Totowa Public Schools

STEAM & Financial Literacy

Grades K-2

Aligned to NJSLS 2020 Standards

Revised and BOE Adopted: 8/31/2022

Revised 12/14/2022

Units of Study & Pacing Guide

Unit of Study	Timeline	Notes
Unit 1: Legos	4 Weeks	STEAM Unit
Unit 2: Coding	4 Weeks	STEAM Unit
Unit 3: Robotics	5 Weeks	STEAM Unit
Unit 4: Design	5 Weeks	STEAM Unit
Unit 1: Financial Literacy	18 Weeks	Financial Literacy Unit

Title	Legos
Unit Duration	6 Weeks
Unit Summary & Rationale	The "Legos" unit is an introduction to STEAM concepts relating to building, designing, planning, and sequential thinking. Students will be introduced to coding and engineering through a series of cross-curricular performance tasks. Students will be utilizing prior knowledge and applying it planning, sequential thinking, designing, building, problem solving, and collaboration.
Unit Goals	
Essential Questions	• Why is planning an important part of building a design? • How is drawing a plan important to making a design? • How did you create your design? • Did the design turn out how you thought it was going to turn out? • How is building with Legos like building a home or building in the real world? • How does a building stay up? • What jobs involve building houses and building? • What were the strong parts of your design? • What were some the weak parts of your design? • Why or why not did your design stay up? • Did everything go according to plan? • What are the important parts of being part of a team?
Enduring Understandings	• When making a creation it is important to have a plan of your design. Planning can be done in a variety of ways. This includes making a list of all the materials needed to complete your project. • Using simple engineering techniques to create, model, and build creations using Legos. • Introduction to the commands and ways coding works by using Legos to create a maze. • The role STEAM plays in a variety of careers, critical thinking, and problem solving.

	• Being able to create a list of instructions that enables others to understand and complete a task. • Understanding the importance of why and how structures are built. • Understanding reasons why their projects succeeded or failed. Being able to give an explanation and reasoning on their design's successes or failures.
Learning Outcomes	• Create and design real world models utilizing a variety of tools. • Be able to demonstrate reasoning behind their Lego designs. • Be able to plan and create drawings as a model for their designs and/or product. • Develop a list of materials being used in their problem-based learning projects. • Be able to collaborate and develop designs, commands, mazes, functions, and patterns using materials such as Legos and other tools. • Be able to discover how structures are built and discuss reasons why it is designed a certain way. • Career Exploration - Be able to discuss the impact STEAM careers have on our everyday world. • Make observations and discuss information about a problem and demonstrate how a product can solve that problem. • Create a list and instructions to complete a task. • Build and model structures to solve a given problem. • Be able to discuss the importance of structures (they modeled/built). • Be able to discuss the strengths and weaknesses of structures they modeled and developed.

Assessment Evidence	
Formative	Collaborative Activities, Homework, Classwork, Discussion, Independent Class Assignment, Informal Observations of Students, Interactive Notebooks, Self-Assessments, Exit Tickets, Lego Building Tasks, Teacher Constructed Games, Student Pre-Planning, Group Self-Assessment
Summative	Tests, Pre-Assessments, Quizzes, Written Responses, Projects, Lego Coding Maze, Group Projects
Alternative and Benchmark	Alternative – Project Based Learning, Graphic Organizers, Student Portfolio, Orally assessed responses

	Benchmark – Teacher generated project or assessment, Tests, Student portfolio/project Formative, Summative, Alternative and Benchmark Assessments
Resources to Promote Learning	
Resources & Equipment Needed	Smartboard, Computers, iPads, websites and digital interactives/models, multi-media presentations, video streaming, Brain Pop, Microsoft 365, Legos, Popsicle Sticks, Keva Planks, Straws and Connector Pieces, Lego Wall and Mats, Building Blocks, Coding Symbol Cards Approved Class Resource List
Content & Interdisciplinary Standards	
Computer Science and Design Thinking Practices	
Core Ideas	**Performance Expectation**
Individuals use computing devices to perform a variety of tasks accurately and quickly. Computing devices interpret and follow the instructions they are given literally.	• 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
A computing system is composed of software and hardware.	• 8.1.2.CS.2: Explain the functions of common software and hardware components of computing systems.
Describing a problem is the first step toward finding a solution when computing systems do not work as expected.	• 8.1.2.CS.3: Describe basic hardware and software problems using accurate terminology.
Computer networks can be used to connect individuals to other individuals, places, information, and ideas. The Internet enables individuals to	• 8.1.2.NI.1: Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a network. • 8.1.2.NI.2: Describe how the Internet enables individuals to connect with others worldwide.

connect with others worldwide.	
Connecting devices to a network or the Internet provides great benefits, but care must be taken to use authentication measures, such as strong passwords, to protect devices and information from unauthorized access.	• 8.1.2.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others. • 8.1.2.NI.4: Explain why access to devices need to be secured
Computing technology has positively and negatively changed the way individuals live and work (e.g., entertainment, communication, productivity tools).	• 8.1.2.IC.1: Compare how individuals live and work before and after the implementation of new computing technology.
Individuals collect, use, and display data about individuals and the world around them.	• 8.1.2.DA.1: Collect and present data, including climate change data, in various visual formats.
Computers store data that can be retrieved later. Data can be copied, stored in multiple locations, and retrieved.	• 8.1.2.DA.2: Store, copy, search, retrieve, modify, and delete data using a computing device.
Data can be used to make predictions about the world.	• 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.
Individuals develop and follow directions as part of daily life. A sequence of steps	• 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks.

can be expressed as an algorithm that a computer can process.	
Real world information can be stored and manipulated in programs as data (e.g., numbers, words, colors, images).	• 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information.
Computers follow precise sequences of steps that automate tasks.	• 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks.
Complex tasks can be broken down into simpler instructions, some of which can be broken down even further.	• 8.1.2.AP.4: Break down a task into a sequence of steps.
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).	• 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.
Engineering design is a creative process for meeting human needs or wants that can result in multiple solutions.	• 8.2.2.ED.1: Communicate the function of a product or device. • 8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.

	• 8.2.2.ED.3: Select and use appropriate tools and materials to build a product using the design process.
Limitations (constraints) must be considered when engineering designs.	• 8.2.2.ED.4: Identify constraints and their role in the engineering design process.
Human needs and desires determine which new tools are developed.	• 8.2.2.ITH.1: Identify products that are designed to meet human wants or needs. • 8.2.2.ITH.2: Explain the purpose of a product and its value.
Technology has changed the way people live and work. Various tools can improve daily tasks and quality of life.	• 8.2.2.ITH.3: Identify how technology impacts or improves life. • 8.2.2.ITH.4: Identify how various tools reduce work and improve daily tasks. • 8.2.2.ITH.5: Design a solution to a problem affecting the community in a collaborative team and explain the intended impact of the solution.
Innovation and the improvement of existing technology involves creative thinking.	• 8.2.2.NT.1: Model and explain how a product works after taking it apart, identifying the relationship of each part, and putting it back together. • 8.2.2.NT.2: Brainstorm how to build a product, improve a designed product, fix a product that has stopped working, or solve a simple problem.
The use of technology developed for the human designed world can affect the environment, including land, water, air, plants, and animals. Technologies that use natural sources can have negative effects on the environment, its quality, and inhabitants. Reusing and recycling materials can save money while preserving natural	• 8.2.2.ETW.1: Classify products as resulting from nature or produced as a result of technology. • 8.2.2.ETW.2: Identify the natural resources needed to create a product. • 8.2.2.ETW.3: Describe or model the system used for recycling technology. • 8.2.2.ETW.4: Explain how the disposal of or reusing a product affects the local and global environment.

resources and avoiding damage to the environment.	
The availability of technology for essential tasks varies in different parts of the world.	• 8.2.2.EC.1: Identify and compare technology used in different schools, communities, regions, and parts of the world.
Computer Science and Design Thinking Practices	• 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
2020 SLS: Career Readiness, Life Literacies, and Key Skills	
Core Idea	**Performance Expectation**
Brainstorming can create new, innovative ideas.	• 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2). • 9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).
Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem.	• 9.4.2.CT.1: Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem (e.g., K-2-ETS1-1, 6.3.2.GeoGI.2). • 9.4.2.CT.2: Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3). • 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
Digital artifacts can be owned by individuals or organizations.	• 9.4.2.DC.1: Explain differences between ownership and sharing of information. • 9.4.2.DC.2: Explain the importance of respecting digital content of others.

Individuals should practice safe behaviors when using the Internet.	• 9.4.2.DC.3: Explain how to be safe online and follow safe practices when using the internet (e.g., 8.1.2.NI.3, 8.1.2.NI.4). • 9.4.2.DC.4: Compare information that should be kept private to information that might be made public.
An individual's digital footprint reflects the various actions an individual makes online, both positive and negative.	• 9.4.2.DC.5: Explain what a digital footprint is and how it is created.
Digital communities allow for social interactions that can result in positive or negative outcomes.	• 9.4.2.DC.6: Identify respectful and responsible ways to communicate in digital environments.
Young people can have a positive impact on the natural world in the fight against climate change.	• 9.4.2.DC.7: Describe actions peers can take to positively impact climate change (e.g., 6.3.2.CivicsPD.1).
Individuals from different cultures may have different points of view and experiences.	• 9.4.2.GCA:1: Articulate the role of culture in everyday life by describing one's own culture and comparing it to the cultures of other individuals (e.g., 1.5.2.C2a, 7.1.NL.IPERS.5, 7.1.NL.IPERS.6).
Digital tools and media resources provide access to vast stores of information that can be searched.	• 9.4.2.IML.1: Identify a simple search term to find information in a search engine or digital resource.
Digital tools can be used to display data in various ways.	• 9.4.2.IML.2: Represent data in a visual format to tell a story about the data (e.g., 2.MD.D.10).

A variety of diverse sources, contexts, disciplines, and cultures provide valuable and necessary information that can be used for different purposes.	• 9.4.2.IML.3: Use a variety of sources including multimedia sources to find information about topics such as climate change, with guidance and support from adults (e.g., 6.3.2.GeoGI.2, 6.1.2.HistorySE.3, W.2.6, 1-LSI-2).
Information is shared or conveyed in a variety of formats and sources.	• 9.4.2.IML.4: Compare and contrast the way information is shared in a variety of contexts (e.g., social, academic, athletic) (e.g., 2.2.2.MSC.5, RL.2.9).
Digital tools have a purpose.	• 9.4.2.TL.1: Identify the basic features of a digital tool and explain the purpose of the tool (e.g., 8.2.2.ED.1). • 9.4.2.TL.2: Create a document using a word processing application. • 9.4.2.TL.3: Enter information into a spreadsheet and sort the information. • 9.4.2.TL.4: Navigate a virtual space to build context and describe the visual content • 9.4.2.TL.5: Describe the difference between real and virtual experiences. • 9.4.2.TL.6: Illustrate and communicate ideas and stories using multiple digital tools (e.g., SL.2.5.). •
Collaboration can simplify the work an individual has to do and sometimes produce a better product.	• 9.4.2.TL.7: Describe the benefits of collaborating with others to complete digital tasks or develop digital artifacts (e.g., W.2.6., 8.2.2.ED.2).
Different types of jobs require different knowledge and skills. Income is received from work in different ways including regular payments, tips, commissions, and benefits.	• 9.1.2.CAP.1: Make a list of different types of jobs and describe the skills associated with each job. • 9.1.2.CAP.2: Explain why employers are willing to pay individuals to work. • 9.1.2.CAP.3: Define entrepreneurship and social entrepreneurship. • 9.1.2.CAP.4: List the potential rewards and risks to starting a business

There are benefits and drawbacks to being an entrepreneur.	

NJ: 2016 SLS: English Language Arts

- RI.K.1. With prompting and support, ask and answer questions about key details in a text.
- RI.K.2. With prompting and support, identify the main topic and retell key details of a text.
- RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text
- RI.K.4. With prompting and support, ask and answer questions about unknown words in a text
- RI.K.7. With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).
- RI.K.9. With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).
- RF.K.1. Demonstrate understanding of the organization and basic features of print.
- W.K.1. Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., My favorite book is…).
- SL.K.1. Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.
- SL.K.1.a. Follow agreed-upon norms for discussions (e.g., listening to others with care and taking turns speaking about the topics and texts under discussion).
- SL.K.1b. Continue a conversation through multiple exchanges.
- L.K.6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts.
- RI.1.1. Ask and answer questions about key details in a text.
- RI.1.3. Describe the connection between two individuals, events, ideas, or pieces of information in a text.
- RI.1.7. Use the illustrations and details in a text to describe its key ideas.
- RI.1.8. Identify the reasons an author gives to support points in a text and explain the application of this information with prompting as needed.
- W.1.1. Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.

- RI.1.9. Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).
- SL.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
- SL.1.1a. Follow agreed-upon norms for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).
- SL.1.1b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges.
- SL.1.1c. Ask questions to clear up any confusion about the topics and texts under discussion.
- SL.1.6. Produce complete sentences when appropriate to task and situation.
- L.1.6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., I named my hamster Nibblet because she nibbles too much because she likes that).
- RF.2.3. Know and apply grade-level phonics and word analysis skills in decoding words., , , ,
- a. Know spelling-sound correspondences for additional common vowel teams.
- b. Decode regularly spelled two-syllable words with long vowels.
- c. Decode words with common prefixes and suffixes.
- d. Identify words with inconsistent but common spelling-sound correspondences.
- e. Recognize and read grade-appropriate irregularly spelled words.

- RI.2.1. Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
- RI.2.3. Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
- RI.2.7. Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
- RI.2.8. Describe and identify the logical connections of how reasons support specific points the author makes in a text.
- RI.2.9. Compare and contrast the most important points presented by two texts on the same topic.
- W.2.8. Recall information from experiences or gather information from provided sources to answer a question.
- SL.2.3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.
- SL.2.6. Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

• L.2.6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., When other kids are happy that makes me happy).	
Interdisciplinary Connections	
Mathematics	• K.CC.A.1 Count to 100 by ones and by tens. • K.CC.A.2 Count forward beginning from a given number within the known sequence (instead of having to begin at 1). • K.CC.A.3 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). • K.OA.A.1 Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equation. • K.OA.A.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. • K.OA.A.4 For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation. • K.NBT.1 Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. • K.MD.A.1 Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. • K.MD.A.3 Classify objects into given categories; count the numbers of objects in each category and sort the categories by count • K.G.A.1 Describe objects in the environment using names of shapes and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to. • K.G.B.5 Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes • 1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with

	unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem • 1.OA.A.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. • 1.OA.C.5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). • 1.MD.A.1. Order three objects by length; compare the lengths of two objects indirectly by using a third object. • 1.MD.A.2 Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps • 2.OA.A.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. • 2.OA.B.2 Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers. • 2.OA.C.3 Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends. • 2.NBT.B.9 Explain why addition and subtraction strategies work, using place value and the properties of operations • 2.MD.A.4. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard-length unit.
Science	• K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change (e.g., climate change) to define a simple problem that can be solved through the development of a new or improved object or tool. • K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
Connections and Skills	• Critical thinking & Problem Solving

	• Digital Citizenship • Collaboration and Teamwork • Global and Cultural Awareness • Creativity and Innovation • Technology Literacy

Title	Coding
Unit Duration	6 Weeks
Unit Summary & Rationale	This unit is an introduction to the fundamentals of coding. Students will be learning introductory coding commands such as looping, events, sequencing, and elementary binary code. Students will be expanding on their knowledge of shapes, geometry, base ten mathematics, and algebraic thinking through coding. In addition, students will be expanding on their creativity, critical thinking, problem solving skills, and collaborative skills.
Unit Goals	
Essential Questions	• What can the Internet be used for? • How did you decode and run a program created by someone else? • What do you do if you come across a bug (error) in your program? • What do you see happening in your program? • What does it mean to repeat something? • How can you find a loop? • How do we use loops? • What are ways we can give directions without using our arms? • What else do you think is represented as binary inside of a computer?
Enduring Understandings	• Building digital literacy and giving students an ability to safely navigate and utilize the internet. • Determining the basic components of how a program is written and constructed. • Building persistent and problem solving to determine errors in written code and programs. • Determine what a loop is coding and how to effectively use this feature to enhance their storyboard and or program.

	• Being able to build code based on prior knowledge, investigative techniques, and trial and error. • Gain an understanding of what types of code computers read and role coding playing within our everyday world.
Learning Outcomes	• Be able conduct basic programming concepts such as loops and events. • Investigate different problem-solving techniques and overcome different tasks using their problem-solving skills. • Code complex unplugged activities and variety of skills within puzzles. • Be able to investigation and use critical thinking skills to program a variety of materials. • Be able to translate simple binary codes. • Discuss the importance of internet safety and ways to prevent cyberbullying. • Be able to create interactive stories, games, and animations to apply a variety coding of techniques. • Develop and investigate patterns. • Be able to discuss the importance of coding. • Make self-discoveries on way to improve their programming skills. • Be able to explain reasoning and ways to solve individual coding errors.

Assessment Evidence	
Formative	Collaborative Activities, Homework, Classwork, Discussion, Independent Class Assignment, Informal Observations of Students, Interactive Notebooks, Self-Assessments, Exit Tickets, Mini Lessons from Code.org , Code.Org Courses, Teacher Constructed Games, Self and Group Assessments Student Pre-Planning
Summative	Tests, Pre-Assessments, Quizzes, Written Responses, Projects, Code.org Big Event Jr. Course A, B, and C, Student created story and game
Alternative and Benchmark	Alternative – Project Based Learning, Graphic Organizers, Student Portfolio, Orally assessed responses Benchmark – Teacher generated project or assessment, Tests, Student portfolio/project Formative, Summative, Alternative and Benchmark Assessments

Resources to Promote Learning	
Resources & Equipment Needed	Smartboard, Computers, iPads, websites and digital interactives/models, multi-media presentations, video streaming, Brain Pop, Microsoft 365, Ozobots, Ozobot Coding Reference Sheet, Code.Org tools, Makey Makey STEM Pack Approved Class Resource List
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Human needs and desires determine which new tools are developed.	• 8.2.2.ITH.1: Identify products that are designed to meet human wants or needs. • 8.2.2.ITH.2: Explain the purpose of a product and its value.
Technology has changed the way people live and work. Various tools can improve daily tasks and quality of life.	• 8.2.2.ITH.3: Identify how technology impacts or improves life. • 8.2.2.ITH.4: Identify how various tools reduce work and improve daily tasks. • 8.2.2.ITH.5: Design a solution to a problem affecting the community in a collaborative team and explain the intended impact of the solution.
Innovation and the improvement of existing technology involves creative thinking.	• 8.2.2.NT.1: Model and explain how a product works after taking it apart, identifying the relationship of each part, and putting it back together. • 8.2.2.NT.2: Brainstorm how to build a product, improve a designed product, fix a product that has stopped working, or solve a simple problem.
The use of technology developed for the human designed world can affect the environment, including land, water, air, plants, and animals. Technologies that use natural sources can have negative effects on the environment, its quality, and inhabitants. Reusing and recycling materials can save money while preserving natural resources and avoiding damage to the environment.	• 8.2.2.ETW.1: Classify products as resulting from nature or produced as a result of technology. • 8.2.2.ETW.2: Identify the natural resources needed to create a product. • 8.2.2.ETW.3: Describe or model the system used for recycling technology. • 8.2.2.ETW.4: Explain how the disposal of or reusing a product affects the local and global environment.

The availability of technology for essential tasks varies in different parts of the world.	• 8.2.2.EC.1: Identify and compare technology used in different schools, communities, regions, and parts of the world.
Computer Science and Design Thinking Practices	• 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
2020 SLS: Career Readiness, Life Literacies, and Key Skills	
Core Idea	**Performance Expectation**
Brainstorming can create new, innovative ideas.	• 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2). • 9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).
Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem.	• 9.4.2.CT.1: Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem (e.g., K-2-ETS1-1, 6.3.2.GeoGI.2). • 9.4.2.CT.2: Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3). • 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
Digital artifacts can be owned by individuals or organizations.	• 9.4.2.DC.1: Explain differences between ownership and sharing of information. • 9.4.2.DC.2: Explain the importance of respecting digital content of others.
Individuals should practice safe behaviors when using the Internet.	• 9.4.2.DC.3: Explain how to be safe online and follow safe practices when using the internet (e.g., 8.1.2.NI.3, 8.1.2.NI.4). • 9.4.2.DC.4: Compare information that should be kept private to information that might be made public.

An individual's digital footprint reflects the various actions an individual makes online, both positive and negative.	• 9.4.2.DC.5: Explain what a digital footprint is and how it is created.
Digital communities allow for social interactions that can result in positive or negative outcomes.	• 9.4.2.DC.6: Identify respectful and responsible ways to communicate in digital environments.
Young people can have a positive impact on the natural world in the fight against climate change.	• 9.4.2.DC.7: Describe actions peers can take to positively impact climate change (e.g., 6.3.2.CivicsPD.1).
Individuals from different cultures may have different points of view and experiences.	• 9.4.2.GCA:1: Articulate the role of culture in everyday life by describing one's own culture and comparing it to the cultures of other individuals (e.g., 1.5.2.C2a, 7.1.NL.IPERS.5, 7.1.NL.IPERS.6).
Digital tools and media resources provide access to vast stores of information that can be searched.	• 9.4.2.IML.1: Identify a simple search term to find information in a search engine or digital resource.
Digital tools can be used to display data in various ways.	• 9.4.2.IML.2: Represent data in a visual format to tell a story about the data (e.g., 2.MD.D.10).
A variety of diverse sources, contexts, disciplines, and cultures provide valuable and necessary information that can be used for different purposes.	• 9.4.2.IML.3: Use a variety of sources including multimedia sources to find information about topics such as climate change, with guidance and support from adults (e.g., 6.3.2.GeoGI.2, 6.1.2.HistorySE.3, W.2.6, 1-LSI-2).

Information is shared or conveyed in a variety of formats and sources.	• 9.4.2.IML.4: Compare and contrast the way information is shared in a variety of contexts (e.g., social, academic, athletic) (e.g., 2.2.2.MSC.5, RL.2.9).
Digital tools have a purpose.	• 9.4.2.TL.1: Identify the basic features of a digital tool and explain the purpose of the tool (e.g., 8.2.2.ED.1). • 9.4.2.TL.2: Create a document using a word processing application. • 9.4.2.TL.3: Enter information into a spreadsheet and sort the information. • 9.4.2.TL.4: Navigate a virtual space to build context and describe the visual content • 9.4.2.TL.5: Describe the difference between real and virtual experiences. • 9.4.2.TL.6: Illustrate and communicate ideas and stories using multiple digital tools (e.g., SL.2.5.).
Collaboration can simplify the work an individual has to do and sometimes produce a better product.	• 9.4.2.TL.7: Describe the benefits of collaborating with others to complete digital tasks or develop digital artifacts (e.g., W.2.6., 8.2.2.ED.2).
NJ: 2016 SLS: English Language Arts	
• RI.K.1. With prompting and support, ask and answer questions about key details in a text. • RI.K.2. With prompting and support, identify the main topic and retell key details of a text. • RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text • RI.K.4. With prompting and support, ask and answer questions about unknown words in a text • RI.K.7. With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts). • RI.K.9. With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures). • RF.K.1. Demonstrate understanding of the organization and basic features of print.	

- W.K.1. Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., My favorite book is…).
- SL.K.1. Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.
- SL.K.1.a. Follow agreed-upon norms for discussions (e.g., listening to others with care and taking turns speaking about the topics and texts under discussion).
- SL.K.1b. Continue a conversation through multiple exchanges.
- L.K.6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts.
- RI.1.1. Ask and answer questions about key details in a text.
- RI.1.3. Describe the connection between two individuals, events, ideas, or pieces of information in a text.
- RI.1.7. Use the illustrations and details in a text to describe its key ideas.
- RI.1.8. Identify the reasons an author gives to support points in a text and explain the application of this information with prompting as needed.
- W.1.1. Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.
- RI.1.9. Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).
- SL.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
- SL.1.1a. Follow agreed-upon norms for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).
- SL.1.1b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges.
- SL.1.1c. Ask questions to clear up any confusion about the topics and texts under discussion.
- SL.1.6. Produce complete sentences when appropriate to task and situation.
- L.1.6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., I named my hamster Nibblet because she nibbles too much because she likes that).
- RF.2.3. Know and apply grade-level phonics and word analysis skills in decoding words., , , ,
- a. Know spelling-sound correspondences for additional common vowel teams.
- b. Decode regularly spelled two-syllable words with long vowels.
- c. Decode words with common prefixes and suffixes.

- d. Identify words with inconsistent but common spelling-sound correspondences.
- e. Recognize and read grade-appropriate irregularly spelled words.

- RI.2.1. Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
- RI.2.3. Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
- RI.2.7. Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
- RI.2.8. Describe and identify the logical connections of how reasons support specific points the author makes in a text.
- RI.2.9. Compare and contrast the most important points presented by two texts on the same topic.
- W.2.8. Recall information from experiences or gather information from provided sources to answer a question.
- SL.2.3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.
- SL.2.6. Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.
- L.2.6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., When other kids are happy that makes me happy).

Interdisciplinary Connections	
Mathematics	• K.CC.B.4.A When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. • K.MD.B.3 3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. • K.G.1. Describe objects in the environment using names of shapes and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to. • K.G.3 3. Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”). • 1.MD.C 4. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

	• 1.G.A 1. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes. • 2.MD.D 10. Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put together, take-apart, and compare problems4 using information presented in a bar graph. • 2.G.A 1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.5 Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
Science	• K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change (e.g., climate change) to define a simple problem that can be solved through the development of a new or improved object or tool. • K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
Connections and Skills	• Critical thinking & Problem Solving • Digital Citizenship • Collaboration and Teamwork • Global and Cultural Awareness • Creativity and Innovation • Technology Literacy

Title	Robotics
Unit Duration	6 Weeks
Unit Summary & Rationale	Students will be utilizing elementary coding and programs to program robots to follow a series of code and commands. The robots can be programmed using a computer or color-coded sequences from markers. Students will develop sequential thinking, problem solving, fundamentals of coding, and ways to debug issues. Students will be using the robots through a series of lessons and cross curricular lessons to complete real problem-solving tasks.

Unit Goals	
Essential Questions	• What are jobs and services robots assist in? • What are some tasks robots can complete? • How do you care for special equipment like robots? • What are ways we can program the robots to follow commands? • Did your bot correctly follow their line and commands? Why or not why did they follow their code? • What is the most difficult part of getting Ozobot to follow the lines? • What is the difference between a symmetric and non-symmetric color code? • What is the purpose of a color code? • How does Ozobot tell you the color it sees? • How would you help a classmate with programming an Ozobot? • What are ways you can debug errors in your codes?
Enduring Understandings	• Students will gain an understanding of ways robots are used to assist in everyday tasks. • Building background about jobs and tasks robots can complete. • Ways to format and construct code to program an object or computer to complete a specific task. • Designing specific code using color coded sequence. • Developing code using a computer program to program a robot to complete an authentic performance task. • Understand the technical components of how an Ozobot works and completes tasks. • Overcoming errors and debugging issues within a student constructed code. • Using mathematical reasoning to develop sequential thinking.
Learning Outcomes	• Be able to learn how to care and maintain technical equipment. • Build conceptual foundation for a variety of programming languages. • Be able to understand coding concepts like sequential thinking, syntax, and debugging. • Be able to create screen free coding programs for a robot. • Be able to have a robot follow a series of commands utilizing patterns and sequential thinking. • Utilize basic robotics to develop mathematical reasoning and language skills. • Use creativity to develop a variety of coding patterns. • Use Ozobots to solve a variety of problems and develop critical thinking. • Be able to see how coding and programming works firsthand.

- Discover sequential coding by deconstructing the robot's actions compared to the written program.

Assessment Evidence	
Formative	Collaborative Activities, Homework, Classwork, Discussion, Independent Class Assignment, Informal Observations of Students, Interactive Notebooks, Self-Assessments, Exit Tickets, Ozobot Edu Performance Tasks, OzoBlockly Challenges, Student Self-Assessment, Group Performance Challenges, Troubleshooting, Student Debugging, Group Discussions
Summative	Tests, Pre-Assessments, Quizzes, Written Responses, Projects
Alternative and Benchmark	Alternative – Project Based Learning, Graphic Organizers, Student Portfolio, Orally assessed responses Benchmark – Teacher generated project or assessment, Tests, Student portfolio/project Formative, Summative, Alternative and Benchmark Assessments
Resources to Promote Learning	
Resources & Equipment Needed	Smartboard, Computers, iPads, websites and digital interactives/models, multi-media presentations, video streaming, Brain Pop, Microsoft 365, Ozobots, Ozobot Coding Reference Sheet, Code.Org tools, USB Charging Ports, Ozobot Color Code Chart, OzoBlocky Program Approved Class Resource List
Content & Interdisciplinary Standards	
Computer Science and Design Thinking Practices	
Core Ideas	**Performance Expectation**
Individuals use computing devices to perform a variety of tasks accurately and quickly. Computing devices interpret and follow the instructions they are given literally.	• 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.

A computing system is composed of software and hardware.	• 8.1.2.CS.2: Explain the functions of common software and hardware components of computing systems.
Describing a problem is the first step toward finding a solution when computing systems do not work as expected.	• 8.1.2.CS.3: Describe basic hardware and software problems using accurate terminology.
Computer networks can be used to connect individuals to other individuals, places, information, and ideas. The Internet enables individuals to connect with others worldwide.	• 8.1.2.NI.1: Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a network. • 8.1.2.NI.2: Describe how the Internet enables individuals to connect with others worldwide.
Connecting devices to a network or the Internet provides great benefits, but care must be taken to use authentication measures, such as strong passwords, to protect devices and information from unauthorized access.	• 8.1.2.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others. • 8.1.2.NI.4: Explain why access to devices need to be secured
Computing technology has positively and negatively changed the way individuals live and work (e.g., entertainment, communication, productivity tools).	• 8.1.2.IC.1: Compare how individuals live and work before and after the implementation of new computing technology.

Individuals collect, use, and display data about individuals and the world around them.	• 8.1.2.DA.1: Collect and present data, including climate change data, in various visual formats.
Computers store data that can be retrieved later. Data can be copied, stored in multiple locations, and retrieved.	• 8.1.2.DA.2: Store, copy, search, retrieve, modify, and delete data using a computing device.
Data can be used to make predictions about the world.	• 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.
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.	• 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks.
Real world information can be stored and manipulated in programs as data (e.g., numbers, words, colors, images).	• 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information.
Computers follow precise sequences of steps that automate tasks.	• 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks.
Complex tasks can be broken down into simpler instructions, some of which can be broken down even further.	• 8.1.2.AP.4: Break down a task into a sequence of steps.
People work together to develop programs for a purpose, such as expressing	• 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.

ideas or addressing problems. The development of a program involves identifying a sequence of events, goals, and expected outcomes, and addressing errors (when necessary).	
Engineering design is a creative process for meeting human needs or wants that can result in multiple solutions.	• 8.2.2.ED.1: Communicate the function of a product or device. • 8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process. • 8.2.2.ED.3: Select and use appropriate tools and materials to build a product using the design process.
Limitations (constraints) must be considered when engineering designs.	• 8.2.2.ED.4: Identify constraints and their role in the engineering design process.
Human needs and desires determine which new tools are developed.	• 8.2.2.ITH.1: Identify products that are designed to meet human wants or needs. • 8.2.2.ITH.2: Explain the purpose of a product and its value.
Technology has changed the way people live and work. Various tools can improve daily tasks and quality of life.	• 8.2.2.ITH.3: Identify how technology impacts or improves life. • 8.2.2.ITH.4: Identify how various tools reduce work and improve daily tasks. • 8.2.2.ITH.5: Design a solution to a problem affecting the community in a collaborative team and explain the intended impact of the solution.
Innovation and the improvement of existing technology involves creative thinking.	• 8.2.2.NT.1: Model and explain how a product works after taking it apart, identifying the relationship of each part, and putting it back together. • 8.2.2.NT.2: Brainstorm how to build a product, improve a designed product, fix a product that has stopped working, or solve a simple problem.
The use of technology developed for the human designed world can affect the	• 8.2.2.ETW.1: Classify products as resulting from nature or produced as a result of technology. • 8.2.2.ETW.2: Identify the natural resources needed to create a product.

environment, including land, water, air, plants, and animals. Technologies that use natural sources can have negative effects on the environment, its quality, and inhabitants. Reusing and recycling materials can save money while preserving natural resources and avoiding damage to the environment.	• 8.2.2.ETW.3: Describe or model the system used for recycling technology. • 8.2.2.ETW.4: Explain how the disposal of or reusing a product affects the local and global environment.
The availability of technology for essential tasks varies in different parts of the world.	• 8.2.2.EC.1: Identify and compare technology used in different schools, communities, regions, and parts of the world.
Computer Science and Design Thinking Practices	• 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
2020 SLS: Career Readiness, Life Literacies, and Key Skills	
Core Idea	**Performance Expectation**
Brainstorming can create new, innovative ideas.	• 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2). • 9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).

Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem.	• 9.4.2.CT.1: Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem (e.g., K-2-ETS1-1, 6.3.2.GeoGI.2). • 9.4.2.CT.2: Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3). • 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
Digital artifacts can be owned by individuals or organizations.	• 9.4.2.DC.1: Explain differences between ownership and sharing of information. • 9.4.2.DC.2: Explain the importance of respecting digital content of others.
Individuals should practice safe behaviors when using the Internet.	• 9.4.2.DC.3: Explain how to be safe online and follow safe practices when using the internet (e.g., 8.1.2.NI.3, 8.1.2.NI.4). • 9.4.2.DC.4: Compare information that should be kept private to information that might be made public.
An individual's digital footprint reflects the various actions an individual makes online, both positive and negative.	• 9.4.2.DC.5: Explain what a digital footprint is and how it is created.
Digital communities allow for social interactions that can result in positive or negative outcomes.	• 9.4.2.DC.6: Identify respectful and responsible ways to communicate in digital environments.
Young people can have a positive impact on the natural world in the fight against climate change.	• 9.4.2.DC.7: Describe actions peers can take to positively impact climate change (e.g., 6.3.2.CivicsPD.1).

Individuals from different cultures may have different points of view and experiences.	• 9.4.2.GCA:1: Articulate the role of culture in everyday life by describing one's own culture and comparing it to the cultures of other individuals (e.g., 1.5.2.C2a, 7.1.NL.IPERS.5, 7.1.NL.IPERS.6).
Digital tools and media resources provide access to vast stores of information that can be searched.	• 9.4.2.IML.1: Identify a simple search term to find information in a search engine or digital resource.
Digital tools can be used to display data in various ways.	• 9.4.2.IML.2: Represent data in a visual format to tell a story about the data (e.g., 2.MD.D.10).
A variety of diverse sources, contexts, disciplines, and cultures provide valuable and necessary information that can be used for different purposes.	• 9.4.2.IML.3: Use a variety of sources including multimedia sources to find information about topics such as climate change, with guidance and support from adults (e.g., 6.3.2.GeoGI.2, 6.1.2.HistorySE.3, W.2.6, 1-LSI-2).
Information is shared or conveyed in a variety of formats and sources.	• 9.4.2.IML.4: Compare and contrast the way information is shared in a variety of contexts (e.g., social, academic, athletic) (e.g., 2.2.2.MSC.5, RL.2.9).
Digital tools have a purpose.	• 9.4.2.TL.1: Identify the basic features of a digital tool and explain the purpose of the tool (e.g., 8.2.2.ED.1). • 9.4.2.TL.2: Create a document using a word processing application. • 9.4.2.TL.3: Enter information into a spreadsheet and sort the information. • 9.4.2.TL.4: Navigate a virtual space to build context and describe the visual content • 9.4.2.TL.5: Describe the difference between real and virtual experiences. • 9.4.2.TL.6: Illustrate and communicate ideas and stories using multiple digital tools (e.g., SL.2.5.).

Collaboration can simplify the work an individual has to do and sometimes produce a better product.	• 9.4.2.TL.7: Describe the benefits of collaborating with others to complete digital tasks or develop digital artifacts (e.g., W.2.6., 8.2.2.ED.2).

NJ: 2016 SLS: English Language Arts

- RI.K.1. With prompting and support, ask and answer questions about key details in a text.
- RI.K.2. With prompting and support, identify the main topic and retell key details of a text.
- RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text
- RI.K.4. With prompting and support, ask and answer questions about unknown words in a text
- RI.K.7. With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).
- RI.K.9. With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).
- RF.K.1. Demonstrate understanding of the organization and basic features of print.
- W.K.1. Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., My favorite book is…).
- SL.K.1. Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.
- SL.K.1.a. Follow agreed-upon norms for discussions (e.g., listening to others with care and taking turns speaking about the topics and texts under discussion).
- SL.K.1b. Continue a conversation through multiple exchanges.
- L.K.6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts.
- RI.1.1. Ask and answer questions about key details in a text.
- RI.1.3. Describe the connection between two individuals, events, ideas, or pieces of information in a text.
- RI.1.7. Use the illustrations and details in a text to describe its key ideas.
- RI.1.8. Identify the reasons an author gives to support points in a text and explain the application of this information with prompting as needed.

- W.1.1. Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.
- RI.1.9. Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).
- SL.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
- SL.1.1a. Follow agreed-upon norms for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).
- SL.1.1b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges.
- SL.1.1c. Ask questions to clear up any confusion about the topics and texts under discussion.
- SL.1.6. Produce complete sentences when appropriate to task and situation.
- L.1.6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., I named my hamster Nibblet because she nibbles too much because she likes that).
- RF.2.3. Know and apply grade-level phonics and word analysis skills in decoding words., , , ,
- a. Know spelling-sound correspondences for additional common vowel teams.
- b. Decode regularly spelled two-syllable words with long vowels.
- c. Decode words with common prefixes and suffixes.
- d. Identify words with inconsistent but common spelling-sound correspondences.
- e. Recognize and read grade-appropriate irregularly spelled words.

- RI.2.1. Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
- RI.2.3. Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
- RI.2.7. Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
- RI.2.8. Describe and identify the logical connections of how reasons support specific points the author makes in a text.
- RI.2.9. Compare and contrast the most important points presented by two texts on the same topic.
- W.2.8. Recall information from experiences or gather information from provided sources to answer a question.
- SL.2.3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.

• SL.2.6. Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. • L.2.6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., When other kids are happy that makes me happy).	
Interdisciplinary Connections	
Mathematics	• K.CC.A 2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1). • K.CC.B.4.a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. • K.G.A.1 1. Describe objects in the environment using names of shapes and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to. • 1.G.A. 1. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes. • 2.MD.B 5. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
Science	• K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change (e.g., climate change) to define a simple problem that can be solved through the development of a new or improved object or tool. • K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. • K-2-ETS1-3 , Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.
Connections and Skills	• Critical thinking & Problem Solving • Digital Citizenship • Collaboration and Teamwork • Global and Cultural Awareness • Creativity and Innovation • Technology Literacy

Title	Design
Unit Duration	6 Weeks
Unit Summary & Rationale	This unit is an authentic performance task based on the prior knowledge students have developed throughout the year. Students will be developing and creating a design project based on a real-world problem. Students will be using resources and tools to infuse science, technology, the arts, engineering, and mathematics into designs and products.
Unit Goals	
Essential Questions	• Why is planning an important part of building a design? • How is drawing a plan important to making a design? • How did you create your design? • Did the design turn out how you thought it was going to turn out? • What type of real-world problem did your design solve? • What type of materials are you using to create your product/design? • Why did you create your design the way you did? • What type of careers do you think solve problems from building designs? • What type of materials would builders use to create your design? • What type of job am I interested in? • What is income? • Why would someone want to open their own business? • Why do we have copyrights?
Enduring Understandings	• Students will gain an understanding of design, problem solving, trial and error, critical thinking, and engineering concepts. • Understanding the importance of preplanning and teamwork. • Building connections between real-world designs and models. • The role STEAM plays in a variety of careers, critical thinking, and problem solving.

	• Being able to create a list of instructions that enables others to understand and complete a task. • Understanding the importance of why and how structures are built. • Understanding reasons why their projects succeeded or failed. Being able to give an explanation and reasoning on their design's successes or failures. • For the job I am interested in, what skills do I need to have? Education?
Learning Outcomes	• Be able to apply engineering and design to solve a series of authentic problems. • Investigate ways of designing structures by problem solving, collaboration, creativity, and critical thinking. • Be able to plan and test a series of designs based on preplanning, drawing, and trial and error. • Brainstorm a variety of ideas including how to solve a problem and build a product. • Demonstrate reasons why a design or product are important to the everyday world. • Be able to discuss and demonstrate why their design works, the strengths, weaknesses, and modifications of their designed product. • Identify and list the resources needed to complete their design. • Be able create and demonstrate a list of steps needed to complete an everyday task. • Be able to determine a situation people want to change and discuss the problem and ways it can be solved. • Be able to create a design based on a plan, sketch, and model through trial and error, collaboration, problem solving, creativity, and critical thinking. • Analyze their structure and design and determine the strengths and weaknesses. • Be able to discuss reasoning of why their design worked or how it can be improved.

Assessment Evidence	
Formative	Collaborative Activities, Homework, Classwork, Discussion, Independent Class Assignment, Informal Observations of Students, Interactive Notebooks, Self-Assessments, Exit Tickets, Code.Org Courses, Teacher Constructed Games, Self and Group Assessments Student Pre-Planning, Design Checkpoints
Summative	Tests, Pre-Assessments, Quizzes, Written Responses, Projects Kindergarten: Designing an Improved House (Based on Three Little Pigs)

	1st Grade: Reimagining and Designing a School Playground 2nd: Designing a School
Alternative and Benchmark	Alternative – Project Based Learning, Graphic Organizers, Student Portfolio, Orally assessed responses Benchmark – Teacher generated project or assessment, Tests, Student portfolio/project Formative, Summative, Alternative and Benchmark Assessments
Resources to Promote Learning	
Resources & Equipment Needed	Smartboard, Computers, iPads, websites and digital interactives/models, multi-media presentations, video streaming, Brain Pop, Microsoft 365, Pipe Cleaners, Straws, Legos, KEVA Planks, Building Blocks, Cardboards, Builders Straws and Connectors, Markers, Rulers Approved Class Resource List
Content & Interdisciplinary Standards	
Computer Science and Design Thinking Practices	
Core Ideas	**Performance Expectation**
Individuals use computing devices to perform a variety of tasks accurately and quickly. Computing devices interpret and follow the instructions they are given literally.	• 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
A computing system is composed of software and hardware.	• 8.1.2.CS.2: Explain the functions of common software and hardware components of computing systems.
Describing a problem is the first step toward finding a solution when computing systems do not work as expected.	• 8.1.2.CS.3: Describe basic hardware and software problems using accurate terminology.

Computer networks can be used to connect individuals to other individuals, places, information, and ideas. The Internet enables individuals to connect with others worldwide.	• 8.1.2.NI.1: Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a network. • 8.1.2.NI.2: Describe how the Internet enables individuals to connect with others worldwide.
Connecting devices to a network or the Internet provides great benefits, but care must be taken to use authentication measures, such as strong passwords, to protect devices and information from unauthorized access.	• 8.1.2.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others. • 8.1.2.NI.4: Explain why access to devices need to be secured
Computing technology has positively and negatively changed the way individuals live and work (e.g., entertainment, communication, productivity tools).	• 8.1.2.IC.1: Compare how individuals live and work before and after the implementation of new computing technology.
Individuals collect, use, and display data about individuals and the world around them.	• 8.1.2.DA.1: Collect and present data, including climate change data, in various visual formats.
Computers store data that can be retrieved later. Data can be copied, stored in multiple locations, and retrieved.	• 8.1.2.DA.2: Store, copy, search, retrieve, modify, and delete data using a computing device.

Data can be used to make predictions about the world.	• 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.
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.	• 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks.
Real world information can be stored and manipulated in programs as data (e.g., numbers, words, colors, images).	• 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information.
Computers follow precise sequences of steps that automate tasks.	• 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks.
Complex tasks can be broken down into simpler instructions, some of which can be broken down even further.	• 8.1.2.AP.4: Break down a task into a sequence of steps.
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).	• 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.

Engineering design is a creative process for meeting human needs or wants that can result in multiple solutions.	• 8.2.2.ED.1: Communicate the function of a product or device. • 8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process. • 8.2.2.ED.3: Select and use appropriate tools and materials to build a product using the design process.
Limitations (constraints) must be considered when engineering designs.	• 8.2.2.ED.4: Identify constraints and their role in the engineering design process.
Human needs and desires determine which new tools are developed.	• 8.2.2.ITH.1: Identify products that are designed to meet human wants or needs. • 8.2.2.ITH.2: Explain the purpose of a product and its value.
Technology has changed the way people live and work. Various tools can improve daily tasks and quality of life.	• 8.2.2.ITH.3: Identify how technology impacts or improves life. • 8.2.2.ITH.4: Identify how various tools reduce work and improve daily tasks. • 8.2.2.ITH.5: Design a solution to a problem affecting the community in a collaborative team and explain the intended impact of the solution.
Innovation and the improvement of existing technology involves creative thinking.	• 8.2.2.NT.1: Model and explain how a product works after taking it apart, identifying the relationship of each part, and putting it back together. • 8.2.2.NT.2: Brainstorm how to build a product, improve a designed product, fix a product that has stopped working, or solve a simple problem.
The use of technology developed for the human designed world can affect the environment, including land, water, air, plants, and animals. Technologies that use natural sources can have negative effects on the environment, its quality, and inhabitants. Reusing and recycling materials can save money	• 8.2.2.ETW.1: Classify products as resulting from nature or produced as a result of technology. • 8.2.2.ETW.2: Identify the natural resources needed to create a product. • 8.2.2.ETW.3: Describe or model the system used for recycling technology. • 8.2.2.ETW.4: Explain how the disposal of or reusing a product affects the local and global environment.

while preserving natural resources and avoiding damage to the environment.	
The availability of technology for essential tasks varies in different parts of the world.	• 8.2.2.EC.1: Identify and compare technology used in different schools, communities, regions, and parts of the world.
Computer Science and Design Thinking Practices	• 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
2020 SLS: Career Readiness, Life Literacies, and Key Skills	
Core Idea	**Performance Expectation**
Brainstorming can create new, innovative ideas.	• 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2). • 9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).
Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem.	• 9.4.2.CT.1: Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem (e.g., K-2-ETS1-1, 6.3.2.GeoGI.2). • 9.4.2.CT.2: Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3). • 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
Digital artifacts can be owned by individuals or organizations.	• 9.4.2.DC.1: Explain differences between ownership and sharing of information. • 9.4.2.DC.2: Explain the importance of respecting digital content of others.

Individuals should practice safe behaviors when using the Internet.	• 9.4.2.DC.3: Explain how to be safe online and follow safe practices when using the internet (e.g., 8.1.2.NI.3, 8.1.2.NI.4). • 9.4.2.DC.4: Compare information that should be kept private to information that might be made public.
An individual's digital footprint reflects the various actions an individual makes online, both positive and negative.	• 9.4.2.DC.5: Explain what a digital footprint is and how it is created.
Digital communities allow for social interactions that can result in positive or negative outcomes.	• 9.4.2.DC.6: Identify respectful and responsible ways to communicate in digital environments.
Young people can have a positive impact on the natural world in the fight against climate change.	• 9.4.2.DC.7: Describe actions peers can take to positively impact climate change (e.g., 6.3.2.CivicsPD.1).
Individuals from different cultures may have different points of view and experiences.	• 9.4.2.GCA:1: Articulate the role of culture in everyday life by describing one's own culture and comparing it to the cultures of other individuals (e.g., 1.5.2.C2a, 7.1.NL.IPERS.5, 7.1.NL.IPERS.6).
Digital tools and media resources provide access to vast stores of information that can be searched.	• 9.4.2.IML.1: Identify a simple search term to find information in a search engine or digital resource.
Digital tools can be used to display data in various ways.	• 9.4.2.IML.2: Represent data in a visual format to tell a story about the data (e.g., 2.MD.D.10).

A variety of diverse sources, contexts, disciplines, and cultures provide valuable and necessary information that can be used for different purposes.	• 9.4.2.IML.3: Use a variety of sources including multimedia sources to find information about topics such as climate change, with guidance and support from adults (e.g., 6.3.2.GeoGI.2, 6.1.2.HistorySE.3, W.2.6, 1-LSI-2).
Information is shared or conveyed in a variety of formats and sources.	• 9.4.2.IML.4: Compare and contrast the way information is shared in a variety of contexts (e.g., social, academic, athletic) (e.g., 2.2.2.MSC.5, RL.2.9).
Digital tools have a purpose.	• 9.4.2.TL.1: Identify the basic features of a digital tool and explain the purpose of the tool (e.g., 8.2.2.ED.1). • 9.4.2.TL.2: Create a document using a word processing application. • 9.4.2.TL.3: Enter information into a spreadsheet and sort the information. • 9.4.2.TL.4: Navigate a virtual space to build context and describe the visual content • 9.4.2.TL.5: Describe the difference between real and virtual experiences. • 9.4.2.TL.6: Illustrate and communicate ideas and stories using multiple digital tools (e.g., SL.2.5.).
Collaboration can simplify the work an individual has to do and sometimes produce a better product.	• 9.4.2.TL.7: Describe the benefits of collaborating with others to complete digital tasks or develop digital artifacts (e.g., W.2.6., 8.2.2.ED.2).
NJ: 2016 SLS: English Language Arts	
• RI.K.1. With prompting and support, ask and answer questions about key details in a text. • RI.K.2. With prompting and support, identify the main topic and retell key details of a text. • RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text • RI.K.4. With prompting and support, ask and answer questions about unknown words in a text	

- RI.K.7. With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).
- RI.K.9. With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).
- RF.K.1. Demonstrate understanding of the organization and basic features of print.
- W.K.1. Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., My favorite book is…).
- SL.K.1. Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.
- SL.K.1.a. Follow agreed-upon norms for discussions (e.g., listening to others with care and taking turns speaking about the topics and texts under discussion).
- SL.K.1b. Continue a conversation through multiple exchanges.
- L.K.6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts.
- RI.1.1. Ask and answer questions about key details in a text.
- RI.1.3. Describe the connection between two individuals, events, ideas, or pieces of information in a text.
- RI.1.7. Use the illustrations and details in a text to describe its key ideas.
- RI.1.8. Identify the reasons an author gives to support points in a text and explain the application of this information with prompting as needed.
- W.1.1. Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.
- RI.1.9. Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).
- SL.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
- SL.1.1a. Follow agreed-upon norms for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).
- SL.1.1b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges.
- SL.1.1c. Ask questions to clear up any confusion about the topics and texts under discussion.
- SL.1.6. Produce complete sentences when appropriate to task and situation.

- L.1.6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., I named my hamster Nibblet because she nibbles too much because she likes that).
- RF.2.3. Know and apply grade-level phonics and word analysis skills in decoding words., , , ,
- a. Know spelling-sound correspondences for additional common vowel teams.
- b. Decode regularly spelled two-syllable words with long vowels.
- c. Decode words with common prefixes and suffixes.
- d. Identify words with inconsistent but common spelling-sound correspondences.
- e. Recognize and read grade-appropriate irregularly spelled words.

- RI.2.1. Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
- RI.2.3. Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
- RI.2.7. Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
- RI.2.8. Describe and identify the logical connections of how reasons support specific points the author makes in a text.
- RI.2.9. Compare and contrast the most important points presented by two texts on the same topic.
- W.2.8. Recall information from experiences or gather information from provided sources to answer a question.
- SL.2.3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.
- SL.2.6. Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.
- L.2.6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., When other kids are happy that makes me happy).

Interdisciplinary Connections	
Mathematics	• K.CC.A.1 Count to 100 by ones and by tens. • K.CC.A.2 Count forward beginning from a given number within the known sequence (instead of having to begin at 1). • K.CC.A.3 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).

	• K.OA.A.1 Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equation. • K.OA.A.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. • K.OA.A.4 For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation. • K.NBT.1 Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. • K.MD.A.1 Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. • K.MD.A.3 Classify objects into given categories; count the numbers of objects in each category and sort the categories by count • K.G.A.1 Describe objects in the environment using names of shapes and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to. • K.G.B.5 Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes • 1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem • 1.OA.A.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. • 1.OA.C.5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). • 1.MD.A.1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.

	• 1.MD.A.2 Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps • 2.OA.A.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. • 2.OA.B.2 Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers. • 2.OA.C.3 Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends. • 2.NBT.B.9 Explain why addition and subtraction strategies work, using place value and the properties of operations • 2.MD.A.4. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard-length unit.
Science	• K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change (e.g., climate change) to define a simple problem that can be solved through the development of a new or improved object or tool. • K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. • K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.
Connection and Skills	• Critical thinking & Problem Solving • Digital Citizenship • Collaboration and Teamwork • Global and Cultural Awareness • Creativity and Innovation • Technology Literacy • Information and Media Literacy

Title	Financial Literacy
Unit Duration	9 Weeks
Unit Summary & Rationale	In this unit of study, students will begin to learn the basics of financial literacy, the economy, and personal finance.
Unit Goals	
Essential Questions	• What are the differences between wants and needs? • How do our emotions affect our spending and saving habits? • Why do we save and spend money? • How can we volunteer in our school community? • What are ways we can give back to our community? • How is money used? • How does our community support how we save and earn money? • What are ways we can protect our valuables?
Enduring Understandings	• Having a strong understanding of basic saving and spending habits help support individuals in making better economic decisions. • Unit Enduring Understandings: • There's a relationship between an individual's values, emotions, and the ways he/she chooses to spend money. • External factors can influence the items that an individual wants or needs. • There are actions an individual can take to help make this world a better place. • Money comes in different values, forms and uses. • A budget is a plan that helps an individual obtain his/her financial goals • Saving money is a habit that can be developed. • There are ways to keep the things we value safely at home and other places. • Income is received from work in different ways including regular payments, tips, commissions, and benefits.
Learning Outcomes	• Explain how emotions influence whether a person spends or saves.

- Differentiate between financial wants and needs.
- Identify the factors that influence people to spend or save (e.g., commercials, family, culture, society).
- Recognize ways to volunteer in the classroom, school and community.
- List ways to give back, including making donations, volunteering, and starting a business.
- Differentiate the various forms of money and how they are used (e.g., coins, bills, checks, debit and credit cards).
- Determine various ways to save and places in the local community that help people save and accumulate money over time.
- Explain why an individual would choose to save money.
- Describe how valuable items might be damaged or lost and ways to protect them.
- Identify and explain income, and why individuals are paid for working.
- Articulate the role of culture in everyday life by describing one's own culture and comparing it to the cultures of other individuals
- Demonstrate proficiency using digital tools and with Media Literacy skills.
- Explain the importance of digital citizenship.

Assessment Evidence	
Formative	Collaborative Activities, Homework, Classwork, Discussion, Independent Class Assignment, Informal Observations of Students, Interactive Notebooks, Self-Assessments, Exit Tickets
Summative	Tests, Pre-Assessments, Quizzes, Written Responses, Projects
Alternative and Benchmark	Alternative – Project Based Learning, Graphic Organizers, Student Portfolio, Orally assessed responses Benchmark – Teacher generated project or assessment, Tests, Student portfolio/project Formative, Summative, Alternative and Benchmark Assessments
Resources to Promote Learning	
Resources & Equipment Needed	Smartboard, Computers, iPads, websites and digital interactives/models, multi-media presentations, video streaming, Brain Pop, Microsoft 365,

	Those shoes by Maribeth Boelts Curious George – Counting Pennies by Margaret & H.A. Rey's A Chair for My Mother by Vera B. Williams Alexander who used to be rich last Sunday by Judith Viorst Next Gen Personal Finance Approved Class Resource List
Content & Interdisciplinary Standards	
Computer Science and Design Thinking Practices	
Core Ideas	**Performance Expectation**
The availability of technology for essential tasks varies in different parts of the world.	8.2.2.EC.1: Identify and compare technology used in different schools, communities, regions, and parts of the world.
Technology has changed the way people live and work. Various tools can improve daily tasks and quality of life.	8.2.2.ITH.3: Identify how technology impacts or improves life.
Computer Science and Design Thinking Practices	• 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
2020 SLS: Career Readiness, Life Literacies, and Key Skills	
Core Ideas	**Performance Expectation**
There are actions an individual can take to help make this world a better place.	• 9.1.2.CR.1: Recognize ways to volunteer in the classroom, school and community.

	• 9.1.2.CR.2: List ways to give back, including making donations, volunteering, and starting a business.
Money comes in different values, forms, and uses.	• 9.1.2. FI.1: Differentiate the various forms of money and how they are used (e.g., coins, bills, checks, debit and credit cards).
There is a relationship between an individual's values, emotions, and the ways he/she chooses to spend money.	• 9.1.2.FP.1: Explain how emotions influence whether a person spends or saves.
External factors can influence the items that an individual wants or needs.	• 9.1.2.FP.2: Differentiate between financial wants and needs. • 9.1.2.FP.3: Identify the factors that influence people to spend or save (e.g., commercials, family, culture, society).
A budget is a plan that helps an individual obtain his/her financial goals.	• 9.1.2.PB.1: Determine various ways to save and places in the local community that help people save and accumulate money over time.
Saving money is a habit that can be developed.	• 9.1.2.PB.2: Explain why an individual would choose to save money.
There are ways to keep the things we value safely at home and other places.	• 9.1.2.RM.1: Describe how valuable items might be damaged or lost and ways to protect them.
Different types of jobs require different knowledge and skills.	• 9.1.2.CAP.1: Make a list of different types of jobs and describe the skills associated with each job.
Income is received from work in different ways including	• 9.1.2.CAP.2: Explain why employers are willing to pay individuals to work.

regular payments, tips, commissions, and benefits.	
There are benefits and drawbacks to being an entrepreneur.	• 9.1.2.CAP.3: Define entrepreneurship and social entrepreneurship. • 9.1.2.CAP.4: List the potential rewards and risks to starting a business.
Brainstorming can create new, innovative ideas.	• 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2). • 9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).
Digital tools can be used to display data in various ways.	• 9.4.2.IML.1: Identify a simple search term to find information in a search engine or digital resource.
A variety of diverse sources, contexts, disciplines, and cultures provide valuable and necessary information that can be used for different purposes.	• 9.4.2.IML.3: Use a variety of sources including multimedia sources to find information about topics such as climate change, with guidance and support from adults (e.g., 6.3.2.GeoGI.2, 6.1.2.HistorySE.3, W.2.6, 1-LSI-2).
Information is shared or conveyed in a variety of formats and sources.	• 9.4.2.IML.4: Compare and contrast the way information is shared in a variety of contexts (e.g., social, academic, athletic) (e.g., 2.2.2.MSC.5, RL.2.9).
Digital tools have a purpose.	• 9.4.2.TL.1: Identify the basic features of a digital tool and explain the purpose of the tool (e.g., 8.2.2.ED.1). • 9.4.2.TL.2: Create a document using a word processing application. • 9.4.2.TL.3: Enter information into a spreadsheet and sort the information. • 9.4.2.TL.4: Navigate a virtual space to build context and describe the visual content. • 9.4.2.TL.5: Describe the difference between real and virtual experiences. • 9.4.2.TL.6: Illustrate and communicate ideas and stories using multiple digital tools (e.g., SL.2.5.).

Collaboration can simplify the work an individual has to do and sometimes produce a better product.	• 9.4.2.TL.7: Describe the benefits of collaborating with others to complete digital tasks or develop digital artifacts (e.g., W.2.6., 8.2.2.ED.2).
Career Readiness, Life Literacies, and Key Skills Practices	• Act as a responsible and contributing community members and employee. • Attend to financial well-being. • 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. • Model integrity, ethical leadership and effective management. • 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
NJ: 2016 SLS: English Language Arts	
• RI.K.1. With prompting and support, ask and answer questions about key details in a text. • RI.K.2. With prompting and support, identify the main topic and retell key details of a text. • RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text • RI.K.4. With prompting and support, ask and answer questions about unknown words in a text • RI.K.7. With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts). • RI.K.9. With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures). • RF.K.1. Demonstrate understanding of the organization and basic features of print. • W.K.1. Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., My favorite book is…).	

- SL.K.1. Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.
- SL.K.1.a. Follow agreed-upon norms for discussions (e.g., listening to others with care and taking turns speaking about the topics and texts under discussion).
- SL.K.1b. Continue a conversation through multiple exchanges.
- L.K.6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts.

- RI.1.1. Ask and answer questions about key details in a text.
- RI.1.3. Describe the connection between two individuals, events, ideas, or pieces of information in a text.
- RI.1.7. Use the illustrations and details in a text to describe its key ideas.
- RI.1.8. Identify the reasons an author gives to support points in a text and explain the application of this information with prompting as needed.
- W.1.1. Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.
- RI.1.9. Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).
- SL.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
- SL.1.1a. Follow agreed-upon norms for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).
- SL.1.1b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges.
- SL.1.1c. Ask questions to clear up any confusion about the topics and texts under discussion.
- SL.1.6. Produce complete sentences when appropriate to task and situation.
- L.1.6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., I named my hamster Nibblet because she nibbles too much because she likes that).
- RF.2.3. Know and apply grade-level phonics and word analysis skills in decoding words., , , ,
- a. Know spelling-sound correspondences for additional common vowel teams.
- b. Decode regularly spelled two-syllable words with long vowels.
- c. Decode words with common prefixes and suffixes.
- d. Identify words with inconsistent but common spelling-sound correspondences.
- e. Recognize and read grade-appropriate irregularly spelled words.

- RI.2.1. Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
- RI.2.3. Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
- RI.2.7. Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
- RI.2.8. Describe and identify the logical connections of how reasons support specific points the author makes in a text.
- RI.2.9. Compare and contrast the most important points presented by two texts on the same topic.
- W.2.8. Recall information from experiences or gather information from provided sources to answer a question.
- SL.2.3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.
- SL.2.6. Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.
- L.2.6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., When other kids are happy that makes me happy).

Interdisciplinary Connections	
Social Studies	6.1.2.CivicsCM.1: Describe why it is important that individuals assume personal and civic responsibilities in a democratic society. 6.1.2.CivicsCM.3: Explain how diversity, tolerance, fairness, and respect for others can contribute to individuals feeling accepted.
Connections and Skills	• Critical thinking & Problem Solving • Digital Citizenship • Collaboration and Teamwork • Global and Cultural Awareness • Creativity and Innovation • Technology Literacy • Information and Media Literacy

Accommodations & Modifications

Special Education Students, 504 students, English Language Learners, Students at-Risk Based on Students' Individual Needs		
Time/General • Allow extra time • Repeat and clarify directions • Provide breaks in between tasks • Have student verbalize directions • Provide timelines/due dates for reports and projects	**Processing** • Provide extra response time • Have student verbalize steps • Repeat directions • Provide small group instruction • Include partner work	**Comprehension** • Provide reading material on student's level • Have student underline important points • Assist student on how to use context clues to identify words/phrases • Ensure short manageable tasks
Tests/Quizzes/Grading • Provide extended time • Provide study guides • Limit number of responses	**Behavior/Attention** • Establish classroom rules • Write a contract with the student specifying expected behaviors • Provide preferential seating • Re-focus student as needed • Reinforce student for staying on task	**Organization** • Monitor the student and provide reinforcement of directions • Verify the accurateness of homework assignments • Display a written agenda
ELL, Enrichment, Gifted & Talented Strategies		
Accommodations Based on Students' Individual Needs ELL Strategies • Provide explicit, systematic instruction in vocabulary. • Ensure that ELLs have ample opportunities to talk with both adults and peers and provide ongoing feedback and encouragement.		

- Expose ELLs to rich language input.
- Scaffolding for ELLs language learning.
- Encourage continued L1 language development.
- Alphabet knowledge
- Phonological awareness
- Print awareness
- Design instruction that focuses on all of the foundational literacy skills.
- Recognize that many literacy skills can transfer across languages.
- English literacy development by helping ELLs make the connection between what they know in their first language and what they need to know in English.
- Graphic organizers
- Modified texts
- Modified assessments
- Written/audio instruction
- Shorter paragraph/essay length
- Homogeneously grouped by level

Accommodations Based on Students' Individual Needs:

Enrichment Strategies

- Evaluate vocabulary
- Elevate Text Complexity
- Incorporate inquiry based assignments and projects
- Extend curriculum
- Balance individual, small group and whole group instruction
- Provide tiered/multi-level activities
- Include purposeful learning centers
- Provide open-ended activities and projects

- Offer opportunities for heterogeneous grouping to work with age and social peers as well as homogeneous grouping to provide time to work with individual peers
- Provide pupils with experiences outside the 'regular' curriculum
- Alter the pace the student uses to cover regular curriculum in order to explore topics of interest in greater depth/breadth within their own grade level
- Require a higher quality of work than the norm for the given age group
- Promote higher level of thinking and making connections.
- Focus on process learning skills such as brainstorming, decision making and social skills
- Use supplementary materials in addition to the normal range of resources.
- Encourage peer to peer mentoring
- Integrate cross-curricular lessons
- Incorporate real-world problem solving activities
- Facilitate student-led questioning and discussions

Gifted & Talented Strategies

- More elaborate, complex, and in-depth study of major ideas, problems, and themes that integrate knowledge within and across systems of thought.
- Development and application of productive thinking skills to enable students to reconceptualize existing knowledge and/or generate new knowledge.
- Explore constantly changing knowledge and information and develop the attitude that knowledge is worth pursuing in an open world.
- Encourage exposure to, selection, and use of appropriate and specialized resources.
- Promote self-initiated and self-directed learning and growth.
- Provide for the development of self-understanding and the understanding of one's relationship to persons, societal institutions, nature, and culture.
- Flexible pacing
- Use of more advanced or complex concepts, abstractions, and materials
- Encourage students to move through content areas at their own pace. If they master a particular unit, they need to be provided with more advanced learning activities, not more of the same activity.

- Questions that require a higher level of response and/or open-ended questions that stimulate inquiry, active exploration, and discovery.
- Encourage students to think about subjects in more abstract and complex ways
- Activity selection based on student interests, that encourage self-directed learning
- Group interaction and simulations
- Guided self-management
- Encourage students to demonstrate what they have learned in a wide variety of forms that reflect both knowledge and the ability to manipulate ideas.
- Engage students in active problem-finding and problem-solving activities and research.
- Provide students opportunities for making connections within and across systems of knowledge by focusing on issues, themes, and ideas.