Marking Period	Unit Title	Recommended Instructional Days
1/2	**Computer Programming: Code.Org Course F 2023**	Approximately 20-24 days **(Meet Once Per Week)**

Disciplinary Concept:	**Practice:**	**Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLS-CSDT within Unit**
NI **IC** **DA** **AP**	Fostering an Inclusive Computing and Design Culture Collaborating Around Computing and Design Recognizing and Defining Computational Problems Developing and Using Abstractions Creating Computational Artifacts Testing and Refining Computational Artifacts Communicating about Computing and Design	
Core Idea:	**Performance Expectation/s:**	
Information needs a physical or wireless path to travel to be sent and received. Distinguishing between public and private information is important for safe and secure online interactions. Information can be protected using various security measures (i.e., physical and digital). The development and modification of computing technology is driven by an individual's needs and wants and	8.1.5.NI.1: Develop models that successfully transmit and receive information using both wired and wireless methods. 8.1.5.NI.2: Describe physical and digital security measures for protecting sensitive personal information. 8.1.5.IC.1: Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes. 8.1.5.IC.2: Identify possible ways to	**<u>Essential Question/s:</u>** What should you do when someone uses mean or hurtful language on the internet? What are user choices in apps? What choices do you get to make while using apps? If you wanted to create a scene on a computer, what instructions would you need?

can affect individuals differently. Data can be organized, displayed, and presented to highlight relationships. Many factors influence the accuracy of inferences and predictions. Different algorithms can achieve the same result. Some algorithms are more appropriate for a specific use than others. Programming languages provide variables, which are used to store and modify data. A variety of control structures are used to change the flow of program execution (e.g., sequences,events, loops, conditionals). Programs can be broken down into smaller parts to facilitate their design, implementation, and review. Programs can also be created by incorporating smaller portions of programs that already exist. Individuals develop programs using an iterative process involving design, implementation, testing, and review.	improve the accessibility and usability of computing technologies to address the diverse needs and wants of users. 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim. 8.1.5.DA.5: Propose cause and effect relationships, predict outcomes, or communicate ideas using data. 8.1.5.AP.1: Compare and refine algorithms for the same task and determine which is the most appropriate. 8.1.5.AP.2: Create programs that use clearly named variables to store and modify data. 8.1.5.AP.3: Create programs that include sequences, events. loops, and conditionals. 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development. 8.1.5.AP.5: Modify, remix, or incorporate pieces of existing programs into one's own work to add additional features or create a new program. 8.1.5.AP.6: Develop programs using an iterative process, implement the program design, and attest the program to ensure it works as intended.	Why is it important to keep track of each behavior separately? What happens when 2 behaviors seem to conflict each other? How is writing a blank space story different from writing a normal story? How are events and behaviors used and what do they do? How do we use variables in blank space stories? How do sprites, behaviors, events and text work? How do you create an interactive scene? When is it useful to change what is stored in a variable? What makes an activity a game? When might you want to simulate an experiment on a computer instead of in real life? If you were a scientist, when might you want to simulate an experiment on a computer instead of in real life? What can cause a virus to spread through a town more quickly? What can help slow the spread of a virus down? **<u>Activity Description:</u>** Watch a video and have students interpret the words "Sticks and stones may break my bones, but words can never hurt me"? Ask students why they think the other players said those words to Guts in the video. Using statements from the CSM lesson slides "Power of Words" have students make decisions on whether or not the statements are OK or not. Use interactive apps, games, and simulations to explore Sprite Lab. Identify the sprite costumes and user choices for each program explored..Describe the choices that were available to them when using the app. Students choose an app they are familiar with and brainstorm ways to improve the user experience for the app. Read code and make predictions (Making Sprites). Watch a video on how to make sprites.Engage in skill building activities creating and running
Social and Emotional Learning: ***Competencies***	**Social and Emotional Learning:** ***Sub-Competencies***	
Self Awareness Self-Management Social Awareness	● Recognize one's feelings and thoughts ● Recognize the impact of one's feelings and thought on one's own behavior	

Responsible Decision-Making Relationship Skills	● Recognize one's personal traits, strengths, and limitations. ● 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 ● Identify and apply ways to persevere or overcome barriers through alternative methods to achieve one's goals. ● Recognize and identify the thoughts, feelings, and perspectives of others ● Demonstrate an awareness of the differences among individuals, groups, and others' cultural backgrounds ● Demonstrate an understanding of the need for mutual respect when viewpoints differ ● Demonstrate an awareness of the expectations for social interactions in a variety of settings ● 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	code. Choose their first project creating sprites with their own behaviors. Add to the first project or create a new project writing code to include animation when keys are pressed or time has passed (Sprites in Action). Create a virtual pet beginning with skill building lessons(Mini Project: Virtual Pet). Add another sprite that interacts with the virtual pet. Use the "when pet clicked" block to make the pet stop any behaviors - experiment with different behaviors. Students will use fill-in-the-blank stories as a context for understanding how computers take and store input from a user, then use it later as a program runs. Counting with Variables: read the code, make a prediction, and explore. In the skill building activities, students make sure the clicker games work as intended. Watch a video discussing "Variables in Envelopes." Working in groups, students create a very short story, choose words to remove, and label (students provided directions in warm-up activity and video (Blank Space Stories Lesson). Share stories with peers/other groups. Make predictions, watch a video and practice using variables in the Sprite lab independently or pair programming (Text and Prompts). Write a plan that includes the type of project the student will build, a list of questions to ask the user, text to be displayed, and a description or drawing of the sprites needed and their behaviors. Students choose between 3 different project types (Greeting Card, Chatbot, or Blank Space Story), plan text and variables, prompts, and sketch scenes (Mini-Project: User Input Programs). Choose a theme and create a project with lots of sprites. Use variables to track a value that changes over time. Students will create a simple game. Explore and examine the similarities and differences in various projects. In the Mini-Project Collector Game, students follow instructions and make sure the game is working the way they want it to. Share games with classmates.

	• 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. • 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.	Run a simulation 5 times (Simulating Experiments) and collect and record the data. Using the data, plot a double line graph. Compare data and make predictions. Students modify variables and make predictions on how those changes will affect the outcome. Continue to collect and visualize data. Write code to create and run a simulation of the virus outbreak in Monster Town (Outbreak). While learning code, students make predictions on what will happen to the people of Monster Town. Share with peers solutions to keep neighbors in Monster Town healthy when a virus comes to town. **Interdisciplinary Connections:** Computer Science - ELA CCS.ELA.RI.5.7; CCS.ELA.RI.5.9; CCSS.ELA-LITERACRY.W.5.2.B; Science S-PS3-1; S-LS2-1; SL.5.5; NGSS.5-LS2-1 Math CCSS.AMTH.CONTENT.5.NF.B.7.C

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	**Benchmark:** • 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**

• Code.Org - Course F • Common Sense Media	• Reteaching worksheets • Spanish version of lesson activities	• Dictionary for native language • Google Translate • Translation by classroom Paraprofessional	• Enrichment/Extension activities • Engage in extension/extended activities in Course F lessons

Supplemental Resources

Technology:
- Chromebooks, MacBook
- Projector
- Smartboard
- Code.org (Course F)
- Google Meet Conferencing Tool/Zoom

Other:
- Schoology
- Common Sense Media
- GAFE (Docs, Sheets, Slides, Drawings, Sites)
- Code.Org (Course F) Handouts/Teacher Resources
- Pens, Pencils, Paper, Markers, Scissors
- 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/504. 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	• 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

	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. Provide Coding.		talent development opportunities.

NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS	**Disciplinary Concepts: Creativity and Innovation, Critical Thinking and Problem-Solving and Digital Citizenship**	
	Core Ideas:	• **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.** • **digital footprint.** • **Sending and receiving copies of media on the internet creates the opportunity for unauthorized use of data, such as personally owned video, photos, and music.** • **Digital tools have positively and negatively changed the way people interact socially.**
	Performance Expectation/s:	• **9.4.5.CI.3;9.4.5.CT.1; 9.4.5.CT.3; 9.4.5.CT.4;9.4.5.DC.4;9.4.5.DC.7**
	Career Readiness, Life Literacies, & Key Skills Practices	
	• **Act as responsible and contributing community members and employees.** • **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 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*		Standards in Action: *Climate Change*