Marking Period	Unit Title	Recommended Instructional Days
1/2	**Computer Science Exploration**	**Approximately 10-12 days (Meet Once Per Week)**

Disciplinary Concept:	Practice:	Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLS-CSDT within Unit
AP	**Fostering an Inclusive Computing and Design Culture** **Recognizing and Defining** **Computational Problems Developing and Using Abstractions**	**Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLS-CSDT within Unit**
Core Idea:	**Performance Expectation/s:**	
Individuals design algorithms that are reusable in many situations. Algorithms that are readable are easier to follow, test, and debug. Control structures are selected and combined in programs to solve more complex problems. Programs use procedures to organize code and hide implementation details. Procedures can be repurposed in new programs. Defining parameters for procedures can generalize behavior and increase reusability. Individuals design and test solutions to identify problems taking into consideration the diverse needs of the users and the community	8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.4: Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs. 8.1.8.AP.9: Document programs in order to make them easier to follow, test, and debug.	**Essential Question/s:** How can I compose simple shapes to form larger shapes? What is computer programming/coding? Why is computer programming/coding important in my world? How is computer programming used in everyday life? How can I use programming/coding to complete challenges? What are loops and conditionals? **Activity Description**: Using Project STEM Platform, students will explore the basics of computer science/programming while learning how to complete online challenges that require the knowledge of basic programming techniques and procedures. Both individually as well as while utilizing paired-programming, students will have the opportunity to collaborate to complete activities and tasks that exercise students' beginning coding
Social and Emotional Learning: *Competencies*	**Social and Emotional Learning:** *Sub-Competencies*	

| Self Awareness

Self-Management

Social Awareness

Responsible-Decision Making

Relationship Skills | ● Recognize one's feelings and thoughts
● Recognize the impact of one's feelings and thoughts on one's own behavior
● Recognize the importance of self-confidence in handling daily tasks and challenges
● 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
● Demonstrate an understanding of the need for mutual respect when viewpoints differ
● 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
● Evaluate personal, ethical, safety, and civic impact of decisions

● Establish and maintain healthy relationships
● Utilize positive communication and social skills to interact effectively with others | skills. Use basic games to understand algorithms and how to start developing the mindset of a computer programmer for future projects.

Learn about parts of the programming platform SCRATCH to navigate and create basic digital scenes.

Create scenes where sprites move around the screen randomly, or through a specified coordinated effort.

Debugging exercises throughout, learning how to identify mistakes and revise code.

Use knowledge of math skills with angles and spatial understanding the perimeter of a square, rectangle, triangle, and rectangle with unknown side length to complete challenges.

Define and use conditionals, including if/then/else statements in programming.

Use programming elements such as loops and conditionals, as well as record sounds and include appropriate music and aesthetic choices.

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 |

● 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	

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 ● Self Assessments/Reflection ● Lesson Activity Worksheets	**Benchmarks:** ● Performance Assessment ● Unit Assessments **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**
https://projectstem.org/ http://youtube.com	Reteaching worksheets Spanish version of lesson activities	Dictionary for native language	Enrichment/Extension activities

Supplemental Resources

Technology:

● Chromebooks, MacBook
● Projector
● Smartboard
● Pens, Pencils, Paper

Other:
● Schoology
● Project STEM Platform
● GAFE (Docs, Sheets, Slides, Drawings, Sites)

- Youtube

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.	• 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 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 dictionary, 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.

	Disciplinary Concept: Career Awareness and Planning (CAP), Creativity and Innovation (CI), Critical Thinking and Problem-Solving (CT), Technology Literacy (TL)

NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS	*Core Ideas:*	**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.**
	Performance Expectation/s:	**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,.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	
	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: *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*	X	Diversity & Inclusion: *N.J.S.A. 18A:35-4.36a*	X	Standards in Action: *Climate Change*