	5.DA.IM.1 - Recognize how text, images, and sounds are represented as binary numbers in computing devices. (P4.1)

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	Troubleshooting					
Data and Analysis	Storage					
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Concept	Subconcept	Kindergarten	Grade 1
Impacts of Computing	Culture	K.IC.C.1 - Understand how computing devices have changed people's lives. (P1.1)	
	Social Interactions	K.IC.SI.1 - Exhibit good digital citizenship using technology safely, responsibly, and ethically. (P2.1)	1.IC.SI.1 - Work respectfully and responsibly with others online. (P2.1)
	Safety, Law, and Ethics		
Networks and the Internet	Cybersecurity	K.NI.C.1 - Explain that a password helps protect the privacy of information. (P7.3)	1.NI.C.1 - Explain why we keep personal information (e.g., name, location, phone number, home address) private. (P7.3)

Concept	Subconcept	Grade 2	Grade 3
Impacts of Computing	Culture	2.IC.C.1 - Compare how people live and work before and after the implementation or adoption of new computing technology. (P1.1, 1.3)	3.IC.C.1 - Discuss computing technologies that have changed the world, and express how those technologies influence and are influenced by cultural practices. (P3.1)
	Social Interactions		
	Safety, Law, and Ethics	2.IC.SLE.1 - Identify safe and unsafe examples of online communications. (P2.1, 7.3)	3.IC.SLE.1 - Use public domain or creative commons media, and refrain from copying or using material created by others without permission. (P7.3)
Networks and the Internet	Cybersecurity	2.NI.C.1-1 - Explain what passwords are and why we use them; use strong passwords to protect devices and information from unauthorized access. (P7.3)	3.NI.C.1 - Discuss real-world cybersecurity problems and how personal information can be protected. (P3.1)

Concept	Subconcept	Grade 4	Grade 5
Impacts of Computing	Culture	4.IC.C.1 - Compare and contrast how computing has changed society from the past to the present. (P3.1)	5.IC.C.1 – Brainstorm ways to improve the accessibility and usability of technology products for the diverse needs and wants of users. (P1.2)
[Redacted]	Social Interactions	[Redacted]	5.IC.SI.1 - Seek diverse perspectives for the purpose of improving computational artifacts. (P1.1)
[Redacted]	Safety, Law, and Ethics	[Redacted]	[Redacted]
[Redacted]			
Networks and the Internet	Cybersecurity	[Redacted]	[Redacted]

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Impacts of Computing	Culture					
	Social Interactions					
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Concept	Subconcept	Kindergarten	Grade 1
	Network, Communication, and Organization		
Key:			
Concepts:	Subconcepts:		
Algorithms and Programming (AP)	Algorithms (A)		
	Program Development (PD)		
	Variables (V)		
	Control (C)		
	Modularity (M)		
Computing Systems (CS)	Hardware and Software (HS)		
	Devices (D)		
	Troubleshooting (T)		
Data and Analysis (DA)	Storage (S)		

Concept	Subconcept	Grade 2	Grade 3
	Network, Communication, and Organization		
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Algorithms and Programming (AP)	Algorithms (A)		
	Program Development (PD)		
	Variables (V)		
	Control (C)		
	Modularity (M)		
Computing Systems (CS)	Hardware and Software (HS)		
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Concept	Subconcept	Grade 4	Grade 5
	Network, Communication, and Organization	4.NI.NCO.1 - Model how information is broken down into smaller pieces, transmitted as packets through multiple devices over networks and the internet, and reassembled at the destination. (P4.4)	5.NI.NCO.1 – Explain the concept of network protocols. (P4.4) 5.NI.NCO.2 – Identify the advantages and disadvantages of various network types (e.g., wire, WiFi, cellular data). (P4.1)
Key:			
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	Inference and Models (IM)		
Impacts of Computing (IC)	Culture (C)		
	Social Interactions (SI)		
	Safety, Law, and Ethics (SLE)		
Networks and the Internet (NI)	Cybersecurity (C)		
	Network, Communication, and Organization (NCO)		
Practices:			
P1: Fostering an Inclusive Computing Culture			
P2: Collaborating Around Computing			
P3: Recognizing and Defining Computational Problems			
P4: Developing and Using Abstractions			
P5: Creating Computational Artifacts			

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Concept	Subconcept	Kindergarten	Grade 1
P6: Testing and Refining Computational Artifacts			
P7: Communication About Computing			
K-5 Nevada Integrated Technology Standards			
Empowered Learner (EL) Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals, informed by the learning sciences.	A. Articulate and set personal learning goals, develop strategies leveraging technology to achieve them, and reflect on the learning process itself to improve learning outcomes.	K.EL.A.1 Participate as a collaborative group to utilize digital and non-digital planning tools.	
	B. Build networks and customize their learning environments in ways that support the learning process.		1.EL.B.1 With teacher guidance, create a non-digital personal learning network of peers who can provide support.

Concept	Subconcept	Grade 2	Grade 3
P6: Testing and Refining Computational Artifacts			
P7: Communication About Computing			
K-5 Nevada Integrated Technology Standards			
Empowered Learner (EL) Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals, informed by the learning sciences.	A. Articulate and set personal learning goals, develop strategies leveraging technology to achieve them, and reflect on the learning process itself to improve learning outcomes.	2.EL.A.1 With teacher guidance, utilize digital and non-digital planning tools.	3.EL.A.1 Independently utilize digital and non-digital planning tools.
	B. Build networks and customize their learning environments in ways that support the learning process.		

Concept	Subconcept	Grade 4	Grade 5
P6: Testing and Refining Computational Artifacts			
P7: Communication About Computing			
K-5 Nevada Integrated Technology Standards			
Empowered Learner (EL) Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals, informed by the learning sciences.	A. Articulate and set personal learning goals, develop strategies leveraging technology to achieve them, and reflect on the learning process itself to improve learning outcomes.	4.EL.A.1 With teacher guidance, develop learning goals, select tools to achieve them, and reflect on and revise the learning process as needed to achieve goals.	5.EL.A.1 Develop learning goals, select the technology tools to achieve them, and reflect on and revise the learning process as needed to achieve goals.
	B. Build networks and customize their learning environments in ways that support the learning process.	4.EL.B.1 Create a digital or non-digital personal learning network of peers who can provide support.	

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P7: Communication About Computing						
K-5 Nevada Integrated Technology Standards						
Empowered Learner (EL) Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals, informed by the learning sciences.	A. Articulate and set personal learning goals, develop strategies leveraging technology to achieve them, and reflect on the learning process itself to improve learning outcomes.					
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	B. Build networks and customize their learning environments in ways that support the learning process.				

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	C. Use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.		
	D. Understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies, and are able to transfer their knowledge to explore emerging technologies.	<p>K.EL.D.1 Locate and use letter and number keys and the space bar.</p> <p>K.EL.D.2 Demonstrate proper care and use of equipment.</p>	<p>1.EL.D.1 Locate and use letter, number, punctuation, and use of special function keys (e.g., shift, backspace, delete).</p>
<p>Digital Citizen (DC): Students recognize the rights, responsibilities, and opportunities of living, learning, and working in an interconnected digital world, and they act and model in ways that are safe,</p>	<p>A. Cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world.</p>	<p>Refer to NVACS - Computer Science (K.IC.C.1 and K.IC.SI.1)</p>	

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	<p>C. Use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.</p>		
	<p>D. Understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies, and are able to transfer their knowledge to explore emerging technologies.</p>	<p>2.EL.D.1 Master location and use of special function keys (e.g., shift, backspace, delete).</p> <p>2.EL.D.2 Demonstrate the use of drag and drop, copy, paste, undo, and editing and correction techniques.</p>	<p>3.EL.D.1 Demonstrate appropriate touch (blind) typing with speed and accuracy.</p>
<p>Digital Citizen (DC): Students recognize the rights, responsibilities, and opportunities of living, learning, and working in an interconnected digital world, and they act and model in ways that are safe,</p>	<p>A. Cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world.</p>		<p>3.DC.A.1 Demonstrate an understanding of the role an online identity plays in the digital world and learn the permanence of their decisions when interacting online.</p>

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	<p>C. Use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.</p>	<p>4.EL.C.1 Seek feedback from both people and digital tools, and use age-appropriate technology to share learning.</p>	
	<p>D. Understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies, and are able to transfer their knowledge to explore emerging technologies.</p>		<p>5.EL.D.1 Demonstrate proficient touch (blind) typing with speed and accuracy.</p>
<p>Digital Citizen (DC): Students recognize the rights, responsibilities, and opportunities of living, learning, and working in an interconnected digital world, and they act and model in ways that are safe,</p>	<p>A. Cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world.</p>		<p>5.DC.A.1 Understand the notion of "digital footprint" and the permanence and traceability associated with online communication.</p>

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Digital Citizen (DC): Students recognize the rights, responsibilities, and opportunities of living, learning, and working in an interconnected digital world, and they act and model in ways that are safe,	A. Cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world.				

Concept	Subconcept	Kindergarten	Grade 1
	<p>B. Engage in positive, safe, legal, and ethical behavior when using technology, including social interactions online or when using networked devices.</p>	<p>K.DC.B.1 Describe potential dangers in digital environments and how to report potentially unsafe situations.</p>	
	<p>C. Demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.</p>	<p>K.DC.C.1 Describe potential dangers in digital environments and how to report potentially unsafe situations.</p>	<p>1.DC.C.1 Articulate what is allowed and what is not allowed at school when using technology.</p>
	<p>D. Manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.</p>	<p>Refer to NVACS - Computer Science (K.NI.C.1)</p>	<p>Refer to NVACS - Computer Science (1.NI.C.1)</p>

Concept	Subconcept	Grade 2	Grade 3
	<p>B. Engage in positive, safe, legal, and ethical behavior when using technology, including social interactions online or when using networked devices.</p>		<p>3.DC.B.1 Describe codes of conduct for using technology at school and the consequences for breaking those rules.</p>
	<p>C. Demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.</p>	<p>2.DC.C.1 Make responsible decisions - grounded in knowledge of digital safety and security best practices.</p>	
	<p>D. Manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.</p>	<p>Refer to NVACS - Computer Science (2.NI.C.1)</p>	<p>Refer to NVACS - Computer Science (3.IC.SLE.1)</p>

Concept	Subconcept	Grade 4	Grade 5
	<p>B. Engage in positive, safe, legal, and ethical behavior when using technology, including social interactions online or when using networked devices.</p>	<p>4.DC.B.1 Practice and encourage others in a safe, legal, and ethical behavior when using technology and interacting online.</p>	
	<p>C. Demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.</p>	<p>4.DC.C.1 Demonstrate how to paraphrase the information learned from online sources into their own words.</p>	
	<p>D. Manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.</p>		

Concept	Subconcept					
	<p>B. Engage in positive, safe, legal, and ethical behavior when using technology, including social interactions online or when using networked devices.</p>					
	<p>C. Demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.</p>					
	<p>D. Manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.</p>					

Concept	Subconcept					
	<p>B. Engage in positive, safe, legal, and ethical behavior when using technology, including social interactions online or when using networked devices.</p>					
	<p>C. Demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.</p>					
	<p>D. Manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.</p>					

Concept	Subconcept					
	<p>B. Engage in positive, safe, legal, and ethical behavior when using technology, including social interactions online or when using networked devices.</p>					
	<p>C. Demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.</p>					
	<p>D. Manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.</p>					

Concept	Subconcept				
	<p>B. Engage in positive, safe, legal, and ethical behavior when using technology, including social interactions online or when using networked devices.</p>				
	<p>C. Demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.</p>				
	<p>D. Manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.</p>				

Concept	Subconcept	Kindergarten	Grade 1
<p>Knowledge Constructor (KC): Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences for themselves and others.</p>	<p>A. Plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.</p>		<p>1.KC.A.1 Collaborate with others using digital resources to learn about high interest topics.</p>
	<p>B. Evaluate the accuracy, perspective, credibility, and relevance of information, media, data, or other resources.</p>		
	<p>C. Curate information from digital resources using a variety of tools and methods to create collection of artifacts that demonstrate meaningful connections or conclusions.</p>		

Concept	Subconcept	Grade 2	Grade 3
<p>Knowledge Constructor (KC): Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences for themselves and others.</p>	<p>A. Plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.</p>	<p>2.KC.A.1 Identify and organize keywords and use multiple sources to answer an essential question.</p>	
	<p>B. Evaluate the accuracy, perspective, credibility, and relevance of information, media, data, or other resources.</p>		<p>3.KC.B.1 With teacher guidance, become familiar with age-appropriate criteria for evaluating digital content.</p>
	<p>C. Curate information from digital resources using a variety of tools and methods to create collection of artifacts that demonstrate meaningful connections or conclusions.</p>		<p>3.KC.C.1 Organize information and make meaningful connections between resources.</p>

Concept	Subconcept	Grade 4	Grade 5
<p>Knowledge Constructor (KC): Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences for themselves and others.</p>	<p>A. Plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.</p>	<p>4.KC.A.1 Use keywords to search, organize, locate, and synthesize information in multiple sources to create an original product.</p>	
	<p>B. Evaluate the accuracy, perspective, credibility, and relevance of information, media, data, or other resources.</p>		<p>5.KC.B.1 Explain the importance of using more than one source and recognize possible bias in digital resources.</p>
	<p>C. Curate information from digital resources using a variety of tools and methods to create collection of artifacts that demonstrate meaningful connections or conclusions.</p>		

Concept	Subconcept					
<p>Knowledge Constructor (KC): Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences for themselves and others.</p>	<p>A. Plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.</p>					
	<p>B. Evaluate the accuracy, perspective, credibility, and relevance of information, media, data, or other resources.</p>					
	<p>C. Curate information from digital resources using a variety of tools and methods to create collection of artifacts that demonstrate meaningful connections or conclusions.</p>					

Concept	Subconcept					
<p>Knowledge Constructor (KC): Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences for themselves and others.</p>	<p>A. Plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.</p>					
	<p>B. Evaluate the accuracy, perspective, credibility, and relevance of information, media, data, or other resources.</p>					
	<p>C. Curate information from digital resources using a variety of tools and methods to create collection of artifacts that demonstrate meaningful connections or conclusions.</p>					

Concept	Subconcept					
<p>Knowledge Constructor (KC): Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences for themselves and others.</p>	<p>A. Plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.</p>					
	<p>B. Evaluate the accuracy, perspective, credibility, and relevance of information, media, data, or other resources.</p>					
	<p>C. Curate information from digital resources using a variety of tools and methods to create collection of artifacts that demonstrate meaningful connections or conclusions.</p>					

Concept	Subconcept				
<p>Knowledge Constructor (KC): Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences for themselves and others.</p>	<p>A. Plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.</p>				
	<p>B. Evaluate the accuracy, perspective, credibility, and relevance of information, media, data, or other resources.</p>				
	<p>C. Curate information from digital resources using a variety of tools and methods to create collection of artifacts that demonstrate meaningful connections or conclusions.</p>				

Concept	Subconcept	Kindergarten	Grade 1
	<p>D. Build knowledge by actively exploring real-world issues and problems, developing ideas and theories, and pursuing answers and solutions.</p>		
<p>Innovative Designer (ID): Students use a variety of technologies withing a design process to identify and solve problems by creating new, useful, or imaginative solutions.</p>	<p>A. Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts, or solving authentic problems.</p>	<p>K.ID.A.1 With teacher guidance, ask questions, suggest solutions, test ideas to solve problems and share their learning.</p>	
	<p>B. Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.</p>		
	<p>C. Develop, test, and refine prototypes as part of a cyclical design process.</p>		<p>1.ID.C.1 Use a design process to develop ideas or creations, and they test their design and redesign if necessary.</p>

Concept	Subconcept	Grade 2	Grade 3
	D. Build knowledge by actively exploring real-world issues and problems, developing ideas and theories, and pursuing answers and solutions.	2.KC.D.1 Use digital models and simulations to explore complex systems and issues.	3.KC.D.1 Create essential questions to guide investigation of a real-world problem using digital resources.
Innovative Designer (ID): Students use a variety of technologies withing a design process to identify and solve problems by creating new, useful, or imaginative solutions.	A. Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts, or solving authentic problems.		3.ID.A.1 Explore and practice how a design process works to generate ideas, consider solutions, plan to solve a problem, or create innovative products that are shared with others.
	B. Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.	2.ID.B.1 Plan and manage projects using a digital and/or non-digital planning tool.	3.ID.B.1 Describe a variety of ways to interact and contribute to a digital product.
	C. Develop, test, and refine prototypes as part of a cyclical design process.		

Concept	Subconcept	Grade 4	Grade 5
	<p>D. Build knowledge by actively exploring real-world issues and problems, developing ideas and theories, and pursuing answers and solutions.</p>		<p>5.KC.D.1 Propose solutions to real-world problems using collected data and digital tools.</p>
<p>Innovative Designer (ID): Students use a variety of technologies withing a design process to identify and solve problems by creating new, useful, or imaginative solutions.</p>	<p>A. Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts, or solving authentic problems.</p>	<p>4.ID.A.1 Demonstrate how a design process works to generate ideas, consider solutions, plan to solve a problem, or create innovative products that are shared with others.</p>	
	<p>B. Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.</p>		<p>5.ID.B.1 Plan and manage projects using digital planning tools.</p>
	<p>C. Develop, test, and refine prototypes as part of a cyclical design process.</p>		

Concept	Subconcept					
	<p>D. Build knowledge by actively exploring real-world issues and problems, developing ideas and theories, and pursuing answers and solutions.</p>					
<p>Innovative Designer (ID): Students use a variety of technologies withing a design process to identify and solve problems by creating new, useful, or imaginative solutions.</p>	<p>A. Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts, or solving authentic problems.</p>					
	<p>B. Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.</p>					
	<p>C. Develop, test, and refine prototypes as part of a cyclical design process.</p>					

Concept	Subconcept					
	<p>D. Build knowledge by actively exploring real-world issues and problems, developing ideas and theories, and pursuing answers and solutions.</p>					
<p>Innovative Designer (ID): Students use a variety of technologies withing a design process to identify and solve problems by creating new, useful, or imaginative solutions.</p>	<p>A. Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts, or solving authentic problems.</p>					
	<p>B. Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.</p>					
	<p>C. Develop, test, and refine prototypes as part of a cyclical design process.</p>					

Concept	Subconcept					
	<p>D. Build knowledge by actively exploring real-world issues and problems, developing ideas and theories, and pursuing answers and solutions.</p>					
<p>Innovative Designer (ID): Students use a variety of technologies withing a design process to identify and solve problems by creating new, useful, or imaginative solutions.</p>	<p>A. Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts, or solving authentic problems.</p>					
	<p>B. Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.</p>					
	<p>C. Develop, test, and refine prototypes as part of a cyclical design process.</p>					

Concept	Subconcept				
	<p>D. Build knowledge by actively exploring real-world issues and problems, developing ideas and theories, and pursuing answers and solutions.</p>				
<p>Innovative Designer (ID): Students use a variety of technologies withing a design process to identify and solve problems by creating new, useful, or imaginative solutions.</p>	<p>A. Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts, or solving authentic problems.</p>				
	<p>B. Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.</p>				
	<p>C. Develop, test, and refine prototypes as part of a cyclical design process.</p>				

Concept	Subconcept	Kindergarten	Grade 1
	D. Exhibit a tolerance for ambiguity, perseverance, and the capacity to work with open-ended problems.		1.ID.D.1 Demonstrate perseverance when working to complete a challenging task.
Computational Thinker (CT): Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological method to	A. Formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.	K.CT.A.1 With teacher guidance, explore alternative solutions to and diverse perspectives on authentic problems using digital tools.	1.CT.A.1 With teacher guidance, use data to answer an authentic problem using digital tools.
	B. Collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.		1.CT.B.1 With teacher guidance, identify patterns and predict possibilities with classroom data using digital tools.

Concept	Subconcept	Grade 2	Grade 3
	<p>D. Exhibit a tolerance for ambiguity, perseverance, and the capacity to work with open-ended problems.</p>		
<p>Computational Thinker (CT): Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological method to</p>	<p>A. Formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.</p>		
	<p>B. Collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.</p>	<p>2.CT.B.1 Identify patterns and predict possibilities with classroom data using digital tools.</p>	

Concept	Subconcept	Grade 4	Grade 5
	<p>D. Exhibit a tolerance for ambiguity, perseverance, and the capacity to work with open-ended problems.</p>	<p>4.ID.D.1 Demonstrate perseverance when working with open-ended problems.</p>	
<p>Computational Thinker (CT): Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological method to</p>	<p>A. Formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.</p>		
	<p>B. Collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.</p>	<p>4.CT.B.1 Identify and represent trends and make predictions using classroom data.</p>	

Concept	Subconcept					
	<p>D. Exhibit a tolerance for ambiguity, perseverance, and the capacity to work with open-ended problems.</p>					
<p>Computational Thinker (CT): Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological method to</p>	<p>A. Formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.</p>					
	<p>B. Collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.</p>					

Concept	Subconcept					
	<p>D. Exhibit a tolerance for ambiguity, perseverance, and the capacity to work with open-ended problems.</p>					
<p>Computational Thinker (CT): Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological method to</p>	<p>A. Formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.</p>					
	<p>B. Collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.</p>					

Concept	Subconcept					
	<p>D. Exhibit a tolerance for ambiguity, perseverance, and the capacity to work with open-ended problems.</p>					
<p>Computational Thinker (CT): Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological method to</p>	<p>A. Formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.</p>					
	<p>B. Collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.</p>					

Concept	Subconcept				
	<p>D. Exhibit a tolerance for ambiguity, perseverance, and the capacity to work with open-ended problems.</p>				
<p>Computational Thinker (CT): Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological method to</p>	<p>A. Formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.</p>				
	<p>B. Collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.</p>				

Concept	Subconcept	Kindergarten	Grade 1
	<p>C. Break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.</p>	<p>K.CT.C.1 With teacher guidance, work in a team to solve problems using digital tools.</p> <p>K.CT.C.2 With teacher guidance, reboot a device correctly.</p>	<p>1.CT.C.1 With teacher guidance, identify and describe simple hardware and software problems (e.g., headphones, keyboard, volume).</p>
	<p>D. Understand how automation works and use algorithmic thinking to develop a sequence to create and test automated solutions.</p>	<p>Refer to NVACS - Comptuer Science (K.AP.A.1 and K.AP.PD.1)</p>	
<p>Creative Communicator (CC): Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats, and digital media appropriate to their goals.</p>	<p>A. Choose the appropriate platforms and tools for meeting the desired objectives of their creation or communications.</p>		<p>1.CC.A.1 With teacher guidance, choose different tools for creating something new or for communcating with others.</p>

Concept	Subconcept	Grade 2	Grade 3
	<p>C. Break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.</p>		<p>3.CT.C.1 Work in a team to solve problems using digital tools.</p> <p>3.CT.C.2 With teacher guidance, identify and describe the cause of hardware, connectivity, and software problems.</p>
	<p>D. Understand how automation works and use algorithmic thinking to develop a sequence to create and test automated solutions.</p>		
<p>Creative Communicator (CC): Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats, and digital media appropriate to their goals.</p>	<p>A. Choose the appropriate platforms and tools for meeting the desired objectives of their creation or communications.</p>		<p>3.CC.A.1 Describe appropriate media and formats for specific audiences.</p>

Concept	Subconcept	Grade 4	Grade 5
	C. Break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.		
	D. Understand how automation works and use algorithmic thinking to develop a sequence to create and test automated solutions.		
Creative Communicator (CC): Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats, and digital media appropriate to their goals.	A. Choose the appropriate platforms and tools for meeting the desired objectives of their creation or communications.	4.CC.A.1 Demonstrate appropriate media and formats for specific audiences.	5.CC.A.1 Recognize and utilize appropriate media and formats for specific audiences.

Concept	Subconcept					
	<p>C. Break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.</p>					
	<p>D. Understand how automation works and use algorithmic thinking to develop a sequence to create and test automated solutions.</p>					
<p>Creative Communicator (CC): Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats, and digital media appropriate to their goals.</p>	<p>A. Choose the appropriate platforms and tools for meeting the desired objectives of their creation or communications.</p>					

Concept	Subconcept					
	<p>C. Break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.</p>					
	<p>D. Understand how automation works and use algorithmic thinking to develop a sequence to create and test automated solutions.</p>					
<p>Creative Communicator (CC): Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats, and digital media appropriate to their goals.</p>	<p>A. Choose the appropriate platforms and tools for meeting the desired objectives of their creation or communications.</p>					

Concept	Subconcept					
	<p>C. Break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.</p>					
	<p>D. Understand how automation works and use algorithmic thinking to develop a sequence to create and test automated solutions.</p>					
<p>Creative Communicator (CC): Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats, and digital media appropriate to their goals.</p>	<p>A. Choose the appropriate platforms and tools for meeting the desired objectives of their creation or communications.</p>					

Concept	Subconcept				
	<p>C. Break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.</p>				
	<p>D. Understand how automation works and use algorithmic thinking to develop a sequence to create and test automated solutions.</p>				
<p>Creative Communicator (CC): Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats, and digital media appropriate to their goals.</p>	<p>A. Choose the appropriate platforms and tools for meeting the desired objectives of their creation or communications.</p>				

Concept	Subconcept	Kindergarten	Grade 1
	<p>B. Create original works or responsibly repurpose or remix digital resources into new creations.</p>		<p>1.CC.B.1 With teacher guidance, create an original work using a variety of digital tools as a means of personal or group expression.</p>
	<p>C. Communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models, or simulations.</p>		
	<p>D. Publish or present content that customizes the message and medium for their intended audiences.</p>		
<p>Global Collaborator (GC): Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.</p>	<p>A. Use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.</p>		<p>1.GC.A.1 With teacher guidance, use digital tools to work with friends and with people outside their neighborhood, city and beyond.</p>

Concept	Subconcept	Grade 2	Grade 3
	<p>B. Create original works or responsibly repurpose or remix digital resources into new creations.</p>		
	<p>C. Communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models, or simulations.</p>	<p>2.CC.C.1 With teacher guidance, communicate information and ideas to an intended audience using digital text, images, and audio.</p>	
	<p>D. Publish or present content that customizes the message and medium for their intended audiences.</p>		
<p>Global Collaborator (GC): Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.</p>	<p>A. Use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.</p>		<p>3.GC.A.1 Explore alternative solutions to and diverse perspectives on authentic problems and propose a solution using digital tools.</p>

Concept	Subconcept	Grade 4	Grade 5
	<p>B. Create original works or responsibly repurpose or remix digital resources into new creations.</p>	<p>4.CC.B.1 Create an original, digital work as a form of personal or group expression.</p>	<p>5.CC.B.1 Create original works and learn strategies for responsibly remixing or repurposing to create new artifacts.</p>
	<p>C. Communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models, or simulations.</p>	<p>4.CC.C.1 Communicate information and ideas to an intended audience using digital text, images, and audio.</p>	
	<p>D. Publish or present content that customizes the message and medium for their intended audiences.</p>		
<p>Global Collaborator (GC): Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.</p>	<p>A. Use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.</p>		

Concept	Subconcept					
	<p>B. Create original works or responsibly repurpose or remix digital resources into new creations.</p>					
	<p>C. Communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models, or simulations.</p>					
	<p>D. Publish or present content that customizes the message and medium for their intended audiences.</p>					
<p>Global Collaborator (GC): Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.</p>	<p>A. Use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.</p>					

Concept	Subconcept					
	<p>B. Create original works or responsibly repurpose or remix digital resources into new creations.</p>					
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<p>Global Collaborator (GC): Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.</p>	<p>A. Use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.</p>					

Concept	Subconcept					
	<p>B. Create original works or responsibly repurpose or remix digital resources into new creations.</p>					
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<p>Global Collaborator (GC): Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.</p>	<p>A. Use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.</p>					

Concept	Subconcept				
	<p>B. Create original works or responsibly repurpose or remix digital resources into new creations.</p>				
	<p>C. Communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models, or simulations.</p>				
	<p>D. Publish or present content that customizes the message and medium for their intended audiences.</p>				
<p>Global Collaborator (GC): Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.</p>	<p>A. Use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.</p>				

Concept	Subconcept	Kindergarten	Grade 1
	<p>B. Use collaborative technologies to work with others, including peers, experts, or community members, to examine issues and problems from multiple viewpoints.</p>		
	<p>C. Contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.</p>		
	<p>D. Explore local and global issues and use collaborative technologies to work with others to investigate solutions.</p>		

Concept	Subconcept	Grade 2	Grade 3
	<p>B. Use collaborative technologies to work with others, including peers, experts, or community members, to examine issues and problems from multiple viewpoints.</p>	<p>2.GC.B.1 With teacher guidance, use technology to communicate with others and to look at problems from different perspectives.</p>	
	<p>C. Contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.</p>	<p>2.GC.C.1 With teacher guidance, take on different team roles and use age-appropriate technologies to complete projects.</p>	
	<p>D. Explore local and global issues and use collaborative technologies to work with others to investigate solutions.</p>	<p>2.GC.D.1 With teacher guidance, use age-appropriate technologies to work together to understand problems and suggest solutions.</p>	<p>3.GC.D.1 Work with others using collaborative technologies to explore local and global issues.</p>

Concept	Subconcept	Grade 4	Grade 5
	<p>B. Use collaborative technologies to work with others, including peers, experts, or community members, to examine issues and problems from multiple viewpoints.</p>		<p>5.GC.B.1 Use collaborative technologies to connect with others, including peers, experts, and community members, to explore different points of view on various topics.</p>
	<p>C. Contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.</p>	<p>4.GC.C.1 Perform a variety of roles within a team using age-appropriate technology to complete a project or solve a problem.</p>	
	<p>D. Explore local and global issues and use collaborative technologies to work with others to investigate solutions.</p>		

Concept	Subconcept					
	<p>B. Use collaborative technologies to work with others, including peers, experts, or community members, to examine issues and problems from multiple viewpoints.</p>					
	<p>C. Contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.</p>					
	<p>D. Explore local and global issues and use collaborative technologies to work with others to investigate solutions.</p>					

Concept	Subconcept					
	<p>B. Use collaborative technologies to work with others, including peers, experts, or community members, to examine issues and problems from multiple viewpoints.</p>					
	<p>C. Contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.</p>					
	<p>D. Explore local and global issues and use collaborative technologies to work with others to investigate solutions.</p>					

Concept	Subconcept					
	<p>B. Use collaborative technologies to work with others, including peers, experts, or community members, to examine issues and problems from multiple viewpoints.</p>					
	<p>C. Contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.</p>					
	<p>D. Explore local and global issues and use collaborative technologies to work with others to investigate solutions.</p>					

Concept	Subconcept				
	<p>B. Use collaborative technologies to work with others, including peers, experts, or community members, to examine issues and problems from multiple viewpoints.</p>				
	<p>C. Contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.</p>				
	<p>D. Explore local and global issues and use collaborative technologies to work with others to investigate solutions.</p>				

