

Marking Period	Unit Title	Recommended Instructional Days
3	Programming/Coding/Circuits - Makey Makey	Approximately 10-12 days (Meet Once Per Week)
Disciplinary Concept:	Practice:	Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLC-CSDT within Unit
AP ITH	Fostering an Inclusive Computing and Design Culture Recognizing and Defining Computational Problems Developing and Using Abstractions	
Core Idea:	Performance Expectation/s:	
<p>A new tool may have favorable or unfavorable results as well as both positive and negative effects on society.</p> <p>Different algorithms can achieve the same result.</p> <p>Some algorithms are more appropriate for a specific use than others.</p> <p>Programming languages provide variables, which are used to store and modify data.</p> <p>Programs can be broken down into smaller parts to facilitate their design, implementation, and review. Circuits can be manipulated along with code to create functional tools.</p> <p>Individuals develop programs using an iterative process involving design, implementation, testing, and review.</p>	<p>8.2.5.ITH.2: Evaluate how well a new tool has met its intended purpose and identify any shortcomings it might have.</p> <p>8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate.</p> <p>8.1.5.AP.2: Create programs that use clearly named variables to store and modify data.</p> <p>8.1.5.AP.3: Create programs that include sequences, events, loops, and conditionals.</p> <p>8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development.</p> <p>8.1.5.AP.6: Develop programs using an iterative process, implement the program design, and test the program to ensure it works as intended.</p>	<p>Essential Question/s:</p> <p>How can I use programming/coding to control the Makey Makey?</p> <p>What are loops and conditionals?</p> <p>How do I identify the output in an electrical circuit?</p> <p>What are inputs and outputs?</p> <p>How is selection represented in flowcharts for planning?</p> <p>How do you write programs that use selection, inputs, and output?</p> <p>How do I create an output in a circuit?</p> <p>How do I decompose a problem into smaller steps?</p> <p>Activity Description:</p> <p>Understand and use decision boxes through the use of flowcharts and planning guides.</p>
Social and Emotional Learning:	Social and Emotional Learning:	Experiment with the inputs on the Makey Makey and use their knowledge of selection to record their findings in decision boxes.

<i>Competencies</i>	<i>Sub-Competencies</i>	
Self Awareness Self-Management Social Awareness Responsible-Decision Making Relationship Skills	<ul style="list-style-type: none"> ● 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 	<p>use tinkering to find inputs on the Makey Makey.</p> <p>Students draw out what the Makey Makey is and try to identify the parts of the circuits and their functions.</p> <p>Students plan, write, test and debug Scratch programs to use the Makey Makey to test the electrical conductivity of materials.</p> <p>Experiment with the Makey Makey to know and identify inputs and outputs. Use conductive, recyclable materials to create functional products that respond to inputs and result in an output.</p> <p>Discuss how the earth we live in is changing and come up with ideas to help with Climate Change - combine creativity and technology to come up with solutions for the Global Goals by tackling the issues we’re facing today.</p> <p>Discuss how the Makey Makey can be used to spread awareness of the contributions of people of all nations including African Americans and help with the issue of racism.</p> <p>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</p>

	<ul style="list-style-type: none"> • 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 		
<p align="center">Assessments (Formative) <i>To show evidence of meeting the standard/s, students will successfully engage within:</i></p>		<p align="center">Assessments (Summative) <i>To show evidence of meeting the standard/s, students will successfully complete:</i></p>	
<p><u>Formative Assessments:</u></p> <ul style="list-style-type: none"> • Exit Slips • Quizzes • Self Assessments/Reflection • Lesson Activity Worksheets 		<p><u>Benchmarks:</u></p> <ul style="list-style-type: none"> • Performance Assessment • Unit Assessments <p><u>Summative Assessments:</u></p> <ul style="list-style-type: none"> • District/Department Assessments 	
<p align="center">Differentiated Student Access to Content: Teaching and Learning Resources/Materials</p>			
<p align="center">Core Resources</p>	<p align="center">Alternate Core Resources <i>IEP/504/At-Risk/ESL</i></p>	<p align="center">ELL Core Resources</p>	<p align="center">Gifted & Talented Core Resources</p>
<p>makeykey.com http://youtube.com sites.google.com</p>	<p>Reteaching worksheets Spanish version of lesson activities</p>	<p>Dictionary for native language</p>	<p>Enrichment/Extension activities</p>
<p align="center">Supplemental Resources</p>			
<p>Technology:</p> <ul style="list-style-type: none"> • Chromebooks, MacBook • Projector • Smartboard • Pens, Pencils, Paper 			

<ul style="list-style-type: none"> • Makey Makey circuit board <p>Other:</p> <ul style="list-style-type: none"> • Schoology • Makey Makey website and apps • GAFE (Docs, Sheets, Slides, Drawings, Sites) • Youtube 			
<p>Differentiated Student Access to Content: Recommended Strategies & Techniques</p>			
Core Resources	Alternate Core Resources <i>IEP/504/At-Risk/ESL</i>	ELL Core Resources	Gifted & Talented Core
<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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.

	<p>Disciplinary Concept: Career Awareness and Planning (CAP), Creativity and Innovation (CI), Critical Thinking and Problem-Solving (CT), Technology Literacy (TL)</p>
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NJSLs CAREER READINESS, LIFE LITERACIES & KEY SKILLS	<i>Core Ideas:</i>	<ul style="list-style-type: none"> 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.
	<i>Performance Expectation/s:</i>	<ul style="list-style-type: none"> 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, 9.4.5.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	
	<ul style="list-style-type: none"> Demonstrate creativity and innovation Utilize critical thinking to make sense of problems and persevere in solving them Plan education and career paths aligned to personal goals 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: <i>N.J.S.A. 18A 52:16A-88</i>	X	Holocaust Law: <i>N.J.S.A. 18A:35-28</i>	X	LGBT and Disabilities Law: <i>N.J.S.A. 18A:35-4.35</i>		Diversity & Inclusion: <i>N.J.S.A. 18A:35-4.36a</i>	X	Standards in Action: <i>Climate Change</i>
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