Unit	Unit Title	Recommended Instructional Days
1	Computer Science: Cyber Security	Trimester 1

Disciplinary Concept:	Practice:	Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLS-CSDT within Unit
NI DA CS	Fostering an Inclusive Computing and Design Culture Collaborating Around Computing and Design Recognizing and Defining Computational Problems Developing and Using Abstractions Testing and Refining Computational Artifacts Communicating About Computing and Design	
Core Idea:	**Performance Expectation/s:**	
Connecting devices to a network or the Internet provides great benefits, but care must be taken to use authentication measures, such as strong passwords, to protect devices and information from unauthorized access. Distinguishing between public and private information is important for safe and secure online interactions. Information can be protected using	8.1.2.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others. 8.1.2.NI.4: Explain why access to devices need to be secured 8.1.5.NI.2: Describe physical and digital security measures for protecting sensitive personal information.	**Essential Question/s:** 1. What sources contribute to my digital footprint? 2. How is online safety protected through digital policies and laws? 3. How can intellectual property be protected and still inspire creativity in others? 4.What are the four types of threat actors online? 5. What is a "factor" in multi-factor authentication? What makes a strong password? Why is it important to protect your passwords? 6. How does encryption protect your data? Why is more complex encryption needed?

various security measures (i.e., physical and digital). Information can be protected using various security measures (i.e., physical and digital). People use digital devices and tools to automate the collection, use, and transformation of data. The manner in which data is collected and transformed is influenced by the type of digital device(s) available and the intended use of the data. The evolution of malware leads to understanding the key security measures and best practices needed to proactively address the threat to digital data. Network security depends on a combination of hardware, software, and practices that protect data while it is at rest, in transit, and in use. The needs of users and the sensitivity of data determine the level of security implemented. Advanced attacks take advantage of common security vulnerabilities.	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. • 8.1.8.NI.4: Explain how new security measures have been created in response to key malware events. 8.1.8.DA.1: Organize and transform data collected using computational tools to make it usable for a specific purpose. 8.1.12.CS.1: Describe ways in which integrated systems hide underlying implementation details to simplify user experiences. 8.1.12.NI.2: Evaluate security measures to address various common security threats. 8.1.12.NI.3: Explain how the needs of users and the sensitivity of data determine the level of security implemented.	7. What type of attacks can occur when using online games? What are the main types of malware? 8. How can we use physical security to protect resources from threat actors? 9. How does layered security work together to protect our networks and devices? How can layering cybersecurity strategies protect simple networks? **Activity Description**: 1. Students will explore how data collected from several sources makes up their digital footprint. 2. Students will discuss some of the laws that govern their online interactions and how those laws are designed to protect individuals and keep them safe online. 3. Students will explore the importance of protecting intellectual property through copyright, patents, and trademarks; furthermore, they will discuss how intellectual property relates to fair use. 4. Students will distinguish between different types of threat actors and how they pose a threat to our lives. 5. Students will research the factors of multi-factor authentication. Students will learn how multi-factor authentication prevents unauthorized users, such as threat actors, from gaining access to devices and accounts. Students will learn the importance of creating a strong password for online access. 6. Students will learn about the methods of encrypting information when it is exchanged online. Students will explore more complex encryption methods as a model of how encryption has evolved in cybersecurity. 7. Students will explore the risks and vulnerabilities of online gaming. students will recognize types of malware in a given scenario. 8. Students will explore how physical access controls and the concept of defense in depth are critical cybersecurity protections against threat actors.
Social and Emotional Learning: ***Competencies***	**Social and Emotional Learning:** ***Sub-Competencies***	
Self Awareness Self-Management	• Recognize one's feelings and thoughts	

Social Awareness Responsible-Decision Making Relationship Skills	• Recognize the importance of self-confidence in handling daily tasks and challenges. • Recognize the skills needed to establish and achieve personal and educational goals. • Recognize and identify the thoughts, feelings, and perspectives of others. • Demonstrate an awareness of the differences among individuals, groups, and other' cultural backgrounds • Develop, implement, and model effective problem-solving and critical thinking skills • Evaluate personal, ethical, safety and civic impact of decisions. • Utilize positive communication and social skills to interact effectively with others • Identify who, when, where, or how to seek help for oneself or others when needed	9. Students will discuss how different network security components can provide protection individually, but they are even stronger when used together as a layered security solution for devices and networks. Students will explore how combining good cybersecurity practices can increase user safety when exploring the Internet. **Interdisciplinary Connections:** **ELA** W7, W.8.7., W.8.2. ELA RI.8.7., NJSLSA.SL2., NJSLSA.SL5., NJSLA SL.8.2., NJSLA SL.8.5, NJSLSA.R7, NJSLSA.SL2, SL.8.2., NJSLSA.SL4., NJSLSA.SL5., NJSLSA.SL6., SL.8.5.

Assessments (Formative) ***To show evidence of meeting the standard/s, students will successfully engage within:***	**Assessments (Summative)** ***To show evidence of meeting the standard/s, students will successfully complete:***
Formative Assessments: • Exit Slips • Quizzes	**Benchmark:** • Performance Assessment • Unit Assessments • Projects

• Lesson Activity Worksheets • Presentations / videos	**Summative Assessments:** • District/Department Assessments

Differentiated Student Access to Content:
Teaching and Learning *Resources/Materials*

Core Resources	**Alternate Core Resources *IEP/504/At-Risk/ESL***	**ELL Core Resources**	**Gifted & Talented Core Resources**
• Code.org • App Lab • AI Lab	• Reteaching worksheets • Spanish version of lesson activities	• Dictionary for native language • Google Translate • Translation by classroom Paraprofessional	• Enrichment/Extension activities

Supplemental Resources

Technology:
- Chromebooks, MacBook
- Projector
- Smartboard

Other:
- Google Classroom
- Google Meet Conferencing Tool
- GAFE (Docs, Sheets, Slides, Drawings, Sites)
- YouTube
- Cyber.org
- Range

Differentiated Student Access to Content:
Recommended *Strategies & Techniques*

Core Resources	**Alternate Core Resources *IEP/504/At-Risk/ESL***	**ELL Core Resources**	**Gifted & Talented Core**

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.	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 assignments into segments of shorter tasks.	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 dictionaries, and modified assessment and/or rubric.	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.

NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS	**Disciplinary Concept:**	
	Core Ideas:	• **An individual's strengths, lifestyle goals, choices, and interests affect employment and income** • **An individual's strengths, lifestyle goals, choices, and interests affect employment and income** • **Communication skills and responsible behavior in addition to education, experience, certifications, and skills are all factors that affect employment and income.**
	Performance Expectation/s:	9.1.8.PB.5, 9.2.8.CAP.2, 9.2.8.CAP.4:, 9.2.8.CAP.18,
	Career Readiness, Life Literacies, & Key Skills Practices	
	Consider the environmental, social, and economic impacts of decisions **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 a team 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: *N.J.S.A. 18A 52:16A-88*		Holocaust Law: *N.J.S.A. 18A:35-28*		LGBT and Disabilities Law: *N.J.S.A. 18A:35-4.35*		Diversity & Inclusion: *N.J.S.A. 18A:35-4.36a*		Standards in Action: *Climate Change*