

Marking Period: 2	Unit Title: Prototyping and Concept Selection	Recommended Instruction Days: 40 Days
Standard-New Jersey Student Learning Standards: 8.1, 8.2 9.1		
<p>Strand: 8.1: Education Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.</p> <p>8.2: Technology Education, Engineering, and Design: All students will develop an understanding of the nature and impact of technology, engineering, technology design, and the designed world, as they relate to the individual, global, and the environment.</p> <p>9.1: 21st Century Life and Career Skills: All students will demonstrate the creativity, critical thinking, collaboration, and problem-solving skills needed to function successfully as both global citizens and workers in diverse ethnic and organizational cultures.</p>		
<p>LGBT and Disabilities Law: <i>N.J.S.A. 18A:35-4.35</i></p> <p style="text-align: center;">Lisa Harvey-Smith</p> <p style="text-align: center;">The mission is to ensure that every student is able to see themselves in our rich and diverse history.</p>		
<p>Social and Emotional Learning: <i>Competencies</i></p>	<p>Social and Emotional Learning: <i>Sub-Competencies</i></p>	
<p style="text-align: center;">Self- awareness</p> <p style="text-align: center;">Social Awareness</p> <p style="text-align: center;">Self- Management</p>	<ul style="list-style-type: none"> ● Recognizing the importance of self-confidence in handling daily tasks and challenges. ● Demonstrate an awareness of the expectations for social interactions in a variety of ways. ● Demonstrate an understanding of the need for mutual respect when viewpoints differ. 	

<p>Relationship Skills</p> <p>Responsible Decision-Making</p>	<ul style="list-style-type: none"> ● Recognize the skills needed to establish achieve personal and educational goals. ● Utilize positive communication and social skills to interact effectively with others. ● Develop, implement, and model effective problem solving and critical thinking skills. 	
<p>Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLS-CLKS within Unit</p>		
Essential Questions	Progress Indicators	Activity Description
<ul style="list-style-type: none"> ● What is prototyping? ● List examples of when people use prototypes. ● When have you used prototyping? How did it help? ● What is concept selection? ● What is pugh concept selection? ● What is design selection? ● How do you determine criteria? 	<ul style="list-style-type: none"> ● Tests ● Quizzes ● Practice problems for homework ● Workbook pages ● Worksheets ● Focus Packet ● Leveled assessments 	<ul style="list-style-type: none"> ❖ Use procedures and variables to modify existing code incorporating new features ❖ Design a game algorithm that illustrates the coding principles examined in this Unit. ❖ Construct a game application that incorporates randomness ❖ Understand the definition data persistence and what that means for mobile applications ❖ Predict the results of the program named Data ❖ Utilize TinyDB an TinyWebDB in an app inventor program ❖ Assess the errors in a program and fix them (debug code) ❖ Recommend sources of solutions <p>Spot Light On: <i>Use random response strategies.</i></p> <p>Task 1 This week’s design assignment will be to paper prototype your design (whether</p>

it is an original app idea or a modification of Mole Mash/Get the Gold/Space Invaders). When prototyping keep in mind what you have learned from this unit - exercise rapid prototyping, hand-draw, big and sketchy, iterate etc.

Task 2

Sophia just purchased a new iPad and wants to carry it around campus all day. She would like it to be protected by a new iPad cover. She also uses her iPad to watch videos, take notes in class amongst other uses. She does not want to spend a lot of money but wants the case to look good and last. In groups, decide which of 3 concepts to pursue. Choose amongst: smart cover, with keyboard, folio case

Interdisciplinary Connections:
Science Domain Core ideas in life science

If you have played the Asteroid game for a while you will have noticed that you cannot fire very quickly. Let us tweak our space ship firing software a bit so that we can shoot a bit quicker. Place a rocket in the world, then invoke its setGunReloadTime method, and set the time to 5. Play again (with at least two asteroids) to try it out.

Mathematic Practice

1. **Make sense of problems and persevere in solving them.**
2. **Reason abstractly and quantitatively.**
3. **Construct viable arguments and critique the reasoning of others.**
4. **Model with mathematics.**
5. **Use appropriate tools strategically.**
6. **Attend to precision.**
7. **Look for and make use of structure.**
8. **Look for and express regularity in repeated reasoning.**

Assessments (Formative) <i>To show evidence of meeting the standard/s, students will successfully engage within:</i>		Assessments (Summative) <i>To show evidence of meeting the standard/s, students will successfully complete:</i>	
<u>Formative Assessment:</u> <ul style="list-style-type: none"> ● <u>Entry and Exit Slips</u> ● <u>Quizzes</u> ● <u>Self Assessments</u> ● <u>Focus Packets</u> 		Benchmarks: <ul style="list-style-type: none"> ● Chapter Tests ● Projects Summative Assessments: <ul style="list-style-type: none"> ● District assessments ● Standardized test 	
Differentiated Student Access to Content: Teaching and Learning Resources/Materials			
Core Resources	Alternate Core Resources <i>IEP/504/At-Risk/ESL</i>	ELL Core Resources	Gifted & Talented Core Resources
Savass Envision achieve the core Khan Academy Desmos IXL Edulastic	Reteaching Worksheets Skill building workbook Math manipulatives	Dictionary for native language Video tutorial in native language	Enrichment worksheets Art of problem Leveled assessments
Supplemental Resources			

- Technology: Chromebooks, Graphing Calculators, smartboards,
- Other: Zoom and google meets, schoology, goggle classroom

**Differentiated Student Access to Content:
Recommended *Strategies & Techniques***

Core Resources	Alternate Core Resources <i>IEP/504/At-Risk/ESL</i>	ELL Core Resources	Gifted & Talented Core Resources
<p>Deliver instruction utilizing varied learning styles including audio, visual, and tactile/kinesthetic, provide individual instruction as needed, modify assessments and/or rubrics, repeat</p>	<p>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.</p>	<p>Extend time requirements, preferred seating, positive reinforcement, check often for understanding/review, oral/visual directions/prompts when necessary, supplemental materials including use of online bilingual dictionary, and modified assessment and/or rubric.</p>	<p>Create an enhanced set of introductory activities, integrate active teaching/learning opportunities, incorporate authentic components, propose interest-based extension activities, and connect student to related</p>

New Jersey Legislative Statutes and Administrative Code
 (place an "X" before each law/statute if/when present within the curriculum map)

Amistad Law: <i>N.J.S.A. 18A 52:16A-88</i>	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>	x	Diversity & Inclusion: <i>N.J.S.A. 18A:35-4.36a</i>	Standards in Action: <i>Climate Change</i>
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