

East Newark Public School

**Computer Science and Design Thinking Curriculum
Grades 6-8**



Established 2022

Equity Statement:

East Newark Public School District does not discriminate on the basis of race, color, creed, religion, sex, ancestry, or national origin. The East Newark Board of Education ensures that all students enrolled in the schools of this district shall be afforded equal educational opportunities in strict accordance with the law. No student shall be denied access to or benefit from any educational program or activity on the basis of the student's race, color, creed, religion, national origin, ancestry, age, marital status, affectional or sexual orientation, gender, gender identity or expression, socioeconomic status, or disability. The school district's curricula will eliminate discrimination, promote mutual acceptance and respect among students, and enable students to interact effectively with others, regardless of race, color, creed, religion, national origin, ancestry, age, marital status, affectional or sexual orientation, gender, gender identity or expression, socioeconomic status, or disability.

Course Description

Computer Science and Design Thinking familiarizes the students with the resources of technology, technology systems, and the evolution of technology. Students will be taught the design process and use it to explore the concept of design. They will be introduced to common materials and processes as they challenge themselves to solve problems innovatively.

Technology Standards

Rapidly changing technologies and the proliferation of digital information have permeated and radically transformed learning, working, and everyday life. To be well-educated, global-minded individuals in a computing-intensive world, students must have a clear understanding of the concepts and practices of computer science. As education systems adapt to a vision of students who are not just computer users but also computationally literate creators who are proficient in the concepts and practices of computer science and design thinking, engaging students in computational thinking and human-centered approaches to design through the study of computer science and technology serves to prepare students to ethically produce and critically consume technology.

Mission: Computer science and design thinking education prepares students to succeed in today's knowledge-based economy by providing equitable and expanded access to high-quality, standards-based computer science and technological design education.

Vision: All students have equitable access to a rigorous computer science and design thinking education. Students will benefit from opportunities to engage in high-quality technology programs that foster their ability to:

- develop and apply computational and design thinking to address real-world problems and design creative solutions;
- engage as collaborators, innovators, and entrepreneurs on a clear pathway to success through postsecondary education and careers;
- navigate the dynamic digital landscape to become healthy, productive, 21st-century global-minded individuals; and
- participate in an inclusive and diverse computing culture that appreciates and incorporates perspectives from people of different genders, ethnicities, and abilities.

Intent and Spirit of the Computer Science and Design Thinking Standards

All students receive computer science and design thinking instruction from Kindergarten through grade 8. The study of these disciplines focuses on deep understanding of concepts that enable students to think critically and systematically about leveraging technology to solve local and global issues. Authentic learning experiences that enable students to apply content knowledge, integrate concepts across disciplines, develop computational thinking skills, acquire and incorporate varied perspectives, and communicate with diverse audiences about the use and effects of computing prepares New Jersey students for college and careers.

Grade Level Expectations:

6th Grade - After successfully completing this course, the student will:

- master touch typing techniques
- create word processing documents with tables, lists, and links
- create word processing documents with embedded spreadsheets
- enter and edit data in a spreadsheet
- create formulas or use calculation functions to do computations with the data in a spreadsheet
- use data to create appropriate charts
- create custom designed drawing objects
- use drawing objects in other applications
- create a presentation containing text, graphics, spreadsheets, spreadsheet charts
- integrate the use of multiple computer applications
- code and debug a computer program to complete a specific task
- apply cyber safety rules
- exhibit the ethical use of technology
- critically evaluate websites
- build critical-thinking and decision-making skills relating to computer usage
- understand critical financial concepts and skills
- develop, analyze and revise a budget
- explain how income and expenses affect the budgeting process

7th Grade - After successfully completing this course, the student will:

- Use a variety of devices to access, import, store and exchange files
- Design images and vector shapes Import, export, edit and convert a variety of file types
- Capture and edit digital audio and video clips
- Create original audio, video, animation and three dimensional products
- Understand the function of computer hardware and software
- Troubleshoot common hardware and software issues
- Define and provide examples of income, saving, taxes, gross income, and net income
- Examine debt to determine if it is good or bad
- Understand the concept of "pay yourself first."
- Distinguish between and list advantages and disadvantages of various bank-related savings vehicles
- Make better decisions as spenders, savers, borrowers, and managers of money

8th Grade - After successfully completing this course, the student will:

- Create interactive scenes with actors, scenes and sound demonstrating an understanding of events and interactions
- Design animations using loops

- Program motion along x- and y-axes
- Build algorithms using conditional logic
- Understand local and global variables, functions, and object cloning
- Understand scripts running in parallel
- Use advanced conditional logic with math and Boolean operators
- Create different scenarios and effects in games
- Troubleshoot and debug simple programs on a variety of platforms
- Publish projects
- Understand concepts related to credit using basic economic analysis and decision-making skills.
- Understand the role of emotions, attitudes, and behavior play in making financial decisions
- Identify personal likes and personality traits that will match various career choices
- Understand the connection among occupation, earning potential, spending, and budgeting

Instructional/Supplemental Materials		
Grade 6 Resources include but are not limited to:	Grade 7 Resources include but are not limited to:	Grade 8 Resources include but are not limited to:
<ul style="list-style-type: none"> ● BrainPop at http://www.brainpop.com/ ● Retool Your School: The Educator’s Essential Guide to Google’s Free Power Apps by James Lerman and Ronique Hicks by International Society for Technology in Education ● The Google Infused Classroom by Holly Clark and Tanya Arvith ● Common Sense Media: https://www.commonsense.org/education/ ● Netsmartz Workshop: Tweens at http://www.nsteens.org/ ● Coding http://code.org/ ● Complete one Hour of Code lesson incorporating climate change topics https://hourofcode.com/us/learn?grade=6-8&subject=science (for example Plastic Pollution PSA, Tree Life Simulator) ● Scratch https://scratch.mit.edu/ 	<ul style="list-style-type: none"> ● PhotoShop <ul style="list-style-type: none"> ○ http://lifelifehacker.com/5758404/learn-the-basics-of-photoshop-the-complete-guide ○ http://www.photoshop.com/learn ○ https://helpx.adobe.com/photoshop/tutorials.html ● Rich Kid Smart Kid – <ul style="list-style-type: none"> ○ http://www.richkidsmartkid.com/index.html 	<ul style="list-style-type: none"> ● Khan Academy: Intro to JavaScript https://www.khanacademy.org/computing/computer-programming/programming ● https://code.org/ Accelerated Intro to CS Course including unplugged activities ● https://www.codeacademy.com/ ● https://www.codeschool.com/ ● http://www.inc.com/larry-kim/7-more-places-to-learn-to-code-for-free.html ● https://codecombat.com/ ● https://codehs.com/ ● http://lightbot.com/ ● https://blockly-games.appspot.com/ ● https://www.tinkercad.com/ ● https://csfirst.withgoogle.com/en/home

<ul style="list-style-type: none"> ● Scratch Educator Guide https://scratch.mit.edu/educators ● 15+ Ways to Teach Students Coding http://www.edutopia.org/blog/15-ways-teaching-students-coding-vicki-davis ● Introductory Computer Science Curriculum http://bjc.berkeley.edu/ ● Programming Platform for Kids http://snap.berkeley.edu/ ● Typing Club https://www.typingclub.com/ ● Khan Academy https://www.khanacademy.org/ ● EverFi Vault — Understanding Money https://everfi.com/offerings/listing/vault-understanding-money/ ● Google Applied Digital Skills https://applieddigitalskills.withgoogle.com/s/en/home ● Teacher-created handouts for projects ● Money Math – http://www.treasurydirect.gov/indiv/tools/tools_moneymath.htm ● All in Business – http://www.econedlink.org/lessons/index.php?lesson=EM376&page=teacher 		
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Differentiated Student Access to Content: Recommended <i>Strategies & Techniques</i>			
Core Resources	Alternate Core Resources <i>IEP/504/At-Risk/ESL</i>	ELL Resources	Gifted & Talented Core Resources
<ul style="list-style-type: none"> ● Encourage creative expression and thinking by allowing students to choose how to approach a problem or assignment. ● Provide short breaks when refocusing is needed ● Monitor on-task performance 	<ul style="list-style-type: none"> ● Specific collaborative groupings of students ● Vocabulary and concept resources, diagrams and videos ● Assistance with hands-on activities/projects and research. ● Teacher modeling and/or providing (more or less) guidance 	<ul style="list-style-type: none"> ● Allow extra time for task completion ● Frequently check for understanding ● Emphasize use of visual aids ● Simplify task directions ● Provide hands-on learning activities ● Provide modeling ● Assign peer buddies 	<ul style="list-style-type: none"> ● Provide choice of activity, presentation, and groups among appropriate projects. ● Extend activities as appropriate. ● Extend readings by offering varying and different text, including nonfiction, that is on a student's Lexile Level.

<ul style="list-style-type: none"> ● Provide modeling ● Frequently check for understanding 	<ul style="list-style-type: none"> ● Choice of activity. ● Sentence starters ● Scaffolding the amount of work (decrease or increase) based on skill sets and time allocations. ● Multiple check-in opportunities ● Opportunities to rewatch/listen to technology specific read alouds. ● Picture checklists. ● Multisensory learning opportunities 	<ul style="list-style-type: none"> ● Modify pace of instruction to allow additional processing time ● Allow for repetition and/or clarification of directions, as needed ● Directions repeated, clarified or reworted ● Establish and maintain eye contact when giving oral directions 	<ul style="list-style-type: none"> ● Offer additional opportunities for synthesis - Asking questions that encourage students to create new information from existing information. ● Extend Metacognition - Asking questions which prompt students to think about their own thinking process, (successes and challenges). ● Increase connections - Asking students questions that ensure the ability to apply new learning to their lives.
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<p style="text-align: center;">Social and Emotional Learning: <i>Competencies</i></p>	<p style="text-align: center;">Social and Emotional Learning: <i>Sub-Competencies</i></p>
<ul style="list-style-type: none"> ● Self-Awareness ● Self-Management ● Social Awareness ● Responsible Decision Making ● Relationship Skills 	<ul style="list-style-type: none"> ● Recognize the impact of one’s feelings and thoughts on one’s own behavior ● Recognize the skills needed to establish and achieve personal and educational goals ● Demonstrate an understanding of the need for mutual respect when viewpoints differ ● Develop, implement, and model effective problem-solving and critical thinking skills ● Utilize positive communication and social skills to interact effectively with others

Curriculum Map/Pacing Guide		
Unit Topic: Computer Operations/Touch Typing; Financial Literacy		Duration: 5 days
NJSLS Computer Science and Design Thinking:		Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences
Core Ideas:	Performance Expectation:	<p>Learning Goals:</p> <ul style="list-style-type: none"> ● Access, save to, and retrieve documents from servers and online drives ● Organize server and online drives ● Troubleshoot minor problems with computer Improve typing speed and accuracy ● Input, output and storage devices ● RAM and ROM ● Operating system and applications ● Financial Literacy <ul style="list-style-type: none"> ○ Responsible Money Choices <p>Interdisciplinary Connections: Content: ;NJSLS#:</p> <ul style="list-style-type: none"> ● NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally. ● NJSLSA.SL3. Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric. ● NJSLSA.SL4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience. ● NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations. ● SL.6.2. Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
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.	
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.	
9.1 Personal Financial Literacy		
An individual’s values and emotions will influence the ability to modify financial behavior (when appropriate), which will impact one’s financial well-being.	<p>9.1.8.FP.1: Describe the impact of personal values on various financial scenarios.</p> <p>9.1.8.FP.2: Evaluate the role of emotions, attitudes, and behavior (rational and irrational) in making financial decisions.</p> <p>9.1.8.FP.3: Explain how self-regulation is important to managing money (e.g., delayed gratification, impulse buying, peer pressure, etc.).</p> <p>9.1.8.FP.5: Determine how spending, investing, and using credit wisely contributes to financial well-being.</p>	
9.2 Career Awareness, Exploration, Preparation, and Training		

An individual's strengths, lifestyle goals, choices, and interests affect employment and income.	9.2.8.CAP.2: Develop a plan that includes information about career areas of interest	<ul style="list-style-type: none"> ● SL.6.5. Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.
9.4 Life Literacies and Key Skills		
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.3: Select appropriate tools to organize and present information digitally.	
Formative Assessments	Summative Assessments	Career Readiness, Life Literacies, and Key Skills Practices:
<ul style="list-style-type: none"> ● Observation of proper procedures ● Demonstration to peers ● Online typing practice activities. 	<ul style="list-style-type: none"> ● Proper use of saving/submitted final products demonstrated through each unit project. ● Demonstration of troubleshooting problems. ● Typing tests for speed and accuracy. ● Completion of EverFi Lesson 1 ● Quiz at the conclusion of units in GCFLearnFree.org 	<ul style="list-style-type: none"> ● 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. ● Use technology to enhance productivity increase collaboration and communicate effectively. ● Work productively in teams while using cultural/global competence.
Unit Topic: Computer Applications - Word Processing		Duration: 7 days
NJSLS Computer Science and Design Thinking:		Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences
Core Ideas:	Performance Expectation:	<u>Learning Goals:</u>
<p>Software and hardware work together as a system to accomplish tasks (e.g., sending, receiving, processing, and storing units of information).</p> <p>Data can be organized, displayed, and presented to highlight relationships.</p>	<p>8.1.5.CS.2: Model how computer software and hardware work together as a system to accomplish tasks.</p> <p>8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim.</p>	<ul style="list-style-type: none"> ● Review skills <ul style="list-style-type: none"> ○ Bulleted / numbered lists ○ Format text in columns ○ Create and format tables ○ Paragraph and document formats ○ Create custom formatted documents ○ Work with multiple files

9.1 Personal Financial Literacy		<ul style="list-style-type: none"> ○ Embed spreadsheets and spreadsheet charts <p>Interdisciplinary Connections: Content: ;NJSLS#:</p> <ul style="list-style-type: none"> ● NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally. ● NJSLSA.SL3. Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric. ● NJSLSA.SL4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience. ● NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations. ● SL.6.2. Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study. ● SL.6.5. Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.
Marketing techniques are designed to encourage individuals to purchase items they may not need or want.	<p>9.1.8.FP.6: Compare and contrast advertising messages to understand what they are trying to accomplish.</p> <p>9.1.8.FP.7: Identify the techniques and effects of deceptive advertising.</p>	
9.2 Career Awareness, Exploration, Preparation, and Training		
An individual’s strengths, lifestyle goals, choices, and interests affect employment and income.	9.2.8.CAP.2: Develop a plan that includes information about career areas of interest	
9.4 Life Literacies and Key Skills		
Digital tools make it possible to analyze and interpret data, including text, images, and sound. These tools allow for broad concepts and data to be more effectively communicated.	9.4.8.IML.3: Create a digital visualization that effectively communicates a data set using formatting techniques such as form, position, size, color, movement, and spatial grouping (e.g., 6.SP.B.4, 7.SP.B.8b).	
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.	
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.3: Select appropriate tools to organize and present information digitally.	
Digital tools allow for remote collaboration and rapid sharing 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.	
Formative Assessments	Summative Assessments	Career Readiness, Life Literacies, and Key Skills Practices:
<ul style="list-style-type: none"> ● Observation and questioning. ● Quick formatting practices. ● Teach a friend. ● Exit tickets. 	<ul style="list-style-type: none"> ● Final unit project: Foreign Country Travel Project - Design and create documents (travel brochure, social media page, etc..) to advertise travel 	<ul style="list-style-type: none"> ● Act as a responsible and contributing community members and employee. ● Attend to financial well-being

	to a country in a specific part of the world. Assessed using rubric.	<ul style="list-style-type: none"> ● 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. ● Use technology to enhance productivity increase collaboration and communicate effectively. ● Work productively in teams while using cultural/global competence.
Unit Topic: Computer Applications – Drawing, Spreadsheets, Presentations, Sound Editing, Video Editing, Animations		Duration: 23 days
NJSLS Computer Science and Design Thinking:		Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences
Core Ideas:	Performance Expectation:	Learning Goals:
<p>People use digital devices and tools to automate the collection, use, and transformation of data.</p> <p>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.</p> <p>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.</p> <p>The purpose of cleaning data is to remove errors and make it easier for computers to process.</p> <p>There are strategies to increase your savings and limit debt.</p>	<p>8.1.8.DA.1: Organize and transform data collected using computational tools to make it usable for a specific purpose.</p> <p>8.1.8.DA.3: Identify the appropriate tool to access data based on its file format.</p> <p>8.1.8.DA.4: Transform data to remove errors and improve the accuracy of the data for analysis.</p> <p>9.1.8.CDM.1: Compare and contrast the use of credit cards and debit cards for specific purchases and the advantages and disadvantages of using each.</p> <p>9.1.8.CDM.2: Demonstrate an understanding of the terminology associated with different types of credit (e.g., credit</p>	<ul style="list-style-type: none"> ● Arrange & layer objects ● Use freehand tools ● Group & duplicate objects ● Create custom designed objects ● Use drawing tools in other applications ● Enter, edit, format data ● Use sort to organize data ● Use formulas and functions ● Design graphs and charts ● Copy data between spreadsheets ● Copy data between spreadsheets and word processor ● Copy spreadsheet charts into other applications ● Incorporate spreadsheet in presentation ● Use animations ● Create speaker notes ● Incorporate custom drawings and spreadsheet charts in presentations ● Use master slides ● Present to group ● Capture sounds from devices ● Applying changes such as copying/pasting/mixing and effects ● Digitally create and edit audio using various tools ● Create and edit movies and/or video files

<p>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.</p>	<p>cards, installment loans, mortgages, lines of credit.</p> <p>8.1.8.DA.3: Identify the appropriate tool to access data based on its file format.</p>	<ul style="list-style-type: none"> ● Capture/import digital video ● Export digital videos/movies ● Manipulate text and images to create an animated product ● Financial Literacy: <ul style="list-style-type: none"> ○ Income and Careers ○ Making Plans with Money ○ Credit and Borrowing ○ Insurance and Safety
<p>9.1 Personal Financial Literacy</p>		<p>Interdisciplinary Connections: Content: ;NJSL#:</p>
<p>An individual’s values and emotions will influence the ability to modify financial behavior (when appropriate), which will impact one’s financial well-being.</p> <p>A budget aligned with an individual’s financial goals can help prepare for life events.</p> <p>There are strategies to build and maintain a good credit history.</p> <p>Philanthropic and charitable organizations play important roles in supporting the interests of individuals and local and global communities and the issues that affect them.</p> <p>Individuals can use their talents, resources, and abilities to give back.</p> <p>There are a variety of factors that influence how well suited a financial institution and/or service will be in meeting an individual’s financial needs.</p>	<p>9.1.8.FP.1: Describe the impact of personal values on various financial scenarios.</p> <p>9.1.8.FP.5: Determine how spending, investing, and using credit wisely contributes to financial well-being.</p> <p>9.1.8.PB.1: Predict future expenses or opportunities that should be included in the budget planning process.</p> <p>9.1.8.PB.2: Explain how different circumstances can affect one’s personal budget.</p> <p>9.1.8.CP.1: Compare prices for the same goods or services.</p> <p>9.1.8.CP.2: Analyze how spending habits affect one’s ability to save.</p> <p>9.1.8.CP.3: Explain the purpose of a credit score and credit record, the factors and impact of credit scores.</p> <p>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.</p> <p>9.1.8.CR.2: Compare various ways to give back through strengths, passions, goals, and other personal factors.</p> <p>9.1.8.FI.2: Determine the most appropriate use of various financial products and services to borrow and access money for making purchases (e.g., ATM, debit cards, credit cards, check books, online/mobile banking).</p>	<ul style="list-style-type: none"> ● NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally. ● NJSLSA.SL3. Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric. ● NJSLSA.SL4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience. ● NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations. ● SL.6.2. Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study. ● SL.6.5. Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.

<p>A budget aligned with an individual’s financial goals can help prepare for life events.</p> <p>Goals (e.g., higher education, autos, and homes, retirement), affect your finances.</p>	<p>9.1.8.PB.1: Predict future expenses or opportunities that should be included in the budget planning process.</p> <p>9.1.8.PB.2: Explain how different circumstances can affect one’s personal budget.</p> <p>9.1.8.PB.3: Explain how to create budget that aligns with financial goals.</p> <p>9.1.8.PB.4: Construct a simple personal savings and spending plan based on various sources of income and different stages of life (e.g. teenager, young adult, family).</p> <p>9.1.8.PB.6: Construct a budget to save for short-term, long term, and charitable goals.</p>	
<p>9.2 Career Awareness, Exploration, Preparation, and Training</p>		
<p>Early planning can provide more options to pay for postsecondary training and employment.</p>	<p>9.2.8.CAP.6: Compare the costs of postsecondary education with the potential increase in income from a career of choice.</p> <p>9.2.8.CAP.8: Compare education and training requirements, income potential, and primary duties of at least two jobs of interest.</p>	
<p>9.4 Life Literacies and Key Skills</p>		
<p>Digital tools make it possible to analyze and interpret data, including text, images, and sound. These tools allow for broad concepts and data to be more effectively communicated.</p> <p>There is a need to produce and publish media that has information supported with quality evidence and is intended for authentic audiences.</p> <p>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.</p>	<p>9.4.8.IML.3: Create a digital visualization that effectively communicates a data set using formatting techniques such as form, position, size, color, movement, and spatial grouping (e.g., 6.SP.B.4, 7.SP.B.8b).</p> <p>9.4.8.IML.12: Use relevant tools to produce, publish, and deliver information supported with evidence for an authentic audience.</p> <p>9.4.8.TL.1: Construct a spreadsheet in order to analyze multiple data sets, identify relationships, and facilitate data-based decision-making.</p> <p>9.4.8.TL.2: Gather data and digitally represent information to communicate a</p>	

	<p>real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4).</p> <p>9.4.8.TL.3: Select appropriate tools to organize and present information digitally.</p> <p>9.4.8.TL.4: Synthesize and publish information about a local or global issue or event (e.g., MSLS4-5, 6.1.8.CivicsPI.3).</p>	
Formative Assessments	Summative Assessments	Career Readiness, Life Literacies, and Key Skills Practices:
<ul style="list-style-type: none"> ● Observation and questioning. ● Quick draw. ● Small group demonstrations. ● Exit tickets. ● Google Forms survey. ● Think-Pair-Share. ● Students demonstrate, “One thing I discovered today.” ● Small group practice presentations. ● Mini projects (animating using Google Slides, Powerpoint and stop-motion animation using iMovie) 	<ul style="list-style-type: none"> ● Unit projects: <ul style="list-style-type: none"> ○ Technology Topic Poster - Design and create a poster to display in school for other students to give information about an important technology topic (cyberbullying, Internet safety, Chromebook care, etc..) ○ Internet Shopping Spree - Design spreadsheet including formulas and graphs/charts to record and analyze data of items found on the Internet according to specific criteria. ○ Digital Literacy - Choose a topic (Internet safety, online plagiarism, digital footprint, etc..) and create a public service message for students through the use of a presentation. ○ Pre-written radio commercials produced by students and graded with rubric ○ Student written radio commercials produced by students and graded with a rubric 	<ul style="list-style-type: none"> ● 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. ● Use technology to enhance productivity increase collaboration and communicate effectively. ● Work productively in teams while using cultural/global competence.

	<ul style="list-style-type: none"> ○ Student written and produced movie project (projects may be, but not limited to: music video newscast, tribute video, instructional video, etc.) ● Completion of EverFi Lesson 2 ● Completion of EverFi Lessons 3 and 4 ● Completion of EverFi Lesson 5 	
Unit Topic: Digital Citizenship		Duration: 5 days
NJSLS Computer Science and Design Thinking:		Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences
Core Ideas:	Performance Expectation:	Learning Goals:
<p>The information sent and received across networks can be protected from unauthorized access and modification in a variety of ways.</p> <p>The evolution of malware leads to understanding the key security measures and best practices needed to proactively address the threat to digital data.</p>	<p>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.</p> <p>8.1.8.NI.4: Explain how new security measures have been created in response to key malware events.</p>	<ul style="list-style-type: none"> ● Understand importance of Internet safety and maintaining privacy online. ● Identify “digital footprint” ● Evaluate websites for accuracy, authenticity, bias. ● Use technology ethically <ul style="list-style-type: none"> ○ Copyright, Fair Use, creative commons, online plagiarism ● Understand the components of network security and various types of cyberattacks ● Financial Literacy <ul style="list-style-type: none"> ○ Saving and Investing
9.1 Personal Financial Literacy		
<p>There are strategies to build and maintain a good credit history.</p> <p>Philanthropic and charitable organizations play important roles in supporting the interests of individuals and local and global communities and the issues that affect them.</p> <p>Individuals can use their talents, resources, and abilities to give back.</p> <p>An individual’s values and emotions will influence the ability to modify financial behavior (when appropriate), which will impact one’s financial well-being.</p>	<p>9.1.8.CP.2: Analyze how spending habits affect one’s ability to save.</p> <p>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.</p> <p>9.1.8.CR.2: Compare various ways to give back through strengths, passions, goals, and other personal factors.</p> <p>9.1.8.FP.5: Determine how spending, investing, and using credit wisely contributes to financial well-being.</p>	<p>Interdisciplinary Connections: Content: ;NJSLS#:</p> <ul style="list-style-type: none"> ● NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally. ● NJSLSA.SL3. Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric. ● NJSLSA.SL4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

<p>A budget aligned with an individual’s financial goals can help prepare for life events.</p>	<p>9.1.8.PB.4: Construct a simple personal savings and spending plan based on various sources of income and different stages of life (e.g. teenager, young adult, family).</p>	<ul style="list-style-type: none"> • NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations. • SL.6.2. Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study. • SL.6.5. Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.
<p>9.2 Career Awareness, Exploration, Preparation, and Training</p>		
<p>There are variety of resources available to help navigate the career planning process.</p>	<p>9.2.8.CAP.10: Evaluate how careers have evolved regionally, nationally, and globally. 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. 9.2.8.CAP.12: Assess personal strengths, talents, values, and interests to appropriate jobs and careers to maximize career potential.</p>	
<p>9.4 Life Literacies and Key Skills</p>		
<p>Detailed examples exist to illustrate crediting others when incorporating their digital artifacts in one’s own work.</p> <p>There are tradeoffs between allowing information to be public and keeping information private and secure.</p> <p>Digital footprints are publicly accessible, even if only shared with a select group. Appropriate measures such as proper interactions can protect online reputations</p> <p>Increases in the quantity of information available through electronic means have</p>	<p>9.4.8.DC.1: Analyze the resource citations in online materials for proper use. 9.4.8.DC.2: Provide appropriate citation and attribution elements when creating media products (e.g., W.6.8). 9.4.8.DC.3: Describe tradeoffs between allowing information to be public (e.g., within online games) versus keeping information private and secure. 9.4.8.DC.4: Explain how information shared digitally is public and can be searched, copied, and potentially seen by public audiences. 9.4.8.DC.5: Manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure. 9.4.8.DC.6: Analyze online information to distinguish whether it is helpful or harmful to reputation.</p>	

<p>heightened the need to check sources for possible distortion, exaggeration, or misrepresentation.</p> <p>There are ethical and unethical uses of information and media.</p>	<p>9.4.8.IML.1: Critically curate multiple resources to assess the credibility of sources when searching for information.</p> <p>9.4.8.IML.9: Distinguish between ethical and unethical uses of information and media (e.g., 1.5.8.CR3b, 8.2.8.EC.2).</p> <p>9.4.8.IML.10: Examine the consequences of the uses of media (e.g., RI.8.7).</p> <p>9.4.8.IML.11: Predict the personal and community impact of online and social media activities.</p>	
<p align="center">Formative Assessments</p>	<p align="center">Summative Assessments</p>	<p align="center">Career Readiness, Life Literacies, and Key Skills Practices:</p>
<ul style="list-style-type: none"> ● Observation and questioning. ● Surveys. ● Small group discussions. ● Exit tickets. 	<ul style="list-style-type: none"> ● Unit Project: Common Sense Media - Digital Compass. ● Successful completion of online lessons and activities. ● Completion of EverFi Lesson 6 	<ul style="list-style-type: none"> ● 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. ● Use technology to enhance productivity increase collaboration and communicate effectively. ● Work productively in teams while using cultural/global competence.
<p>Unit Topic: Computer Programming (Coding)</p>		<p align="center">Duration: 5 days</p>
<p align="center">NJSLS Computer Science and Design Thinking:</p>		<p align="center">Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences</p>
<p>Core Ideas:</p>	<p>Performance Expectation:</p>	<p>Learning Goals:</p>
<p>Protocols, packets, and addressing are the key components for reliable delivery of information across networks.</p>	<p>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.</p>	<ul style="list-style-type: none"> ● Identify ways computers are used that have an impact on society and careers ● Identify basics of how the Internet works ● Write computer program to perform a specific task ● Debug a computer program and resolve errors

<p>Individuals design algorithms that are reusable in many situations. Algorithms that are readable are easier to follow, test, and debug.</p> <p>Programmers create variables to store data values of different types and perform appropriate operations on their values.</p> <p>Control structures are selected and combined in programs to solve more complex problems.</p> <p>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.</p> <p>Advancements in computing technology can change individuals' behaviors. Society is faced with trade-offs due to the increasing globalization and automation that computing brings.</p>	<p>8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode.</p> <p>8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values.</p> <p>8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals.</p> <p>8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs.</p> <p>8.1.8.IC.1: Compare the trade-offs associated with computing technologies that affect individual's everyday activities and career options.</p> <p>8.1.8.IC.2: Describe issues of bias and accessibility in the design of existing technologies.</p>	<ul style="list-style-type: none"> ● Use loops and conditionals in code ● Write basic code in a variety of languages ● Complete an Hour of Code lesson incorporating climate change information <p>Interdisciplinary Connections: Content: ;NJSLS#:</p> <ul style="list-style-type: none"> ● NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally. ● NJSLSA.SL3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric. ● NJSLSA.SL4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience. ● NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations. ● SL.6.2. Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study. ● SL.6.5. Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.
9.1 Personal Financial Literacy		
<p>A budget aligned with an individual's financial goals can help prepare for life events.</p>	<p>9.1.8.PB.2: Explain how different circumstances can affect one's personal budget.</p>	
9.2 Career Awareness, Exploration, Preparation, and Training		
<p>Communication skills and responsible behavior in addition to education, experience, certifications, and skills are all factors that affect employment and income.</p>	<p>9.2.8.CAP.15: Present how the demand for certain skills, the job market, and credentials can determine an individual's earning power.</p> <p>9.2.8.CAP.16: Research different ways workers/ employees improve their earning power through education and the acquisition of new knowledge and skills.</p> <p>9.2.8.CAP.17: Prepare a sample resume and cover letter as part of an application process.</p>	

9.4 Life Literacies and Key Skills		
Gathering and evaluating knowledge and information from a variety of sources, including global perspectives, fosters creativity and innovative thinking.	9.4.8.CI.1: Assess data gathered on varying perspectives on causes of climate change (e.g., crosscultural, gender-specific, generational), and determine how the data can best be used to design multiple potential solutions (e.g., RI.7.9, 6.SP.B.5, 7.1.NH.IPERS.6, 8.2.8.ETW.4).	
Formative Assessments	Summative Assessments	Career Readiness, Life Literacies, and Key Skills Practices:
<ul style="list-style-type: none"> • Observation and questioning. • Think-Pair-Share. • Brainstorming solutions. • Demonstration to classmates. 	<ul style="list-style-type: none"> • Unit Project: Code.org Express Course. • Successful completion of assigned levels and lessons including at least one lesson incorporating climate change topics 	<ul style="list-style-type: none"> • 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. • Use technology to enhance productivity increase collaboration and communicate effectively. • Work productively in teams while using cultural/global competence.

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

Amistad Law: <i>N.J.S.A. 18A 52:16A-88</i>		Holocaust Law: <i>N.J.S.A. 18A:35-28</i>		LGBT and Disabilities Law: <i>N.J.S.A. 18A:35-4.35</i>		Diversity & Inclusion: <i>N.J.S.A. 18A:35-4.36a</i>	x	Standards in Action: <i>Climate Change</i>
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