

Unit	Unit Title	Recommended Instructional Days
3	Computer Science: Cyber Security	Trimester 3
<p>Disciplinary Concept:</p> <p>NI CS AP</p>	<p>Practice:</p> <p>Fostering an Inclusive Computing and Design Culture</p> <p>Collaborating Around Computing and Design</p> <p>Recognizing and Defining Computational Problems</p> <p>Developing and Using Abstractions</p> <p>Testing and Refining Computational Artifacts</p> <p>Communicating About Computing and Design</p>	<p>Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLs-CSDT within Unit</p>
<p>Core Idea:</p>	<p>Performance Expectation/s:</p>	
<p>Information can be protected using various security measures (i.e., physical and digital).</p> <p>The information sent and received across networks can be protected from unauthorized access and modification in a variety of ways.</p> <p>The evolution of malware leads to understanding the key security measures and best practices needed to proactively address the threat to</p>	<p>8.1.5.NI.2: Describe physical and digital security measures for protecting sensitive personal information.</p> <p>8.1.8.NI.3: Explain how network security depends on a combination of hardware, software, and practices that control access to data and systems. •</p> <p>8.1.8.NI.4: Explain how new security measures have been created in response to key malware events.</p>	<p>Essential Question/s:</p> <p>How can we purchase items with something other than cash/credit?</p> <p>What is public-key cryptography?</p> <p>How can Blockchain technologies be used for more than cryptocurrencies with digital “smart contracts”.</p> <p>What skills and practices are important when creating an interactive program?</p>

<p>digital data.</p> <p>The usability, dependability, security, and accessibility of devices within integrated systems are important considerations in their design as they evolve.</p> <p>Programmers create variables to store data values of different types and perform appropriate operations on their values.</p>	<p>8.1.12.CS.1: Describe ways in which integrated systems hide underlying implementation details to simplify user experiences.</p> <p>8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values.</p>	<p>Why is encryption important when sending and receiving data online?</p> <p>How can programming languages hide complicated patterns so that it is easier to program?</p> <p>How can programming help make complicated problems simpler?</p> <p>How can programmers build on abstractions to create further abstractions?</p> <p>Activity Description:</p>
<p>Social and Emotional Learning:</p> <p><i>Competencies</i></p>	<p>Social and Emotional Learning:</p> <p><i>Sub-Competencies</i></p>	<ol style="list-style-type: none"> 1. Students reflect on the successes and failures of each system
<p>Self Awareness</p> <p>Self-Management</p> <p>Social Awareness</p> <p>Responsible-Decision Making</p> <p>Relationship Skills</p>	<ul style="list-style-type: none"> • Recognize the impact of one’s feelings and thoughts on one’s own behavior • Understand and practice strategies for managing one’s own emotions, thoughts, and behaviors • Recognize the skills needed to establish and achieve personal and educational goals • Recognize and identify the thoughts, feelings, and perspectives of others • Develop, implement, and model effective problem-solving and critical thinking skills • Identify the consequences associated with one’s actions in order to make constructive choices 	<ol style="list-style-type: none"> 2. Students are introduced to public-key cryptography. 3. Students learn about ways that Blockchain technologies can be used for more than cryptocurrencies with digital “smart contracts”. 4. Students will examine how smart contracts use input, output, storage, and processing 5. Students will examine how an NFT, cryptocurrency, and stablecoin can gain or lose value in a digital marketplace 6. Students will learn why encryption is an important need for everyday life on the Internet. <p>Interdisciplinary Connections: Content: CCSS.Math.Content.2.MD.A.1, CCSS.Math.Content.3.MD.D.8, CCSS.Math.Content.4.MD.A.3 NGSS: 3-PS2-2, K-2-ETS1-2</p>

	<ul style="list-style-type: none"> • Evaluate the personal, ethical, safety, and civic impact of decisions • Utilize positive communication and social skills to interact effectively with others • Identify ways to resist inappropriate social pressure • Demonstrate the ability to prevent and resolve interpersonal conflicts in constructive ways • Identify who, when, where, or how to seek help for oneself or others when needed 		
<p align="center">Assessments (Formative) <i>To show evidence of meeting the standard/s, students will successfully engage within:</i></p>		<p align="center">Assessments (Summative) <i>To show evidence of meeting the standard/s, students will successfully complete:</i></p>	
<p>Formative Assessments:</p> <ul style="list-style-type: none"> • Exit Slips • Quizzes • Self Assessments/Reflection • Lesson Activity Worksheets 		<p>Benchmarks:</p> <ul style="list-style-type: none"> • Performance Assessment • Unit Assessments <p>Summative Assessments:</p> <ul style="list-style-type: none"> • District/Department Assessments 	
<p align="center">Differentiated Student Access to Content: Teaching and Learning Resources/Materials</p>			
<p align="center">Core Resources</p>	<p align="center">Alternate Core Resources <i>IEP/504/At-Risk/ESL</i></p>	<p align="center">ELL Core Resources</p>	<p align="center">Gifted & Talented Core Resources</p>
<p>https://projectstem.org/ http://youtube.com</p>	<p>Reteaching worksheets Spanish version of lesson activities</p>	<p>Dictionary for native language</p>	<p>Enrichment/Extension activities</p>
<p align="center">Supplemental Resources</p>			

<p>Technology:</p> <ul style="list-style-type: none"> ● Chromebooks, MacBook ● Projector/ Smartboard ● Pens, Pencils, Paper <p>Other:</p> <ul style="list-style-type: none"> ● Google Classroom ● https://studio.code.org/ ● Clever ● GAFE (Docs, Sheets, Slides, Drawings, Sites) ● Youtube 			
<p>Differentiated Student Access to Content: Recommended <i>Strategies & Techniques</i></p>			
Core Resources	Alternate Core Resources <i>IEP/504/At-Risk/ESL</i>	ELL Core Resources	Gifted & Talented Core
<ul style="list-style-type: none"> ● Deliver instruction utilizing varied learning styles including audio, visual, and tactile/kinesthetic, provide individual instruction as needed, modify assessments and/or rubrics, repeat instructions as needed. 	<ul style="list-style-type: none"> ● Special Education: Adhere to IEP/504s. Utilize a multi-sensory (VAKT) approach during instruction, provide alternate presentations of skills by varying the method (repetition, simple explanations, additional examples, modeling, etc.), modify test content and/or format, allow students to retake test for additional credit, provide additional times and preferential seating as needed, review, restate and repeat directions, provide study guides, and/or break 	<ul style="list-style-type: none"> ● Extend time requirements, preferred seating, positive reinforcement, check often for understanding/review, oral/visual directions/prompts when necessary, supplemental materials including use of online or paper bilingual dictionary, and modified assessment and/or rubric. 	<ul style="list-style-type: none"> ● Provide extension activities related to the topic being discussed. Create an enhanced set of introductory activities, integrate active teaching/learning opportunities, incorporate authentic components, propose interest-based extension activities, and connect students to related talent development opportunities.

	assignments into segments of shorter tasks.		
NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS	Disciplinary Concept: Career Awareness and Planning (CAP), Creativity and Innovation (CI), Critical Thinking and Problem-Solving (CT), Technology Literacy (TL)		
	<i>Core Ideas:</i>	<ul style="list-style-type: none"> • Collaboration with individuals with diverse perspectives can result in new ways of thinking and/or innovative solutions. • Curiosity and a willingness to try new ideas (intellectual risk-taking) contributes to the development of creativity and innovation skills. • The ability to solve problems effectively begins with gathering data, seeking resources, and applying critical thinking skills. • Different digital tools have different purposes. • Collaborating digitally as a team can often develop a better artifact than an individual working alone. 	
	<i>Performance Expectation/s:</i>	<ul style="list-style-type: none"> • 9.4.5.CI.1, 9.4.5.CI.2, 9.4.5.CI.3, 9.4.5.CI.4, 9.4.5.CT.1, 9.4.5.CT.2, 9.4.5.CT.3, 9.4.5.CT.4, 9.4.5.TL.1, 9.4.5.TL.2, 9.4.5.TL.3, 9.4.5.TL.4. 	
	Career Readiness, Life Literacies, & Key Skills Practices		
	<ul style="list-style-type: none"> • Demonstrate creativity and innovation • Utilize critical thinking to make sense of problems and persevere in solving them: • Use technology to enhance productivity, increase collaboration and communicate effectively • Work productively in teams while using cultural/global competence 		

New Jersey Legislative Statutes and Administrative Code
(place an "X" before each law/statute if/when present within the curriculum map)

Amistad Law: <i>N.J.S.A. 18A 52:16A-88</i>		Holocaust Law: <i>N.J.S.A. 18A:35-28</i>		LGBT and Disabilities Law: <i>N.J.S.A. 18A:35-4.35</i>	X	Diversity & Inclusion: <i>N.J.S.A. 18A:35-4.36a</i>	X	Standards in Action: <i>Climate Change</i>
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Content Area: Computer Science (NJSLC-CSDT 8.1) Grades K - 12
Grade: 7

Dev. Date:
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