
# Totowa Public Schools

**STEAM & Financial Literacy**

**Grade 7**

**Aligned to NJSLS 2020 Standards**

**BOE Adopted: 8/31/2022**

**Revised 12/14/2022**

**Units of Study & Pacing Guide**

| Unit of Study | Timeline | Notes |
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| Unit 1: Designing Our World: Coding and Robotics | 9 Weeks | STEAM Unit |
| Unit 2: Creating a Better World: Design and Engineering | 9 Weeks | STEAM Unit |
| Unit 1: Civic & Financial Responsibility and Financial Behavior | 9 Weeks | Financial Literacy Unit |
| Unit 2: Risk Management & Insurance | 9 Weeks | Financial Literacy Unit |
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| **Title** | Designing Our World: Coding and Robotics |
| **Unit Duration** | 9 Weeks |
| **Unit Summary & Rationale** | This unit will be discussing the role of coding in our everyday world. Students will be learning a hands-on approach to developing written and binary code. Coding will be used to promote critical thinking, problem solving, and collaborative work. Students will be learning coding as if it is a new language which requires students to use logical communication to problem solve and utilize critical thinking. Students will be learning ways to develop computer technology such as web development, apps, games, animations, coding and its role in society, and physical computing. Students will be learning and reviewing coding commands such as looping, events, sequencing, and binary code through algorithms, looping, debugging, tinkering, functions, and events as coding techniques. In addition, students will be relating coding to robotics as an application of coding. Students will be constructing, deconstructing, debugging, and creating written code for robots. Students demonstrate and complete a variety of real-word tasks using robotics. Also, students will be expanding on their creativity, critical thinking, problem solving skills, and collaborative skills. |
| **Unit Goals** | |
| **Essential Questions** | • What strategies and processes can I use to become a more effective problem solver?<br>• How do computers help people to solve problems?<br>• How do people and computers approach problems differently?<br>• What does a computer need from people in order to solve problems effectively?<br>• Why do people create websites?<br>• How can text communicate content and structure on a web page?<br>• How do I safely and appropriately make use of the content published on the internet?<br>• What strategies can I use when coding to find and fix issues?<br>• How can websites be used to address problems in the world?<br>• What strategies can teams use to work better together?<br>• How do I know what information can be trusted online?<br>• What is a computer program?<br>• What are the core features of most programming languages?<br>• How does programming enable creativity and individual expression?<br>• What practices and strategies will help me as I write programs? |

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| | • How do teams effectively work together to develop software?<br>• What roles beyond programming are necessary to design and develop software?<br>• How do designers incorporate feedback into multiple iterations of a product?<br>• What is the importance of digital citizenship? |
| **Enduring Understandings** | • Students will learn fundamentals of interpreting and reading code.<br>• Understanding how computers and coding can solve a variety of real-world problems.<br>• Identifying ways problems are approached and solved by students or programs developed by students.<br>• Establishing reasoning behind the development of websites.<br>• Understanding how a webpage is created, altered, and developed.<br>• Discussing what makes internet content appropriate and safe.<br>• Understanding how coding and software development is used to find and fix errors.<br>• Discussing ways collaboration is used throughout website programming and development.<br>• Identifying the role of digital citizenship when developing applications and websites.<br>• Understanding how computer program makes positive impacts on our world.<br>• Being able to construct written code giving commands for robots to perform a task.<br>• Establishing ways to effectively write programs.<br>• Student discussing and collaborating on a well detailed plan to solve a problem using coding.<br>• Utilizing constructive feedback as a tool to assess and develop a website, application, and or product.<br>• Discuss the importance of digital citizenship and the impact of a digital footprint. |
| **Learning Outcomes** | • Write code to construct basic webpages and applications.<br>• Be able to relate coding to real world applications.<br>• Understand the role coding plays in problem solving decision making and how problems can be solved by people and computers.<br>• Identify reasoning why websites are created and discuss a variety of roles webpages play in our society.<br>• Establish written content and structures of a webpage.<br>• Identify the importance of safe and appropriate content being published on the internet.<br>• Discuss the roles webpages play in society. |

- Develop strategies to utilize coding to solve computer issues.
- Utilize team building strategies to develop webpages and written code.
- Understand what a computer program is, and ways programs are utilized.
- Establish the foundations of programming languages.
- Utilize art design and creativity to expression themselves through coding & programing.
- Understanding ways, they can write and develop computer programs.
- Understand the roles programming has when developing software.
- Using feedback as a tool to improve products and web design.
- Discuss the importance of internet safety and digital citizenship.

| **Assessment Evidence** | |
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| **Formative** | Collaborative Activities, Homework, Classwork, Discussion, Independent Class Assignment, Informal Observations of Students, Interactive Notebooks, Self-Assessments, Exit Tickets<br><br>STEAM - Code.Org Courses, Teacher Constructed Games, Self and Group Assessments Student Pre-Planning |
| **Summative** | Tests, Pre-Assessments, Quizzes, Written Responses, Projects<br><br>STEAM - Code.org "Purpose An App", Code.org "Personal Web Page", Code.org "Webpage a for Purpose", Ozobot Ozoblocky Coding, Group Work Projects, Makey Makey Coding Projects |
| **Alternative and Benchmark** | Alternative – Project Based Learning, Graphic Organizers, Student Portfolio, orally assessed responses<br><br>Benchmark – Teacher generated project or assessment, Tests, Student portfolio/project<br><br>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<br>Approved Class Resource List |
| **Content & Interdisciplinary Standards** | |

| Computer Science and Design Thinking Practices | |
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| **Core Ideas** | **Performance Expectation** |
| The study of human–computer interaction can improve the design of devices and extend the abilities of humans. | • 8.1.8.CS.1: Recommend improvements to computing devices in order to improve the ways users interact with the devices. |
| Software and hardware determine a computing system's capability to store and process information. The design or selection of a computing system involves multiple considerations and potential trade-offs. | • 8.1.8.CS.2: Design a system that combines hardware and software components to process data.<br>• 8.1.8.CS.3: Justify design decisions and explain potential system trade-offs. |
| Troubleshooting a problem is more effective when knowledge of the specific device along with a systematic process is used to identify the source of a problem. | • 8.1.8.CS.4: Systematically apply troubleshooting strategies to identify and resolve hardware and software problems in computing systems. |
| Protocols, packets, and addressing are the key components for reliable delivery of information across networks. | • 8.1.8.NI.1: Model how information is broken down into smaller pieces, transmitted as addressed packets through multiple devices over networks and the Internet, and reassembled at the destination.<br>• 8.1.8.NI.2: Model the role of protocols in transmitting data across networks and the Internet and how they enable secure and errorless communication. |
| The information sent and received across networks can be protected from unauthorized access and modification in a variety of ways. The evolution of malware leads to understanding the key security | • 8.1.8.NI.3: Explain how network security depends on a combination of hardware, software, and practices that control access to data and systems.<br>• 8.1.8.NI.4: Explain how new security measures have been created in response to key malware events. |

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| measures and best practices needed to proactively address the threat to digital data. | |
| Advancements in computing technology can change individuals' behaviors. Society is faced with trade-offs due to the increasing globalization and automation that computing brings. | • 8.1.8.IC.1: Compare the trade-offs associated with computing technologies that affect individual's everyday activities and career options.<br>• 8.1.8.IC.2: Describe issues of bias and accessibility in the design of existing technologies. |
| People use digital devices and tools to automate the collection, use, and transformation of data. The manner in which data is collected and transformed is influenced by the type of digital device(s) available and the intended use of the data. | • 8.1.8.DA.1: Organize and transform data collected using computational tools to make it usable for a specific purpose. |
| Data is represented in many formats. Software tools translate the low-level representation of bits into a form understandable by individuals. Data is organized and accessible based on the application used to store it. | • 8.1.8.DA.2: Explain the difference between how the computer stores data as bits and how the data is displayed.<br>• 8.1.8.DA.3: Identify the appropriate tool to access data based on its file format. |
| The purpose of cleaning data is to remove errors and make it easier for computers to process. | • 8.1.8.DA.4: Transform data to remove errors and improve the accuracy of the data for analysis. |

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| Computer models can be used to simulate events, examine theories and inferences, or make predictions. | • 8.1.8.DA.5: Test, analyze, and refine computational models.<br>• 8.1.8.DA.6: Analyze climate change computational models and propose refinements. |
| Individuals design algorithms that are reusable in many situations. Algorithms that are readable are easier to follow, test, and debug. | • 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. |
| Programmers create variables to store data values of different types and perform appropriate operations on their values. | • 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. |
| Control structures are selected and combined in programs to solve more complex problems. | • 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. |
| Programs use procedures to organize code and hide implementation details. Procedures can be repurposed in new programs. Defining parameters for procedures can generalize behavior and increase reusability. | • 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs.<br>• 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. |
| Individuals design and test solutions to identify problems taking into consideration the diverse needs of the users and the community. | • 8.1.8.AP.6: Refine a solution that meets users' needs by incorporating feedback from team members and users.<br>• 8.1.8.AP.7: Design programs, incorporating existing code, media, and libraries, and give attribution.<br>• 8.1.8.AP.8: Systematically test and refine programs using a range of test cases and users.<br>• 8.1.8.AP.9: Document programs in order to make them easier to follow, test, and debug. |

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| Engineering design is a systematic, creative, and iterative process used to address local and global problems. The process includes generating ideas, choosing the best solution, and making, testing, and redesigning models or prototypes. | • 8.2.8.ED.1: Evaluate the function, value, and aesthetics of a technological product or system, from the perspective of the user and the producer.<br>• 8.2.8.ED.2: Identify the steps in the design process that could be used to solve a problem.<br>• 8.2.8.ED.3: Develop a proposal for a solution to a real-world problem that includes a model (e.g., physical prototype, graphical/technical sketch).<br>• 8.2.8.ED.4: Investigate a malfunctioning system, identify its impact, and explain the step-by-step process used to troubleshoot, evaluate, and test options to repair the product in a collaborative team. |
| Engineering design requirements and specifications involve making trade-offs between competing requirements and desired design features. | • 8.2.8.ED.5: Explain the need for optimization in a design process.<br>• 8.2.8.ED.6: Analyze how trade-offs can impact the design of a product.<br>• 8.2.8.ED.7: Design a product to address a real-world problem and document the iterative design process, including decisions made as a result of specific constraints and trade-offs (e.g., annotated sketches). |
| Economic, political, social and cultural aspects of society drive development of new technological products, processes, and systems. | • 8.2.8.ITH.1: Explain how the development and use of technology influences economic, political, social, and cultural issues. |
| Technology interacts with society, sometimes bringing about changes in a society's economy, politics, and culture, and often leading to the creation of new needs and wants. New needs and wants may create strains on local economies and workforces. Improvements in technology | • 8.2.8.ITH.2: Compare how technologies have influenced society over time.<br>• 8.2.8.ITH.3: Evaluate the impact of sustainability on the development of a designed product or system.<br>• 8.2.8.ITH.4: Identify technologies that have been designed to reduce the negative consequences of other technologies and explain the change in impact.<br>• 8.2.8.ITH.5: Compare the impacts of a given technology on different societies, noting factors that may make a technology appropriate and sustainable in one society but not in another. |

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| are intended to make the completion of tasks easier, safer, and/or more efficient. | |
| Technology advances through the processes of innovation and invention which relies upon the imaginative and inventive nature of people. Sometimes a technology developed for one purpose is adapted to serve other purposes. Engineers use a systematic process of creating or modifying technologies that is fueled and constrained by physical laws, cultural norms, and economic resources. Scientists use systematic investigation to understand the natural world. | • 8.2.8.NT.1: Examine a malfunctioning tool, product, or system and propose solutions to the problem.<br>• 8.2.8.NT.2: Analyze an existing technological product that has been repurposed for a different function.<br>• 8.2.8.NT.3: Examine a system, consider how each part relates to other parts, and redesign it for another purpose.<br>• 8.2.8.NT.4: Explain how a product designed for a specific demand was modified to meet a new demand and led to a new product. |
| Resources need to be utilized wisely to have positive effects on the environment and society. Some technological decisions involve tradeoffs between environmental and economic needs, while others have positive effects for both the economy and environment. | • 8.2.8.ETW.1: Illustrate how a product is upcycled into a new product and analyze the short- and long-term benefits and costs.<br>• 8.2.8.ETW.2: Analyze the impact of modifying resources in a product or system (e.g., materials, energy, information, time, tools, people, capital).<br>• 8.2.8.ETW.3: Analyze the design of a product that negatively impacts the environment or society and develop possible solutions to lessen its impact.<br>• 8.2.8.ETW.4: Compare the environmental effects of two alternative technologies devised to address climate change issues and use data to justify which choice is best. |
| Technological disparities have consequences for public health and prosperity. | • 8.2.8.EC.1: Explain ethical issues that may arise from the use of new technologies.<br>• 8.2.8.EC.2: Examine the effects of ethical and unethical practices in product design and development. |

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| **Computer Science and Design Thinking Practices** | • Fostering an Inclusive Computing and Design Culture<br>• Collaborating Around Computing and Design<br>• Recognizing and Defining Computational Problems<br>• Developing and Using Abstractions<br>• Creating Computational Artifacts<br>• Testing and Refining Computational Artifacts<br>• Communicating About Computing and Design |
| **2020 SLS: Career Readiness, Life Literacies, and Key Skills** | |
| | **Performance Expectation** |
| Some digital tools are appropriate for gathering, organizing, analyzing, and presenting information, while other types of digital tools are appropriate for creating text, visualizations, models, and communicating with others. | • 9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4). |
| There is a need to produce and publish media that has information supported with quality evidence and is intended for authentic audiences. | • 9.4.8.IML.12: Use relevant tools to produce, publish, and deliver information supported with evidence for an authentic audience.<br>• 9.4.8.IML.13: Identify the impact of the creator on the content, production, and delivery of information (e.g., 8.2.8.ED.1).<br>• 9.4.8.IML.14: Analyze the role of media in delivering cultural, political, and other societal messages.<br>• 9.4.8.IML.15: Explain ways that individuals may experience the same media message differently. |
| Digital tools allow for remote collaboration and rapid sharing | • 9.4.8.TL.5: Compare the process and effectiveness of synchronous collaboration and asynchronous collaboration. |

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| of ideas unrestricted by geographic location or time. | • 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem. |
| | • Act as a responsible and contributing community members and employee.<br>• Attend to financial well-being.<br>• Consider the environmental, social and economic impacts of decisions<br>• Demonstrate creativity and innovation.<br>• Utilize critical thinking to make sense of problems and persevere in solving them.<br>• Model integrity, ethical leadership and effective management.<br>• Plan education and career paths aligned to personal goals.<br>• Use technology to enhance productivity increase collaboration and communicate effectively.<br>• Work productively in teams while using cultural/global competence |

**NJ: 2016 SLS: English Language Arts**

- RST.6-8.1. Cite specific textual evidence to support analysis of science and technical texts.
- RST.6-8.2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
- RST.6-8.3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
- RST.6-8.4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.
- RST.6-8.5. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
- RST.6-8.6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
- RST.6-8.7. Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
- RST.6-8.8. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
- RST.6-8.9. Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
- RST.6-8.10. By the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently

- WHST.6-8.1. Write arguments focused on discipline-specific content. A. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. B. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. C. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. D. Establish and maintain a formal/academic style, approach, and form. E. Provide a concluding statement or section that follows from and supports the argument presented.
- WHST.6-8.4. Produce clear and coherent writing in which the development, organization, voice, and style are appropriate to task, purpose, and audience.
- WHST.6-8.6. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
- WHST.6-8.8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
- W.7.1e. Provide a concluding statement or section that follows from and supports the argument presented.
- W.7.10. Write routinely over extended time frames (time for research, reflection, metacognition/self correction, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline- specific tasks, purposes, and audiences.
  SL.7.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.
- SL.7.1a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.
- SL.7.1b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed.
- SL.7.1c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed.
- SL.7.1d. Acknowledge new information expressed by others and, when warranted, modify their own views.
- L.7.6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

**Interdisciplinary Connections**

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| Mathematics | • 6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.<br>• 6.NS.B Compute fluently with multi-digit numbers and find common factors and multiples.<br>• 6.NS.C.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate. |
| Science | • MS-ETS1-1 Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.<br>• MS-ETS1-2. Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.<br>• S-ETS1-4. Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved. |
| Connections and Skills | • Critical thinking<br>• Information and Media Literacy<br>• Creativity and Innovation |

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| **Title** | Creating a Better World: Design and Engineering |
| **Unit Duration** | 9 Weeks |
| **Unit Summary & Rationale** | This unit will be discussing the role of coding in our everyday world. Students will be learning a hands-on approach to developing written and binary code. Coding will be used to promote critical thinking, problem solving, and collaborative work. Students will be learning coding as if it is a new language which requires students to use logical communication to problem solve and |

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| | utilize critical thinking. Students will be learning ways to develop computer technology such as web development, apps, games, animations, coding and its role in society, and physical computing. Students will be learning and reviewing coding commands such as looping, events, sequencing, and binary code through algorithms, looping, debugging, tinkering, functions, and events as coding techniques. In addition, students will be relating coding to robotics as an application of coding. Students will be constructing, deconstructing, debugging, and creating written code for robots. Students demonstrate and complete a variety of real-word tasks using robotics. Also, students will be expanding on their creativity, critical thinking, problem solving skills, and collaborative skills. |
| **Unit Goals** | |
| **Essential Questions** | • Why is planning an important part of creating a team developed design?<br>• How can you determine what materials are cost effective to construct your design?<br>• What is the importance of engineering throughout our everyday world?<br>• What are examples of products created by 3-D printing and design?<br>• What type of careers do you think solve problems from building designs?<br>• What type of materials would builders use to create your design?<br>• What careers use creating models and designs using STEAM?<br>• What impacts does 3-D printing have on our world? • How is electricity utilized to power a variety of products?<br>• What is the importance of understanding circuits?<br>• How would creating an elementary circuit affect future tasks as a potential homeowner or in your career?<br>• What is the importance of teamwork?<br>• How and why was your design successful or unsuccessful?<br>• What role did STEAM play in the creation of your design?<br>• What were the most challenging aspects of your design?<br>• How can you create a better design to accomplish the goal you established? |
| **Enduring Understandings** | • Establishing collaborative student-centered ideologies where students gain an understanding of the purpose of working together to accomplish a mutual goal.<br>• Gaining an understanding of the importance of preplanning and the role it plays regarding the final product. |

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| | • Exploring examples of products and designs that have changed our world. In addition, products that scientists are currently working on.<br>• Understanding types of careers which use STEAM concepts.<br>• Creating a connection between concepts taught and STEAM careers.<br>• Relating materials such as 3-D printing, Makey Makey, circuity, and other classroom materials to materials of a larger scale project.<br>• Understanding how a circuit is created and how simple circuits can enhance a product.<br>• Building a connection to future career and homeownership and how building and design and circuit relate.<br>• Understanding the importance of renewable energy. The roles of solar, hydro, and wind energy.<br>• Building connections between designing models to mathematical concepts.<br>• Determining ways to improve designs created by students through evidence and testing. |
| **Learning Outcomes** | • Be able to apply engineering and design to solve a series of authentic problems.<br>• Investigate ways of designing structures by problem solving, collaboration, creativity, and critical thinking.<br>• Be able to plan and test a series of designs based on preplanning, drawing, and trial and error.<br>• Brainstorm a variety of ideas including how to solve a problem and build a product.<br>• Develop an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.<br>• Be able to discuss and demonstrate why their design works, the strengths, weaknesses, and modifications of their designed product.<br>• Develop an understanding for utilizing 3-D printing skills to real-world design. • Relating the use of circuits to everyday tasks.<br>• Identifying simple tasks around their home where students can solve simple household structure and electric problems.<br>• Identify and list the resources needed to complete their design.<br>• Develop, test, and refine prototypes as part of a design process.<br>• Be able to generate ideas, test theories, create innovative samples, or solve authentic problems. |

- Utilize different forms of renewable energy and understand how solar, wind, and hydro energy work.
- Ask questions to determine cause and effect relationships between different objects.

| **Assessment Evidence** | |
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| **Alternative and Benchmark** | Alternative – Project Based Learning, Graphic Organizers, Student Portfolio, Orally assessed responses<br><br>Benchmark – Teacher generated project or assessment, Tests, Student portfolio/project<br><br>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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| Data is represented in many formats. Software tools translate the low-level representation of bits into a form understandable by individuals. Data is organized and accessible based on the application used to store it. | • 8.1.8.DA.2: Explain the difference between how the computer stores data as bits and how the data is displayed.<br>• 8.1.8.DA.3: Identify the appropriate tool to access data based on its file format. |
| The purpose of cleaning data is to remove errors and make it easier for computers to process. | • 8.1.8.DA.4: Transform data to remove errors and improve the accuracy of the data for analysis. |
| Computer models can be used to simulate events, examine | • 8.1.8.DA.5: Test, analyze, and refine computational models.<br>• 8.1.8.DA.6: Analyze climate change computational models and propose refinements. |

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| theories and inferences, or make predictions. | |
| Individuals design algorithms that are reusable in many situations. Algorithms that are readable are easier to follow, test, and debug. | • 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. |
| Programmers create variables to store data values of different types and perform appropriate operations on their values. | • 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. |
| Control structures are selected and combined in programs to solve more complex problems. | • 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. |
| Programs use procedures to organize code and hide implementation details. Procedures can be repurposed in new programs. Defining parameters for procedures can generalize behavior and increase reusability. | • 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs.<br>• 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. |
| Individuals design and test solutions to identify problems taking into consideration the diverse needs of the users and the community. | • 8.1.8.AP.6: Refine a solution that meets users' needs by incorporating feedback from team members and users.<br>• 8.1.8.AP.7: Design programs, incorporating existing code, media, and libraries, and give attribution.<br>• 8.1.8.AP.8: Systematically test and refine programs using a range of test cases and users.<br>• 8.1.8.AP.9: Document programs in order to make them easier to follow, test, and debug. |

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| Engineering design is a systematic, creative, and iterative process used to address local and global problems. The process includes generating ideas, choosing the best solution, and making, testing, and redesigning models or prototypes. | • 8.2.8.ED.1: Evaluate the function, value, and aesthetics of a technological product or system, from the perspective of the user and the producer.<br>• 8.2.8.ED.2: Identify the steps in the design process that could be used to solve a problem.<br>• 8.2.8.ED.3: Develop a proposal for a solution to a real-world problem that includes a model (e.g., physical prototype, graphical/technical sketch).<br>• 8.2.8.ED.4: Investigate a malfunctioning system, identify its impact, and explain the step-by-step process used to troubleshoot, evaluate, and test options to repair the product in a collaborative team. |
| Engineering design requirements and specifications involve making trade-offs between competing requirements and desired design features. | • 8.2.8.ED.5: Explain the need for optimization in a design process.<br>• 8.2.8.ED.6: Analyze how trade-offs can impact the design of a product.<br>• 8.2.8.ED.7: Design a product to address a real-world problem and document the iterative design process, including decisions made as a result of specific constraints and trade-offs (e.g., annotated sketches). |
| Economic, political, social and cultural aspects of society drive development of new technological products, processes, and systems. | • 8.2.8.ITH.1: Explain how the development and use of technology influences economic, political, social, and cultural issues. |
| Technology interacts with society, sometimes bringing about changes in a society's economy, politics, and culture, and often leading to the creation of new needs and wants. New needs and wants may create strains on local economies and workforces. Improvements in technology are intended to make the | • 8.2.8.ITH.2: Compare how technologies have influenced society over time.<br>• 8.2.8.ITH.3: Evaluate the impact of sustainability on the development of a designed product or system.<br>• 8.2.8.ITH.4: Identify technologies that have been designed to reduce the negative consequences of other technologies and explain the change in impact.<br>• 8.2.8.ITH.5: Compare the impacts of a given technology on different societies, noting factors that may make a technology appropriate and sustainable in one society but not in another. |

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| completion of tasks easier, safer, and/or more efficient. | |
| Technology advances through the processes of innovation and invention which relies upon the imaginative and inventive nature of people. Sometimes a technology developed for one purpose is adapted to serve other purposes. Engineers use a systematic process of creating or modifying technologies that is fueled and constrained by physical laws, cultural norms, and economic resources. Scientists use systematic investigation to understand the natural world. | • 8.2.8.NT.1: Examine a malfunctioning tool, product, or system and propose solutions to the problem.<br>• 8.2.8.NT.2: Analyze an existing technological product that has been repurposed for a different function.<br>• 8.2.8.NT.3: Examine a system, consider how each part relates to other parts, and redesign it for another purpose.<br>• 8.2.8.NT.4: Explain how a product designed for a specific demand was modified to meet a new demand and led to a new product. |
| Resources need to be utilized wisely to have positive effects on the environment and society. Some technological decisions involve tradeoffs between environmental and economic needs, while others have positive effects for both the economy and environment. | • 8.2.8.ETW.1: Illustrate how a product is upcycled into a new product and analyze the short- and long-term benefits and costs.<br>• 8.2.8.ETW.2: Analyze the impact of modifying resources in a product or system (e.g., materials, energy, information, time, tools, people, capital).<br>• 8.2.8.ETW.3: Analyze the design of a product that negatively impacts the environment or society and develop possible solutions to lessen its impact.<br>• 8.2.8.ETW.4: Compare the environmental effects of two alternative technologies devised to address climate change issues and use data to justify which choice is best. |
| Technological disparities have consequences for public health and prosperity. | • 8.2.8.EC.1: Explain ethical issues that may arise from the use of new technologies.<br>• 8.2.8.EC.2: Examine the effects of ethical and unethical practices in product design and development. |

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| **Computer Science and Design Thinking Practices** | • Fostering an Inclusive Computing and Design Culture<br>• Collaborating Around Computing and Design<br>• Recognizing and Defining Computational Problems<br>• Developing and Using Abstractions<br>• Creating Computational Artifacts<br>• Testing and Refining Computational Artifacts<br>• Communicating About Computing and Design |
| **2020 SLS: Career Readiness, Life Literacies, and Key Skills** | |
| **Core Ideas** | **Performance Expectation** |
| Some digital tools are appropriate for gathering, organizing, analyzing, and presenting information, while other types of digital tools are appropriate for creating text, visualizations, models, and communicating with others. | • 9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4). |
| There is a need to produce and publish media that has information supported with quality evidence and is intended for authentic audiences. | • 9.4.8.IML.12: Use relevant tools to produce, publish, and deliver information supported with evidence for an authentic audience.<br>• 9.4.8.IML.13: Identify the impact of the creator on the content, production, and delivery of information (e.g., 8.2.8.ED.1).<br>• 9.4.8.IML.14: Analyze the role of media in delivering cultural, political, and other societal messages.<br>• 9.4.8.IML.15: Explain ways that individuals may experience the same media message differently. |
| Digital tools allow for remote collaboration and rapid sharing of ideas unrestricted by geographic location or time. | • 9.4.8.TL.5: Compare the process and effectiveness of synchronous collaboration and asynchronous collaboration.<br>• 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem. |

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| **Career Readiness, Life Literacies, and Key Skills Practices** | • Act as a responsible and contributing community members and employee.<br>• Attend to financial well-being.<br>• Consider the environmental, social and economic impacts of decisions<br>• Demonstrate creativity and innovation.<br>• Utilize critical thinking to make sense of problems and persevere in solving them.<br>• Model integrity, ethical leadership and effective management.<br>• Plan education and career paths aligned to personal goals.<br>• Use technology to enhance productivity increase collaboration and communicate effectively.<br>• Work productively in teams while using cultural/global competence |

**NJ: 2016 SLS: English Language Arts**

- RST.6-8.1. Cite specific textual evidence to support analysis of science and technical texts.
- RST.6-8.2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
- RST.6-8.3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
- RST.6-8.4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.
- RST.6-8.5. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
- RST.6-8.6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
- RST.6-8.7. Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
- RST.6-8.8. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
- RST.6-8.9. Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
- RST.6-8.10. By the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently
- WHST.6-8.1. Write arguments focused on discipline-specific content. A. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence

logically. B. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. C. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. D. Establish and maintain a formal/academic style, approach, and form. E. Provide a concluding statement or section that follows from and supports the argument presented.

- WHST.6-8.4. Produce clear and coherent writing in which the development, organization, voice, and style are appropriate to task, purpose, and audience.
- WHST.6-8.6. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
- WHST.6-8.8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
- W.7.1e. Provide a concluding statement or section that follows from and supports the argument presented.
- W.7.10. Write routinely over extended time frames (time for research, reflection, metacognition/self correction, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline- specific tasks, purposes, and audiences.

SL.7.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.

- SL.7.1a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.
- SL.7.1b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed.
- SL.7.1c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed.
- SL.7.1d. Acknowledge new information expressed by others and, when warranted, modify their own views.
- L.7.6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

**Interdisciplinary Connections**

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| Mathematics | • 6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.<br>• 6.NS.B Compute fluently with multi-digit numbers and find common factors and multiples. |

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| | • 6.NS.C.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate. |
| Science | • MS-ETS1-1 Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.<br>• MS-ETS1-2. Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.<br>• S-ETS1-4. Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved. |
| Connections and Skills | • Information and Media Literacy<br>• Critical thinking<br>• Collaboration and Teamwork<br>• Creativity and Innovation |

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| **Title** | Civic & Financial Responsibility and Financial Behavior |
| **Unit Duration** | 9 Weeks |
| **Unit Summary & Rationale** | In this unit, students will explore the role the economic behaviors of individuals, the government, and business. |
| **Unit Goals** | |
| **Essential Questions** | • What are ways we can give back to our community?<br>• How do our values impact our economic decisions?<br>• How can emotions impact our decisions?<br>• How do good spending and other personal spending habits support our financial well-being?<br>• Why do people give back to the community? What are their motivations?<br>• What role does ethics play in business? |

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| | • What are the legal and ethical implications of some business decisions? |
| **Enduring Understandings** | • Our personal feelings and culture have an impact on our financial decisions. Businesses recognize this, and are too guided by legal and ethical behaviors. |
| **Learning Outcomes** | • Compare and contrast the role of philanthropy, volunteer service, and charities in community development and the quality of life in a variety of cultures.<br>• Compare various ways to give back through strengths, passions, goals, and other personal factors.<br>• Relate the importance of consumer, business, and government responsibility to the economy and personal finance.<br>• Examine the implications of legal and ethical behaviors when making financial decisions.<br>• Describe the impact of personal values on various financial scenarios.<br>• Evaluate the role of emotions, attitudes, and behavior (rational and irrational) in making financial decisions.<br>• Explain how self-regulation is important to managing money (e.g., delayed gratification, impulse buying, peer pressure, etc.).<br>• Analyze how familial and cultural values influence savings rates, spending, and other financial decisions.<br>• Determine how spending, investing, and using credit wisely contributes to financial well-being.<br>• Compare and contrast advertising messages to understand what they are trying to accomplish.<br>• Identify the techniques and effects of deceptive advertising.<br>• Career Exploration – Examine careers in business & financial sector |

| **Assessment Evidence** | |
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| **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 |

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| | Benchmark – Teacher generated project or assessment, Tests, Student portfolio/project<br><br>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, Next Gen Personal Finance<br>Approved Class Resource List |
| **Content & Interdisciplinary Standards** | |
| **Computer Science and Design Thinking Practices** | |
| **Core Ideas** | **Performance Expectation** |
| Technological disparities have consequences for public health and prosperity. | • 8.2.8.EC.1: Explain ethical issues that may arise from the use of new technologies.<br>• 8.2.8.EC.2: Examine the effects of ethical and unethical practices in product design and development |
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| **Computer Science and Design Thinking Practices** | • Fostering an Inclusive Computing and Design Culture<br>• Collaborating Around Computing and Design<br>• Recognizing and Defining Computational Problems<br>• Developing and Using Abstractions<br>• Creating Computational Artifacts<br>• Testing and Refining Computational Artifacts<br>• Communicating About Computing and Design |
| **2020 SLS: Career Readiness, Life Literacies, and Key Skills** | |
| **Core Ideas** | **Performance Expectation** |
| Philanthropic and charitable organizations play important roles in supporting the interests of individuals and local and global communities and the issues that affect them. | • 9.1.8.CR.1: Compare and contrast the role of philanthropy, volunteer service, and charities in community development and the quality of life in a variety of cultures. |

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| Individuals can use their talents, resources, and abilities to give back. | • 9.1.8.CR.2: Compare various ways to give back through strengths, passions, goals, and other personal factors. |
| The potential for building and using personal wealth includes responsibility to the broader community and an understanding of the legal rights and responsibilities of being a good citizen. | • 9.1.8.CR.3: Relate the importance of consumer, business, and government responsibility to the economy and personal finance.<br>• 9.1.8.CR.4: Examine the implications of legal and ethical behaviors when making financial decisions. |
| An individual's values and emotions will influence the ability to modify financial behavior (when appropriate), which will impact one's financial well-being. | • 9.1.8.FP.1: Describe the impact of personal values on various financial scenarios.<br>• 9.1.8.FP.2: Evaluate the role of emotions, attitudes, and behavior (rational and irrational) in making financial decisions.<br>• 9.1.8.FP.3: Explain how self-regulation is important to managing money (e.g., delayed gratification, impulse buying, peer pressure, etc.).<br>• 9.1.8.FP.4: Analyze how familial and cultural values influence savings rates, spending, and other financial decisions.<br>• 9.1.8.FP.5: Determine how spending, investing, and using credit wisely contributes to financial well-being. |
| Marketing techniques are designed to encourage individuals to purchase items they may not need or want. | • 9.1.8.FP.6: Compare and contrast advertising messages to understand what they are trying to accomplish.<br>• 9.1.8.FP.7: Identify the techniques and effects of deceptive advertising. |
| An individual's strengths, lifestyle goals, choices, and interests affect employment and income<br><br>Developing and implementing an action plan is an essential step for achieving one's | • 9.2.8.CAP.1: Identify offerings such as high school and county career and technical school courses, apprenticeships, military programs, and dual enrollment courses that support career or occupational areas of interest.<br>• 9.2.8.CAP.2: Develop a plan that includes information about career areas of interest.<br>• 9.2.8.CAP.3: Explain how career choices, educational choices, skills, economic conditions, and personal behavior affect income.<br>• 9.2.8.CAP.4: Explain how an individual's online behavior (e.g., social networking, photo exchanges, video postings) may impact opportunities for employment or advancement. |

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| personal and professional goals.<br><br>Early planning can provide more options to pay for postsecondary training and employment.<br><br>There are variety of resources available to help navigate the career planning process.<br><br>Employee benefits can influence your employment choices.<br><br>Communication skills and responsible behavior in addition to education, experience, certifications, and skills are all factors that affect employment and income.<br><br>There are resources to help an individual create a business plan to start or expand a business. | • 9.2.8.CAP.5: Develop a personal plan with the assistance of an adult mentor that includes information about career areas of interest, goals and an educational plan.<br>• 9.2.8.CAP.6: Compare the costs of postsecondary education with the potential increase in income from a career of choice.<br>• 9.2.8.CAP.7: Devise a strategy to minimize costs of postsecondary education.<br>• 9.2.8.CAP.8: Compare education and training requirements, income potential, and primary duties of at least two jobs of interest.<br>• 9.2.8.CAP.9: Analyze how a variety of activities related to career preparation (e.g., volunteering, apprenticeships, structured learning experiences, dual enrollment, job search, scholarships) impacts postsecondary options.<br>• 9.2.8.CAP.10: Evaluate how careers have evolved regionally, nationally, and globally.<br>9.2.8.CAP.11: Analyze potential career opportunities by considering different types of resources, including occupation databases, and state and national labor market statistics.<br>9.2.8.CAP.12: Assess personal strengths, talents, values, and interests to appropriate jobs and careers to maximize career potential.<br>• 9.2.8.CAP.13: Compare employee benefits when evaluating employment interests and explain the possible impact on personal finances.<br>• 9.2.8.CAP.14: Evaluate sources of income and alternative resources to accurately compare employment options.<br>• 9.2.8.CAP.15: Present how the demand for certain skills, the job market, and credentials can determine an individual's earning power.<br>• 9.2.8.CAP.16: Research different ways workers/ employees improve their earning power through education and the acquisition of new knowledge and skills.<br>• 9.2.8.CAP.17: Prepare a sample resume and cover letter as part of an application process. 9.2.8.CAP.18: Explain how personal behavior, appearance, attitudes, and other choices may impact the job application process.<br>• 9.2.8.CAP.19: Relate academic achievement, as represented by high school diplomas, college degrees, and industry credentials, to employability and to potential level<br>• 9.2.8.CAP.20: Identify the items to consider when estimating the cost of funding a business |

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| **Career Readiness, Life Literacies, and Key Skills Practices** | • Act as a responsible and contributing community members and employee.<br>• Attend to financial well-being.<br>• Consider the environmental, social and economic impacts of decisions<br>• Demonstrate creativity and innovation.<br>• Utilize critical thinking to make sense of problems and persevere in solving them.<br>• Model integrity, ethical leadership and effective management.<br>• Plan education and career paths aligned to personal goals.<br>• Use technology to enhance productivity increase collaboration and communicate effectively.<br>• Work productively in teams while using cultural/global competence |
| **NJ: 2016 SLS: English Language Arts** | |
| • RST.6-8.1. Cite specific textual evidence to support analysis of science and technical texts.<br>• RST.6-8.2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.<br>• RST.6-8.3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.<br>• RST.6-8.4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.<br>• RST.6-8.5. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.<br>• RST.6-8.6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.<br>• RST.6-8.7. Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).<br>• RST.6-8.8. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.<br>• RST.6-8.9. Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.<br>• RST.6-8.10. By the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently | |

- WHST.6-8.1. Write arguments focused on discipline-specific content. A. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. B. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. C. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. D. Establish and maintain a formal/academic style, approach, and form. E. Provide a concluding statement or section that follows from and supports the argument presented.
- WHST.6-8.4. Produce clear and coherent writing in which the development, organization, voice, and style are appropriate to task, purpose, and audience.
- WHST.6-8.6. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
- WHST.6-8.8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
- W.7.1e. Provide a concluding statement or section that follows from and supports the argument presented.
- W.7.10. Write routinely over extended time frames (time for research, reflection, metacognition/self correction, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline- specific tasks, purposes, and audiences.
  SL.7.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.
- SL.7.1a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.
- SL.7.1b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed.
- SL.7.1c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed.
- SL.7.1d. Acknowledge new information expressed by others and, when warranted, modify their own views.
- L.7.6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

| **Interdisciplinary Connections** | |
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| Social Studies | • 6.3.8.CivicsPR.6: Seek the perspectives of multiple stakeholders with diverse points of view regarding a local budget issue and take a position on proposed policy. |

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| Connections and Skills | • Civic Responsibility<br>• Financial Psychology<br>• Critical thinking<br>• Collaboration and Teamwork<br>• Problem Solving |

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| **Title** | Risk Management & Insurance |
| **Unit Duration** | 9 Weeks |
| **Unit Summary & Rationale** | In this unit, students will continue to examine personal economic behaviors in relation to risk and other financial liabilities. Students will understand the importance of insurance, warranties, and protecting assets. |
| **Unit Goals** | |
| **Essential Questions** | • How can people protect their assets?<br>• Why do we have insurance? |
| **Enduring Understandings** | • Protecting your assets is part of long term financial stability. |
| **Learning Outcomes** | • Determine criteria for deciding the amount of insurance protection needed.<br>• Explain why we have different types of insurance.<br>• Explain what a warranty is.<br>• Analyze the need for and value of different types of insurance and the impact of deductibles in protecting assets against loss.<br>• Evaluate the need for different types of warranties.<br>• Explain the purpose of insurance products and the reasons for property product and liability insurance protection. |
| **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 |

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| | Benchmark – Teacher generated project or assessment, Tests, Student portfolio/project<br><br>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, Next Gen Personal Finance<br>Approved Class Resource List |
| **Content & Interdisciplinary Standards** | |
| **Computer Science and Design Thinking Practices** | |
| **Core Ideas** | **Performance Expectation** |
| Technology interacts with society, sometimes bringing about changes in a society's economy, politics, and culture, and often leading to the creation of new needs and wants. New needs and wants may create strains on local economies and workforces. Improvements in technology are intended to make the completion of tasks easier, safer, and/or more efficient. | • 8.2.8.ITH.2: Compare how technologies have influenced society over time. |
| Technological disparities have consequences for public health and prosperity. | • 8.2.8.EC.1: Explain ethical issues that may arise from the use of new technologies.<br>• 8.2.8.EC.2: Examine the effects of ethical and unethical practices in product design and development. |
| Individuals design and test solutions to identify problems taking into consideration the diverse needs of the users and the community. | • 8.1.8.AP.6: Refine a solution that meets users' needs by incorporating feedback from team members and users. |

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| **Computer Science and Design Thinking Practices** | • Fostering an Inclusive Computing and Design Culture<br>• Collaborating Around Computing and Design<br>• Recognizing and Defining Computational Problems<br>• Developing and Using Abstractions<br>• Creating Computational Artifacts<br>• Testing and Refining Computational Artifacts<br>• Communicating About Computing and Design |
| **2020 SLS: Career Readiness, Life Literacies, and Key Skills** | |
| **Core Ideas** | **Performance Expectation** |
| Individuals can choose to accept some risk, to take steps to avoid or reduce risk, or to transfer risk to others through the purchase of insurance. | • 9.1.8.RM.1: Determine criteria for deciding the amount of insurance protection needed.<br>• 9.1.8.RM.2: Analyze the need for and value of different types of insurance and the impact of deductibles in protecting assets against loss.<br>• 9.1.8.RM.3: Evaluate the need for different types of warranties. |
| Insurance can protect your personal finances. | • 9.1.8.RM.4: Explain the purpose of insurance products and the reasons for property product and liability insurance protection. |
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| **Career Readiness, Life Literacies, and Key Skills Practices** | • Act as a responsible and contributing community members and employee.<br>• Attend to financial well-being.<br>• Consider the environmental, social and economic impacts of decisions<br>• Demonstrate creativity and innovation.<br>• Utilize critical thinking to make sense of problems and persevere in solving them.<br>• Model integrity, ethical leadership and effective management.<br>• Plan education and career paths aligned to personal goals.<br>• Use technology to enhance productivity increase collaboration and communicate effectively.<br>• Work productively in teams while using cultural/global competence |

| NJ: 2016 SLS: English Language Arts |
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| • RST.6-8.1. Cite specific textual evidence to support analysis of science and technical texts.<br>• RST.6-8.2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.<br>• RST.6-8.3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.<br>• RST.6-8.4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.<br>• RST.6-8.5. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.<br>• RST.6-8.6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.<br>• RST.6-8.7. Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).<br>• RST.6-8.8. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.<br>• RST.6-8.9. Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.<br>• RST.6-8.10. By the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently<br>• WHST.6-8.1. Write arguments focused on discipline-specific content. A. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. B. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. C. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. D. Establish and maintain a formal/academic style, approach, and form. E. Provide a concluding statement or section that follows from and supports the argument presented.<br>• WHST.6-8.4. Produce clear and coherent writing in which the development, organization, voice, and style are appropriate to task, purpose, and audience.<br>• WHST.6-8.6. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.<br>• WHST.6-8.8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. |

- W.7.1e. Provide a concluding statement or section that follows from and supports the argument presented.
- W.7.10. Write routinely over extended time frames (time for research, reflection, metacognition/self correction, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline- specific tasks, purposes, and audiences.
  SL.7.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.
- SL.7.1a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.
- SL.7.1b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed.
- SL.7.1c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed.
- SL.7.1d. Acknowledge new information expressed by others and, when warranted, modify their own views.
- L.7.6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

| **Interdisciplinary Connections** | |
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| Mathematics | • 7.SP.C.5. Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.<br>• 7.SP.C.6. Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. |
| Social Studies | • 6.3.8.CivicsPI.4: Investigate the roles of political, civil, and economic organizations in shaping people's lives and share this information with individuals who might benefit from this information. |
| Connection and Skills | • Critical thinking<br>• Risk Management<br>• Collaboration and Teamwork<br>• Problem Solving |

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