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

Disciplinary Concept:	Practice:	
CS **NI** **IC** **AP**	Fostering an Inclusive Computing and Design Culture Collaborating Around Computing and Design Recognizing and Defining Computational Problems Creating Computational Artifacts Testing and Refining Computational Artifacts Communicating About Computing and Design	**Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLS-CSDT within Unit**
Core Idea:	**Performance Expectation/s:**	
Shared features allow for common troubleshooting strategies that can be effective for many systems. Distinguishing between public and private information is important for safe and secure online interactions. Information can be protected using various security measures. The development and modification of computing technology is driven by individuals's needs and wants and can affect individuals differently. Different algorithms can achieve the same result.	8.1.5.CS.3: Identify potential solutions for simple hardware and software problems using common troubleshooting strategies. 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 improve the accessibility and usability of computing technologies to address	**<u>Essential Question/s:</u>** How can we be upstanders when we see cyberbullying? What information about you is OK to share online? How can we safely present ourselves online? How do we use sprites in our programs? What information is safe to share online and what information is strictly private? What are loops? What are some advantages of using loops?

Some algorithms are more appropriate for a specific use than others. 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.	the diverse needs and wants of users. 8.1.5.AP.1: Compare and refine algorithms for the same task and determine which is the most appropriate. 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.	What are nested loops? When do you use a nested loop? How would the code look different if you only used one loop or no loops? How do functions make programs easier to write? What is a function and how do you use it? When should you use a function instead of a loop? What code do you need to create a drawing? When might you use a conditional in a code? **Activity Description**: Create a super digital citizen drawing illustrating a superpower of an upstander and share with peers. In groups, student teams choose one of the problems presented in the lesson and create a super digital citizen comic strip (using illustrations and captions) in which their superhero is an upstander against cyberbullying and saves the day! Show the video Private and Personal Information from Common Sense Media and have students analyze information to determine whether it is private or personal. Have students explain why they chose private or personal. Wrap up with an Exit Ticket to assess student understanding. Introduce students to the Sprite Lab. Have students program a fish tank adding sprites and making them move. Working through skill building activities, students customize the fish tank adding other creatures and objects. Introduce "Hello World" lesson and discuss Events. Show the video about pair programming and have students work in pairs to complete the main activity: learning how to program with Events. Students will create and animate sprites making them interactive in a simple program. Culminate with Free Play to create (student choice).
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 thought on one's own behavior • 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. • 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	Review types of personal and private information. Explore the poster and code provided in the lesson (Mini Project: About Me). Create an "About Me' project in the sprite lab that includes text and sprites and represents the students' interests to assess students' understanding of sharing private and personal information. Watch a video about drawing with loops. Introduce students to a new tool, Artist, and allow them to explore the tool through skill building and practice (Drawing with Loops). Create intricate designs using the artist. Students will have the opportunity to create their own drawing. Create snowflake images from the movie *Frozen* and use nested loops to create and share unique images. Compare functions to something we see in our everyday lives - songs. Songs often have certain groups of lyrics (chorus) that repeat over and over. Working in groups and using the songwriting worksheet from the unplugged lesson (Songwriting), play a song and have students identify and write down the chorus. Compare results and engage in whole group discussion: Would you rather write lyrics over and over again or define a chorus? Understanding that combining chunks of code into functions can be helpful when writing programs. Rewrite a song using Blockly function blocks. Watch several Minecraft videos and engage in independent skill building activities after each video. Free play: Use the Agent's code to explore the world. Reflect on the lesson activities and how functions improved the code. Read code and make predictions (Functions with Artists). Complete skill building and practice activities Sketch out a drawing made and write the code to create the drawing. Share with peers. Watch videos and complete the skill level activities for Minecraft: Voyage Aquatic to reinforce skills learned. Build a coral reef! A volcano! A shipwreck! (Student choice). Watch videos, follow directions, make predictions (Conditionals with the Farmer), complete skill building activities and Level 15 challenge. Ask students to give an example of conditional in their daily lives.

	• 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.	**Interdisciplinary Connections: Content:** ELA 4.SL.1;4.SL.1.a;4.SL.1.b; 4.SL.4 Mathematics 4.OA.A.2; 4.OA.C.5 Science NGSS 3-5-ETS1-1;3-5-ETS1-2; 3-5-ETS1-3

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	**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 E • Coding Choice Boards	• Reteaching worksheets • Spanish version of lesson activities • Digital Citizenship and Coding Choice Boards	• Dictionary for native language • Google Translate • Translation by classroom Paraprofessional • Digital Citizenship and Coding Choice Boards	• Enrichment/Extension activities • Digital Citizenship and Coding Choice Boards

Supplemental Resources

Technology:
- Chromebooks, MacBook
- Projector
- Smartboard
- code.org (Course E)
- youtube.com

- commonsensemedia.org

Other:

- Schoology
- Google Meet Conferencing Tool
- GAFE (Docs, Sheets, Slides, Drawings, Sites)
- Course Worksheets/Lesson activities (unplugged)
- Pens, Pencils, Markers, Crayons, Paper, Markers, Scissors
- Coding Activity Choice Boards
- End of Course Project Guide (Course E)/Rubric

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 tests 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 Coding Choice Board	• 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 Coding Choice Board

	Provide Coding Choice Board.		

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 identities must be managed in order to create a positive digital footprint.** • **Digital tools have positively and negatively changed the way people interact socially.** • **Collaborating digitally as a team can often develop a better artifact than an individual working alone.**
	Performance Expectation/s:	• **9.4.5.CI.3; 9.4.5.CI.4; 9.4.5.CT.1; 9.4.5.CT.3; 9.4.5.CT.4 9.4.5.DC.5; 9.4.5.DC.7; 9.4.5.TL.5**
	Career Readiness, Life Literacies, & Key Skills Practices	
	• **Act as responsible and contributing community members and employees.** • **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*