Marking Period	Unit Title	Recommended Instructional Days
Trimester 2	**Unit: Computer Programming/Coding**	Approximately 12 days **(Once Per Week)**

Disciplinary Concept:	**Practice:**	**Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLS-CSDT within Unit**
DA AP	Collaborating Around Computing and Design Recognizing and Defining Computational Problems Creating Computational Artifacts Testing and Refining Computational Artifacts Communicating About Computing and Design	
Core Idea:	**Performance Expectation/s:**	
Individuals collect, use, and display data about individuals and the world around them. Data can be used to make predictions about the world. Individuals develop and follow directions as part of daily life. A sequence of steps can be expressed as an algorithm that a computer can process. Real world information can be stored	8.1.2.DA.1: Collect and present data, including climate change data, in various visual formats. 8.1.2.DA.3: Identify and describe patterns in data visualizations. 8.1.2.DA.4: Make predictions based on data using charts or graphs. 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks. 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent	**Essential Question/s:** What are patterns and repeats in code? What does it mean to debug code? What are functions and how are they used in code? How can I use conditional statements, loops and functions simultaneously when coding a program? How can I organize data into a graph to answer questions?

and manipulated in programs as data. Computers follow precise sequences of steps that automate tasks. Complex tasks can be broken down into simpler instructions, some of which can be broken down even further. People work together to develop programs for a purpose, such as expressing ideas or addressing problems. The development of a program involves identifying a sequence of events, goals, and expected outcomes, and addressing errors (when necessary).	information. 8.1.2.AP.3: Crete programs with sequences and simple loops to accomplish tasks. 8.1.2AP.4: Break down a task into a sequence of steps. 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes. 8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops.	**<u>Activity Description</u>**: Watch a video *What is a loop?* and discuss. Engage in online coding activities (Aquatopia and Moongarden game courses) using loops to create and solve programming problems. Engage in unplugged activities to solve mazes using loops and conditions (Aquatopia). Apply learned skills to identify the flamingo with the correct code (debugging) completing unplugged activities "Aquatopia." Design a habitat that the flamingos of Aquatopia would love to live in. Research the first black computer programmer and female pioneers in coding. Work in pairs to create a poster in Canva or a presentation in Google Slides providing specific details/accomplishments that include images. Present to peers. Graph four different items and answer questions pertaining to the data graphed using a Moongarden unplugged worksheet. **Interdisciplinary Connections:** **Content: ELA** W.2.2., W.2.8, SL.2.1, SL.2.2, Sl.2.5, SL.2.6 **Content: Math** 2.MD.D.10
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 one's personal traits, strengths, and limitations • Understand and practice strategies for managing one's own emotions, thoughts, and behaviors. • Demonstrate an understanding of the need for mutual respect when viewpoints differ • Develop, implement, and model effective problem-solving and critical thinking skills • Utilize positive communication and social	

	skills to interact effectively with others	

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/Drawings	**Benchmarks:** ● Performance Assessment ● Unit Assessment **Summative Assessments:** ● District/Department Assessment

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**
● Kodable.com (plugged and unplugged resources)	● Reteaching worksheets ● Spanish version of lesson activities ● Coding Choice Board	● Dictionary for native language ● Coding Choice Board	● Enrichment/Extension activities ● Coding Choice Board

Supplemental Resources

Technology:
- Chromebooks, MacBook
- Projector
- Interactive Whiteboard
- Schoology
- GAFE
- Kodable
- YouTube

Other:

- Pencils, crayons, markers, paper, glue, scissors
- Kodable unplugged handouts (Activity Books)

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. • Students at Risk of School Failure: Deliver instruction utilizing varied learning styles including audio, visual, and tactile/kinesthetic, provide individual	• English Language Learners: 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 choice board with varied leveled activities • In-Class Paraprofessional Translation Support	• 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. • Provide choice board with varied leveled activities

	instruction as needed, modify assessments and/or rubrics, repeat instructions as needed.		

NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS	**Disciplinary Concept: Creativity and Innovation, Critical Thinking and Problem-solving, Digital Citizenship, Technological Literacy**	
	Core Ideas:	• **Brainstorming can create new, innovative ideas** • **Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem.** • **Digital tools and media resources provide access to vast stores of information that can be searched.** • **Digital tools can be used to display data in various ways.** • **Digital tools have a purpose.** • **Collaboration can simplify the work an individual has to do and sometimes produce a better product.**
	Performance Expectation/s:	• **9.4.2.CI.1; 9.4.2.CT.3; 9.4.2.IML.1; 9.4.2.IML.2; 9.4.2.TL.4; 9.4.2.TL.6; 9.4.2.TL.7**
	Career Readiness, Life Literacies, & Key Skills Practices	
	• **Act as a responsible and contributing community members and employee.** • **Demonstrate creativity and innovation.** • **Utilize critical thinking to make sense of problems and persevere in solving them.** • **Model integrity, ethical leadership, and effective management.** • **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)									
X	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*		Standards in Action: *Climate Change*