Orange Public Schools
Office of Innovation

Computer Literacy, K - 8

Board Approval Date: 09/13/2023

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Computer Literacy, K - 8

Course Description:
The K – 8 Computer Literacy Education program gives students an opportunity to construct, transform and interpret data through technology. The purpose of technology instruction and tech applications is to offer students both choice and flexibility when deciding which tools (digital or otherwise) will best help to validate and/or solve real world problems. As Computer Literacy Educators, we are committed to providing sequenced instruction over time to prepare our students for a world where productivity is measured through increased use of technology applications. Developing strong digital citizenship skills in accordance with problem solving skills enables 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 our students for college and careers.

Scope and Sequence

Timeline	Concepts
Marking Period 1	K – 8 Unit 1: Digital Citizenship (4 class periods) K – 8 Unit 2: Technology Literacy (4 class periods) K – 8 Unit 3: Critical Thinking & Problem Solving (10 class periods) K – 8 Unit 4: Creativity & Innovation (10 class periods) K – 8 Unit 5: Information & Media Literacy (8 class periods)
Marking Period 2	K – 8 Unit 6: Digital Citizenship (4 class periods) K – 8 Unit 7: Technology Literacy (4 class periods) K – 8 Unit 8: Critical Thinking & Problem Solving (10 class periods) K – 8 Unit 9: Creativity & Innovation (10 class periods) K – 8 Unit 10: Information & Media Literacy (8 class periods)

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21st Century Skills
NJSLS for Career Readiness, Life Literacies and Key Skills

An education in career readiness, life literacies, and key skills fosters a population that: continually self-reflects and seeks to improve the essential life and career practices that lead to success; uses effective communication and collaboration skills and resources to interact with a global society; possesses financial literacy and responsibility at home and in the broader community; plans, executes, and alters career goals in response to changing societal and economic conditions; and seeks to attain skill and content mastery to achieve success in a chosen career path.

By the end of Grade 2,

9.4 Life Literacies and Key Skills

Creativity and Innovation

9.4.2.CI.1: Demonstrate openness to new ideas and perspectives

9.4.2.CI.2: Demonstrate originality and inventiveness in work

Critical Thinking and Problem Solving

9.4.2. CT.1: Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem

9.4.2. CT.2: Identify possible approaches and resources to execute a plan

9.4.2. CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive)

Digital Citizenship

9.4.2.DC.1: Explain differences between ownership and sharing of information

9.4.2.DC.2: Explain the importance of respecting digital content of others

9.4.2.DC.3: Explain how to be safe online and follow safe practices when using the internet

9.4.2.DC.4: Compare information that should be kept private to information that might be made public

9.4.2.DC.5: Explain what a digital footprint is and how it is created

9.4.2.DC.6: Identify respectful and responsible ways to communicate in digital environments

9.4.2.DC.7: Describe actions peers can take to positively impact climate change

Global and Cultural Awareness

9.4.2.GCA:1: Articulate the role of culture in everyday life by describing one's own culture and comparing it to the cultures of other individuals

Information and Media Literacy

9.4.2.IML.1: Identify a simple search term to find information in a search engine or digital resource

9.4.2.IML.2: Represent data in a visual format to tell a story about the data

9.4.2.IML.3: Use a variety of sources including multimedia sources to find information about topics such as climate change, with guidance and support from adults

9.4.2.IML.4: Compare and contrast the way information is shared in a variety of contexts (e.g., social, academic, athletic)

Technology Literacy

9.4.2.TL.1: Identify the basic features of a digital tool and explain the purpose of the tool (e.g., 8.2.2.ED.1).

9.4.2.TL.2: Create a document using a word processing application

9.4.2.TL.3: Enter information into a spreadsheet and sort the information

9.4.2.TL.4: Navigate a virtual space to build context and describe the visual content

9.4.2.TL.5: Describe the difference between real and virtual experiences

9.4.2.TL.6: Illustrate and communicate ideas and stories using multiple digital tools

9.4.2.TL.7: Describe the benefits of collaborating with others to complete digital tasks or develop digital artifacts

Career Ready Practices

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

Integrated Accommodations and Modifications	
Special Education/504	**English Language Learners**
Follow IEP –Individualized Education Program Text-to-Speech assistive tools Speech-to-text assistive tools Multi-Sensory Approach Repeat Instructions Review Directions Have Student Restate Information Visual Reinforcements Visual Reminders Preferential Seating Check Work in Progress Provide Student with Immediate Feedback Avoid placing student under pressure of time or completion Repeat Directions Quietly Have the student repeat and explain directions Support Auditory Presentations with Visuals (ex. Project model of assignment on overhead) Posted Assignments online and in the Google classroom Clean Work Area Highlight Key Words Use Manipulatives Prior Notice of Test Test Scheduling: Adding time as needed, providing frequent breaks Test Study Guides Modified assessments Extra Response Time Extra Time Tests Provide Models Extra Drill/Practice Monitor Assignments Test Setting: Administer tests in small	Text-to-Speech assistive tools Speech-to-text assistive tools Multi-Sensory Approach Repeat Instructions Review Directions Have Student Restate Information Visual Reinforcements Visual Reminders Preferential Seating Check Work in Progress Provide Student with Immediate Feedback Avoid placing student under pressure of time or completion Repeat Directions Quietly Have the student repeat and explain directions Support Auditory Presentations with Visuals (ex. Project model of assignment on overhead) Posted Assignments online and in the Google classroom Clean Work Area Highlight Key Words Use Manipulatives Prior Notice of Test Test Scheduling: Adding time as needed, providing frequent breaks Test Study Guides Modified assessments Extra Response Time Extra Time Tests Provide Models Extra Drill/Practice Monitor Assignments Test Setting: Administer tests in small group and/or in a separate room Oral Testing Recognize and Give Credit for Oral Participation Post Routines online and in classroom

group and/or in a separate room Oral Testing Recognize and Give Credit for Oral Participation Post Routines online and in classroom Positive Reinforcement Mindfulness Activities	Positive Reinforcement Mindfulness Activities
Gifted and Talented	**Students at Risk of Failure**
Encourage students to explore concepts in depth and encourage independent studies or investigations. Use thematic instruction to connect learning across the curriculum. Encourage creative expression and thinking by allowing students to choose how to approach a problem or assignment. Expand students' time to research topics of interest Invite students to explore different points of view on a topic of study and compare the two. Provide learning centers where students are in charge of their learning. Brainstorm with gifted children on what types of projects they would like to explore to extend what they're learning in the classroom. Determine where students' interests lie and capitalize on their inquisitiveness. Refrain from having them complete more work in the same manner. Employ differentiated curriculum to keep interest high. Avoid drill and practice activities. Ask students' higher level questions that require students to look into causes, experiences, and facts to draw a conclusion or make connections to other areas of learning. Encourage students to make transformations- use a common task or item in a different way. Allow for choice.	Text-to-Speech assistive tools; Speech-to-text assistive tools ; Multi-Sensory Approach Repeat Instructions; Review Directions; Have Student Restate Information; Visual Reinforcements ; Visual Reminders ; Preferential Seating ; Check Work in Progress ; Provide Student with Immediate Feedback; Avoid placing student under pressure of time or completion ; Repeat Directions Quietly; Have the student repeat and explain directions; Support Auditory Presentations with Visuals (ex. Project model of assignment on overhead) ; Post Assignments online and in Google Classroom; Provide Extra Assignment Time; Modified Homework; Clean Work Area; Highlight Key Words; Concrete Examples; Private Work Space; Use Manipulatives; Prior Notice of Test; Test Scheduling: Adding time as needed, providing frequent breaks; Test Study Guides; Modified assessments; Extra Response Time; Extra Time Tests Provide Models; Extra Drill/Practice Monitor Assignments Test Setting: Administer tests in small group and/or in a separate room Oral Testing Recognize and Give Credit for Oral Participation; Post Routines online and in Google classroom; Positive Reinforcement; Mindfulness Activities

NJSLS Computer Science and Design Thinking

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.

By the end of Grade 2,

8.1 Computer Science

Computing Systems

8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.

8.1.2.CS.2: Explain the functions of common software and hardware components of computing systems.

8.1.2.CS.3: Describe basic hardware and software problems using accurate terminology.

Networks and the Internet

8.1.2.NI.1: Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a network

8.1.2.NI.2: Describe how the Internet enables individuals to connect with others worldwide

8.1.2.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others

8.1.2.NI.4: Explain why access to devices need to be secured

Impacts of Computing

8.1.2.IC.1: Compare how individuals live and work before and after the implementation of new computing technology

Data & Analysis

8.1.2.DA.1: Collect and present data, including climate change data, in various visual formats

8.1.2.DA.2: Store, copy, search, retrieve, modify, and delete data using a computing device

8.1.2.DA.3: Identify and describe patterns in data visualizations

8.1.2.DA.4: Make predictions based on data using charts or graphs

Algorithms & Programming

8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks

8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information

8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks

8.1.2.AP.4: Break down a task into a sequence of steps

8.1.2.AP.5: Describe a program’s sequence of events, goals, and expected outcomes

8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops

Interdisciplinary Connections

NJSLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating understanding of the subject under investigation. NJSLSA.W8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
SL.2.5. Use multimedia; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.
ETS1.B: Developing Possible Solutions ♣ Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people
6.1.2.Geo.GI.2: Use technology to understand the culture and physical characteristics of regions
6.1.2.HistoryCC.1: Use multiple sources to create a chronological sequence of events that describes how and why your community has changed over time
6.3.2.GeoGI.2: Collect data and consider sources from multiple perspectives to become informed about an environmental issue and identify possible solutions

ISTE Standards for Students

Today' students must be prepared to thrive in a constantly evolving technological landscape. The ISTE standards for students are designed to empower student voice and ensure that learning is a student-driven process.

1.1 ***Empowered Learner***: Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals, informed by the learning sciences
1.2 ***Digital Citizen***: Students recognize the rights, responsibilities, and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal and ethical
1.3 ***Knowledge Constructor:*** Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others
1.4 ***Innovative Designer:*** Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions
1.5 ***Computational Thinker:*** Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions
1.6 ***Creative Communicator:*** Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals
1.7 ***Global Collaborator:*** Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally

Marking Period 1	Keyboarding	Grade(s)	K-2
Unit Plan Title:	Keyboard Proficiency and Touch-Typing Skills		

Unit Overview

The Keyboard Proficiency and Touch-Typing Skills unit is designed to help students in grades K-2 develop essential keyboarding skills, improve typing speed, and enhance accuracy. Throughout this ongoing unit, students will focus on building foundational keyboarding skills, eliminating hesitation, and increasing proficiency. While building essential typing skills, students will also be empowered to enhance their digital literacy and foster good digital citizenship.

Essential Question(s)

- *How can touch typing games help us type faster and better, making learning more enjoyable?*
- *How can we learn to type without looking at the keyboard?*
- *How can we improve our typing speed and memory?*
- *How can we track our progress and become better typists?*

Enduring Understandings

By engaging in fun and interactive touch-typing activities, students will develop the foundational skills to type efficiently and accurately, improving their ability to interact with digital tools and express themselves confidently in early academic tasks

Assessments

Formative Assessment: Accuracy assessments, typing challenges/sprints
Digitial Assessment Tools: Typing Tests

Lesson and Learning Goal/Pacing

Ongoing Lessons throughout the year

Tech Readiness:
Students will begin by learning about computer competencies, focusing on high-click and drag-and-drop skills. They will identify areas of competence while developing their problem-solving abilities and hand-eye coordination. Students will practice click-and-drag movements and work on improving their speed and accuracy.

- Identify parts of a computer
- Determine what makes a computer run
- Click and drag using a mouse/trackpad

Learn the Keys:
In this stage, students will build a foundational understanding of touch-typing techniques, learning the basics of finger placement and the home row keys. They will face challenges, adapt to personalized lessons, and progress through increasingly challenging exercises. The focus will be on typing accurately and efficiently.

- Type using correct finger placement
- Type all letter keys
- Type words and simple sentences
- Use the space bar and enter key

Ongoing Lesson throughout the year	**Punctuation and Advanced Keys:** Students will gain an understanding of capitalization, punctuation, numbers, and advanced symbols through practical application and skill-building exercises. They will use capital letters and additional symbols, practice punctuation keys, type numbers, and engage in applied practice for punctuation and advanced keys. • Use shift key for capitalization and access additional symbols • Type all basic punctuation keys • Type all numbers • Contextually practice punctuation keys **Cross-Curricular Typing:** In this phase, students will apply their typing skills in various subjects, including reading, science, social studies, and math. They will improve their typing speed and accuracy while handling different topics and contexts. • Type cross curricular vocabulary • Develop rhyming skills • Recognize and type high-frequency words **Digital Citizenship and Communication:** Students will become informed and responsible digital citizens. They will practice using email, composing messages with appropriate grammar, and understanding online etiquette. They will also make informed and safe choices in various online situations. • Practice kind and appropriate online comments • Identify and practice strong passwords.
	Ongoing Lessons throughout the school year
NJSLS	8.1.8.CS.1: Recommend improvements to computing devices in order to improve the ways users interact with the devices. 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 1.1 Empowered Learner: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.
Teacher Materials	Typing.com, Scope and Sequence, Teacher Guide,

Marking Period 1	Digital Citizenship	Grade(s)	K - 2
Unit Plan Title:	**Digital Citizenship**		

Unit Overview

Students go beyond screen time to explore the impact their digital lives can have on their wellbeing and relationships while learning to balance media in their everyday lives

Essential Question(s)

K - How do we find a happy balance between our online and offline activities? ; How do you say goodbye to technology when you don't want to? How do you go places safely online?
How can we be safe, responsible, and respectful online?
1 – How can we be safe, responsible, and respectful online? ; Why is it important to listen to your feelings when using technology; How do you stay safe when visiting a website or app?
2 – How can we be good digital citizens? ; Why is it important that we have device-free moments in our lives? ; What kinds of information should I keep to myself when I use the internet?

Enduring Understandings

To support students in developing an internal sense of "media balance," lessons prompt students to reflect on the different feelings and emotions that arise when they engage in activities that involve digital media (streaming TV shows, playing online games, etc.)

Assessments

Formative: Student Handout Responses
Summative: Lesson quizzes / Cyberbullying Project

Lesson and Learning Goal/Pacing	
Lesson 1	K- Media Balance is Important (CIPPA) 1 –.Pause & Think Online (CIPPA) 2 – We, the Digital Citizens (CIPPA) *All lessons are 1 day.
Lesson 2	K - Safety in My Online Neighborhood (CIPPA) 1 - Internet Traffic Light (CIPPA) 2 - Digital Trails (CIPPA) *All lessons are 1 day.
Lesson 3	K - Pause for People 1 - How Technology Makes You Feel *All lessons are 1 day.

	2 - Device-Free Moments *All lessons are 1 day.
Lesson 4	K – Meet Arms of the Digital Citizens! 1 - Meet Arms of the Digital Citizens! 2 - Meet Arms of the Digital Citizens! *All lessons are 1 day.
	Lesson 1: K - 2
NJSLS	K - 9.4.2.DC.3: Explain how to be safe online and follow safe practices when using the internet 1 - 9.4.2.DC.6: Identify respectful and responsible ways to communicate in digital environments 2 - 9.4.2.DC.5: Explain what a digital footprint is and how it is created
Learning Objective	K - Media Balance is Important (CiPPA) I can identify when and why to take breaks from device time. Consider the feelings of people around them, even when engaged in fun online activities. 1st Grade - Pause & Think Online (CIPPA) I can understand the importance of being safe, responsible, and respectful online. Learn the "Pause & Think Online" song to remember basic digital citizenship concepts. 2nd Grade - We, the Digital Citizens (CIPPA) I can understand that being a good digital citizen means being safe and responsible online. Take a pledge to be a good digital citizen.
Teacher/Student Materials	K: Lesson plan, Student Handout, Lesson Slides, Video, Song : Balance is Important, Song Lyrics Poster 1: Lesson Plan ,Lesson Slides , Student Handout , Coloring Book , Song , Poster: Song Lyrics , Poster: The Digital Citizens

	2: Lesson Plan ,Lesson Slides ,Video , Student Handout , Coloring Book , Song , Poster - Song Lyrics , Poster:The Digital Citizens ***All materials are available in English and Spanish via links***
Additional Resources	K: Extra Resources for Teacher , Family Activity , Family Engagement 1: Family Activity ,SEL Conversation Starter 2: Family Activity , Family Engagement Resources
	Lesson 2: Grades K – 2
NJSLS	K - 9.4.2.DC.3: Explain how to be safe online and follow safe practices when using the internet 1 - 9.4.2.DC.3: Explain how to be safe online and follow safe practices when using the internet 2 - 9.4.2.DC.5: Explain what a digital footprint is and how it is created
Learning Objective	K – I can discover that the internet can be used to visit faraway places and learn new things. Compare how staying safe online is like staying safe in the real world. Explain rules for traveling safely on the internet. 1 - I can understand that being safe online is like staying safe in real life. Learn to identify websites and apps that are "just right" and "not right" for them. Know how to get help from an adult if they are unsure about a website. 2 – I can learn that the information they share online leaves a digital footprint or "trail". Explore what information is OK to be shared online

Teacher Materials	**Grade K – Safety In My Online Neighborhood:** Lesson Plan , Student Handout , Lesson Slides , Video , Poem Poster 1st Grade **-Internet Traffic Light** Lesson Plan , Lesson Slides , Video , Student Handout , Poem Poster 2nd Grade - **Digital Trails:** Lesson Plan , Lesson Slides , Video , Student Handout - Digital Trail Squares ,Student Handout - Digital Tracks
Additional Resources	K: Family Activity , Family Tips , SEL Conversation Starter 1: Family Activity , Family Tips , Family Engagement Resources 2: Family Activity , Family Tips ,Family Engagement Resources
	Lesson 3: K – 2
NJSLS	K - 9.4.2.DC.6: Identify respectful and responsible ways to communicate in digital environments 1 - 9.4.2.DC.4: Compare information that should be kept private to information that might be made public 2 - 9.4.2.DC.6: Identify respectful and responsible ways to communicate in digital environments
Learning Objective	K – I can learn why it is important to be aware and respectful of people while using devices. Learn the Pause, Breathe, Finish Up routine as a self-regulation strategy for transitioning from technology to face-to-face interactions. 1 – I can recognize the various kinds of feelings they can have when using technology. Know what to do when they don't have a good feeling when using technology. 2 – I can recognize how digital devices can be distracting. Identify how they feel when others are distracted by their devices.

	Identify ideal device-free moments for themselves and others.
Teacher/Student Materials	**K – Pause for People:** Lesson Plan , Video , Student Handout , Poem Poster 1 - **How Technology Makes You Feel:** Lesson Plan , Lesson Slides , Video , Student Handout , Emojis Handout , Poem Poster 2 - **Device-Free Moments:** Lesson Plan , Lesson Slides , Student Handout - Family Device-Free Rules , Student Handout - Pause & Think Moment
Additional Resources	K - Family Activity , Family Tips , SEL Conversation Starter 1 - Family Activity , Family Tips , SEL Conversation Starter 2 - Family Tips
	Lesson 4: K – 2 Meet Arms of the Digital Citizens!
NJSLS	9.4.2.DC.3: Explain how to be safe online and follow safe practices when using the internet 9.4.2.DC.6: Identify respectful and responsible ways to communicate in digital environments
Learning Objective	K – 2: I can understand what media balance means. Reflect on how they balance their time with technology
Teacher/Student Materials	K – 2: Lesson Plan , Lesson Slides , Video , Student Handout
Additional Resources	K-2: Family Tips

Marking Period 1	Technology Literacy	Grade(s)	K - 2
Unit Plan Title:	**Technology Literacy**		

Unit Overview

This unit introduces students to the idea of computers and computing by posing questions such as "**what** is a computer?" and "how do computers work? Students learn about the various parts of a computer and their functions (hardware, software).

The second part of the unit allows students to explore **how** computers work by identifying important aspects of computing such as algorithms and programming.

The final part of the unit allows students to **apply** their new skills to a culminating project. Teachers can choose to utilize an online project through the Scratch Jr. platform or an unplugged project that can be integrated into a content area

Essential Question(s)

How are computers integrated into the real world?
How do computers help us? How does a computer work?
What makes a device a computer? What are inputs?
What is an example of an input on a phone?
How do you tell the character in a game what to do?
What are inputs and outputs?
How do computers remember information?

This unit supports the standard of breaking problems into component parts to facilitate problem-solving. Students demonstrate understanding through a variety of projects.

Assessments

Formative: Build Knowledge & Lesson Quiz
Summative: Project Choice incorporating Hispanic Heritage Month

Lesson and Learning Goal/Pacing	
Lesson 1	K - 2: - Why do we use computers? (1 day)
Lesson 2	K – 2: How do computers work? Inputs (1 day)
Lesson 3	K - 2: How do computers work? Inputs and Outputs (1 day)

Lesson 4	K – 2: How do computers work? Word Processing and Storage (1 day)
	Lesson 1: K – 2 **Why do we use computers?**
NJSLS	8.1.2.NI.1: Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a network 8.1.2.NI.2: Describe how the Internet enables individuals to connect with others worldwide 8.1.2.IC.1: Compare how individuals live and work before and after the implementation of new computing technology 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences. 8.1.2.CS.2: Explain the functions of common software and hardware components of computing systems. 8.1.2.CS.3: Describe basic hardware and software problems using accurate terminology.
Learning Objective	I can: • Identify different ways people use computers. • Identify why computers are important in our everyday lives. • Explain how computers have changed over time.
Teacher/Student Materials	Lesson Plan ; teaching slides ; matching game (digital) ; How do computers help us? (digital or printable) ; ;matching worksheet
Additional Resources	pointer games ; Translated slides ; information resource
	Lesson 2: K – 2 **How do computers work? (Inputs)**
NJSLS	8.1.2.NI.1: Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a network 8.1.2.NI.2: Describe how the Internet enables individuals to connect with others worldwide

	8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences. 8.1.2.CS.2: Explain the functions of common software and hardware components of computing systems. 8.1.2.CS.3: Describe basic hardware and software problems using accurate terminology.
Learning Objective	I can: • use a variety of media to understand the meaning of a computer • begin to identify how a computer works • identify and define new vocabulary terms
Teacher/Materials	Lesson Plan ; Slide Deck ; What is a computer (website) ; **Handouts:** Is this a computer? digital worksheet (simple draggable activity) Is this a computer? printable Lesson 2 exit ticket can be used for in-person instruction or for students who can type their own answers Find the Technology reference sheet to be used only if the game is assigned
Additional Resources	mouse click practice: video ; pointer games **Games** Find the Technology game via ABCya Scrapyard Challenge (students collect items that contain computers) What are Computers for Kids | Intro to Computers | Programming for Kids Read these facts: coolkidfacts.com/computer-facts with students
	Lesson 3: K – 2 **How does a computer work? Inputs and Outputs**
NJSLS	8.1.2.NI.1: Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a network 8.1.2.NI.2: Describe how the Internet enables individuals to connect with others worldwide

	8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences. 8.1.2.CS.2: Explain the functions of common software and hardware components of computing systems. 8.1.2.CS.3: Describe basic hardware and software problems using accurate terminology.
Learning Objective	I can: • students will discuss how we interact with computers • look at different inputs and outputs and their role when using a computer
Teacher/Student Materials	Lesson Plan ; Slide deck ; translated slide deck **Video(s):** • Parts of a Computer • What are pixels? (OPTIONAL extension activity) **Game(s):** • Wordwall-digital input/output sort To be used after the mini-lesson, can also be completed independently if students can access the website, and/or can be used as an alternative to the mini-lesson. **Handouts:** Input and Output Sorting-digital Input or Output-printable
Additional Resources	K – 2: Family Activities ; Parts of a computer ; classroom activities , Find the Technology
	Lesson 4: K – 2 **How do computers work? – Processing & Storage**
NJSLS	8.1.2.NI.1: Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a network 8.1.2.NI.2: Describe how the Internet enables individuals to connect with others worldwide

	8.1.2. AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences. 8.1.2.CS.2: Explain the functions of common software and hardware components of computing systems. 8.1.2.CS.3: Describe basic hardware and software problems using accurate terminology.
Learning Objective	I can: • Review how a computer works • Understand inputs and outputs • Understand how a computer processes information
Teacher/Student Materials	Lesson Plan
Additional Resources	Slide deck **Videos** • How do computers work? • Let's See if You Remember the Parts of a Computer **Game(s):** • Computer Parts Matching Game **Handout(s) Available**: • How does a computer work? Printable • How does a computer work? Digital fill in the blank • Computer Parts Definition Match Lesson 3 exit ticket

Marking Period 1	Critical Thinking & Problem Solving	Grade(s)	K - 2
Unit Plan Title:	**Critical Thinking & Problem Solving**		

Unit Overview

K - Students will learn to program using commands like loops and events. The lessons featured in this course also teach students to meaningfully collaborate with others, investigate different problem-solving techniques, persist in the face of challenging tasks, and learn about internet safety.

1 - Students learn more sophisticated unplugged activities and work through a greater variety of puzzles. Students will learn the basics of programming, collaboration techniques, investigation and critical thinking skills, persistence in the face of difficulty, and internet safety.

2 - Students will create programs with sequencing, loops, and events. They will investigate problem-solving techniques and develop strategies for building positive communities both online and offline. By the end of the course, students will create interactive games that they can share.

Essential Question(s)

How is one considered safe in a new area?

Enduring Understandings

There are three rules for staying safe online that all students should know.

Assessments

Formative: journal entries, draw it out, exit tickets

Summative: Coding Project, code.org lesson quiz

Lesson and Learning Goal/Pacing	
Lesson 1	K –1: Learn to Drag & Drop 2 – Move It, Move It *All lessons are 1 day.
Lesson 2	K – 1: Happy Maps 2: Sequencing with Angry Birds *All lessons are 1 day.
Lesson 3	K – 1: Sequencing with Scratch 2: Programming with Angry Birds *All lessons are 1 day.
Lesson 4	K – 1: Programming with Scratch 2: - Programming with Harvester *All lessons are 1 day.
	Lesson 1: **K – 1: Learn to Drag & Drop** **2: Move It, Move It**

NJSLS	K – 1: 8.1.2.CS.2: Explain the functions of common software and hardware components of computing systems. ; 8.1.2.CS.3: Describe basic hardware and software problems using accurate terminology. ; 8.1.2.AP.4: Break down a task into a sequence of steps 2: 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks ; 8.1.2.AP.4: Break down a task into a sequence of steps ; 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes
Learning Objective	K – 1: Recognize what is expected when students transition into the computer lab.; Use appropriate terminology when referring to a computer mouse, trackpad, or touchscreen. 2: Define a list of steps (algorithm) to get a friend from their starting position to their goal ; Identify and fix errors in the execution of an algorithm ; Translate a list of steps into a series of physical actions
Teacher/Student Materials	K – 1: Lesson Plan 2: Lesson Plan
Additional Resources	K – 1 : 20/20/20 rule ; Getting Started - Creating a class section ; Wiggles Go Noodle 2: Move It, Move It Teacher Video ; Feeling Faces ; Map Activity ; worksheet
	Lesson 2: K – 1 Happy Maps 2: Sequencing with Angry Birds
NJSLS	K – 1: 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps

	8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 2: 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks; 8.1.2.AP.4: Break down a task into a sequence of steps; 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes
Learning Objective	K – 1: I can decode and run a program created by someone else; Identify and address bugs or errors in sequenced instructions; Translate an algorithm into a program 2: I can experiment with standard block-based programming actions such as: clicking, drag and drop, etc.; Model proper computer lab behaviors
Teacher/Student Materials	K – 1: Lesson Plan 2: Lesson Plan
Additional Resources	K – 1: Happy Maps video ; Happy Map Game Pieces ; Happy Map Cards ; Feeling Faces 2:20/ 20/ 20 rule ; How to make a class section ; Drag & Drop Practice ; Feeling Faces ; Map Activity ; Pair Programming Video ; Unplugged Blockly Blocks ; Go Noodle Video : CS Fundamentals: Implementation and Planning Guide
	Lesson 3: K – 1: Sequencing with Scratch 2: Programming with Angry Birds
NJSLS	K – 1: 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps

	8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops 2: 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information; 8.1.2.AP.4: Break down a task into a sequence of steps
Learning Objective	K – 1: I can experiment with standard block-based programming actions such as: clicking, drag and drop, etc.; Model proper computer lab behaviors 2: I can build a computer program from a set of written instructions.; Construct a program by reorganizing sequential movements.; Translate movements into a series of commands.
Teacher/Student Materials	K – 1: Lesson Plan 2: Lesson Plan
Additional Resources	K – 1: 20/20/20 rule ; Wiggles Go Noodle ; Pair Programming Student Video ; Unplugged Blockly Blocks 2: Compass Rose ; Feeling Faces; Happy Map Game Pieces ; Move It, Move It Map Activity ; Pair Programming Student Video ; Unplugged Blockly Blocks
	Lesson 4: K – 1: Programming with Scratch 2: - Programming with Harvester
NJSLS	K – 1: K – 1: 8.1.2. AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information

	8.1.2. AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2. AP.4: Break down a task into a sequence of steps 2: 8.1.2. AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2. AP.4: Break down a task into a sequence of steps
Learning Objective	K – 1: I can build a computer program from a set of written instructions • Choose appropriate debugging practices when solving problems • Construct a program by reorganizing sequential movements 2: I can identify and locate bugs in a program.; Translate movements into a series of commands.
Teacher / Student Materials	K – 1: Lesson Plan 2: Lesson Plan
Additional Resources	K – 1: Debugging Video ; Feeling Faces ; Pair Programming 2: Feeling Faces ; Stevie and the Big Project ; Unspotted Bugs

	Lesson 5: K – 1: Programming with Rey and BB-8 2: Getting Loopy
NJSLS	K – 1: 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops 2: 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops
Learning Objective	K – 1: I can recognize problems or "bugs" in a program and develop a plan to resolve the issues.; Sequence commands in a logical order. 2: I can convert a series of multiple actions into a single loop.; Repeat actions initiated by the instructor. Translate a picture program into a real-world dance.
Teacher/Student Materials	K – 1: Lesson Plan

	2: Lesson Plan
Additional Resources	K – 1: Feeling Faces ; Pair Programming ; 2: For the teachers • Getting Loopy - Assessment Answer Key For the students • Getting Loopy - Unplugged Video (Download) • Getting Loopy - Worksheet • Getting Loopy - Assessment
	Lesson 6: K – 1: Happy Loops 2: Loops with Harvester
NJSLS	K – 1: 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops 2: 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps

	8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops
Learning Objective	K – 1: I can construct a program using structures that repeat areas of code ; Improve existing code by finding areas of repetition and moving them into looping structures 2: I can break down a long sequence of instructions into the smallest repeatable sequence possible. • Create a program for a given task which loops a sequence of commands. • Employ a combination of sequential and looped commands to reach the end of a maze. • Identify the benefits of using a loop structure instead of manual repetition
Teacher/ Student Materials	K – 1: Lesson Plan 2: Lesson Plan
Additional Resources	K – 1: Feeling Faces ; Happy Map Cards ; Happy Map Game Pieces ; Happy Map Game Pieces Bonus Pack ; Pair-Programming Video ; Unplugged Blockly Blocks 2: For the teachers • CS Fundamentals Main Activity Tips - Lesson Recommendations For the students • Feeling Faces Emotion Image - Resource • Unplugged Blockly Blocks (Grades K-1) - Manipulatives
	Lesson 7: K – 1: Loops with Scrat 2: Loops with Laurel
NJSLS	K – 1: 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information

	8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops 2: 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops
Learning Objective	K – 1: I can construct a program using structures that repeat areas of code; Improve existing code by finding areas of repetition and moving them into looping structures 2: I can break down a long sequence of instructions into the smallest repeatable sequence possible. Identify the benefits of using a loop structure instead of manual repetition.
Teacher/ Student Materials	K – 1: Lesson Plan 2: Lesson Plan

Additional Resources	K – 1: Feeling Faces ; Happy Map Cards ; Happy Map Game Pieces ; Happy Map Game Pieces Bonus Pack ; Pair-Programming Video ; Unplugged Blockly Blocks ; Reflection Journals 2: CS Fundamentals Main Activity Tips - Lesson Recommendations Feeling Faces Emotion Image - Resource
	Lesson 8: K – 1: Loops with Laurel 2: Drawing Gardens with Loops
NJSLS	K – 1: 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops 2: 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops

Learning Objective	K – 1: I can break down a long sequence of instructions into the smallest repeatable sequence possible. Identify the benefits of using a loop structure instead of manual repetition 2: I can count the number of times an action should be repeated and represent it as a loop. • Create a program that draws complex shapes by repeating simple sequences. • Decompose a shape into its largest repeatable sequence.
Teacher/ Student Materials	**K- 1:** Lesson Plan **2:** Lesson Plan
Additional Resources	**K – 1:** CSF Lesson Recommendations ; Feeling Faces ; Unplugged Blockly Blocks **2:** CS Fundamentals Main Activity Tips - Lesson Recommendations • Pause and Think Online - Video • Feeling Faces Emotion Image - Resource
	Lesson 9: **K – 1: Ocean Scene with Loops** **2: The Right App**
NJSLS	K – 1: 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops

Learning Objective	K – 1: I can count the number of times an action should be repeated and represent it as a loop. • Create a program that draws complex shapes by repeating simple sequences. • Decompose a shape into its largest repeatable sequence. 2: I can apply empathy and creativity to design technology for others. • List several different examples of smartphone apps. • Recommend technology to others based on their unique needs.
Teacher/ Student Materials	K – 1: Lesson Plan 2: Lesson Plan
Additional Resources	K – 1:CSF Lesson Recommendations ; Pause & Think Online Video ; Feeling Faces 2: The Right App Scenarios - Slide Deck
	Lesson 10: **K – 2: The Big Event Jr.**
NJSLS	K – 2: 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information; 8.1.2.AP.4: Break down a task into a sequence of steps
Learning Objective	K – 2: I can practice differentiating pre-defined actions and event-driven ones. • Recognize the actions of the teacher as signals to initiate commands. • Repeat commands given by an instructor.

Teacher/ Student Materials	K – 2:Lesson Plan
Additional Resources	K – 2: For the teachers • The Big Event - Assessment Answer Key For the students • Feeling Faces - Emotion Images • The Big Event (Download) • The Big Event - Assessment • The Big Event (Courses A, B) - Controller Image
	Lesson 11: **K - 1: Mini-Project: On the Move with Play Lab** **2 – Mini-Project: A Royal Battle with Events**
NJSLS	K – 1: 8.1.2. AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information; 8.1.2.AP.4: Break down a task into a sequence of steps 2: 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information; 8.1.2.AP.4: Break down a task into a sequence of steps
Learning Objective	K – 1: I can create an animated, interactive story using sequence and event-handlers. • Identify actions that correlate to input events. • Share a creative artifact with other students. 2: I can create an animated, interactive story using sequences and event-handlers. • Identify actions that correlate to input events. • Share a creative artifact with other students.
Teacher/ Student Materials	**K – 1: Lesson Plan** **2: Lesson Plan**

Additional Resources	K – 1: CS Fundamentals Main Activity Tips ; CSF Lesson Recommendations ; Pause & Think Online Video ; Feeling Faces ; The Big Event (Courses A, B) Controller Image; Unplugged Blockly Blocks 2: For the teachers • CS Fundamentals Main Activity Tips - Lesson Recommendations • Pause and Think Online - Video For the students • The Big Event (Courses A, B) - Controller Image • Unplugged Blockly Blocks (Grades K-1) - Manipulatives
	Lesson 12: **K-1: End of Course Project** **2: End of Course Project**
NJSLS	K – 1: 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 9.4.2. CT.2: Identify possible approaches and resources to execute a plan 9.4.2. CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive) 2: 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 9.4.2. CT.2: Identify possible approaches and resources to execute a plan 9.4.2. CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive)
Learning Objective	K – 1: I can apply computer science concepts in an open-ended project. • Overcome obstacles such as time constraints or bugs. 2: I can apply computer science concepts in an open-ended project. • Overcome obstacles such as time constraints or bugs.

Teacher/ Student Materials	K – 1: Lesson Plan 2: Lesson Plan
Additional Resources	K – 1:Artist Project Planning Guide 2: For the teachers • Play Lab Project Planning Guide - Answer Key For the students • Play Lab Project Planning Guide - Handout
	Lesson 13: **K-1: End of Course Project** **2: End of Course Project**
NJSLS	K – 1: 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 9.4.2. CT.1: Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem 9.4.2. CT.2: Identify possible approaches and resources to execute a plan 9.4.2. CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive) 2: 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 9.4.2. CT.2: Identify possible approaches and resources to execute a plan 9.4.2. CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive)
Learning Objective	K – 1: I can apply computer science concepts in an open-ended project. • Overcome obstacles such as time constraints or bugs. 2: I can apply computer science concepts in an open-ended project. • Overcome obstacles such as time constraints or bugs.

Teacher/ Student Materials	**K – 1:** Lesson Plan ; **2:** Lesson Plan
Additional Resources	**K – 1:** Artist Project Planning Guide **2:** For the teachers • Play Lab Project Planning Guide - Answer Key For the students • Play Lab Project Planning Guide - Handout

Marking Period 1	Creativity & Innovation	Grade(s)	K - 2
Unit Plan Title:	**Creativity & Innovation**		

Unit Overview

Students will learn the basics of programming with simple code and debugging skills by building programs and fixing errors. They will be able to apply the concepts and skills they learned to program a bot to complete a challenge

Essential Question(s)

What is hardware?
What is Evo and how is Evo identified in programming?
Can you find and label Evo's gears, battery, and wheels?
Can you find Evo's speaker?
Can you find the motherboard and the BLE antenna on the motherboard?
What do you think a motherboard does?
How can we change the speed of a robot?
Why would we want to alter speed?

Enduring Understandings

Students gain experience with basic coding, loops and debugging. Their problem-solving skills will sharpen as they trouble shoot and design programs that they test with their bots.

Assessments

Formative: Journal writing, handouts, drawings, write with a partner
Summative: project, lesson quizzes, tests

Lesson and Learning Goal/Pacing	
Lesson 1	K – 2: Introduction to Ozobot: Get to Know Evo *All lessons are 1 day.
Lesson 2	K - 2: Introduction to Color Codes 01: Basic Training *All lessons are 1 day.
Lesson 3	K – 2: Introduction to Color Codes 02: Speed *All lessons are 1 day.
Lesson 4	K – 2: Introduction to Color Codes 03: Special Moves and Win *All lessons are 1 day.
	Lesson 1: K – 2: Introduction to Ozobot: Get to Know Evo
NJSLS	8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences. 8.1.2.CS.2: Explain the functions of common software and hardware components of computing systems.

	8.1.2.CS.3: Describe basic hardware and software problems using accurate terminology.
Learning Objective	I can identify and label the hardware components of Ozobot Evo.
Teacher / Student Materials	Lesson Plan ; Activity Sheets
Additional Resources	video ; solution ; Direct Instruction Summary
	Lesson 2: K - 2: **Introduction to Color Codes 01: Basic Training**
NJSLS	8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes
Learning Objective	I can demonstrate turning Ozobot on/off I can demonstrate calibrating Ozobot. I can program Ozobot by drawing lines and Color Codes. I can define what a Color Code is and explain how it is used.
Teacher/ Student Materials	Lesson Plan ; Activity Sheets
Additional Resources	Video ; Solution ; Direct Instruction Summary
	Lesson 3: K – 2 **Introduction to Color Codes 02: Speed**
NJSLS	8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps

	8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops
Learning Objective	I can draw Color Codes to program their bot to move at different speeds. I can observe how their bot changes speed after it follows a Color Code. I can connect the input of a sequence of color with the output of a speed.
Teacher/Student Materials	Lesson Plan ; Activity Sheets
Additional Resources	video ; solution ; Direct Instruction Summary
	Lesson 4: **K – 2: Introduction to Color Codes 03: Special Moves and Win**
NJSLS	8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops
Learning Objective	I can draw Color Codes to program their bot to move in different ways. I can observe how their bot changes the way it moves after it follows a Color Code. I can connect the input of a sequence of color with the output of a special move.
Teacher / Student Materials	Lesson Plans ; Activity Sheets
Additional Resources	video ; solution ; Direct Instruction Summary

	Lesson 5: K –2 **Introduction to Color Codes 04: Direction** NJSLS 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks
Learning Objective	I can program my Ozobot to turn a specifc direction at an intersection. I can program my Ozobot to u-turn at a line end or in the middle of a line. I can be able to identify the direction their Ozobot is traveling in relationship to the code they use to turn a certain direction at an intersection.
Teacher / Student Materials	Lesson Plan ; Activity Sheet
Additional Resources	video ; solution ; direct instruction summary
	Lesson 6: k – 2 Introduction to Color Codes 05: Skills Check 1 (Grades K-2) NJSLS 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks
Learning Objective	I can read a sentence to determine the direction their bot should travel on a pathway and the action their bot should demonstrate. I can draw Color Codes to program their bot to move in a specific direction.

	I can draw Color Codes to program their bot to move at a set speed or to perform a special move.
Teacher / Student Materials	Lesson Plan ; Activity Sheet
Additional Resources	video ; solution ; Direct Instruction Summary

	Lesson 7: K – 2 **Introduction to Color Codes 06: Timers** NJSLS 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes
Learning Objective	I can draw Color Codes to program their bot to run for 30 seconds and then stop. I can draw Color Codes to program their bot to stop for 3 second intervals. I can observe how speed and time are related when programming their bot to complete a task.
Teacher / Student Materials	Lesson Plan ; Activity Sheet
Additional Resources	video ; solution ; Direct Instruction Summary
	Lesson 8: K- 2 **Introduction to Color Codes 07: Line Switch** NJSLS 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.

Learning Objective	I can draw Color Codes to program their bot to turn left at a line end and move until it senses another line. I can draw Color Codes to program their bot to move straight at a line end and move until senses another line. I can draw Color Codes to program their bot to turn right at a line end and move until it senses another line.
Teacher / Student Materials	Lesson Plan ; Activity Sheets
Additional Resources	video ; line switch blank template ; solution ; Direct Instruction Summary

	Lesson 9: K – 2 **Introduction to Color Codes 09: Skills Check 2** NJSLS 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks
Learning Objective	I can draw Color Codes to program their bot to run following a 30-second timer. I can draw Color Codes to program their bot to switch lines to move onto a set path. I can collect data to track the activity completed by their bot in 30 seconds.
Teacher / Student Materials	Lesson Plan ; Activity Sheet
Additional Resources	video ; solution ; Direct Instruction Summary
	Lesson 10: K- 1 **Introduction to Ozobot Blockly 01: Basic Training** 2: **Landform Adventure Race**

	NJSLS 8.1.2.CS.1: K – 1 Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences. 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 2: 9.4.2. CT.1: Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem 9.4.2. CT.2: Identify possible approaches and resources to execute a plan. 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps
Learning Objective	K - 1: I can build programs in Ozobot Blockly using blocks from the categories of Movement, Light Effects, Wait, and Sounds. I can navigate through and select a level in Ozobot Blockly. I can identify the delete, duplicate, undo, and redo icons in Ozobot Blockly. 2: I can use context clues to identify different landforms. I can cut and paste pictures of landforms to show a set sequence. I can use Color Codes to program the Ozobot to complete the race in less than 30 seconds.
Teacher / Student Materials	K –1: Lesson Plan ; Activity Sheets ; Blockly Editor 2: Lesson Plan ; Activity Sheets
Additional Resources	K – 1: video ; Direct Instruction Summary ; Solution 2: video ; solution ;

Marking Period 1	Information and Media Literacy	Grade(s)	K - 2
Unit Plan Title:	**Information and Media Literacy**		

Unit Overview

Students will gain knowledge of taking care of their devices, school devices and how to get around Google Suite.

Essential Question(s)

Why is it important to take care of our devices?
Why do we log in and out?
How do we protect our passwords on school devices?
What is a google doc? How do you create a doc?
What kinds of things can you put on a doc?

Enduring Understandings

Students will learn creation tools in Google Suite, how to protect their passwords on school devices, and how to care for them.

Assessments

Formative: journal entries, exit tickets, drawings,
Summative: docs created, lesson quiz/ test, Google Doc Project

Lesson and Learning Goal/Pacing

Lesson 1	Google – log in/ out (1 day) Taking care of your device and information
Lesson 2	Lesson 2: Getting around Google Classroom (1 day) -how to join a class, assignments, grades
Lesson 3	Lesson 3: K- 2 (2 days) Google Docs – how to create a doc, change fonts, colors, sizes of text and share doc in Google Classroom
Lesson 4	Lesson 4: Google Doc – formatting (1 day)
	Lesson 1: K – 2 Google – log in/ out Taking care of your device and information

NJSLS	8.1.2.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others 8.1.2.NI.4: Explain why access to devices need to be secured
Learning Objective	I can explain how to care for my device and how to log in and out of google.
Teacher/Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	taking care of your devices
	Lesson 2: Getting around Google Classroom **-how to join a class, assignments, grades**
NJSLS	8.1.2.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others 8.1.2.NI.4: Explain why access to devices need to be secured
Learning Objective	I can demonstrate how to join a google class, find assignments, and turn in assignments to receive a grade
Teacher/Student Materials	Student or school device, google account information, Google classroom setup; video
Additional Resources	-once students have joined a classroom, assign ongoing keyboarding lessons; model how to complete lessons and turn in for a grade in Google Classroom
	Lesson 3: K- 2 **Google Docs – how to create a doc, change fonts, colors, sizes of text and turn in doc in Google Classroom**
NJSLS	8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	I can demonstrate how to create a doc from google classroom, how to write on doc, change fonts, colors, and sizes of text and turn in doc for a grade
Teacher/Student Materials	Student or school device, google account information, Google classroom setup

Additional Resources	Google Doc Video
	Lesson 4: Google Doc – formatting
NJSLS	8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	I can demonstrate how to format a doc and table using Google Docs
Teacher/Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Formatting video

	Lesson 5: **Google Doc** NJSLS 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	I can demonstrate how to insert images into a Google Doc
Teacher / Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Inserting Images

	Lesson 6: Google Slides NJSLS 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	I can demonstrate how to create a slide presentation
Teacher / Student Materials	Student or school device, google account information, Google classroom setup

Additional Resources	Google Slides Video

	Lesson 7: Google Slides – Adding Style NJSLS 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	I can demonstrate how to add their own style to a google slide presentation
Teacher / Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Google Slides - Adding Style

	Lesson 8: Project Teacher Choice NJSLS NJSLS 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	I can create a doc or google slide presentation All About Me.
Teacher / Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Google Slides - Adding Animation

Marking Period 2	Digital Citizenship	Grade(s)	K - 2
Unit Plan Title:	**Digital Citizenship**		

Unit Overview

Students go beyond screen time to explore the impact their digital lives can have on their wellbeing and relationships while learning to balance media in their everyday lives.

Essential Question(s)

How do you stay safe online?
What footprints are you leaving online?
How are we all part of an online community?
How can you give credit for other people's work?

Enduring Understandings

K – 1: In each introductory digital citizenship lesson, students meet, one of the six Digital Citizen characters!
Guts explores what it means to be safe on the internet, sharing three simple rules for doing so.
Feet explores the meaning of digital footprints and why it's important to watch where we "step," being careful about what we share.
Heart explains the importance of being kind, and shares ways to show kindness to others, both online and in person
Legs shares why it's important to stand up for the people we care about, explaining how we can do that online and in person.
2: We are all connected on the internet! By learning the Rings of Responsibility, students explore how the internet connects us to people in our community and throughout the world. Help your students think critically about the different ways they connect with others, both in person and online. The internet is filled with all kinds of interesting people, but sometimes, some of them can be mean to each other. With this role play, help your students understand why it's often easier to be mean online than in person, and how to deal with online meanness when they see it. With so much information at our fingertips, students learn what it means to "give credit" when using content they find online. Taking on the role of a detective, students learn why it's important to give credit and the right ways to do it when they use words, images, or ideas that belong to others.

Assessments

Formative: journal entries, exit tickets, drawings
Summative: lesson quizzes, test

Lesson and Learning Goal/Pacing	
Lesson 1	K – 1: Meet Guts of the Digital Citizens (1 day) 2: That' s Private (1 day)
Lesson 2	K – 1: Meet Feet of the Digital Citizens! (1 day) 2: Who Is in Your Online Community? (1 day)

Lesson 3	K – 1: Meet Heart of the Digital Citizens (1 day) 2: Putting A Stop to Online Meanness (1 day)
Lesson 4	K – 1: Meet Legs of the Digital Citizens! (1 day) 2: Let's Give Credit (1 day)
	Lesson 1: K – 1: Meet Guts of the Digital Citizens 2: That's Private
NJSLS	K- 1: 9.4.2.DC.3: Explain how to be safe online and follow safe practices when using the internet 9.4.2.DC.4: Compare information that should be kept private to information that might be made public 2: 9.4.2.DC.3: Explain how to be safe online and follow safe practices when using the internet 9.4.2.DC.4: Compare information that should be kept private to information that might be made public
Learning Objective	K- 1: I can understand what being safe on the internet means. Reflect on ways to keep their passwords and information safe. 2: I can recognize the kind of information that is private. • Understand that they should never give out private information online.
Teacher/Student Materials	K – 1: Lesson Plan ; Lesson Slides ; Video ; Handout (Select a resource, then open in English or Spanish.) 2:Lesson Plan ; Lesson Slides ; Handout ; Handout - teacher version
Additional Resources	K – 1: Family Tips 2: Family Activity ; Famly Tips ; Family Engagement
	Lesson 2: **K-1: Meet Feet of the Digital Citizens!** **2:** Who Is In Your Online Community?
NJSLS	K – 1: 9.4.2.DC.3: Explain how to be safe online and follow safe practices when using the internet 9.4.2.DC.4: Compare information that should be kept private to information that might be made public 9.4.2.DC.5: Explain what a digital footprint is and how it is created

	2: 8.1.2.NI.1: Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a network 8.1.2.NI.2: Describe how the Internet enables individuals to connect with others worldwide 9.4.2.DC.6: Identify respectful and responsible ways to communicate in digital environments
Learning Objective	K – 1: I can understand what a digital footprint is. • Reflect on what and who they share with online. 2: I can compare and contrast how they are connected to different people and places, in person and on the internet • Demonstrate an understanding of how people can connect on the internet
Teacher Materials	K – 1:Lesson Plan ; Video ; Lesson Slides ; Handout (Select a resource, then open in English or Spanish.) 2: Lesson Plan ; Lesson Slides ; Handout
Additional Resources	K – 1: Famly Tips 2: Family Activity ; Family Tips ; Family Engagement Resources
	Lesson 3: **K – 1: Meet Heart of the Digital Citizens** **2: Putting a Stop to Online Meanness**
NJSLS	K – 1: 8.1.2.IC.1: Compare how individuals live and work before and after the implementation of new computing 9.4.2.DC.6: Identify respectful and responsible ways to communicate in digital environments 2: 8.1.2.IC.1: Compare how individuals live and work before and after the implementation of new computing 9.4.2.DC.6: Identify respectful and responsible ways to communicate in digital environments
Learning Objective	K –1: I can understand what it means to be respectful and kind to others. • Reflect on how they can be kind online.

	2 – I can understand what online meanness can look like and how it can make people feel • Identify ways to respond to mean words online, using S-T-O-P
Teacher/Student Materials	K – 1: Lesson Plan ; Video ; Lesson Slides ; Handout (Select a resource, then open in English or Spanish.) 2: Lesson Plan ; Lesson Slides ; Handout
Additional Resources	K – 1: Family Tips 2: Family Activity ; Family Tips ; SEL Conversation Starter
	Lesson 4: **K – 1: Meet Legs of the Digital Citizens!** **2: Let's Give Credit**
NJSLS	K – 1: 9.4.2.DC.2: Explain the importance of respecting digital content of others 9.4.2.DC.3: Explain how to be safe online and follow safe practices when using the internet 9.4.2.DC.6: Identify respectful and responsible ways to communicate in digital environments 2: 9.4.2.DC.1: Explain differences between ownership and sharing of information 9.4.2.DC.2: Explain the importance of respecting digital content of others
Learning Objective	K – 1: I can understand what it means to be an upstander. • Reflect on ways to make others feel welcome. 2: I can explain how giving credit is a sign of respect for people's work • Learn how to give credit in their schoolwork for content they use from the internet
Teacher/Student Materials	K – 1: Lesson Plan ; Video ; Lesson Slides ; Handout 2: Lesson Plan ; Lesson Slides ; Handout ; Teacher Handout (Select a resource, then open in English or Spanish.)
Additional Resources	K – 1: Family Tips 2: Family Activity ; Family Tips ; Family Engagement Resources

Marking Period 2	Technology Literacy	Grade(s)	K - 2
Unit Plan Title:	**Technology Literacy**		

Unit Overview

In this unit, students will deepen their understanding of computers. For students to understand their interaction with computers, they need to be able to identify the difference between hardware and software. Students will also learn about different software/applications.

Essential Question(s)

What is hardware? What is software? How do we use them?
What role does software and hardware play when using a computer?

Enduring Understandings

In this unit, students will deepen their understanding of computers. For students to understand their interaction with computers, they need to be able to identify the difference between hardware and software. Students will also learn about different software/applications.

Assessments

Formative: journal entries, exit tickets, drawings
Summative: tests and quizzes

Lesson and Learning Goal/Pacing	
Lesson 1	Hardware and Software (1 day)
Lesson 2	Introduction of computer hardware – keyboard and mouse (1 day)
Lesson 3	Keyboarding Strategy (2 days)
Lesson 4	Home Row (2 days)
	Lesson 1: **K-2: Hardware and Software**
NJSLS	8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences. 8.1.2.CS.2: Explain the functions of common software and hardware components of computing systems.
Learning Objective	I can identify the difference between hardware and software.
Teacher/Student Materials	Lesson Plan

Additional Resources	Slide deck **Video** Hardware Software Anywhere Everywhere **Games** Parts of a Computer **Handout(s) Available:** Hardware/Software Sorting digital worksheet Hardware/Software Search worksheet Exit ticket - **Computer Science Journal** **Optional -** Exploring Computer Science from A to Z, make a copy for each student, if possible. If not, create a class copy and record student responses while projecting to the class. This ***can*** be used to add new vocabulary. For **in person** learning, print and copy for each student. CS Journal for students, make a copy for each student.
	Lesson 2: Introduction of computer hardware – keyboard and mouse
NJSLS	8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences. 8.1.2.CS.2: Explain the functions of common software and hardware components of computing systems.
Learning Objective	I can demonstrate my understanding of keyboard structure and mouse functions
Teacher/Student Materials	video
Additional Resources	worksheet
	Lesson 3: Keyboarding Strategy *****Please note that keyboarding skills will be ongoing throughout all grades and marking cycles. Homework may be assigned in typingclub.com or other teacher chosen keyboarding site******

NJSLS	8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences. 8.1.2.CS.2: Explain the functions of common software and hardware components of computing systems.
Learning Objective	I can practice keyboarding strategy and familiarize themselves with keyboard and mouse
Teacher/Student Materials	teacher video ; typing.com
Additional Resources	
	Lesson 4: Home Row
NJSLS	8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences. 8.1.2.CS.2: Explain the functions of common software and hardware components of computing systems.
Learning Objective	I can practice keyboarding using the home row technique
Teacher/Student Materials	typing.com
Additional Resources	home row video

Marking Period 2	Critical Thinking & Problem Solving	Grade(s)	K - 2
Unit Plan Title:	**Critical Thinking & Problem Solving**		

Unit Overview

K - Students will learn to program using commands like loops and events. The lessons featured in this course also teach students to meaningfully collaborate with others, investigate different problem-solving techniques, persist in the face of challenging tasks, and learn about internet safety.

1 - Students learn more sophisticated unplugged activities and work through a greater variety of puzzles. Students will learn the basics of programming, collaboration techniques, investigation and critical thinking skills, persistence in the face of difficulty, and internet safety.

2 - Students will create programs with sequencing, loops, and events. They will investigate problem-solving techniques and develop strategies for building positive communities both online and offline. By the end of the course, students will create interactive games that they can share.

Essential Question(s)

How do computers use algorithms?

What does the computer programmer do?

Enduring Understandings

Students will learn what an algorithm is and the importance of having directions in a specific order. Students will make the connection between algorithms and coding. Computer code is a set of rules or instructions. Students will learn about the role of a computer programmer.

Assessments

Formative and summative (performance-based)

Lesson and Learning Goal/Pacing	
Lesson 1	K – 2 How do computers use algorithms? (1 day)
Lesson 2	K – 2: Coding (1 day)
Lesson 3	K - 2 What is a computer Programmer? (1 day)
Lesson 4 – 10	K – 2: Project on Famous Programmers (1 day)
	Lesson 1 K – 2 How do computers use algorithms?
NJSLS	8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information

Learning Objective	I can • identify what an algorithm is • Identify the importance of sequence
Teacher/Student Materials	Lesson Plan
Additional Resources	Slide deck **Video(s)** • What is an algorithm? • PBSKids Programming Oonabot **Handout(s)** • Fix this Algorithm digital worksheet • Lesson 5 - Hello Ruby Map Algorithms [mild version] - for in person learning, print one for each student (easy version) • Lesson 5 - Hello Ruby Map Algorithms [spicy version] - for in person learning, print one for each student (challenge) **Computer Science Journal** **Optional -** Exploring Computer Science from A to Z, make a copy for each student, if possible. If not, create a class copy and record student responses while projecting to the class. This ***can*** be used to add new vocabulary. For **in person** learning, print and copy for each student. CS Journal for students, make a copy for each student.
	Lesson 2: **K – 2: Coding**
NJSLS	8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes
Learning Objective	I can: • Experiment with the commands of a programming language • Identify the importance of sequence

	• Identify that code is a set of rules or instructions
Teacher/ Student Materials	Lesson Plan
Additional Resources	Slide deck **Video(s)** • What is Computer Coding? **Game(s)** • Lightbot - students program a robot to light up tiles, web and app versions available. Students should stick to level 1 only. • Does Not Compute - students identify items that can be programmed. **Handout(s)** Code the Dog! printable Code the Dog! digital worksheet - make a copy for each student, if possible. If not, complete as a class
	Lesson 3: **K – 2 What is a computer programmer?**
NJSLS	8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.

Learning Objective	I can: • understand the role of a computer programmer • Strengthen their understanding of computer science
Teacher/ Student Materials	Lesson Plan
Additional Resources	Slide deck **Videos** • OPTIONAL Extension - Ada Lovelace, Poet of Science: The First Computer Programmer by Diane Stanley • OPTIONAL Extension - A Computer Called Katherine by Suzanne Slade • The World's Youngest Computer Programmer (for Fun At Home activity) **Handouts:** • BittBot Digital Worksheet - make a copy for each student (if using Google Classroom assignments or complete as a class) • BittBot packet - for in person learning, print a copy for each student **Computer Science Journal** **Optional -** Exploring Computer Science from A to Z, make a copy for each student, if possible. If not, create a class copy and record student responses while projecting to the class. This ***can*** be used to add new vocabulary. For **in person** learning, print and copy for each student. CS Journal for students, make a copy for each student..
	Lesson 4: K – 2: Project on Famous Programmers.
NJSLS	**NJSLSA.W6**. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others. 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	I can research famous programmers and take notes on note catcher

Teacher / Student Materials	Student devices, Google Classroom, Note Catcher
Additional Resources	N/A
	Lesson 5 : K – 2: Project on Famous Programmers. **Select Famous Programmer**
NJSLS	8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	I can select a famous programmer to research
Teacher/ Student Materials	Student devices, Google Classroom, Slideshow
Additional Resources	N/A
	Lesson 6: Create Project
NJSLS	8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	I can create slide show presentation on famous programmer they selected.
Teacher/ Student Materials	Student devices, Google Classroom, Slideshow

Additional Resources	N/A
	Lesson 7: Edit Project
NJSLS	8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences
Learning Objective	I can choose information to present and edit projects
Teacher/ Student Materials	Student devices, Google Classroom, Slideshow
Additional Resources	edit your work video
	Lesson 8: Revise Project
NJSLS	8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences
Learning Objective	I can revise my project with peers to showcase my work.
Teacher/ Student Materials	Student devices, Google Classroom, Slideshow
Additional Resources	Adding style video

	Lesson 9: Publish Project
NJSLS	8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences
Learning Objective	I can publish a slide presentation on a Famous Programmer
Teacher/ Student Materials	Student devices, Google Classroom, Slideshow
Additional Resources	video
	Lesson 10: Celebration/ Peer Feedback
NJSLS	8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences
Learning Objective	I can explain my project to my classmates, receive and offer feedback and participate in class celebration of our learning.
Teacher/ Student Materials	Student devices, Google Classroom, Slideshow
Additional Resources	peer feedback video

Marking Period 2	Creativity & Innovation	Grade(s)	K - 2
Unit Plan Title:	**Creativity & Innovation**		

Unit Overview

Students will learn the basics of programming with simple code and debugging skills by building programs and fixing errors. They will be able to apply the concepts and skills they learned to program a bot to complete a challenge.

Essential Question(s)

How do we use loops to shorten our code? How has technology changed the way we live and work? What is segregation and how did it affect people in the early days of computers? If you could build a robot what would it do?
How might you use robots when you get older?
How do robots always know what to do?
How do you create a program for a robot?

Enduring Understandings

Students will be introduced to the concept of loops and their importance when writing code. Students will get to create their own loops in the form of making a dance routine for their classmates. Students will learn about bugs and debugging. They will first recognize bugs they have encountered while using technology. Students will be introduced to the concept of decomposition. Students will identify how computers decompose tasks and problems and break them into smaller parts. Students will review the concept of coding. Students will identify how technology has changed the way we do things. Students will also identify how segregation impacted the development of technology in the United States. Students will reflect on segregation in their own life and the lives of their family.

Assessments

Formative: Do-Now, Exit Tickets
Summative: Famous African American in Computer Science Infographic Project

Lesson and Learning Goal/Pacing	
Lesson 1	K – 2: Loops (1 day)
Lesson 2	K – 2: Bugs and Debugging (1 day)
Lesson 3	K – 2: Thinking Like a Computer (1 day)
Lesson 4	K – 2: Computer Decoder (1 day)
	Lesson 1: K – 2: Loops
NJSLS	8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks

	8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes
Learning Objective	I can • identify repeatable patterns in code • create an algorithm using loops to make commands repeat
Teacher /Student Materials	Lesson Plan
Additional Resources	Slide deck **Video(s)** • Move and Freeze Dance Video • Optional-Boom Chicka Boom **Handout(s)** Find the loops-printable FInd the loops-digital activity Dancing and Loops-digital activity Lightbot game -students can continue to play this game and practice coding. **Computer Science Journal** **Optional -** Exploring Computer Science from A to Z, make a copy for each student, if possible. If not, create a class copy and record student responses while projecting to the class. This ***can*** be used to add new vocabulary. For **in person** learning, print and copy for each student. CS Journal for students, make a copy for each student.

	Lesson 2: K – 2: Bugs and Debugging
NJSLS	8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops
Learning Objective	I can: • Define bug and debugging • Be able to find bugs and debug code
Teacher / Student Materials	Lesson Plan
Additional Resources	Slide deck **Video(s):** • What is a computer bug? • Debugging: You Can Fix It (musical story video) **Handout(s):** Where's My Cupcake? -digital version Where's My Cupcake? Printable Where's My Cupcake? (blank)

	Computer Science Journal • Exploring Computer Science from A to Z, make a copy for each student, if possible. If not, create a class copy and record student responses while projecting to the class. This ***can*** be used to add new vocabulary. For in person learning, print and copy for each student. • CS Journal for students, make a copy for each student, if possible. If not, create a class copy and record student responses while projecting to the class. For in person learning, print and copy for each student. **Alternate Resources** Use this digital read aloud as an alternative or in addition to the video in the lesson - Unspotted Bugs by Kiki Prottsman.
	Lesson 3: K – 2 Thinking Like a Computer
NJSLS	8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops
Learning Objective	Students will • Identify decomposition and how it is useful in problem solving • Practice decomposing problems and tasks
Teacher / Student Materials	Lesson Plan
Additional Resources	**Video(s):** • Think Like a Computer (Safe Video link)

	Think Like a Computer (Youtube link) **Game(s):** **Parking Game puzzle** **Computer Science Journal** • Exploring Computer Science from A to Z, make a copy for each student, if possible. If not, create a class copy and record student responses while projecting to the class. This ***can*** be used to add new vocabulary. For in person learning, print and copy for each student. • CS Journal for students, make a copy for each student, if possible. If not, create a class copy and record student responses while projecting to the class. For in person learning, print and copy for each student. **Alternate Resources:** BrainpopJr Computational Thinking video and activities
	Lesson 4: K – 2 : Computer Decoder
NJSLS	8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.IC.1: Compare how individuals live and work before and after the implementation of new computing technology
Learning Objective	• Identify and analyze how computing technology has changed the way people live and work. • Review the concepts of coding • Identify how segregation existed in the past and still exists in the present
Teacher/ Student Materials	Lesson Plan

Additional Resources	Slide Deck **Optional Materials** Computer Decoder: Dorothy Vaughan, Computer Scientist **read aloud on Youtube** **Digital Version on SORA:** https://soraapp.com/library/nycschools/search/query-dorothy%20vaughan/titles/310229/4959478 7 Black Pioneers in Computer Science Infographic **Handout(s)/Digital/Activities Available** • Vocabulary Matching • Beginning Sound Decoder Puzzles (TpT activity) • Math Decoding
	Lesson 5: K –1 **Introduction to Ozobot Blockly 02: Sequences** **2: Introduction to Ozobot Blockly 02: Sequences (Grades 2 – 5))** NJSLS 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks

	8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 9.4.2. CT.2: Identify possible approaches and resources to execute a plan 9.4.2. CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive)
Learning Objective	K - 1 I can recognize a sequence of actions in a short story. 2 I can organize code blocks into a sequence. 3 I can recognize the sequence in the behavior of the bot. 2: 1 I can be able to define a sequence as it applies to computer science. 2 I can be able to organize code blocks into a sequence. 3 I can be able to recognize the sequence in the behavior of the bot. 4 I can be able to create their own sequence of code to solve a challenge.
Teacher / Student Materials	K – 1: Lesson Plan ; video; student instructions ; activity sheets 2: Lesson Plan ; Solution ; Video ; Instruction Summary
Additional Resources	K – 1: teacher tips 2: Activity Sheets

	Lesson 6: K – 1: Introduction to Ozobot Blockly 03: Loops 2: Introduction to Ozobot Blockly 03: Loops (Grades 2-5) NJSLS 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks

	8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 9.4.2. CT.2: Identify possible approaches and resources to execute a plan 9.4.2. CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive)
Learning Objective	Lesson 6 K – 1: Introduction to Ozobot Blockly 03: Loops 2: I can be able to define a loop as it applies to computer science. 2 I can build a block-based code using loops to program their bot to move in different patterns. 3 I can be able to explain how a loop block changes a sequence of code. I can: K - 1 I can be able to define a loop as it applies to computer science. 2 I can build a block-based code using loops to program their bot to repeat a simple sequence. 3 I can explain how a loop block changes a sequence of code 2: NJSLS 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 9.4.2. CT.2: Identify possible approaches and resources to execute a plan 9.4.2. CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive)
Teacher / Student Materials	K – 1: Lesson Plan; Editor ; Student Instructions ; video ; Activity Sheets 2: Lesson Plan ; Solution ; Instruction Summary ; Video ;Editor ;Activity Sheets
Additional Resources	N/A

	Lesson 7: **Introduction to Ozobot Blockly 04: Forever Loops (Grades K-1)** 2: **Introduction to Ozobot Blockly 04: Debugging (Grades 2-5)** NJSLS 8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes 9.4.2. CT.2: Identify possible approaches and resources to execute a plan 9.4.2. CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive)
Learning Objective	K – 1: 1. I can build a block-based code using forever loops to program their bot to repeat a simple sequence. 2 I can explain how a forever loop block changes a sequence of code. 3 I can be able to define a forever loop as it applies to computer science. 2: 1 I can be able to define debugging. 2 I can be able to examine a block-based code and the behavior of the bot to find a bug in a program. 3 I can be able to edit a block-based code and test the program to fix the bug.
Teacher / Student Materials	K –1 : Lesson Plan ; Forever Loops Teacher Page1 ; Forever Loops Teacher Page 2 Activity Sheets 2:Lesson Plan ; Solution ; Instruction Summary ; Video ; Activity Sheets

Additional Resources	K – 1: Blockly Editor 2: Blockly Editor
	Lesson 8: K – 2 Have You Ever Seen A Robot? NJSLS 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes
Learning Objective	I can interpret the components, patterns, and characteristics of a concrete computing problem or idea. I can explain how the components and characteristics of a tangible computing problem or idea are identified
Teacher / Student Materials	Lesson Plan ; Slideshow ; Worksheet ; Examples ;
Additional Resources	Make a Robot ; Make a Robot
	Lesson 9: K – 2 Robots' Adventure NJSLS 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes

Learning Objective	I can: • Identify how a problem or idea can be broken down into components and imagine how they can build on one or more of those components. • Plan, create/use, & test a set of instructions that completes a concrete task. • Create a tangible or digital program with the commands and rules of a programming language.
Teacher / Student Materials	Lesson Plan Slides Robot Grid ; Directional Cards ; Mr. & Mrs. Robot ; Video
Additional Resources	Make a Robot
	Lesson 10: My Robotic Friend NJSLS 8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks 8.1.2.AP.4: Break down a task into a sequence of steps 8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes
Learning Objective	I can: Learn to convert real-world activities into instructions Gain practice coding instructions with symbols Gain understanding of the need for precision in coding Gain practice debugging malfunctioning code
Teacher / Student Materials	Lesson Plan ; Grid ; Directional Cards ; Slides ; Turn Cards
Additional Resources	N/A

Marking Period 2	Information and Media Literacy	Grade(s)	K - 2
Unit Plan Title:	**Information and Media Literacy**		
Unit Overview			
Students will gain knowledge of taking care of their devices, school devices and how to get around Google Suite.			
Essential Question(s)			
Why is it important to take care of our devices? How do we protect our passwords on school devices?			
Enduring Understandings			
Students will learn creation tools in Google Suite, how to protect their passwords on school devices, and how to care for their devices.			
Assessments			
Formative: journal entries, exit tickets, drawings, Summative: docs created, lesson quiz/ test, Google Doc Project			

	Lesson 1: K – 2 (1 day) **Google – log in/ out** **Taking care of your device and information**
NJSLS	8.1.2.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others 8.1.2.NI.4: Explain why access to devices need to be secured
Learning Objective	I can learn how to care for device and how to log in and out of google.
Teacher/Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	taking care of your devices
	Lesson 2: Getting around Google Classroom (2 days) **-how to join a class, assignments, grades**
NJSLS	8.1.2.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others 8.1.2.NI.4: Explain why access to devices need to be secured

Learning Objective	I can discover how to join a google class, find assignments and turn in assignments for a grade
Teacher/Student Materials	Student or school device, google account information, Google classroom setup; video
Additional Resources	-once students have joined a classroom, assign ongoing keyboarding lessons; model how to complete lessons and turn in for a grade in Google Classroom
	Lesson 3: K- 2 (3 days) **Google Docs – how to create a doc, change fonts, colors, sizes of text and turn in doc in Google Classroom**
NJSLS	8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	I can experience how to create a doc from google classroom, how to write on doc, change fonts, colors, and sizes of text and turn in doc for a grade
Teacher/Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Google Doc Video
	Lesson 4: Google Doc – formatting (2 days)
NJSLS	8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	I can experience how to format a doc and table using Google Docs
Teacher/Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Formatting video

	Lesson 5: **Google Doc** NJSLS 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	I can discover how to insert images into a Google Doc
Teacher / Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Inserting Images

	Lesson 6: Google Slides NJSLS 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	I can learn how to create a slide presentation
Teacher / Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Google Slides Video

	Lesson 7: Google Slides – Adding Style

	NJSLS 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	I can explore how to add their own style to a google slide presentation
Teacher / Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Google Slides - Adding Style

	Lesson 8: Project Teacher Choice based on Black History NJSLS 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	I can create a doc or google slide presentation on Black History
Teacher / Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Google Slides - Adding Animation

Grades 3 – 5

Marking Period 1`	Keyboarding	Grade(s)	3-5
Unit Plan Title:	Keyboard Proficiency and Touch-Typing Skills		

Unit Overview

The Keyboard Proficiency and Touch-Typing Skills unit is designed to help students in grades 3-5 develop essential keyboarding skills, improve typing speed, and enhance accuracy. Throughout this ongoing unit, students will focus on building foundational keyboarding skills, eliminating hesitation, and increasing proficiency. While building essential typing skills, students will also be empowered to enhance their digital literacy and foster good digital citizenship.

Essential Question(s)

- *How does touch typing improve our efficiency in school and everyday tasks?*
- *What are the effective touch-typing methods for seamless typing?*
- *How does consistent practice boost our typing speed?*
- *What strategies and tools can we use to monitor progress and enhance typing skills?*

Enduring Understandings

Through deliberate practice and the mastery of touch-typing techniques, students will build fluency and accuracy in their typing, enabling them to navigate digital environments with ease, communicate effectively, and increase their productivity in a wide range of academic and real-world applications.

Assessments

Formative Assessment: Ongoing monitoring of lessons

Digitial Assessment Tools: Typing Tests

Lesson and Learning Goal/Pacing

Ongoing Lesson throughout the year	**Tech Readiness:** Students will begin by learning about computer competencies, focusing on high-click and drag-and-drop skills. They will identify areas of competence while developing their problem-solving abilities and hand-eye coordination. Students will practice click-and-drag movements and work on improving their speed and accuracy. • Identify parts of a computer • Determine what makes a computer run • Click and drag using a mouse/trackpad **Learn the Keys:** In this stage, students will build a foundational understanding of touch-typing techniques, learning the basics of finger placement and the home row keys. They will face challenges, adapt to personalized lessons, and progress through increasingly challenging exercises. The focus will be on typing accurately and efficiently. • Type using correct finger placement • Type all letter and basic punctuation keys • Type words and sentences • Use the enter key **Punctuation and Advanced Keys:** Students will gain an understanding of capitalization, punctuation, numbers, and advanced symbols through practical application and skill-building exercises. They will use capital letters and additional symbols, practice punctuation keys, type numbers, and engage in applied practice for punctuation and advanced keys.

	• Use shift key for capitalization and access additional symbols • Type all punctuation keys • Type all numbers • Contextually practice punctuation and advanced keys **Cross-Curricular Typing:** In this phase, students will apply their typing skills in various subjects, including reading, science, social studies, and math. They will improve their typing speed and accuracy while handling different topics and contexts. • Type cross curricular paragraphs • Identify synonyms • Acquire vocabulary related to literature • Identify and use pronouns correctly in sentences **Digital Citizenship and Communication:** Students will become informed and responsible digital citizens. They will practice using email, composing messages with appropriate grammar, and understanding online etiquette. They will also make informed and safe choices in various online situations. • Practice digital citizenship skills in real life scenario activities • Identify the components of a safe password • Practice typing internet search keywords
	Ongoing Lessons throughout the school year
NJSLS	8.1.8.CS.1: Recommend improvements to computing devices in order to improve the ways users interact with the devices. 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 1.1 Empowered Learner: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.
Teacher Materials	Typing.com, Scope and Sequence, Teacher Guide,

Marking Period 1	Digital Citizenship	Grade(s)	3 - 5
Unit Plan Title:	**Digital Citizenship**		

Unit Overview

In this unit, students will explore digital citizenship and responsible online behavior. They will learn to handle mean or hurtful language, promote positive online communities, and take accountability for their digital footprints. Students will also discuss online safety, cyberbullying prevention, and how to maintain secure and meaningful online friendships. Throughout the unit, they will develop essential skills to navigate the digital world with empathy, respect, and awareness.

Essential Question(s)

3rd

What should you do when someone uses mean or hurtful language on the internet?
How do digital citizens take responsibility for themselves, their communities, and their world?
How does what I post online affect my identity?
What makes a strong online community?

4th

How can I be positive and have fun while playing online games, and help others do the same?
How does our online activity affect the digital footprints of ourselves and others?
What information about you is OK to share online?
How can we be upstanders when we see cyberbullying?

5th

What is cyberbullying and what can you do to stop it?
What is clickbait and how can you avoid it?
How do gender stereotypes shape our experiences online?
How do you keep online friendships safe?

Enduring Understandings

3rd

Digital citizenship means being kind, respectful, and responsible online, and our actions have consequences that affect ourselves and others.

4th

Online communities thrive when individuals actively contribute positively, uphold values of empathy, and respect each other's digital footprints.

5th

Understanding the impact of cyberbullying and gender stereotypes empowers us to stand up for others, create a safe online environment, and make informed decisions about our digital identity and information sharing.

Assessments

Formative: Activity Sheets, Discussions

Summative: Quizzes

Lesson and Learning Goal/Pacing

Lesson 1	3 – The Power of Words (CIPPA) 4 – Keeping Games Fun and Friendly (CIPPA) 5 – Is It Cyberbullying? (CIPPA) *All lessons are 1 day.
Lesson 2	3 – Your Rings of Responsibility (CIPPA) 4 – Our Online Tracks (CIPPA) 5 – You Won't Believe This! (CIPPA) *All lessons are 1 day.
Lesson 3	3 - This Is Me 4 - Private and Personal Information 5 - Beyond Gender Stereotypes *All lessons are 1 day.
Lesson 4	3 - Our Digital Citizenship Pledge 4 - Be a Super Digital Citizen 5 - Digital Friendships *All lessons are 1 day.
	Lesson 1
NJSLS	9.4.5.DC.1: Explain the need for and use of copyrights. 9.4.5.DC.2: Provide attribution according to intellectual property rights guidelines using public domain or creative commons media. 9.4.5.DC.3: Distinguish between digital images that can be reused freely and those that have copyright restrictions 9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2) 9.4.5.DC.5: Identify the characteristics of a positive and negative online identity and the lasting implications of online activity 9.4.5.DC.6: Compare and contrast how digital tools have changed social interactions (e.g., 8.1.5.IC.1). 9.4.5.DC.7: Explain how posting and commenting in social spaces can have positive or negative consequences.
Learning Objective	3rd – The Power of Words (CIPPA) • Understand that it's important to think about the words we use, because everyone interprets things differently.

	• Identify ways to respond to mean words online, using S-T-O-P. • Decide what kinds of statements are OK to say online and which are not. 4th – Keeping Games Fun and Friendly (CIPPA) • Define "social interaction" and give an example. • Describe the positives and negatives of social interaction in online games. • Create an online video game cover that includes guidelines for positive social interaction. 5th – Is It Cyberbullying? (CIPPA) • Recognize similarities and differences between in-person bullying, cyberbullying, and being mean. • Empathize with the targets of cyberbullying. • Identify strategies for dealing with cyberbullying and ways they can be an upstander for those being bullied.
Teacher/Student Materials	3rd - A long string or rope · Paper, Lesson Slides, The Power of Words, Words Can Hurt: Handout- Teacher Version, Lesson Quiz 4th - Lesson Slides, Keeping Games Fun and Friendly, Video Observation Form: Handout- Teacher Version, Video Game Cover Project: Handout, Lesson Quiz 5th - Lesson Slides, What's Cyberbullying?, Sondra's Story: Handout, Teacher Version
Additional Resources	3rd - Family Activity, Family Tips, SEL Conversation Starter 4th - Grades 3-5 - Family Activity - Relationships & Communication, Family Tips, SEL Conversation Starter 5th - Family Activity,, Family Tips, Family Engagement Resources 3-5th - Digital Passport - six interactive games address key issues kids face in today's digital world.
	Lesson 2
NJSLS	9.4.5.DC.1: Explain the need for and use of copyrights. 9.4.5.DC.2: Provide attribution according to intellectual property rights guidelines using public domain or creative commons media. 9.4.5.DC.3: Distinguish between digital images that can be reused freely and those that have copyright restrictions

	9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2) 9.4.5.DC.5: Identify the characteristics of a positive and negative online identity and the lasting implications of online activity 9.4.5.DC.6: Compare and contrast how digital tools have changed social interactions (e.g., 8.1.5.IC.1). 9.4.5.DC.7: Explain how posting and commenting in social spaces can have positive or negative consequences.
Learning Objective	3rd – Your Rings of Responsibility (CIPPA) • Examine both in-person and online responsibilities. • Describe the Rings of Responsibility as a way to think about how our behavior affects ourselves and others. • Identify examples of online responsibilities to others. 4th – Our Online Tracks (CIPPA) • Define the term "digital footprint" and identify the online activities that contribute to it. • Identify ways they are -- and are not -- in control of their digital footprint. • Understand what responsibilities they have for the digital footprints of themselves and others. 5th – You Won't Believe This! (CIPPA) • Define "the curiosity gap." • Explain how clickbait uses the curiosity gap to get your attention. • Use strategies for avoiding clickbait.
Teacher Materials	3rd Bowl of water and a coin · Masking tape (for marking rings on your classroom floor) · Crayons, colored pencils, or markers Lesson Slides, Rings of Responsibility, My Rings of Responsibility: Handout - Teacher Version, Lesson Quiz 4th - Lesson Slides, Feet's Footprint: Handout - Teacher Version, Lesson Quiz 5th - Lesson Slides, Avoiding Clickbait: Handout - Teacher Version, What's "The Curiosity Gap?": Handout - Teacher Version, Lesson Quiz
Additional Resources	3rd - Grades 3-5 - Family Activity - Media Balance & Well-Being, Family Tips, SEL Conversation Starter

	4th - Grades 3-4 - Family Activity - Digital Footprint & Identity, Family Tips, Family Engagement Resources 5th - Family Activity, Family Tips, Family Engagement Resources 3-5th - Digital Passport - six interactive games address key issues kids face in today's digital world.
	Lesson 3
NJSLS	9.4.5.DC.1: Explain the need for and use of copyrights. 9.4.5.DC.2: Provide attribution according to intellectual property rights guidelines using public domain or creative commons media. 9.4.5.DC.3: Distinguish between digital images that can be reused freely and those that have copyright restrictions 9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2) 9.4.5.DC.5: Identify the characteristics of a positive and negative online identity and the lasting implications of online activity 9.4.5.DC.6: Compare and contrast how digital tools have changed social interactions (e.g., 8.1.5.IC.1). 9.4.5.DC.7: Explain how posting and commenting in social spaces can have positive or negative consequences.
Learning Objective	3rd - This Is Me • Consider how posting selfies or other images will lead others to make assumptions about them. • Reflect on the most important parts of their unique identity. • Identify ways they can post online to best reflect who they are. 4th - Private and Personal Information • Identify the reasons why people share information about themselves online. • Explain the difference between private and personal information. • Explain why it is risky to share private information online. 5th - Beyond Gender Stereotypes • Define "gender stereotype" and describe how they can be present online. • Describe how gender stereotypes can lead to unfairness or bias. • Create an avatar and a poem that show how gender stereotypes impact who they are.

Teacher/Student Materials	3rd - Colored pencils, crayons, or markers · Paper Lesson Slides, Introducing ... Me!: Handout - How I See You: Handout, Lesson Quiz 4th - Lesson Slides, Stereotype Avatar: Handout, "Just Because" Poem: Handout, Teacher Version, Lesson Quiz 5th - Lesson Slides, Private and Personal Information, Exit Ticket: Handout - Lesson Quiz
Additional Resources	3rd - Grades 3-4 - Family Activity - Digital Footprint & Identity, Family Tips, Family Engagement Resources 4th - Family Activity, Family Tips, Family Engagement Resources 5th - Family Activity, Family Tips, Family Engagement Resources 3-5th - Digital Passport - six interactive games address key issues kids face in today's digital world.
	Lesson 4
NJSLS	9.4.5.DC.1: Explain the need for and use of copyrights. 9.4.5.DC.2: Provide attribution according to intellectual property rights guidelines using public domain or creative commons media. 9.4.5.DC.3: Distinguish between digital images that can be reused freely and those that have copyright restrictions 9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2) 9.4.5.DC.5: Identify the characteristics of a positive and negative online identity and the lasting implications of online activity 9.4.5.DC.6: Compare and contrast how digital tools have changed social interactions (e.g., 8.1.5.IC.1). 9.4.5.DC.7: Explain how posting and commenting in social spaces can have positive or negative consequences.
Learning Objective	3rd - Our Digital Citizenship Pledge

	• Define what a community is, both in person and online. • Explain how having norms helps people in a community achieve their goals. • Create and pledge to adhere to shared norms for being in an online community. 4th - Be a Super Digital Citizen • Reflect on the characteristics that make someone an upstanding digital citizen. • Recognize what cyberbullying is. • Show ways to be an upstander by creating a digital citizenship superhero comic strip. 5th - Digital Friendships • Compare and contrast different kinds of online-only friendships. • Describe the benefits and risks of online-only friendships. • Describe how to respond to an online-only friend if the friend asks something that makes them uncomfortable.
Teacher/Student Materials	3rd - Lesson Slides, Group Pledge - Handout, Online Community Norms: Handout, Teacher Version, Lesson Quiz, Digital Citizenship Pledge 4th - Colored pencils or markers, Lesson Slides, Video: Super Digital Citizen, Digital Citizen Superhero: Handout - What Would A Super Digital Citizen Do?: Handout - Teacher Version, Lesson Quiz 5th - Lesson Slides, Finish the Story: Handout - Heart's Online Friendships: Handout, Teacher Version, Lesson Quiz
Additional Resources	3rd - Grades 3-5 - Family Activity - Relationships & Communication, Family Tips, Family Engagement Resources 4th - Family Activity, Family Tips, SEL Conversation Starter 5th - Grades 3-5 - Family Activity - Relationships & Communication, Family Tips, Family Engagement Resources 3-5th - Digital Passport - six interactive games address key issues kids face in today's digital world.

Marking Period 1	Technology Literacy	Grade(s)	3 – 5
Unit Plan Title:	**Technology Literacy**		

Unit Overview

This unit explores the technical challenges and questions that arise from the need to represent digital information in computers. Learn how complex information like numbers, text, images, and sound are represented in text, how compression works, and the broader social impacts of digitizing the world's information

Essential Question(s)

What are your own strategies and insights about how to learn best?
What is your definition of information?
How is counting in this circle/square system similar to how we count in our regular lives? How is it different?

Enduring Understandings

Computer Science allows us to solve problems relevant to our lives with technological innovations.
Technologies in computer science helps us to represent complex information in a more user-friendly and understandable manner.

Assessments

Formative: Pre– and post-course survey responses
Summative: The unit project asks students to consider and debate issues that arise in modern society due to the digitizing of information. Students will analyze an article that addresses the intersection of digitizing information and current events. They will evaluate what data is being digitized and evaluate the benefits and harms caused by making this information digital. Students will also complete an end-of-unit assessment aligned with CS Principles framework objectives covered in this unit.

Lesson and Learning Goal/Pacing	
Lesson 1	Welcome to CSP (1 day)
Lesson 2	Representing Information (1 day)
Lesson 3	Circle Square Patterns (1 day)
Lesson 4	Binary Numbers (1 day)
	Lesson 1: Grades 3 – 5: Welcome to CSP
NJSLS	• 8.1.5.IC.1: Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes. 9.4.5.DC.6: Compare and contrast how digital tools have changed social interactions (e.g., 8.1.5.IC.1).
Learning Objective	• Communicate with classmates about computing innovations in their lives. • Describe positive and negative effects of computing innovations.

Teacher/Student Materials	Lesson Plan; video ; How to video ; personal innovations activity guide ; Personal innovations rubric; slides
Additional Resources	Lesson Resources
	Lesson 2: Grades 3 – 5: Representing Information
NJSLS	8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim 8.1.5.DA.5: Propose cause and effect relationships, predict outcomes, or communicate ideas using data.
Learning Objective	• Explain how the same piece of information can be represented in a variety of different ways. • Use a device to represent different pieces of information • Use patterns to represent information
Teacher/Student Materials	Lesson Plan ; Slides ; Journal Sample
Additional Resources	N/A
	Lesson 3: Circle Square Patterns
NJSLS	8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim. • 8.1.5.DA.3: Organize and present collected data visually to communicate insights gained from different views of the data. • 8.1.5.DA.4: Organize and present climate change data visually to highlight relationships or support a claim 9.4.5.DC.6: Compare and contrast how digital tools have changed social interactions (e.g., 8.1.5.IC.1).
Learning Objective	• Explain the challenges of creating a clear set of rules for ordering patterns

	• Follow a set of rules for ordering sets of patterns
Teacher/Student Materials	Lesson Plan ; Lesson Slides ;
Additional Resources	Circle Square Patterns; shape cutouts
	Lesson 4: Binary Numbers
NJSLS	• 8.1.5.DA.3: Organize and present collected data visually to communicate insights gained from different views of the data. 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue (e.g., 4.MD.B.4, 8.1.5.DA.3). • 9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data
Learning Objective	• Explain how the position of each binary digit determines its place value and numeric value • Represent binary numbers using combinations of decimal (base 10) digits 0-9 • Represent decimal numbers using combinations of binary (base 2) digits 0 and 1
Teacher/Student Materials	Lesson Plan ; slides ; flippy do exemplar
Additional Resources	how to make a flippy do (teacher resource) ;

Marking Period 1	Critical Thinking & Problem Solving	Grade(s)	3 - 5
Unit Plan Title:	**Critical Thinking & Problem Solving**		

Unit Overview Students will create programs with sequencing, loops, and events. They will investigate problem-solving techniques and develop strategies for building positive communities both online and offline. By the end of the course, students will create interactive games that they can share. Students will create a research project on a famous programmer.

Essential Question(s)

What is a computer programmer?

How do you think your training data influenced the results that A.I. produced?
What can help us to work together and solve problems as a team?
What are some common steps we can use to solve many different types of problems?

Enduring Understandings

Programs can be broken down into smaller parts to facilitate their design, implementation, and review.
Programs can also be created by incorporating smaller portions of programs that already exist.
Individuals develop programs using an iterative process involving design, implementation, testing, and review.

Assessments

Formative: Student responses, journal entries, drawings, exit tickets
Summative: Test and Quizzes

Lesson and Learning Goal/Pacing	
Lesson 1	On/Off Controllers (1 day)
Lesson 2	Catch the Cat (1 day)
Lesson 3	What is a computer programmer? (1 day) AI for Oceans (1 day)
Lesson 4	Project on Famous Programmers (1 day)
	Lesson 1 Grades 3-4 On/Off Controllers
NJSLS	8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 8.1.5.AP.3: Create programs that include sequences, events, loops, and conditionals.
Learning Objective	I can learn how to program Ozobot and how to use different on-off controllers.
Teacher/Student Materials	Lesson Plan

Additional Resources	N/A
	Lesson 2: Grades 3-4: Catch the Cat
NJSLS	8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 8.1.5.AP.3: Create programs that include sequences, events, loops, and conditionals.
Learning Objective	I can draw a line, that Ozobot follows to catch Scratch cat. Ozobot should catch the cat!
Teacher/Student Materials	Lesson Plan
Additional Resources	N/A
	Lesson 3: 3-4 What is a computer programmer? 5 : AI for Oceans
NJSLS	9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity **NJSLSA.W6**. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue 9.4.5.DC.8: Propose ways local and global communities can engage digitally to participate in and promote climate action • 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2). • 9.4.5.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem • 9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions (e.g., W.4.6, 3.MD.B.3,7.1.NM.IPERS.6). • 9.4.5.CI.2: Investigate a persistent local or global issue, such as climate change, and collaborate with individuals with diverse perspectives to improve upon current

	actions designed to address the issue • 8.1.8.IC.2: Describe issues of bias and accessibility in the design of existing technologies.
Learning Objective	3 and 4: Students will • understand the role of a computer programmer • Strengthen their understanding of computer science 5: Discuss the role artificial intelligence plays in their lives. • Reason about how human bias plays a role in machine learning. • Train and test a machine learning model.
Teacher Materials	3 and 4: Lesson Plan 5: Lesson Plan
Student Materials	3 and 4: Slide deck **Videos** • OPTIONAL Extension - Ada Lovelace, Poet of Science: The First Computer Programmer by Diane Stanley • OPTIONAL Extension - A Computer Called Katherine by Suzanne Slade The World's Youngest Computer Programmer (for Fun At Home activity)
Additional Resources	**handouts:** • BittBot Digital Worksheet - make a copy for each student (if using Google Classroom assignments or complete as a class) • BittBot packet - for in person learning, print a copy for each student **Computer Science Journal** **Optional -** Exploring Computer Science from A to Z, make a copy for each student, if possible. If not, create a class copy and record student responses while projecting to the class. This ***can*** be used to add new vocabulary. For **in person** learning, print and copy for each student. CS Journal for students, make a copy for each student.. Slide deck **Videos** • OPTIONAL Extension - Ada Lovelace, Poet of Science: The First Computer Programmer by Diane Stanley • OPTIONAL Extension - A Computer Called Katherine by Suzanne Slade • The World's Youngest Computer Programmer (for Fun At Home activity)

	Handouts: • BittBot Digital Worksheet - make a copy for each student (if using Google Classroom assignments or complete as a class) • BittBot packet - for in person learning, print a copy for each student **Computer Science Journal** **Optional -** Exploring Computer Science from A to Z, make a copy for each student, if possible. If not, create a class copy and record student responses while projecting to the class. This ***can*** be used to add new vocabulary. For **in person** learning, print and copy for each student. CS Journal for students, make a copy for student.. 5: AI Impact on Society Video ; AI Machine Learning Video ; AI Training Data & Bias
	Lesson 4: 3-4: Project on Famous Programmers. Gr. 5: Intro to Problem Solving
NJSLS	9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity **NJSLSA.W6**. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others 8.1.8.CS.4: Systematically apply troubleshooting strategies to identify and resolve hardware and software problems in computing systems 9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions
Learning Objective	Grades 3 & 4: Research famous programmers and take notes on note catcher Gr. 5: Communicate and collaborate with classmates in order to solve a problem • Identify different strategies used to solve a problem • Iteratively improve a solution to a problem
Teacher Materials	Grades 3 & 4: Student devices, Google Classroom, Note Catcher Grade 5: Lesson Plan; Lesson Slides ;
Student Materials	Grades 3 & 4: Student devices, Google Classroom, Note Catcher Grade 5: Aluminum boats curr. guide

Additional Resources	GR. 5: how to video
	Lesson 5: 3-4: Project on Famous Programmers. **Select Famous Programmer** **Grade 5:** The Problem-Solving Process
NJSLS	9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity **NJSLSA.W6**. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others 8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development
Learning Objective	Grades 3 & 4: Select a famous programmer to research Grade 5: Given a problem, identify individual actions that would fall within each step of the problem-solving process • Identify useful strategies within each step of the problem-solving process
Teacher Materials	Grades 3 & 4: Student devices, Google Classroom, Note Catcher Grade 5: Lesson Plan ; Slides
Student Materials	Grades 3 & 4: Student devices, Google Classroom, Note Catcher Grade 5: video ; activity guide
Additional Resources	N/A
	Lesson 6: 3-4: Create Project **Grade 5:** Exploring Problem Solving
NJSLS	• 9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity 9.4.5.IML.6: Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions\

	NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others 8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development
Learning Objective	Grades 3-4: SW create slide show presentation on famous programmer they selected. Grade 5: Apply the problem-solving process to approach a variety of problems • Assess how well-defined a problem is and use strategies to define the problem more precisely
Teacher Materials	Grades 3-4:Student devices, Google Classroom, Note Catcher Grade 5: Lesson Plan
Student Materials	Grades 3-4: Student devices, Google Classroom, Slideshow Grade 5: Slides ;
Additional Resources	Activity Guide
	Lesson 7: **Grades 3-4 Edit Project** **Grade 5:** What is a computer?
NJSLS	9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity 9.4.5.IML.6: Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions **NJSLSA.W6**. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others 8.1.5.CS.1: Model how computing devices connect to other components to form a system. 8.1.5.CS.2: Model how computer software and hardware work together as a system to accomplish tasks.

Learning Objective	Grades 3 & 4: Choose research information to present on famous programmer and edit projects Grade 5: Choose problems that can be solved with computing and justify those choices. • Identify a computer as a machine that works with information • Reason about whether particular objects are or are not computers
Teacher Materials	Grades 3 & 4: Student devices, Google Classroom, Note Catcher Grade 5: Lesson Plan ; Lesson Slides
Student Materials	Grade 3 & 4: Student devices, Google Classroom, Slideshow Grade 5: video
Additional Resources	Grade 3 & 4: edit your work video Grade 5: activity guide
	Lesson 8: Grades 3-4 : Revise Project **Grade 5:** Input and Output
NJSLS	9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity 9.4.5.IML.6: Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions **NJSLSA.W6**. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others 8.1.5.CS.1: Model how computing devices connect to other components to form a system. 8.1.5.CS.2: Model how computer software and hardware work together as a system to accomplish tasks 9.4.5. CT.1: Identify and gather relevant data that will aid in the problem-solving process
Learning Objective	Grades 3 & 4: Revise projects with peers to showcase their work Grade 5: Explain the role that input, and output take when computers are used to solve information problems. • Select the inputs and outputs used to perform common computing tasks

Teacher Materials	Grades 3 & 4: Student devices, Google Classroom, Note Catcher Grade 5: Lesson Plan ; slides
Student Materials	Grade 3 & 4: Student devices, Google Classroom, Slideshow Grade 5: Activity Guide
Additional Resources	Grades 3 & 4: Adding style video Grade 5: Input & Output Exemplar
	Lesson 9: Grades 3-4: Publish Project **Grade 5:** Processing
NJSLS	9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity 9.4.5.IML.6: Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions **NJSLSA.W6**. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others 8.1.5.CS.1: Model how computing devices connect to other components to form a system. 8.1.5.CS.2: Model how computer software and hardware work together as a system to accomplish tasks 8.1.5. AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development. 8.1.5.AP.5: Modify, remix, or incorporate pieces of existing programs into one's own work to add additional features or create a new program.
Learning Objective	Grades 3 & 4: Publish slide presentations on Famous Programmer Grade 5: Define processing as the work done (possibly by a computer) to turn an input into an output • Determine which types of processing are appropriate for a particular computing problem. • Identify several common types of processing used in computing.
Teacher Materials	Grades 3 & 4: Student devices, Google Classroom, Note Catcher

	Grade 5: Lesson Plan ; Lesson Slides
Student Materials	Grades 3 & 4: Student devices, Google Classroom, Slideshow Grade 5:Exemplar
Additional Resources	Grades 3 & 4: video Grade 5: Activity Guide
	Lesson 10: Grades 3-4 : Celebration/ Peer Feedback **Grade 5: Storage**
NJSLS	9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity 9.4.5.IML.6: Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions **NJSLSA.W6**. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others 8.1.5.DA.3: Organize and present collected data visually to communicate insights gained from different views of the data 8.1.5.IC.1: Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes. 8.1.5.IC.2: Identify possible ways to improve the accessibility and usability of computing technologies to address the diverse needs and wants of users.
Learning Objective	Grades 3 & 4: Explain their projects to classmates, receive and offer feedback and participate in class celebration of the learning Grade 5: Determine which information in a computing problem should be stored for later use. • Identify guidelines regarding what information should and should not be stored as part of the computing process. • Use the input-output-storage-processing model to describe a computing process.
Teacher Materials	Grades 3 & 4: Student devices, Google Classroom, Note Catcher Grade 5: Lesson Plan ; apps with storage guide
Student Materials	Grades 3 & 4: Student devices, Google Classroom, Slideshow Grade 5: activity guide

Additional Resources	Grades 3 & 4: peer feedback video Grade 5: video

Marking Period 1	Creativity & Innovation	Grade(s)	3 - 5
Unit Plan Title:	**Creativity & Innovation**		

Unit Overview

In this unit students will use the Ozobot color code system to learn and explore fundamental computer programming concepts. Students learn about programming commands, sequence, debugging, loops, and conditionals through creating and troubleshooting Ozobot paths. They will also experience collaborative software development by working in teams. The unit ends with a design challenge where students apply their understanding of algorithms.

Essential Question(s)

- *How do the physical components of the Ozobot Evo work together to follow the instructions given by different color codes?*
- *How can we use different sequences of color codes to control the speed, direction, and special moves of the Ozobot?*
- *How can breaking down a complex task into smaller parts (decomposition) help us in programming the Ozobot to complete a challenge?*
- *How can we plan and predict the sequence of events, goals, and expected outcomes when programming our Ozobot?*

Enduring Understandings

Computer programming is a powerful tool for controlling and interacting with technology.
Complex tasks can be broken down into smaller, manageable steps - a process called decomposition.
Careful planning, precision, and creativity can make coding not only possible, but also fun and exciting.

Assessments

Formative and Summative: Performance based in all lessons

Lesson and Learning Goal/Pacing	
Lesson 1	3-5 Introduction to Ozobot: Get to Know Evo *All lessons are 2 days.
Lesson 2	3-5 Introduction to Color Codes 01: Basic Training *All lessons are 2 days.
Lesson 3	3-5 Introduction to Color Codes 02: Speed *All lessons are 2 days.
Lesson 4	3-5 Introduction to Color Codes 03: Special Moves & Win/Exit *All lessons are 2 days.
Lesson 5	3-5 Introduction to Color Codes 04: Direction *All lessons are 2 days.
Lesson 6	3-5 Introduction to Color Codes 05: Skills Check 1 (Grades 3-5) *All lessons are 2 days.

Lesson 7	3-5 Introduction to Color Codes 06: Timers *All lessons are 2 days.
Lesson 8	3-5 Introduction to Color Codes 07: Line Switch *All lessons are 2 days.
Lesson 9	3-5 Introduction to Color Codes 08: Counters *All lessons are 2 days.
Lesson 10	3-5 Introduction to Color Codes 09: Skills Check 2 *All lessons are 2 days.
	Lesson 1
NJSLS	8.1.5.CS.2: Model how computer software and hardware work together as a system to accomplish tasks.
Learning Objective	Identify and name the hardware components of Ozobot Evo
Teacher Materials	Lesson Plan
Student Materials	Copy the link below and share with students via your LMS or preferred method. Tip: make sure students' bots are charged and updated! Student Link
Additional Resources	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library
	Lesson 2
NJSLS	9.4.5.TL.1: Compare the common uses of at least two different digital tools and identify the advantages and disadvantages of using each. 8.1.5.CS.2: Model how computer software and hardware work together as a system to accomplish tasks.
Learning Objective	Learn the basics of Ozobot's line-following capabilities.
Teacher Materials	Lesson Plan

Student Materials	Copy the link below and share with students via your LMS or preferred method. Tip: make sure students' bots are charged and updated! Student Link
Additional Resources	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library
	Lesson 3
NJSLS	8.1.5.CS.2: Model how computer software and hardware work together as a system to accomplish tasks.
Learning Objective	Learn the various speed Color Codes to program their bot to move at different speeds.
Teacher Materials	Lesson Plan
Student Materials	Copy the link below and share with students via your LMS or preferred method. Tip: make sure students' bots are charged and updated! Student Link
Additional Resources	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library
	Lesson 4
NJSLS	8.1.5.CS.2: Model how computer software and hardware work together as a system to accomplish tasks.
Learning Objective	Learn how to program their bot to perform special moves with Color Codes.
Teacher Materials	https://classroom.ozobot.com/lessons/ln1axNXxHhStSww1on3JmEggK3
Student Materials	Copy the link below and share with students via your LMS or preferred method. Tip: make sure students' bots are charged and updated! Student Link

Additional Resources	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library
	Lesson 5
NJSLS	8.1.5.CS.2: Model how computer software and hardware work together as a system to accomplish tasks.
Learning Objective	Learn the directional Color Codes to program their bot to move in a specific direction.
Teacher Materials	Lesson Plan
Student Materials	Copy the link below and share with students via your LMS or preferred method. Tip: make sure students' bots are charged and updated! Student Link
Additional Resources	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library
	Lesson 6
NJSLS	9.4.5.TL.5: Collaborate digitally to produce an artifact. 8.1.5.AP.3: Create programs that include sequences, events, loops, and conditionals. 8.1.5.AP.6: Develop programs using an iterative process, implement the program design, and test the program to ensure it works as intended.
Learning Objective	Apply the concepts and skills learned in previous lessons to program their bot to complete a challenge.
Teacher Materials	Lesson Plan
Student Materials	Copy the link below and share with students via your LMS or preferred method. Tip: make sure students' bots are charged and updated! Student Link

Additional Resources	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library
	Lesson 7
NJSLS	8.1.5.AP.3: Create programs that include sequences, events, loops, and conditionals.
Learning Objective	Learn how to use timer Color Codes to complete a challenge.
Teacher Materials	https://classroom.ozobot.com/lessons/lnT3Wts94xTtqokHA8jdAGgAAE?
Student Materials	Student Link
Additional Resources	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library
	Lesson 8
NJSLS	8.1.5.CS.2: Model how computer software and hardware work together as a system to accomplish tasks.
Learning Objective	Demonstrate how to use line switch Color Codes to complete a challenge.
Teacher Materials	Lesson Plan
Student Materials	Student Link
Additional Resources	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library
	Lesson 9
NJSLS	8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development.
Learning Objective	Demonstrate how to use the Counters Color Codes to complete a challenge.

Teacher Materials	Lesson Plan
Student Materials	Student Link
Additional Resources	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library
	Lesson 10
NJSLS	9.4.5.TL.5: Collaborate digitally to produce an artifact. 8.1.5.AP.3: Create programs that include sequences, events, loops, and conditionals. 8.1.5.AP.6: Develop programs using an iterative process, implement the program design, and test the program to ensure it works as intended.
Learning Objective	Apply the concepts and skills they learned in all lessons to program their bot to complete a challenge.
Teacher Materials	Lesson Plan
Student Materials	Student Link
Additional Resources	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library

Marking Period 1	Information and Media Literacy	Grade(s)	3-5
Unit Plan Title:	**Information and Media Literacy**		

Unit Overview

Students will gain knowledge of taking care of their devices and how to get around Google Suite

Essential Question(s)

Why is it important to take care of our devices?
Why do we log in and out ?
How do we protect our passwords on school devices?
What is a google doc?
How do you create a doc and apply varying formatting techniques?

Enduring Understandings

Google Suite has a number of useful tools to create original content for publication including documents, spreadsheets, and slide presentations.
Using and protecting my individual passwords on school devices is important to keep me safe.
Learning proper device care is important to ensuring my device is ready and accessible for my learning at all times.

Assessments

Formative: journal entries, exit tickets, drawings,
Summative: docs created, lesson quiz/ test, Google Doc Project

Lesson and Learning Goal/Pacing	
Lesson 1	Google – log in/ out (1 day) Taking care of your device and information
Lesson 2	Getting around Google Classroom (1 day) -how to join a class, assignments, grades
Lesson 3	Google Docs – how to create a doc, change fonts, colors, sizes of text and share doc in Google Classroom (2 days)
Lesson 4	Google Doc – formatting (2 days)
Lesson 5	Google Doc – inserting images (2 days)

Lesson 6	Google Slides (2 days)
Lesson 7	Google Slides – adding style (2 days)
Lesson 8	Google Project – teacher choice (2 days)
	Lesson 1: **Google – log in/ out** **Taking care of your device and information**
NJSLS	8.1.5.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others 8.1.5.NI.4: Explain why access to devices need to be secured
Learning Objective	Demonstrate how to care for device and how to log in and out of google.
Teacher/Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	taking care of your devices
	Lesson 2: Getting around Google Classroom **-how to join a class, assignments, grades**
NJSLS	8.1.5.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others 8.1.5.NI.4: Explain why access to devices need to be secured
Learning Objective	Demonstrate how to join a google class, find assignments and turn in assignments for a grade
Teacher/Student Materials	Student or school device, google account information, Google classroom setup ; video
Additional Resources	-once students have joined a classroom, assign ongoing keyboarding lessons; model how to complete lessons and turn in for a grade in Google Classroom
	Lesson 3:

	Google Docs – how to create a doc, change fonts, colors, sizes of text and turn in doc in Google Classroom
NJSLS	8.1.5.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	Experience how to create a doc from google classroom, how to write on doc, change fonts, colors, and sizes of text and turn in doc for a grade
Teacher/Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Google Doc Video
	Lesson 4: Google Doc – formatting
NJSLS	8.1.5.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	Experience how to format a doc and table using Google Docs
Teacher/Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Formatting video

	Lesson 5: **Google Doc – Insert Images**
NJSLS	NJSLS 8.1.5.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	Discover how to insert images into a Google Doc
Teacher / Student Materials	Student or school device, google account information, Google classroom setup

Additional Resources	Inserting Images

	Lesson 6: Google Slides
NJSLS	• 9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity 9.4.5.IML.6: Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions NJSLS 8.1.5.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	Learn how to create a slide presentation
Teacher / Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Google Slides Video

	Lesson 7: Google Slides – Adding Style
NJSLS	• 9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity 9.4.5.IML.6: Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions NJSLS 8.1.5.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	Explore how to add their own style to a google slide presentation

Teacher / Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Google Slides - Adding Style

	Lesson 8: Project Teacher Choice
NJSLS	NJSLS 8.1.5.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences. • 9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity 9.4.5.IML.6: Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions
Learning Objective	Create a doc or google slide presentation All About Me.
Teacher / Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Google Slides - Adding Animation

Marking Period 2	Digital Citizenship	Grade(s)	3 - 5
Unit Plan Title:	**Digital Citizenship**		

Unit Overview

In this unit, "Digital Citizenship and Media Literacy," students will explore the fascinating world of digital citizenship and media literacy, gaining essential skills to navigate the digital age responsibly. Each grade level will focus on specific key topics and essential questions to deepen their understanding and critical thinking abilities. Throughout the unit, students will engage in discussions, activities, and projects that encourage thoughtful consideration of digital ethics, effective communication, and responsible digital citizenship. By the end of the unit, they will be well-equipped to navigate the digital world with confidence and awareness.

Essential Question(s)

3rd
How can a strong password help protect your privacy?
Why do people alter digital photos and videos?
Why is it important to respect artists' decisions about sharing their work and treat them fairly?
Why is it important to think about how other people might understand a message differently from us? How do pictures and words together show different things, and why should we be careful about what we share online or on clothes? What does "context" and "representation" mean?

4th
What makes a healthy media choice?
What rights and responsibilities do you have as a creator?
Why is copyright important for protecting creative work and supporting artists, and how does it impact creativity and fair use?
How do pictures and words work together to create meaning, and why is it important to think about the captions when looking at pictures? Why should we be careful about what we post online and consider who posted something and why?

5th
What does media balance mean for me?
What are the important parts of an online news article?
How does respecting creative work, understanding copyright, Creative Commons, and fair use contribute to fostering creativity and responsible sharing of artistic content in the digital age?
How can we tell if a news or information source is trying to trick us, and why is it important to check if a source is reliable before sharing what they say?

Enduring Understandings

3rd - Strong passwords protect our privacy online, and altering digital photos and videos can change their meaning or deceive others. Respecting artists' decisions about sharing their work and treating them fairly shows appreciation for their creativity and effort. Considering different perspectives helps us understand the power of combining pictures and words, and being cautious about what we share online promotes responsible media usage.

4th - A healthy media choice means selecting content that is informative, respectful, and suitable for our age. As creators, we have the right to protect our work and the responsibility to respect others' creations and give proper credit. Copyright is important for protecting creative work, supporting artists, and promoting new ideas while considering fair use for educational and creative purposes.

5th - Media balance means having a healthy mix of different media while being mindful of our time spent on them. An online news article's important parts include the headline, source, date, evidence, and different perspectives.

Respecting creative work, understanding copyright, Creative Commons, and fair use promotes responsible sharing and supports artists, while checking the reliability of news sources helps us avoid being deceived.

Assessments
Formative: Discussions, hands on activities, and projects Summative: Quizzes

Lesson and Learning Goal/Pacing	
Lesson 1	3rd - Password Power-Up 4th - My Media Choices 5th - Finding My Media Balance
Lesson 2	3rd - Is Seeing Believing? 4th - A Creator's Rights and Responsibilities 5th - Reading News Online
Lesson 3	3rd - Sharing Fairly 4th - Digital Sharing Ethics 5th - Copyright in the Real World (pt.1)
Lesson 4	3rd – Interland - Mindful Mountain – Share with Care 4th - Interland - Kind Kingdom - It's Cool to be Kind 5th - Interland - Reality River - Don't fall for Fake
	Lesson 1
NJSLS	9.4.5.DC.1: Explain the need for and use of copyrights. 9.4.5.DC.2: Provide attribution according to intellectual property rights guidelines using public domain or creative commons media. 9.4.5.DC.3: Distinguish between digital images that can be reused freely and those that have copyright restrictions 9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2) 9.4.5.DC.5: Identify the characteristics of a positive and negative online identity and the lasting implications of online activity 9.4.5.DC.6: Compare and contrast how digital tools have changed social interactions (e.g., 8.1.5.IC.1).

	9.4.5.DC.7: Explain how posting and commenting in social spaces can have positive or negative consequences.
Learning Objective	3rd - Password Power-Up • Define the term "password" and describe a password's purpose. • Understand why a strong password is important. • Practice creating a memorable and strong password. 4th - My Media Choices • Learn the "What? When? How Much?" framework for describing their media choices. • Use this framework and their emotional responses to evaluate how healthy different types of media choices are. • Begin to develop their own definition of a healthy media balance. 5th - Finding My Media Balance • Reflect on how balanced they are in their daily lives. • Consider what "media balance" means, and how it applies to them. • Create a personalized plan for healthy and balanced media use.
Teacher/Student Materials	3rd - Finding My Media Balance Lesson Slides, My Media Balance, My Perfect Day: Handout, My Media Plan: Handout, Lesson Quiz 4th - My Media Choices Lesson Slides, My Media Balance, Reflecting on My Media: Handout, My Media Choices Tracker: Handout, Lesson Quiz 5th - Finding My Media Balance Lesson Slides, My Media Balance, My Perfect Day: Handout, My Media Plan: Handout, Lesson Quiz
Additional Resources	3rd - Grades 3-5 - Family Activity - Media Balance & Well-Being, Family Tips, Family Engagement Resources 4th - Grades 3-5 - Family Activity - Media Balance & Well-Being, Family Tips, SEL Conversation Starter

	5th - Grades 3-5 - Family Activity - Media Balance & Well-Being, Family Tips, Family Engagement Resources
	Lesson 2
NJSLS	9.4.5.DC.1: Explain the need for and use of copyrights. 9.4.5.DC.2: Provide attribution according to intellectual property rights guidelines using public domain or creative commons media. 9.4.5.DC.3: Distinguish between digital images that can be reused freely and those that have copyright restrictions 9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2) 9.4.5.DC.5: Identify the characteristics of a positive and negative online identity and the lasting implications of online activity 9.4.5.DC.6: Compare and contrast how digital tools have changed social interactions (e.g., 8.1.5.IC.1). 9.4.5.DC.7: Explain how posting and commenting in social spaces can have positive or negative consequences.
Learning Objective	3rd - Is Seeing Believing? • Recognize that photos and videos can be altered digitally. • Identify different reasons why someone might alter a photo or video. • Analyze altered photos and videos to try to determine why. 4th - A Creator's Rights and Responsibilities • Define "copyright" and explain how it applies to creative work. • Describe their rights and responsibilities as creators. • Apply copyright principles to real-life scenarios.

	5th - Reading News Online • Understand the purposes of different parts of an online news page. • Identify the parts and structure of an online news article. • Learn about things to watch out for when reading online news pages, such as sponsored content and advertisements.
Teacher Materials	3rd- Lesson Slides, Photo Fake Example 1: Handout -Teacher Version, Photo Fake Example 2: Handout - Teacher Version, Photo Fake Example 3: Handout - Teacher Version, Photo Fake Example 4: Handout - Teacher Version, Lesson Quiz 4th - A Creator's Rights and Responsibilities - Lesson Slides, What's Copyright?: Handout - Teacher Version, Lesson Quiz 5th - Lesson Slides, Reading News Online, Label A News Page:,Handout, Mix & Match Cards: Handout, Lesson Quiz
Additional Resources	3rd- Grades 3-5 - Family Activity - News & Media Literacy, Family Tips, Family Engagement Resources 4th - Grades 3-5 - Family Activity - News & Media Literacy, Family Tips, Family Engagement Resources 5th - Grades 3-5 - Family Activity - News & Media Literacy, Family Tips, Family Engagement Resources
	Lesson 3
NJSLS	9.4.5.DC.1: Explain the need for and use of copyrights. 9.4.5.DC.2: Provide attribution according to intellectual property rights guidelines using public domain or creative commons media. 9.4.5.DC.3: Distinguish between digital images that can be reused freely and those that have copyright restrictions 9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2)

	9.4.5.DC.5: Identify the characteristics of a positive and negative online identity and the lasting implications of online activity 9.4.5.DC.6: Compare and contrast how digital tools have changed social interactions (e.g., 8.1.5.IC.1). 9.4.5.DC.7: Explain how posting and commenting in social spaces can have positive or negative consequences.
Learning Objective	3rd - Sharing Fairly • Gain an understanding of the basic principles of copyright and fair use. 4th - Digital Sharing Ethics • Explain the purpose of copyright. • Demonstrate an understanding of the importance of respecting others' creative work • Identify the concept of fair use, recognizing how it allows legal re-use and sharing of copyrighted works in ways that promote creativity and benefit society. 5th - Copyright in the Real World (pt.1) • Understand and respect the value of others' online creative work for a more innovative environment. • Understand copyright's purpose in protecting creators and promoting creativity. • Recognize Creative Commons licenses and ethical content sharing.
Teacher/Student Materials	3rd - Sharing Fairly 4th - Digital Sharing Ethics 5th - Copyright in the Real World (pt.1)
Additional Resources	Copyright for Eduators Copyright and Creativity Elementary Curriculum Copyright Infographic 1 Copyright Infographic 2 Educator Expierience
	Lesson 4
NJSLS	9.4.5.DC.1: Explain the need for and use of copyrights.

	9.4.5.DC.2: Provide attribution according to intellectual property rights guidelines using public domain or creative commons media. 9.4.5.DC.3: Distinguish between digital images that can be reused freely and those that have copyright restrictions 9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2) 9.4.5.DC.5: Identify the characteristics of a positive and negative online identity and the lasting implications of online activity 9.4.5.DC.6: Compare and contrast how digital tools have changed social interactions (e.g., 8.1.5.IC.1). 9.4.5.DC.7: Explain how posting and commenting in social spaces can have positive or negative consequences.
Learning Objective	3rd – Interland - Mindful Mountain – Share with Care • Navigate the interactive game by making intentional decisions about what information to share and with whom in the mountainous town center of Interland • Understand the importance of responsible online behavior and privacy in a fast-paced digital environment. 4th - Interland - Kind Kingdom - It's Cool to be Kind • Exercise critical thinking skills while playing the interactive game by discerning between fact and fiction in the river of Interland, avoiding the traps set by the phisher, and making informed decisions to safely navigate the rapids. 5th - Interland - Reality River - Don't fall for Fake • Engage in the interactive game by understanding the impact of vibes and attitudes in the virtual town, actively countering negativity by blocking and reporting aggressors, and promoting a positive environment by spreading kindness and restoring peace to the online community.
Teacher/Student Materials	Curriculum English Curriculum Spanish Media Literacy Packet
Additional Resources	Digital Safety Resources

Marking Period 2	Technology Literacy	Grade(s)	3 – 5
Unit Plan Title:	**Technology Literacy**		

Unit Overview

This unit reveals how the Internet was designed to connect billions of devices and people to one another. Learn how the different protocols of the Internet work and actually build them yourself using the Internet Simulator. Then consider the impacts the Internet has had, both good and bad, on modern life.

Essential Question(s)

How do people share data in the real world?
How do they determine what to share and with whom?
How has the use of the internet positively and negatively affected our lives?

Enduring Understandings

There are different features or "layers" of the Internet at work when in use.

Using the Internet allows us to access information to assist in solving problems.

The inventors of the Internet designed this tool to assist us with designing and testing solutions to real world problems using readily accessible information.

Assessments

Formative: lesson survey; journal responses; quizzes and performance based assessments

Summative: Unit project asks students to design a policy position for an imaginary political candidate related to an "Internet Dilemma." Students must analyze news stories about their topic to identify impacted groups, explain those groups' interests, explain technical background about the dilemma, and then recommend a policy solution that the candidate should advocate for.

Lesson and Learning Goal/Pacing	
Lesson 1	3rd - Keyboarding 4th – Keyboarding 5th – Keyboarding Grades 3-5: Welcome to the Internet
Lesson 2	Grades 3-5**:** Building a Network
Lesson 3	Grades 3 – 5: The Need for Addressing
Lesson 4	Grades 3 – 5: Routers and Redundancy
	Lesson 1: Welcome to the Internet
NJSLS	8.1.5.NI.1: Develop models that successfully transmit and receive information using both wired and wireless methods.

Learning Objective	3-5th • Identify parts of a computer while developing essential mouse and trackpad skills • Build foundation for correct typing technique by learning letter and basic punctuation keys utilizing all 10 fingers. • Gain an understanding of capitalization, punctuation, number keys, and advanced symbols through contextualized practice and skill building. Lesson Plan ;
Teacher/Student Materials	Scope and Sequence, Typing.com, Color the Keyboard Activity Sheet
Additional Resources	Teacher Guide
	Lesson 2: Building a Network
NJSLS	8.1.5.NI.1: Develop models that successfully transmit and receive information using both wired and wireless methods. 8.1.5.NI.2: Describe physical and digital security measures for protecting sensitive personal information. 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim • 9.4.5.TL.4: Compare and contrast artifacts produced individually to those developed collaboratively (e.g., 1.5.5.CR3a). • 9.4.5.TL.5: Collaborate digitally to produce an artifact
Learning Objective	• Explain how computing devices can be connected to form a network • Identify the path(s) connecting two devices in a simulated network
Teacher/Student Materials	Lesson Plan ; Lesson Slides
Additional Resources	N/A
	Lesson 3: The Need for Addressing
NJSLS	8.1.5.NI.1: Develop models that successfully transmit and receive information using both wired and wireless methods.

	8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim. • 9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a). • 9.4.5.CI.4: Research the development process of a product and identify the role of failure as a part of the creative process (e.g., W.4.7, 8.2.5.ED.6).
Learning Objective	• Describe the way the Internet Protocol helps uniquely identify one another on the Internet • Explain the need for open and shared protocols for communicating on the Internet
Teacher/Student Materials	Lesson Plan ; Slides ; video ; Activity Guide
Additional Resources	N/A
	Lesson 4: Routers and Redundancy
NJSLS	8.1.5.CS.1: Model how computing devices connect to other components to form a system. 8.1.5.CS.2: Model how computer software and hardware work together as a system to accomplish tasks. 8.1.5.NI.1: Develop models that successfully transmit and receive information using both wired and wireless methods.
Learning Objective	• Describe how the redundant nature of networks can lead to dynamic, fault tolerant routes • Explain how data is routed through the Internet
Teacher/Student Materials	Lesson Plan ; slides ; teachers guide ; Activity Guide
Additional Resources	N/A

Marking Period 2	Critical Thinking & Problem Solving	Grade(s)	3 - 5
Unit Plan Title:	**Critical Thinking & Problem Solving**		

Unit Overview Students will create programs with sequencing, loops, and events. They will investigate problem-solving techniques and develop strategies for building positive communities both online and offline. By the end of the course, students will create interactive games that they can share. Students will create a research project on a famous programmer.

*If you have the same students for Marking Period 2 as you did for Marking Period one, you may choose to select lessons from The Code.org problem solving unit code.org prob solving unit to meet the needs of your students

Essential Question(s)

What is a computer programmer?
How do you think your training data influenced the results that A.I. produced?
What can help us to work together and solve problems as a team?
What are some common steps we can use to solve many different types of problems?

Enduring Understandings

Programs can be broken down into smaller parts to facilitate their design, implementation, and review.
Programs can also be created by incorporating smaller portions of programs that already exist.
Individuals develop programs using an iterative process involving design, implementation, testing, and review.
Learn how AI and machine learning can be used to address world problems.

Assessments

Formative: Formative: student responses, journal entries, drawings, exit tickets
Summative: test and quizzes

Lesson and Learning Goal/Pacing	
Lesson 1	On/Off Controllers (1 day)
Lesson 2	Catch the Cat (1 day)
Lesson 3	3-4 What is a computer programmer? (1 day) 5: AI for Oceans (1 day)
Lesson 4	Project on Famous Programmers (1 day)

	Lesson 1
NJSLS	8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 8.1.5.AP.3: Create programs that include sequences, events, loops, and conditionals.
Learning Objective	Learn how to program Ozobot the line following. How to use different on-off controllers.
Teacher/Student Materials	Lesson Plan

Additional Resources	N/A
	Lesson 2
NJSLS	8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 8.1.5.AP.3: Create programs that include sequences, events, loops, and conditionals.
Learning Objective	Draw a line of code that Ozobot follows to catch Scratch cat. Ozobot should catch the cat!
Teacher Materials	Lesson Plan
Student Materials	Ozobot, Paper
Additional Resources	N/A
	Lesson 3: 3-4 What is a computer programmer? 5 : AI for Oceans
NJSLS	9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity **NJSLSA.W6**. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue 9.4.5.DC.8: Propose ways local and global communities can engage digitally to participate in and promote climate action • 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2). • 9.4.5.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem • 9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions (e.g., W.4.6,

	3.MD.B.3,7.1.NM.IPERS.6). • 9.4.5.CI.2: Investigate a persistent local or global issue, such as climate change, and collaborate with individuals with diverse perspectives to improve upon current actions designed to address the issue • 8.1.8.IC.2: Describe issues of bias and accessibility in the design of existing technologies.
Learning Objective	3 and 4 : Students will • understand the role of a computer programmer • Strengthen their understanding of computer science 5: Discuss the role artificial intelligence plays in their lives. • Reason about how human bias plays a role in machine learning. • Train and test a machine learning model.
Teacher Materials	3 and 4: Lesson Plan 5: Lesson Plan
Student Materials	3 and 4: Slide deck **Videos** • OPTIONAL Extension - Ada Lovelace, Poet of Science: The First Computer Programmer by Diane Stanley • OPTIONAL Extension - A Computer Called Katherine by Suzanne Slade The World's Youngest Computer Programmer (for Fun At Home activity)
Additional Resources	**Handouts:** • BittBot Digital Worksheet - make a copy for each student (if using Google Classroom assignments or complete as a class) • BittBot packet - for in person learning, print a copy for each student **Computer Science Journal** **Optional -** Exploring Computer Science from A to Z, make a copy for each student, if possible. If not, create a class copy and record student responses while projecting to the class. This ***can*** be used to add new vocabulary. For **in person** learning, print and copy for each student. CS Journal for students, make a copy for each student..

	Slide deck **Videos** • OPTIONAL Extension - Ada Lovelace, Poet of Science: The First Computer Programmer by Diane Stanley • OPTIONAL Extension - A Computer Called Katherine by Suzanne Slade • The World's Youngest Computer Programmer (for Fun At Home activity) **Handouts:** • BittBot Digital Worksheet - make a copy for each student (if using Google Classroom assignments or complete as a class) • BittBot packet - for in person learning, print a copy for each student **Computer Science Journal** **Optional -** Exploring Computer Science from A to Z, make a copy for each student, if possible. If not, create a class copy and record student responses while projecting to the class. This ***can*** be used to add new vocabulary. For **in person** learning, print and copy for each student. CS Journal for students, make a copy for student.. 5: AI Impact on Society Video ; AI Machine Learning Video ; AI Training Data & Bias
	Lesson 4
NJSLS	9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity **NJSLSA.W6**. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others 8.1.8.CS.4: Systematically apply troubleshooting strategies to identify and resolve hardware and software problems in computing systems 9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions
Learning Objective	Research famous programmers and take notes on note catcher Communicate and collaborate with classmates in order to solve a problem • Identify different strategies used to solve a problem • Iteratively improve a solution to a problem

Teacher Materials	Grades 3 & 4: Student devices, Google Classroom, Note Catcher Grade 5: Lesson Plan; Lesson Slides ;
Student Materials	Grades 3 & 4: Student devices, Google Classroom, Note Catcher Grade 5: Aluminum boats curr. guide
Additional Resources	GR. 5: how to video
	Lesson 5
NJSLS	9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity **NJSLSA.W6**. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others 8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development
Learning Objective	Select a famous programmer to research Given a problem, identify individual actions that would fall within each step of the problem-solving process • Identify useful strategies within each step of the problem-solving process
Teacher Materials	Grades 3 & 4: Student devices, Google Classroom, Note Catcher Grade 5: Lesson Plan ; Slides
Student Materials	Grades 3 & 4: Student devices, Google Classroom, Note Catcher Grade 5: video ; activity guide
Additional Resources	
	Lesson 6

NJSLS	9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity 9.4.5.IML.6: Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions\ **NJSLSA.W6**. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others 8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development
Learning Objective	Grades 3-4: Create slide show presentation on famous programmer they selected. Grade 5: Apply the problem-solving process to approach a variety of problems • Assess how well-defined a problem is and use strategies to define the problem more precisely
Teacher Materials	Grades 3-4: Student devices, Google Classroom, Note Catcher Grade 5: Lesson Plan
Student Materials	Grades 3-4: Student devices, Google Classroom, Slideshow Grade 5: Slides ;
Additional Resources	Activity Guide
	Lesson 7:
NJSLS	9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity 9.4.5.IML.6: Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions **NJSLSA.W6**. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others 8.1.5.CS.1: Model how computing devices connect to other components to form a system.

	8.1.5.CS.2: Model how computer software and hardware work together as a system to accomplish tasks.
Learning Objective	Choose information to present and edit projects Choose problems that can be solved with computing and justify those choices. • Identify a computer as a machine that works with information • Reason about whether particular objects are or are not computers
Teacher Materials	Grades 3 & 4: Student devices, Google Classroom, Note Catcher Grade 5: Lesson Plan ; Lesson Slides
Student Materials	Grade 3 & 4: Student devices, Google Classroom, Slideshow Grade 5: video
Additional Resources	Grade 3 & 4: edit your work video Grade 5: activity guide
	Lesson 8
NJSLS	9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity 9.4.5.IML.6: Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions **NJSLSA.W6**. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others 8.1.5.CS.1: Model how computing devices connect to other components to form a system. 8.1.5.CS.2: Model how computer software and hardware work together as a system to accomplish tasks 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process
Learning Objective	Revise projects with peers to showcase their work Explain the role that input and output take when computers are used to solve information problems. • Select the inputs and outputs used to perform common computing tasks
Teacher Materials	Grades 3 & 4: Student devices, Google Classroom, Note Catcher Grade 5: Lesson Plan ; slides

Student Materials	Grade 3 & 4: Student devices, Google Classroom, Slideshow Grade 5: Activity Guide
Additional Resources	Grades 3 & 4: Adding style video Grade 5: Input & Output Exemplar
	Lesson 9
NJSLS	Grades 3 & 4: 9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity 9.4.5.IML.6: Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions **NJSLSA.W6**. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others Grade 5: 8.1.5.CS.1: Model how computing devices connect to other components to form a system. 8.1.5.CS.2: Model how computer software and hardware work together as a system to accomplish tasks • 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development. • 8.1.5.AP.5: Modify, remix, or incorporate pieces of existing programs into one's own work to add additional features or create a new program.
Learning Objective	Publish slide presentations on Famous Programmer Define processing as the work done (possibly by a computer) to turn an input into an output • Determine which types of processing are appropriate for a particular computing problem. • Identify several common types of processing used in computing.
Teacher Materials	Grades 3 & 4: Student devices, Google Classroom, Note Catcher Grade 5: Lesson Plan ; Lesson Slides
Student Materials	Grades 3 & 4: Student devices, Google Classroom, Slideshow Grade 5:Exemplar

Additional Resources	Grades 3 & 4: video Grade 5: Activity Guide
	Lesson 10
NJSLS	9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity 9.4.5.IML.6: Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions **NJSLSA.W6**. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others 8.1.5.DA.3: Organize and present collected data visually to communicate insights gained from different views of the data • 8.1.5.IC.1: Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes. • 8.1.5.IC.2: Identify possible ways to improve the accessibility and usability of computing technologies to address the diverse needs and wants of users.
Learning Objective	Explain their projects to classmates, receive and offer feedback and participate in class celebration of the learning Determine which information in a computing problem should be stored for later use. • Identify guidelines regarding what information should and should not be stored as part of the computing process. • Use the input-output-storage-processing model to describe a computing process.
Teacher Materials	Grades 3 & 4: Student devices, Google Classroom, Note Catcher Grade 5: Lesson Plan ; apps with storage guide
Student Materials	Grades 3 & 4: Student devices, Google Classroom, Slideshow Grade 5: activity guide
Additional Resources	Grades 3 & 4: peer feedback video Grade 5: video

Marking Period 2	Creativity & Innovation	Grade(s)	3 – 5
Unit Plan Title:	**Creativity & Innovation**		

Unit Overview

In this integrative unit, students will explore computer programming, through math, science, English Language Arts, and STEAM using the Ozobot Evo. They'll learn to control the Ozobot's movements using color codes, integrating math and science concepts. Through hands-on challenges and collaborative problem-solving, gaining a deeper understanding of how coding concepts can be applied across content areas interact with and control technology through real world challenges.

Essential Question(s)

- *How can we use color codes to control the Ozobot's movements and how does this relate to math and science concepts like speed, direction, and time?*
- *How can we break down a complex task into smaller steps when programming the Ozobot and why is this important in math and coding?*
- *How do different subjects like coding, math, science, and language arts work together when we're working with the Ozobot?*

Enduring Understandings

Coding involves providing a set of instructions for a technology tool to perform a task(s).
Breaking down big tasks into smaller steps makes complex challenges more manageable.

Assessments

Formative: Student activity sheets, discussions, observations
Summative: Quizzes, Handouts

Lesson and Learning Goal/Pacing	
Lesson 1	3 - Prefix Puzzle 4 - Energy Road Trip 5 - A Year in Constellations *All lessons are 2 days.
Lesson 2	3 - Rounding Fun 4 - Ozobot's Trip with Prepositions 5 - Triangle's Story *All lessons are 2 days.
Lesson 3	3- Mix It Up Multiplication 4 - ID the Structure 5 - Number Randomizer *All lessons are 2 days.
Lesson 4	3- Life Cycles with Ozobot

	4 - All About Symmetry 5 - What's the Speed? *All lessons are 2 days.
Lesson 5	3- Trait Match-Up 4 - What's the Word Relay 5 - Synonyms in Action *All lessons are 2 days.
Lesson 6	3- Ozobot Plays with Verbs and Adverbs 4 - Ozobot's Day of Similes 5 - Ordered Pairs with Ozobot *All lessons are 2 days.
Lesson 7	3 - How to Make a Sandwich 4 - Division Race 5 - Energy Food Chain *All lessons are 2 days.
Lesson 8	3 - Mix It Up Multiplication 4 - Patterns and Waves Part 1 5 - Prepositions by Chance *All lessons are 2 days.
Lesson 9	3 - Rounding Fun 4 - Patterns and Waves Part 2 5 - Maze of Operations *All lessons are 2 days.
Lesson 10	3 - Multiplication Fact Race 4 - Patterns and Waves Part 3 5 - Conjunctions By Chance *All lessons are 2 days.

	Lesson 1
NJSLS	8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 8.1.5.AP.3: Create programs that include sequences, events, loops, and conditionals. 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development. 8.1.5.AP.6: Develop programs using an iterative process, implement the program design, and test the program to ensure it works as intended. 3 - RF.5.3. Know and apply grade-level phonics and word analysis skills in decoding and encoding words. 4- 5-PS3-1 Energy 5 - 5-ESS1 Earth's Place in the Universe
Learning Objective	3 - Students will use Color Codes to program their bot to move to definitions of words with prefixes. Students will use the definitions to identify the correct form of the words including the prefix and the root word. 4 - Students will use lines and Color Codes to program their bot to mimic a car to demonstrate potential energy and changes in kinetic energy. 5 - In this lesson, students will draw a model of a constellation by plotting the points of the stars, connecting the stars with markers and incorporating at least three Color Codes in their constellation drawing for their Ozobot to follow.
Teacher Materials	3 - https://classroom.ozobot.com/lessons/lno8OEijACSzeLpHBIg97hRw7N 4 - https://classroom.ozobot.com/lessons/ln6eOjfzeOQCiExB6oxDOQuQkF 5 - https://classroom.ozobot.com/lessons/lnjjVhxVVuRjCtnmoXc1vCOQrl

Student Materials	3 - https://classroom.ozobot.com/lessons/lno8OEijACSzeLpHBIg97hRw7N/public 4 - https://classroom.ozobot.com/lessons/ln6eOjfzeOQCiExB6oxDOQuQkF/public 5 - https://classroom.ozobot.com/lessons/lnjjVhxVVuRjCtnmoXc1vCOQrl/public
Additional Resources	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library
	Lesson 2
NJSLS	8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 8.1.5.AP.3: Create programs that include sequences, events, loops, and conditionals. 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development. 8.1.5.AP.6: Develop programs using an iterative process, implement the program design, and test the program to ensure it works as intended. 3 - 5.NBT.A.4 - Use place value understanding to round decimals to any place. 4- L.5.1.A - Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences. 5 - .G.B.3 - Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.
Learning Objective	3 - Students will use a number line to round whole numbers to the nearest 10 or 100. Students will use Color Codes to program Ozobot to move to the correct rounded number. 4 - In this lesson, students will complete a story about their Ozobot taking a trip using prepositional phrases. Students will then add Color Codes and drawings onto a map to show the prepositions in their story.

	5 - Students will write a story to tell about the transformation of an equilateral triangle to an isosceles triangle and then to a scalene triangle.
Teacher Materials	3 - Rounding Fun 4 - Ozobot's Trip with Prepositions 5 - Triangle's Story
Student Materials	3- https://classroom.ozobot.com/lessons/ln5SVGQT63QxKJiwhgSkUPBwPK/public 4- https://classroom.ozobot.com/lessons/lnKNzBl9SlT2u69WzKH9IINQgD/public 5- https://classroom.ozobot.com/lessons/lntOGZPDhLSouVcy2ObxjlnAXz/public
Additional Resources	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library
	Lesson 3
NJSLS	8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 8.1.5.AP.3: Create programs that include sequences, events, loops, and conditionals. 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development. 8.1.5.AP.6: Develop programs using an iterative process, implement the program design, and test the program to ensure it works as intended.
Learning Objective	3- Students will program their Ozobot to randomly select numbers to make multiplication problems, find the products, and apply the commutative property. 4- Students will identify the structure of short passages of text as chronology, comparison, cause/effect or problem/solution, then add the correct Color Code to the Activity Sheet to get Ozobot to the correct structure.

	5- Students will create a number randomizer, build a decimal number, and write the decimal number made using standard form, word form, and expanded form.
Teacher Materials	3- Mix It Up Multiplication 4 - ID the Structure 5 - Number Randomizer
Student Materials	3- https://classroom.ozobot.com/lessons/lnb5vBAb5LQ4mmubvQj8Z5pwsa/public 4- https://classroom.ozobot.com/lessons/lnViT8WeWhTr6mE7lMQr0V7wN5/public 5- https://classroom.ozobot.com/lessons/lnoCS0XFsFQPKpmvzZVguZ5Qf1/public
Additional Resources	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library
	Lesson 4
NJSLS	8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 8.1.5.AP.3: Create programs that include sequences, events, loops, and conditionals. 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development. 8.1.5.AP.6: Develop programs using an iterative process, implement the program design, and test the program to ensure it works as intended.

Learning Objective	3 - Students will create interactive diagrams to show the life cycles of two different organisms. Students will compare and contrast the two different life cycles. 4- Students use the information their bot gives them to draw lines of symmetry. 5- Students will follow the scientific method to determine the speed of their bot when it is programmed by different Color Codes.
Teacher Materials	3- Life Cycles with Ozobot 4 - All About Symmetry 5 - What's the Speed?
Student Materials	3 - https://classroom.ozobot.com/lessons/lnCSSUAymgRJCVp5mS1NtzAALG/public 4- https://classroom.ozobot.com/lessons/lnOponaMfjS5GkLy2YjkRtLwnH/public 5- https://classroom.ozobot.com/lessons/ln4M0bo9vRTzagEPuqUX6WAgxp/public
Additional Resources	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library
	Lesson 5
NJSLS	8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 8.1.5.AP.3: Create programs that include sequences, events, loops, and conditionals.

	8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development. 8.1.5.AP.6: Develop programs using an iterative process, implement the program design, and test the program to ensure it works as intended.
Learning Objective	3 - Students explore how certain traits are inherited in animals by programming their Ozobot to randomly choose a trait from a pair of parents. Then students put the chosen inherited traits from the parents together to draw an example of the offspring. 4 - Students will use Color Code to complete a homophone randomizer. Students will program their bot to randomly choose a homophone. Students will use the homophone their bot chooses to write a sentence showing the correct meaning of the word. 5 - In this lesson, students will read sentences and use context clues to determine the meaning of a word. Students will then find a synonym and program their Ozobot to demonstrate the meaning of the words using Color Codes.
Teacher Materials	3- Trait Match-Up 4 - What's the Word Relay 5 - Synonyms in Action
Student Materials	3 - https://classroom.ozobot.com/lessons/lnWcj2555rS3iKl5xnC9wPdgwW/public 4 - https://classroom.ozobot.com/lessons/lnwwFg3HzPQ7imYNZw6gvhyg1R/public 5 - https://classroom.ozobot.com/lessons/lnK24cP4F0QNu7jcycJX4ofwli/public

Additional Resources	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library
	Lesson 6
NJSLS	8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 8.1.5.AP.3: Create programs that include sequences, events, loops, and conditionals. 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development. 8.1.5.AP.6: Develop programs using an iterative process, implement the program design, and test the program to ensure it works as intended.
Learning Objective	3 - Students will complete sentences in a silly story to demonstrate the function of verbs and adverbs. Students will use Color Codes to program their bot to show the relationship between the verbs and the adverbs in their sentences. 4 - Students complete commonly used similes to tell about Ozobot's day and use Color Codes to program their bot to demonstrate the similes. 5 - In this lesson, students will write two different ordered pairs, plot the coordinates, and use sequences of lines and colors to program Ozobot to the coordinate.
Teacher Materials	3- Ozobot Plays with Verbs and Adverbs

	4 - Ozobot's Day of Similes 5 - Ordered Pairs with Ozobot
Student Materials	3 - https://classroom.ozobot.com/lessons/lntzJeUH7PSnaDJ2fY7O0WAAMe/public 4 - https://classroom.ozobot.com/lessons/ln92exgBodSAuhydtc4uKesQrF/public 5 - https://classroom.ozobot.com/lessons/ln1Oaof7vWSNmpfDfVhFX7QwxQ/public
Additional Resources	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library
	Lesson 7
NJSLS	8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 8.1.5.AP.3: Create programs that include sequences, events, loops, and conditionals. 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development. 8.1.5.AP.6: Develop programs using an iterative process, implement the program design, and test the program to ensure it works as intended.
Learning Objective	3 - Students will describe in detail how to make their favorite sandwich (real or imagined).

	4 - Students will do long division problems with one-digit divisors, while racing Ozobot to the finish. Students can choose the speed they want the Ozobot to go. 5 - Students create a model of a food chain and program their bot to demonstrate how energy moves through the chain.
Teacher Materials	3 - How to Make a Sandwich 4 - Division Race 5 - Energy Food Chain
Student Materials	3 - https://classroom.ozobot.com/lessons/In2hBE9kSKQGubKNPO6ekf4AGR/public 4 - https://classroom.ozobot.com/lessons/lnBexYfJaKTdao1tG3YDZP3wik/public 5 - https://classroom.ozobot.com/lessons/lnx0SPsc4dRMiMcEyd1PECrg1K/public
Additional Resources	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library
	Lesson 8
NJSLS	8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate.

	8.1.5.AP.3: Create programs that include sequences, events, loops, and conditionals. 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development. 8.1.5.AP.6: Develop programs using an iterative process, implement the program design, and test the program to ensure it works as intended.
Learning Objective	3 - Students will program their Ozobot to randomly select numbers to make multiplication problems, find the products, and apply the commutative property. 4 - In part one of this three lesson series, students will identify patterns in print and in Color Codes. Then students will create their own patterns. 5 - Students will use an Ozobot to randomly choose words on the Prepositions by Chance Map and identify the word as a preposition, noun or adjective. The students will then write a sentence using the word.
Teacher Materials	3 - Mix It Up Multiplication 4 - Patterns and Waves Part 1 5 - Prepositions by Chance
Student Materials	3 - https://classroom.ozobot.com/lessons/lnb5vBAb5LQ4mmubvQj8Z5pwsa/public 4 - https://classroom.ozobot.com/lessons/lnU7YjrrxLQN6RhbWzry1vdA2A/public

	5 - https://classroom.ozobot.com/lessons/lnZbqT8el9TLeHCOVjimjIQght/public
Additional Resources	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library
	Lesson 9
NJSLS	8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 8.1.5.AP.3: Create programs that include sequences, events, loops, and conditionals. 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development. 8.1.5.AP.6: Develop programs using an iterative process, implement the program design, and test the program to ensure it works as intended.
Learning Objective	3- Students will use a number line to round whole numbers to the nearest 10 or 100. Students will use Color Codes to program Ozobot to move to the correct rounded number. 4 - Students will identify parts of a transverse wave. Students will also draw waves with varying amplitude, wavelength and frequency. 5- Students will practice using the order of operations to solve equations and decode missing Color Codes to complete a maze for their Ozobot to move through.
Teacher Materials	3 - Rounding Fun

	4 - Patterns and Waves Part 2 5 - Maze of Operations
Student Materials	3- https://classroom.ozobot.com/lessons/ln5SVGQT63QxKJiwhgSkUPBwPK/public 4 - https://classroom.ozobot.com/lessons/lnBai6ivu7QDi5rO0mcFWqOQnU/public 5 - https://classroom.ozobot.com/lessons/ln898zQjBLRSaMeUkKxNSHKwdh/public
Additional Resources	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library
	Lesson 10
NJSLS	8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 8.1.5.AP.3: Create programs that include sequences, events, loops, and conditionals. 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development. 8.1.5.AP.6: Develop programs using an iterative process, implement the program design, and test the program to ensure it works as intended.
Learning Objective	3 - Students will use Ozobot Blockly to program their bot to randomly choose two numbers. Then, students will check their fact fluency by racing their bot to

	find the product of the two numbers before Ozobot tells them two different numbers to multiply. 4- Students will create models of light waves that allow people and Ozobots to see color. They will then create a pathway including colored lines and Color Code patterns to show how light waves can transfer information. 5- Students will use an Ozobot to randomly choose words on the Conjunctions by Chance Map and identify the word as a preposition, noun, or adjective. Then students will write a sentence using the word.
Teacher Materials	3 - Multiplication Fact Race 4 - Patterns and Waves Part 3 5 - Conjunctions By Chance
Student Materials	3 - https://classroom.ozobot.com/lessons/lnzlmj4RimRuiO0n29kEgPYgt6/public 4 - https://classroom.ozobot.com/lessons/lnhju743EdTCWCNyH1SPekvAO8/public 5- https://classroom.ozobot.com/lessons/lnXtVfxIXcQJOxwI7Rt4rNSQsv/public
	Ozobot Teacher Basic Training, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library

Marking Period 2	Information and Media Literacy	Grade(s)	3-5
Unit Plan Title:	**Information and Media Literacy**		

Unit Overview

Students will gain knowledge of taking care of their devices, school devices and how to get around Google Suite. If students have had this in marking period one, teacher may choose to incorporate a more relevant project in its place

Essential Question(s)

Why is it important to take care of our devices?
Why do we need to log in and out of our devices?
How do we protect our passwords on school devices?
What is a google doc and how do you create one?

Enduring Understandings

There are a number of useful content creation tools available in Google Suite.
Learning how to protect my assigned passwords and proper care of my Chromebook is important to safeguard my access to learning platforms/tools.

Assessments

Formative: journal entries, exit tickets, drawings,
Summative: docs created, lesson quiz/ test, Google Doc Project

Lesson and Learning Goal/Pacing	
Lesson 1	Google – log in/ out (1 day) Taking care of your device and information
Lesson 2	Getting around Google Classroom (1 day) -how to join a class, assignments, grades
Lesson 3	Google Docs – how to create a doc, change fonts, colors, sizes of text and share doc in Google Classroom (2 days)
Lesson 4	Google Doc – formatting (2 days)
	Lesson 1
NJSLS	8.1.5.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others 8.1.5.NI.4: Explain why access to devices need to be secured

Learning Objective	Learn how to care for device and how to log in and out of google.
Teacher/Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	taking care of your devices
	Lesson 2
NJSLS	8.1.5.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others 8.1.5.NI.4: Explain why access to devices need to be secured
Learning Objective	Discover how to join a google class, find assignments, and turn in assignments for a grade
Teacher/Student Materials	Student or school device, google account information, Google classroom setup ; video
Additional Resources	-once students have joined a classroom, assign ongoing keyboarding lessons; model how to complete lessons and turn in for a grade in Google Classroom
	Lesson 3
NJSLS	8.1.5.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	Experience how to create a doc from google classroom, how to write on doc, change fonts, colors, and sizes of text and turn in doc for a grade
Teacher/Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Google Doc Video
	Lesson 4
NJSLS	8.1.5.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	Experience how to format a doc and table using Google Docs

Teacher/Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Formatting video

	Lesson 5
NJSLS	8.1.5.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	Discover how to insert images into a Google Doc
Teacher / Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Inserting Images

	Lesson 6
NJSLS	8.1.5.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	Learn how to create a slide presentation
Teacher / Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Google Slides Video

	Lesson 7
NJSLS	8.1.5.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.

Learning Objective	Explore how to add their own style to a google slide presentation
Teacher / Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Google Slides - Adding Style

	Lesson 8
NJSLS	8.1.5.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
Learning Objective	Create a doc or google slide presentation All About Me.
Teacher / Student Materials	Student or school device, google account information, Google classroom setup
Additional Resources	Google Slides - Adding Animation

Grades 6 - 8

Marking Period 1	Digital Citizenship	Grade(s)	6 – 8
Unit Plan Title:	**Digital Citizenship** (Common Sense Media Curriculum Overview)		

Unit Overview

The "Responsible Digital Citizenship" unit focuses on developing students' understanding of responsible online behavior, digital footprints, and ethical use of technology. Students will explore various topics such as online communication, privacy protection, media balance, cyberbullying, and the impact of digital footprints on personal and professional lives. Through engaging discussions, interactive activities, and real-world case studies, students will develop the necessary skills and knowledge to navigate the digital landscape responsibly and safely.

Essential Question(s)

6th Grade

How can you de-escalate digital drama, so it doesn't go too far?
How do you chat safely with people you meet online?
What are the benefits and drawbacks of presenting yourself in different ways online?
How do we balance digital media use in our lives?

7th Grade

How can you respond when cyberbullying occurs?
How might our digital footprints shape our future?
What is your strategy for finding media balance?
How does social media affect our relationships?

8th Grade

How should you respond to online hate speech?
How should you respond to online hate speech?
How can you protect your privacy when you're online?
What are the risks and potential consequences of sexting?

Enduring Understandings

Digital footprints are publicly accessible, even when shared selectively. Protecting online reputations requires proper interactions. There are tradeoffs between public and private information, and cultural awareness is crucial for positive interactions. Ethical use of information and media is essential.

Assessments

Formative: *See Student/Teacher - Materials Handouts/Teacher Version, Class discussions and participation*
Written reflections and journaling

Summative: *See Student/Teacher Materials - Lesson Quiz, Culminating project: Digital Citizenship Action Plan*

Digital Assessment Tools: Nearpod, Peardeck, Kahoot, Quizizz, Blooket, Edpuzzle, Google Forms

Lesson and Learning Goal/Pacing

Lesson 1	**6th Gr** - Digital Drama Unplugged (CIPPA) **7th Gr** - Upstanders and Allies: Taking Action Against Cyberbullying (CIPPA) *All lessons are 2 days.

	8th Gr - Responding to Online Hate Speech (CIPPA) *All lessons are 2 days.
Lesson 2	**6th Gr** - Chatting Safely Online (CIPPA) **7th Gr -** The Power of Digitial Footprints (CIPPA) **8th Gr -** Social Media and Digital Footprints: Our Responsibilities (CIPPA) *All lessons are 2 days.
Lesson 3	**6th Gr** - Who Are You Online? **7th Gr** – My Media Use: A Personal Challenge **8th Gr** – Being Aware of What You Share Online *All lessons are 2 days.
Lesson 4	**6th Gr** - Finding Balance in a Digital World **7th Gr** - My Social Media Life **8th Gr** - Sexting and Relationships *All lessons are 2 days.
	Lesson 1
NJSLS	6th 9.4.8.DC.5: Manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure. ISTE: 1.2.b: Students engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices. 7th 9.4.8.DC.6: Analyze online information to distinguish whether it is helpful or harmful to reputation. ISTE 1.2.b: Students engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices. 8.1.8.D.3: Demonstrate an understanding of the need for the protection of personal information and passwords. 8th 9.4.8.DC.4: Explain how information shared digitally is public and can be searched, copied, and potentially seen by public audiences. ISTE 1.2.b: Students engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.

	ISTE 1.6.c: Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.
Learning Objective	**6th Gr** - Digital Drama Unplugged (CIPPA) Reflect on how easily drama can escalate online. Identify de-escalation strategies when dealing with digital drama. Reflect on how digital drama can affect not only oneself but also those around us. **7th Gr** - Upstanders and Allies: Taking Action Against Cyberbullying (CIPPA) Consider the different perspectives of those involved in a cyberbullying incident. Identify ways to be an upstander or ally to someone being bullied. Problem-solve potential challenges to responding to cyberbullying. **8th Gr** - Responding to Online Hate Speech (CIPPA) Examine and respond to a piece of artwork about the power of technology. Analyze an online hate speech dilemma using the Feelings & Options steps. Identify specific actions to positively affect a situation involving hate speech.
Teacher/Student Materials	**6th Gr** - Lesson Slides, Video: Teen Voices: Dealing with Digital Drama, Taking the Lead: Handout - Teacher Version, Lesson Quiz **7th Gr -** Lesson Slides, Kevin and José: Handout - Teacher Version, Mia Handout, Lesson Quiz **8th Gr** - Lesson Slides, Hurtful Meme Dilemma: Handout - Teacher Version, Fake Account Dilemma: Handout - Teacher Version, Lesson Quiz
Additional Resources	**6th Gr -** Family Activity, Family Tips, SEL Conversation Starter **7th Gr -** Family Activity, Family Tips, Family Engagement Resources **8th Gr -** Family Activity, Family Tips, Family Engagement Resources *Extension and Supplemental Resources 6-8th Grade* Common Sense Digital Connections - Digitial Citizenship Video Series Common Sense Digital Compass - Digitial Citizenship Interactive Game

	Social Media Test Drive - Digitial Citizenship Social Media Simulation
	Lesson 2
NJSLS	6th 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. 1.2.a: Students cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world. 1.2.d: Students manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online. 7th 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. 1.2.a: Students cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world. 1.2.d: Students manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online. 8th 9.4.8.DC.4: Students will explain how information shared digitally is public and can be searched, copied, and potentially seen by public audiences. 9.4.8.DC.5: Students will manage their digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure. 1.2.a: Students will cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world. 1.2.d: Students will manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.
Learning Objective	**6th Gr** - Chatting Safely Online (CIPPA)

	Analyze how well they know the people they interact with online. Reflect on what information is safe to share with different types of online friends. Learn to recognize red flag feelings and use the Feelings & Options thinking routine to respond to them. **7th Gr** - The Power of Digitial Footprints (CIPPA) Identify reasons for using social media and the challenges that often come along with it. Reflect on the responsibilities they have that are related to digital footprints -- both their own and others' -- when they're using social media. Identify ways to make the most of social media while still caring for the digital footprints of themselves and others. **8th Gr** - Social Media and Digital Footprints: Our Responsibilities (CIPPA) Identify reasons for using social media and the challenges that often come along with it. Reflect on the responsibilities they have that are related to digital footprints -- both their own and others' -- when they're using social media. Identify ways to make the most of social media while still caring for the digital footprints of themselves and others.
Teacher Materials	**6th Gr** - Lesson Slides, Video: Teen Voices: Who You're Talking to Online, Risky Chat Dilemma: Handout Teacher Version, Lesson Quiz **7th Gr** - Lesson Slides, Video: What's in Your Digital Footprint?, Truth Be Told: Handout - Teacher Version, Lesson Quiz **8th Gr** - Lesson Slides, Video: Teen Voices: Oversharing and Your Digital Footprint, Lesson Quiz
Additional Resources	**6th Gr** - Family Activity, Family Tips, SEL Conversation Starter **7th Gr** - Family Activity, Family Tips, SEL Conversation Starter **8th Gr** - Family Activity, Family Tips, SEL Conversation Starter

	Extension and Supplemental Resources 6-8th Grade Common Sense Digital Connections - Video Series Common Sense Digital Compass - Interactive Game Social Media Test Drive - Social Media Simulation
	Lesson 3
NJSLS	6th 9.4.8.DC.4: Students will explain how information shared digitally is public and can be searched, copied, and potentially seen by public audiences. 9.4.8.DC.5: Students will manage their digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure. 1.2.a: Students will cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world. 1.2.d: Students will manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online. 7th 9.4.8.DC.5: Students will manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure. 1.1.a: Students will articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. 8th 9.4.8.DC.3: Students will describe tradeoffs between allowing information to be public (e.g., within online games) versus keeping information private and secure. 1.2.d: Students will manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.
Learning Objective	**6th Gr** - Who Are You Online?

	Reflect on reasons why people might create fake social media accounts. Identify the possible results of posting from a fake social media account. Debate the benefits and drawbacks of posting from multiple accounts. **7th Gr -** My Media Use: A Personal Challenge Make an inventory of their media choices and how those choices make them feel. Brainstorm personal strategies for balancing media use. Create personal guidelines for promoting healthy media balance. **8th Gr** – Being Aware of What You Share Online Reflect on the concept of privacy, including what they feel comfortable sharing and with which people. Analyze different ways that advertisers collect information about users to send them targeted ads. Identify strategies for protecting their privacy, including opting out of specific features and analyzing app or website privacy policies.
Teacher/Student Materials	**6th Gr** - Lesson Slides, Video: Teen Voices: Presenting Yourself Online The Finsta Debate: Handout, Lesson Quiz **7th Gr** - Lesson Slides, My Media Choices Inventory: Handout - Teacher Version, My Media-Balance Strategy: Handout Teacher Version, Lesson Quiz **8th Gr** - Lesson Slides, Ad Detective: Handout - Teacher Version, Lesson Quiz
Additional Resources	**6th Gr** - Family Activity, Family Tips, Family Engagement Resources **7th Gr** - Family Activity, Family Tips, Family Engagement Resources **8th Gr** - Family Activity, Family Tips, Family Engagement Resources *Extension and Supplemental Resources 6-8th Grade* Common Sense Digital Connections - Video Series Common Sense Digital Compass – Interactive Game

	Social Media Test Drive – Social Media Simulation
	Lesson 4
NJSLS	6th 9.4.8.DC.5: Students will manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure. 1.1.a: Students will articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. 7th 9.4.8.DC.4: Students will explain how information shared digitally is public and can be searched, copied, and potentially seen by public audiences. 9.4.8.DC.5: Students will manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure. 1.2.a: Students will cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world. 1.2.b: Students will engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices. 8th 9.4.8.DC.5: Students will manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure. 1.2.a: Students will cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world. 1.2.b: Students will engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.
Learning Objective	**6th Gr** - Finding Balance in a Digital World Reflect on their common online and offline activities. Identify ways to "unplug" to maintain balance between online and offline activities. Use the Digital Habits Checkup routine to create a personal challenge to achieve more media balance. **7th Gr** - My Social Media Life Identify the role of social media in their lives. Reflect on the positive and negative effects social media use has on their relationships. Recognize "red flag feelings" when

	using social media and use the Feelings & Options thinking routine to consider ways to handle them. **8th Gr** - Sexting and Relationships Compare the risks and benefits of self-disclosure in relationships. Identify the risks and potential consequences of sexting. Use the Feelings & Options thinking routine to consider how to respond in situations where sexting could occur.
Teacher/Student Materials	**6th Gr** - Lesson Plan, Lesson Slides, Video: Digital Life 101, Balancing Act: Handout - Teacher Version, Lesson Quiz **7th Gr** - Lesson Slides, Video: Teen Voices: Friendships and Social Media, Noticing Red Flag Feelings: Handout - Teacher Version, Lesson Quiz **8th Gr** - Lesson Slides, Video: Teen Voices: Sexting, Relationships, and Risks, Late Night Texting: Handout - Teacher Version, Lesson Quiz
Additional Resources	**6th Gr** - Family Activity, Family Tips, SEL Conversation Starter **7th Gr** - Family Activity, Family Tips, SEL Conversation Starter **8th Gr** - Family Activity, Family Tips, Family Engagement Resources *Extension and Supplemental Resources 6-8th Grade* Common Sense Digital Connections - Video Series Common Sense Digital Compass - Interactive Game Social Media Test Drive - Social Media Simulation

Marking Period 1`	Keyboarding	Grade(s)	6 - 8
Unit Plan Title:	Keyboard Proficiency and Touch Typing Skills		

Unit Overview

The Keyboard Proficiency and Touch Typing Skills unit is designed to help students in grades 6-8 develop essential keyboarding skills, improve typing speed, and enhance accuracy. Throughout this ongoing unit, students will focus on building foundational keyboarding skills, eliminating hesitation, and increasing proficiency. While building essential typing skills, students will also be empowered to enhance their digital literacy and foster good digital citizenship.

Essential Question(s)

How can learning touch typing techniques improve our typing speed and accuracy, and why are these skills valuable for middle school students in various academic and professional tasks?
What are the different touch-typing methods and finger placement techniques, and how can we apply them to type efficiently without looking at the keyboard?
How can regular practice and engaging typing exercises help us develop muscle memory and increase our words-per-minute (WPM) typing speed over time?
What strategies and resources can we use to track our progress and continuously improve our touch-typing skills throughout the unit?

Enduring Understandings

Through deliberate practice and application of touch-typing techniques, one can develop the ability to type efficiently and accurately without looking at the keyboard.
In this digital era, keyboarding skills in accuracy and speed enhances one's productivity, communication, and engagement in learning.

Assessments

Formative Assessment: Ongoing monitoring of lessons

Digitial Assessment Tools: Typing Tests

Lesson and Learning Goal/Pacing

Ongoing Lesson throughout the year	**Tech Readiness:** Students will begin by learning about computer competencies, focusing on high-click and drag-and-drop skills. They will identify areas of competence while developing their problem-solving abilities and hand-eye coordination. Students will practice click-and-drag movements and work on improving their speed and accuracy. • Identify parts of a computer • Determine what makes a computer run • Click and drag using a mouse/trackpad **Learn the Keys:** In this stage, students will build a foundational understanding of touch-typing techniques, learning the basics of finger placement and the home row keys. They will face challenges, adapt to personalized lessons, and progress through increasingly challenging exercises. The focus will be on typing accurately and efficiently. • Type using correct finger placement • Type all letter and basic punctuation keys • Type words and sentences • Use the enter key

	Punctuation and Advanced Keys: Students will gain an understanding of capitalization, punctuation, numbers, and advanced symbols through practical application and skill-building exercises. They will use capital letters and additional symbols, practice punctuation keys, type numbers, and engage in applied practice for punctuation and advanced keys. • Use shift key for capitalization and access additional symbols • Type all punctuation keys • Type all numbers • Contextually practice punctuation and advanced keys **Cross-Curricular Typing:** In this phase, students will apply their typing skills in various subjects, including reading, science, social studies, and math. They will improve their typing speed and accuracy while handling different topics and contexts. • Type cross curricular paragraphs • Identify central ideas and supporting details in informational text • Recoognize a variety of literary genres • Identify and use pronouns and transition words correctly • Apply context clues to decode unknown words **Digital Citizenship and Communication:** Students will become informed and responsible digital citizens. They will practice using email, composing messages with appropriate grammar, and understanding online etiquette. They will also make informed and safe choices in various online situations. • Practice digital citizenship skills in real life scenario activities • Identify the components of a safe password • Type correctly formatted emails
	Ongoing Lessons throughout the school year
NJSLS	8.1.8.CS.1: Recommend improvements to computing devices in order to improve the ways users interact with the devices. 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 1.1 Empowered Learner: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.
Teacher Materials	Typing.com, Scope and Sequence, Teacher Guide,

Marking Period 1`	Technology Literacy	Grade(s)	6 - 8
Unit Plan Title:	**Technology Literacy**		

Unit Overview

Problem Solving and Computing is a highly interactive and collaborative introduction to the field of computer science. In this integrative unit from Code.org students will practice using a problem-solving process to address a series of puzzles, challenges, and real-world scenarios. Students will then learn how computing is used in the problem-solving process.

Essential Question(s)

What helps us work together as a team to solve problems effectively?
How do we apply common problem-solving steps to various types of problems?
How do computers use input, output, and different processing methods to solve problems, and why is storage essential in this process?

Enduring Understandings

Effective problem-solving and teamwork are essential for addressing various challenges successfully.
By understanding common problem-solving steps and applying them flexibly to different situations, individuals and teams can work collaboratively to find innovative solutions.
Computers play a crucial role in problem-solving processes.

Assessments

Formative Assessment: Observe student participation in discussions and assess their understanding of concepts, lesson quizzes, reflective journals
Summative Assessment: Evaluate student-created work based on accuracy, clarity, and insight gained.

Digitial Assessment Tools: Nearpod, Peardeck, Kahoot, Quizizz, Blooket, Edpuzzle, FlipGrid, Kami, Google Forms

Lesson and Learning Goal/Pacing	
Lesson 1	6-8 Intro to Problem Solving This lesson is a fun introduction to the open-ended, collaborative, and creative problem-solving students will be using over the rest of this unit and course. All grade levels should understand the problem-solving process and why it's important. ***Alternate versions are available under additional resources.***
Lesson 2	6-8 The Problem-Solving Process This lesson introduces the formal problem-solving process that students will use over the course of the year, Define - Prepare - Try - Reflect.
Lesson 3	6-8 Exploring the Problem-Solving Process (Optional 90min lesson for a deeper dive) In this lesson, students apply the problem-solving process to three different problems in order to better understand the value of each step. ***Alternate versions are available under additional resources.***
Lesson 4	6–8 What is a computer?

	This lesson builds on the problem-solving theme of the earlier lessons and focuses on the specifics of how computing is used in problem-solving, starting with developing a preliminary definition of a computer. Need more? Extend this topic with CodeHS World of Computing Unit (5 weeks/25 hours) *Students dive into the history of computing, learn about the various parts that make up modern computers, and explore the impact computing has had on today's world.*
	Lesson 1
NJSLS	8.1.8.AP.6: Refine a solution that meets users' needs by incorporating feedback from team members and users. 8.1.8.AP.8: Systematically test and refine programs using a range of test cases and users. 9.4.8.CT.1: Evaluate diverse solutions proposed by a variety of individuals, organizations, and/or agencies to a local or global problem, such as climate change, and use critical thinking skills to predict which one(s) are likely to be effective. 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option. ISTE Standards: 1.7 Global Collaborator: Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally. 1.5 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. 1.4 Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.
Learning Objective	• *Communicate and collaborate with classmates in order to solve a problem* • *Identify different strategies used to solve a problem* • *Iteratively improve a solution to a problem*
Teacher/Student Materials	Intro to Problem Solving Lesson Plan For the teachers • Code.org How-to Videos

	• Intro to Problem Solving - Slides For the students • Aluminum Boats - Activity Guide
Additional Resources	Alternate versions of this lesson are also available. • Newspaper Table • Spaghetti Bridge • Paper Tower Getting Started with Code.org
	Lesson 2
NJSLS	8.1.8.AP.6: Refine a solution that meets users' needs by incorporating feedback from team members and users. 9.4.8.CT.1: Evaluate diverse solutions proposed by a variety of individuals, organizations, and/or agencies to a local or global problem, such as climate change, and use critical thinking skills to predict which one(s) are likely to be effective. 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option. 1.5 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. 1.4 Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.
Learning Objective	• *Given a problem, identify individual actions that would fall within each step of the problem-solving process* • *Identify useful strategies within each step of the problem-solving process*
Teacher/Student Materials	The Problem-Solving Process Lesson Plan For the teachers • Problem Solving Process • The Problem Solving Process - Slides For the students • Problem Solving Process - Video (Download) • The Problem Solving Process - Activity Guide

Additional Resources	Alternate versions of this lesson are also available. • Animal Theme • Games Theme Getting Started with Code.org
	Lesson 3
NJSLS	8.1.8.AP.6: Refine a solution that meets users' needs by incorporating feedback from team members and users. 8.1.8.AP.8: Systematically test and refine programs using a range of test cases and users. 9.4.8.CT.1: Evaluate diverse solutions proposed by a variety of individuals, organizations, and/or agencies to a local or global problem, such as climate change, and use critical thinking skills to predict which one(s) are likely to be effective. 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option. 1.7 Global Collaborator: Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally. 1.5 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. 1.4 Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.
Learning Objective	• *Apply the problem-solving process to approach a variety of problems* • *Assess how well-defined a problem is and use strategies to define the problem more precisely*
Teacher/Student Materials	Exploring the Problem-Solving Process Lesson Plan For the teachers • Exploring Problem Solving - Slides For the students • Solving Problems - Activity Guide

Additional Resources	Getting Started with Code.org
	Lesson 4
NJSLS	8.1.8.CS.1: Recommend improvements to computing devices in order to improve the ways users interact with the devices. 8.1.8.CS.2: Design a system that combines hardware and software components to process data. 8.1.8.CS.3: Justify design decisions and explain potential system trade-offs. 9.4.8.CT.1: Evaluate diverse solutions proposed by a variety of individuals, organizations, and/or agencies to a local or global problem, such as climate change, and use critical thinking skills to predict which one(s) are likely to be effective. 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option. 1.1 Empowered Learner: Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences. 1.2 Digital Citizen: Students recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal and ethical.
Learning Objective	• *Choose problems that can be solved with computing and justify those choices.* • *Identify a computer as a machine that works with information* • *Reason about whether particular objects are or are not computers.*
Teacher/Student Materials	What is a Computer Lesson Plan For the teachers • What is a Computer - Slides For the students • What is a Computer - Video (Download) • What is a Computer (Version A) - Activity Guide • What is a Computer (Version B) - Activity Guide

Additional Resources	Getting Started with Code.org Need more? Extend this topic with CodeHS World of Computing Unit (5 weeks/25 hours) *Students dive into the history of computing, learn about the various parts that make up modern computers, and explore the impact computing has had on today's world.*

Marking Period 1	Critical Thinking & Problem Solving	Grade(s)	6 – 8
Unit Plan Title:	**Critical Thinking & Problem Solving** **6th Intro to Programming with Karel the Dog (Ace)** **7th CodeHS Computer Science Explorations 1** **8th CodeHS Computer Science Explorations 2**		

Unit Overview

6th - The CodeHS Introduction to Programming with Karel the Dog course teaches students the basics of programming by giving commands to a computer just like you give commands to a dog. Karel is a dog that lives in a grid world and can be instructed to move around and pick up and put down tennis balls. Students will learn JavaScript commands, functions, and control structures by solving puzzles and writing creative programs for Karel to follow.

7th - The Computer Science Explorations 1 course is an introductory course for early middle school students. It is great for students who are completely new to coding or for students who are continuing their coding journey. The modules in this course are stand-alone modules, and they can be taught in any order. The only exception is that students need to have completed Karel Adventures 1 before starting Karel Adventures 2.

CodeHS takes a modular approach to middle school curriculum, where each module contains about 10 hours of content and introduces students to a specific topic within the field of computer science. In this unit students will focus on Module 1 & 2.

8th - The Computer Science Explorations 2 course is an introductory course for upper middle school students. It is great for students who are completely new to coding or for students who are continuing their coding journey. The five modules in this course are stand-alone modules, and they can be taught in any order.

CodeHS takes a modular approach to middle school curriculum, where each module contains about 10 hours of content and introduces students to a specific topic within the field of computer science. In this unit students will focus on Module 1.

Essential Question(s)

- *How can we figure out which solutions work best for a problem and why some solutions work better than others?*
- *How can we make our step-by-step plans (algorithms) easy to understand, use again, and fix if something goes wrong?*
- *How can using things like variables, control structures, and procedures make our programs do more and be used again in different situations?*
- *How can we make sure our programs work well for all different types of people, and what ways can we test to make sure they really do?*

Enduring Understandings

- Multiple solutions often exist to solve a problem. An essential aspect of problem solving is being able to self-reflect on why possible solutions for solving problems were or were not successful.
- Individuals design algorithms that are reusable in many situations.
- Algorithms that are readable are easier to follow, test, and debug.
- Programmers create variables to store data values of different types and perform appropriate operations on their values.

- Individuals design and test solutions to identify problems taking into consideration the diverse needs of the users and the community.

Assessments	
Formative: Course activities Summative: Course Evaluations, Quizzes	
Lesson and Learning Goal/Pacing	
Lesson 1	**6th Gr – Unit 1 - Introduction to Programming -** 1.1 Introduction to Programming with Karel **7th Gr** - 1.1 Karel's Coding Environment **8th Gr -** 1.1 Introduction to Karel *All lessons are 2 days.
Lesson 2	**6th Gr -** 1.2 More Basic Karel **7th Gr** - 1.2 Karel Error Messages **8th Gr** - 1.2 Karel's World *All lessons are 2 days.
Lesson 3	**6th Gr** - 1.3 Karel Can't Turn Right **7th Gr** - 1.3 The Rabbit Chase **8th Gr** - 1.3 Functions *All lessons are 2 days.
Lesson 4	**6th Gr -** 1.4 What is a Computer? **7th Gr** - 1.4 Lost in Space **8th Gr** - 1.4 Multiple Functions *All lessons are 2 days.
Lesson 5	**6th Gr – Unit 2 – Functions -** 2.1 Functions in Karel **7th Gr** - 1.5 Karel Adventures 1: Evaluation **8th Gr** - 1.5 For Loops *All lessons are 2 days.

Lesson 6	**6th Gr** -2.2 More Practice with Functions **7th Gr - Module 2 Karel's Adventure 2 -** 1.1 Quest for the Rosetta Stone **8th Gr -** 1.6 Conditional Statements *All lessons are 2 days.
Lesson 7	**6th Gr -** 2.3 The Start Function **7th Gr** - 1.2 A Day at the Park **8th Gr** - 1.7 If/Else Statements *All lessons are 2 days.
Lesson 8	**6th Gr -** 2.4 Top Down Design and Decomposition in Karel **7th Gr** - 1.3 Karel Adventures 2: Evaluation **8th Gr** - 1.8 While Loops *All lessons are 2 days.
Lesson 9	**6th Gr – Unit 3 - Super Karel and For Loops -** 3.1 Commenting Your Code **7th Gr – Unit 1: Introduction to Generating Art with Code** - 1.1 Memes Memes Memes (2 day lesson) **8th Gr** - 1.9 Karel Challenges *All lessons are 2 days.
Lesson 10	**6th Gr -** 3.2 Super Karel (This course can be continued all the way through if needed If Statements, While Loops, Control Structures, Karel Challenges, Final Project**)** **7th Gr – Unit 1: Introduction to Generating Art with Code** - 1.1 Memes Memes Memes (Cont'd) **8th Gr** - 1.10 Exploring Code with Karel Quiz *All lessons are 2 days.
Additional Lessons	Google's CS First Hour of Code Lessons - Supplement Lessons for Hour of Code Code.org's Accelerated Intro to Computer Science - This 20-hour course covers the core computer science and programming concepts

	Code.org's Express Course - Students learn to create computer programs, develop problem-solving skills, and work through fun challenges!
	Lesson 1
NJSLS	6th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 9.4.8.CT.1: Use critical thinking to make informed decisions and solve problems. 9.4.8.CT.2: Understand and use the technological design process to solve problems. 1.1 Empowered Learner: 5.1 Computational Thinker: 7th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 9.4.8.CT.1: Use critical thinking to make informed decisions and solve problems. 9.4.8.CT.2: Understand and use the technological design process to solve problems. 1.1 Empowered Learner: 5.1 Computational Thinker: 8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 8.1.8.AP.8: Systematically test and refine programs using a range of test cases and users. 8.1.8.AP.9: Document programs in order to make them easier to follow, test, and debug. 9.4.8.CT.1: Use critical thinking to make informed decisions and solve problems. 9.4.8.CT.2: Understand and use the technological design process to solve problems. 1.1 Empowered Learner: Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals, informed by the learning sciences. 5.1 Computational Thinker: 5.3 Computational Thinker:
Learning Objective	6th 1.1 Introduction to Programming With Karel Objective: Students will be able to: • Introduce students to Karel and explain the commands she can be given.

	7th 1.1 Karel's Coding Environment Objective: Students will be able to: • Define syntax and why it is important in text coding • Use the Karel commands to write a simple Karel program 8th 1.1 Introduction to Karel Objective: Students will be able to: • Identify basic syntax used in JavaScript and Karel programs • Use basic commands to train or program Karel the dog • Debug basic code by identifying common syntax errors
Teacher/Student Materials	6th – Course Syllabus, Introduction to Programming 7th – Course Syllabus, Karel Adventures 1 8th – Course Syllabus, Exploring Code with Karel
Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account
	Lesson 2
NJSLS	6th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 9.4.8.CT.1: Use critical thinking to make informed decisions and solve problems. 9.4.8.CT.2: Understand and use the technological design process to solve problems. 1.1 Empowered Learner: Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals, informed by the learning sciences. 5.1 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. 7th 8.1.8.AP.8: Systematically test and refine programs using a range of test cases and users. 8.1.8.AP.9: Document programs in order to make them easier to follow, test, and debug.

	8.1.8.CS.4: Systematically apply troubleshooting strategies to identify and resolve hardware and software problems in computing systems. 9.4.8.CT.1: Use critical thinking to make informed decisions and solve problems. 9.4.8.CT.2: Understand and use the technological design process to solve problems. 5.1 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. 5.3 Computational Thinker: 8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 9.4.8.CT.1: Use critical thinking to make informed decisions and solve problems. 9.4.8.CT.2: Understand and use the technological design process to solve problems. 1.1 Empowered Learner: Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals, informed by the learning sciences. 5.1 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
Learning Objective	6th 1.2 More Basic Karel Objective: Students will be able to: • To introduce students to Karel's world and more of the commands that we can teach Karel 7th 1.2 Karel Error Messages Objective: Students will be able to: • Define what a bug is in programming • Describe the steps to debug a program • Use error messages to find and fix bugs in their programs 8th 1.2 Karel's World Objective: Students will be able to…

	• Identify the direction that Karel is facing • Predict what direction Karel will be facing after executing a series of commands • Create basic programs to solve situations or problems in Karel's world
Teacher Materials	6th – Course Syllabus, Introduction to Programming 7th – Course Syllabus, Karel Adventures 1 8th – Course Syllabus, Exploring Code with Karel
Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account
	Lesson 3
NJSLS	6th 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. 9.4.8.CT.1: Use critical thinking to make informed decisions and solve problems. 9.4.8.CT.2: Understand and use the technological design process to solve problems. 1.1 Empowered Learner: 5.1 Computational Thinker: 7th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.8: Systematically test and refine programs using a range of test cases and users. 8.1.8.CS.4: Systematically apply troubleshooting strategies to identify and resolve hardware and software problems in computing systems. 9.4.8.CT.1: Evaluate diverse solutions proposed by a variety of individuals, organizations, and/or agencies to a local or global problem, such as climate change, and use critical thinking skills to predict which one(s) are likely to be effective. 9.4.8.TL.1: Construct a spreadsheet in order to analyze multiple data sets, identify relationships, and facilitate data-based decision-making. 1.1 Empowered Learner: 1.5 Computational Thinker: 8th 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 9.4.8.TL.3: Select appropriate tools to organize and present information digitally.

	9.4.8.TL.1: Construct a spreadsheet in order to analyze multiple data sets, identify relationships, and facilitate data-based decision-making. 1.5 Computational Thinker: 1.1 Empowered Learner: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.
Learning Objective	6th 1.3 Karel Can't Turn Right Objective: Students will be able to: • Use Karel and commands to introduce students to functions. 7th 1.3 The Rabbit Chase Objective: Students will be able to: • Write a sequence of commands to accomplish a specified task • Use Karel commands using the proper syntax • Use debugging strategies to find and fix errors in their programs 8th 1.3 Functions Objective: Students will be able to: • Define a function, and successfully implement functions in their code. • Create functions to teach Karel new commands
Teacher/Student Materials	6th – Course Syllabus, Introduction to Programming 7th – Course Syllabus, Karel Adventures 1 8th – Course Syllabus, Exploring Code with Karel
Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account
	Lesson 4
NJSLS	6th 8.1.8.IC.1: Compare the trade-offs associated with computing technologies that affect individuals' everyday activities and career options. 8.1.8.IC.2: Describe issues of bias and accessibility in the design of existing technologies. 9.4.8.CI.4: Explore the role of creativity and innovation in career pathways and industries. 9.4.8.TL.4: Synthesize and publish information about a local or global issue or event. 1.1 Empowered Learner: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot

	current technologies and are able to transfer their knowledge to explore emerging technologies. 1.7 Global Collaborator: Students use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning. 7th 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. 8.1.8.AP.6: Refine a solution that meets users' needs by incorporating feedback from team members and users. 9.4.8.CT.1: Evaluate diverse solutions proposed by a variety of individuals, organizations, and/or agencies to a local or global problem, such as climate change, and use critical thinking skills to predict which one(s) are likely to be effective. 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 1.5 Computational Thinker: Students formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions. Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions. 1.1 Empowered Learner: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 8th 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. 8.1.8.AP.8: Systematically test and refine programs using a range of test cases and users. 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option. 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 1.5 Computational Thinker: Students formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions. Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions. 1.1 Empowered Learner: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 1.6 Creative Communicator: Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.
Learning Objective	6th 1.4 What is a Computer? Objective: Students will be able to: • Discuss the question "What is a Computer?" with their peers

	• Identify important historical events in the development of modern computers • Describe the role computers play in their lives 7th 1.4 Lost in Space Objective: Students will be able to: • Use if statements to run code if a specific condition is true • Use if/else statements to run code if a specific condition is either true or false • Use a while loop in their program to repeat code as long as a condition is true • Create programs that use multiple control structures • Decide which control structures to use to solve a complex problem 8th 1.4 Multiple Functions Objective: Students will be able to: • Explain the difference between defining and calling a function • Utilize functions to write higher level Karel programs • Break a large problem down into smaller, simpler problems • Create clear and readable comments in their code that help the reader understand the code
Teacher/Student Materials	6th – Course Syllabus, Introduction to Programming 7th – Course Syllabus, Karel Adventures 1 8th – Course Syllabus, Exploring Code with Karel
Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account
	Lesson 5
NJSLS	6th 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 1.5 Computational Thinker: Students formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions. Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions. 1.1 Empowered Learner: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 7th 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse.

	9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option. 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 1.5 Computational Thinker: Students formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions. Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions. 1.1 Empowered Learner: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 8th 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option. 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 1.5 Computational Thinker: Students formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions. Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions. 1.1 Empowered Learner: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.
Learning Objective	6th 2.1 Functions in Karel Objective: Students will be able to: • Understand what functions are for and how using them improves programs. 7th 1.5 Karel Adventures 1: Evaluation Objective: Students will be able to: • Use if statements and while loops correctly in a program • Use a sequence of commands to complete a specific task • Determine when to use a specific control structure (if statement or while loop 8th 1.5 For Loops Objective: Students will be able to: • Create for loops to repeat code a fixed number of times • Explain when a for loop should be a used

	• Utilize for loops to write programs that would be difficult / impossible without loops
Teacher/Student Materials	6th – Course Syllabus, Functions 7th – Course Syllabus, Karel Adventures 1 8th – Course Syllabus, Exploring Code with Karel
Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account
	Lesson 6
NJSLS	6th 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. 8.1.8.AP.8: Systematically test and refine programs using a range of test cases and users. 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 1.5 Computational Thinker: Students formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions. Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions. 1.1 Empowered Learner: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 7th 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option. 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 1.5 Computational Thinker: Students formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions. Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.

	1.1 Empowered Learner: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 8th 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option. 1.5 Computational Thinker: Students formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions. Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.
Learning Objective	6th 2.2 More Practice with Functions Objective: Students will be able to: • Create their own functions • Utilize functions to create higher order programs that go beyond the basic toolbox of Karel commands • Debug programs that use functions incorrectly 7th **Module 2 -** Course Syllabus Karel Adventures 2 - *Students build on their learning from Karel Adventures 1 to learn about functions and program planning as they follow Karel the Dog on two fun-filled adventures.* 1.1 Quest for the Rosetta Stone Objective: Students will be able to: • Use if/else and if/else if/else statements to run code if a specific condition is either true or false • Use a nested if statement to check if multiple conditions are true • Use a while loop to repeat code as long as a condition is true • Use a for loop to repeat code a specific number of times • Create programs that use multiple control structures • Decide which control structures to use to solve a complex problem 8th 1.6 Conditional Statements Objective: Students will be able to: • Use conditions to gather information about Karel's world (is the front clear, is Karel facing north, etc) • Create if statements that only execute code if a certain condition is true
Teacher/Student Materials	6th – Course Syllabus, Functions 7th - Course Syllabus, Karel Adventures 2 8th – Course Syllabus, Exploring Code with Karel

Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account
	Lesson 7
NJSLS	6th 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. 8.1.8.AP.8: Systematically test and refine programs using a range of test cases and users. 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 1.5 Computational Thinker: 1.1 Empowered Learner: 7th 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. 8.1.8.AP.8: Systematically test and refine programs using a range of test cases and users. 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option. 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 1.5 Computational Thinker: 1.1 Empowered Learner: 8th 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option. 1.5 Computational Thinker:
Learning Objective	6th 2.3 The Start Function Objective: Students will be able to: • Students gain a deeper understanding of functions. • Students can explain the importance of writing readable code, and can analyze and compare the readability of different programs. • Students can use the start function to make their programs more readable. 7th 1.2 A Day at the Park Objective: Students will be able to: • Use program control statements to write efficient programs • Define and call functions • Utilize top-down decomposition to break problems into smaller, more manageable parts • Write programs that are clear and easy to follow • Use custom colors to create a scene in Karel 8th

	1.7 If/Else Statements Objective: Students will be able to: • Explain the purpose of an If/Else statement • Create If/Else statements to solve new types of problems • Identify when it is appropriate to use an If/Else statement
Teacher/Student Materials	6th – Course Syllabus, Functions 7th - Course Syllabus, Karel Adventures 2 8th – Course Syllabus, Exploring Code with Karel
Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account
	Lesson 8
NJSLS	6th 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option. 1.5 Computational Thinker: 7th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. 8.1.8.AP.8: Systematically test and refine programs using a range of test cases and users.

	8.1.8.AP.9: Document programs in order to make them easier to follow, test, and debug. 1.5 Computational Thinker: 8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 8.1.8.AP.8: Systematically test and refine programs using a range of test cases and users.
Learning Objective	6th 2.4 Top Down Design and Decomposition in Karel Objective: Students will be able to: • Break a large problem down into smaller pieces • Write methods to solve each smaller problem • Solve a complicated problem using Top-Down Design • Identify good and poor decomposition 7th 1.3 Karel Adventures 2: Evaluation Objective: Students will be able to: • Prove their knowledge of basic coding concepts with Karel through a short activity and multiple-choice quiz 8th 1.8 While Loops Objective: Students will be able to: • Explain the purpose of a while loop • Create while loops to repeat code while a condition is true • Utilize while loops to solve new types of problems • Test their solutions on different Karel worlds
Teacher/Student Materials	6th – Course Syllabus, Functions 7th - Course Syllabus, Karel Adventures 2 8th – Course Syllabus, Exploring Code with Karel
Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account

	Lesson 9
NJSLS	6th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. 8.1.8.AP.9: Document programs in order to make them easier to follow, test, and debug. 1.5 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. 1.6 Creative Communicator Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals. 7th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. 1.5 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. 1.6 Creative Communicator Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals. 1.4 Innovative DesignerStudents use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions. 8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. 8.1.8.AP.9: Document programs in order to make them easier to follow, test, and debug. 1.4 Innovative Designer Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions. 1.5 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
Learning Objective	6th 3.1 Commenting Your Code Objective: Students will be able to: • Explain the preconditions and postconditions of a function

	• Create clear and readable comments in their code that help the reader understand the code • Explain the purpose of comments 7th 1.1 Memes Memes Memes Objective: Students will be able to: • Use JavaScript block coding to create their own meme using images and changing parameters. 8th 1.9 Karel Challenges Objective: Students will be able to: • Define a problem in their own words and plan out a solution to the problem • Break a large problem down into smaller pieces and solve each of the pieces, then use these solutions as building blocks to solve the larger problem • Utilize the proper control structures to create general solutions that solve multiple Karel worlds • Write clear and readable code using control structures, functions, decomposition, and comments
Teacher/Student Materials	6th – Course Syllabus, Super Karel and For Loops 7th - Course Syllabus, 1.1 Memes Memes Memes 8th – Course Syllabus, Exploring Code with Karel
Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account
	Lesson 10
NJSLS	6th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. 8.1.8.AP.7: Design programs, incorporating existing code, media, and libraries, and give attribution. 1.4 Innovative Designer Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions. 1.5 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. 7th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode.

	8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. 1.4 Innovative Designer Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions. 1.6 Creative Communicator Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.
Learning Objective	6th 3.2 Super Karel Objective: Students will be able to: • Write programs that use SuperKarel instead of Karel • Utilize the new toolbox of commands that SuperKarel provides over Karel • Read documentation to understand how to use a library (SuperKarel is an example of this) 7th 1.1 Memes Memes Memes Objective: Students will be able to: • Use JavaScript block coding to create their own meme using images and changing parameters. 8th 1.10 Exploring Code with Karel Quiz Objective: Students will be able to: • Prove their knowledge of basic coding concepts with Karel through a multiple-choice quiz
Teacher/Student Materials	6th – Course Syllabus, Sper Karel and For Loops 7th - Course Syllabus, 1.1 Memes Memes Memes 8th – Course Syllabus, Exploring Code with Karel
Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account

Marking Period 1	Creativity & Innovation	Grade(s)	6 - 8
Unit Plan Title:	**Creativity & Innovation**		

Unit Overview

6-7

In this unit, students will explore Ozoblockly, a block-based coding language for Ozobot robots. Through hands-on activities and challenges, they will develop programming concepts like sequencing, loops, and conditional statements, allowing Ozobot to perform repetitive tasks and make decisions based on conditions. Students will also learn about variables, sensors, and output mechanisms to create dynamic and interactive coding experiences. By the end of the unit, they will gain essential computational thinking and problem-solving skills, igniting a passion for computer science and technology while fostering teamwork and creativity.

8th

In Google's CS First curriculum, students will explore the world of computer science, engaging in fundamental programming concepts such as sequencing, loops, conditionals, and events. Through interactive and creative projects, they will learn how to design and develop animated stories, interactive games, music and sound compositions, and captivating animations using Scratch programming platform. The curriculum will also emphasize responsible digital citizenship and ethical considerations while fostering collaborative problem-solving skills and a deeper understanding of the potential of technology to inspire creativity and innovation.

Essential Question(s)

6th

How can we use Ozoblockly to code Ozobot robots and solve real-world challenges with creative thinking?
What are the key coding concepts like sequencing, loops, and conditionals that control Ozobots' actions?
How do we use problem-solving to make Ozobot programs work just the way we want?
In what fun and interesting ways can Ozobots teach us about science, math, and engineering?

7-8th

How can we use coding creatively and solve real-world problems?
What coding concepts will we use in Scratch to create interactive projects?
How can problem-solving skills enhance our ability to design and develop animated stories?
In what fun and exciting ways can we apply computer science to express our creativity and explore new ideas?

Enduring Understandings

Coding unlocks creative problem-solving abilities that can be used to enrich the design and development of animated stories
Understanding coding concepts, like sequencing, loops, and conditionals, allows one to create innovative and interactive projects.
Computer science is a medium to express creativity and explore new ideas while inspiring a lifelong passion for innovative thinking and creative applications.

Assessments

Formative: In-class coding exercises, Peer code reviews, Quizzes and short assessments, Observation and feedback
Summative: Project presentations, Unit assessments, Coding portfolio, Reflective essays

Lesson and Learning Goal/Pacing	
Lesson 1	6-7th - Introduction to Ozobot Blockly 01:Basic Training 8th - Welcome to CS First Welcome to CS First is a short unit designed to introduce your students to the basics of programming with Scratch for CS First in four different lessons. After completing this unit, students will have seen all the essential elements of the Scratch programming environment necessary to be successful with future CS First lessons or other Scratch curriculum. ***Lesson 1:*** Take a Walk - Help a character go for a relaxing stroll using code. (Sequencing) ***(If students are familiar with Scratch and the fundamentals of coding Sequencing, Events, Loops, & Conditionals Move on to Lesson 10 MultiDay Units or Continue to Lesson 5 for Single lessons)*** *All lessons are 2 days.
Lesson 2	6-7th - Introduction to Ozobot Blockly 02: Sequences 8th - Interactive Scene - Build an interactive scene with characters that respond to events. (Events) *All lessons are 2 days.
Lesson 3	6-7th - Introduction to Ozobot Blockly 03: Loops 8th - Animated Card - Code a fun card with animations that you can send to your friends and family. (Loops) *All lessons are 2 days.
Lesson 4	6-7th - Introduction to Ozobot Blockly 04: Conditionals 8th - Meet the Neighbors - Say "hello" to all the neighbors while giving a tour of the neighborhood. (Conditionals) *All lessons are 2 days.
Lesson 5	6-7th - Introduction to Ozobot Blockly 05: Skills Check 1 8th - Characterization *All lessons are 2 days.
Lesson 6	6-7th - Introduction to Ozobot Blockly 06: Line Navigation

	8th - Interactive Presentation *All lessons are 2 days.
Lesson 7	6-7th - Introduction to Ozobot Blockly 07: Debugging 8th - Dialogue *All lessons are 2 days.
Lesson 8	6-7th - Introduction to Ozobot Blockly 08: Skills Check 2 7-8th - Narration *All lessons are 2 days.
Lesson 9	6-7th - The Ozobot Classroom Lesson Library 8th - Figurative Language *All lessons are 2 days.
	Lesson 1
NJSLS	6-7th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. 8.1.8.AP.8: Systematically test and refine programs using a range of test cases and users. 1.4 Innovative Designer Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions. 1.5 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. 8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals.

	8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 1.4 Innovative Designer Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions. 1.5 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
Learning Objective	6-7th - Introduction to Ozobot Blockly 01:Basic Training • Build programs in Ozobot Blockly using blocks from the categories: Loops, Sounds, Timing, Movement, and Light Effects. • Run their block-based code on any Bluetooth®-enabled Ozobot (e.g. Evo). • Navigate through and select a level in Ozobot Blockly. • Use the delete, duplicate, undo, and redo icons in Ozobot Blockly. 8th - Welcome to CS First Take a Walk • Connect and rearrange blocks of code • Place instructions in a logical sequence
Teacher Materials	6-7th - Introduction to Ozobot Blockly 01:Basic Training 8th - Welcome to CS First Lesson Plan, Take a Walk Activity Guide
Additional Resources	6-7th - Ozobot Teacher Basic Training, Ozoblockly, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library 8th - CS First Getting Started Guide, Scratch Vocabulary slides
	Lesson 2
NJSLS	6-8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals.

	8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 1.4 Innovative Designer Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions. 1.5 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
Learning Objective	6-7th - Introduction to Ozobot Blockly 02: Sequences • Define a sequence as it applies to computer science. • Organize code blocks into a sequence. • Recognize the sequence in the behavior of the bot. • Create their own sequence of code to solve a challenge. 8th - Interactive Scene • Build an interactive scene with characters that respond to events. • Organize code across multiple sprites.
Teacher Materials	6-7th - Introduction to Ozobot Blockly 02: Sequences 8th - Welcome to CS First Lesson Plan , Interactive Scene Activity Guide
Additional Resources	6-7th - Ozobot Teacher Basic Training, Ozoblockly, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library 8th - CS First Getting Started Guide, Scratch Vocabulary slides, ezgif -Split Gif images,
	Lesson 3
NJSLS	6-8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 1.5 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
Learning Objective	6-7th - Introduction to Ozobot Blockly 03: Loops • Define a loop as it applies to computer science.

	• Build a block-based code using loops to program their bot to complete specific actions. • Explain how a loop block changes a sequence of code. 7–8th - Animated Card • Use Loops to code a fun card with animations that you can send to your friends and family. Use loops to repeat code. • Change the way a sprite looks with code
Teacher Materials	6-7th - Introduction to Ozobot Blockly 03: Loops 8th - Welcome to CS First Lesson Plan , Animated Card Activity Guide,
Additional Resources	6-7th - Ozobot Teacher Basic Training, Ozoblockly, Ozobot Pacing Guides The Ozobot Classroom Lesson Library 8th - CS First Getting Started Guide, Scratch Vocabulary slides, ezgif -Split Gif images,
	Lesson 4
NJSLS	6-8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 1.5 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
Learning Objective	6-7th - Introduction to Ozobot Blockly 04: Conditionals • Define a conditional as it applies to computer science. • Build a block-based code using conditionals to program their bot to respond differently to motion inputs. • Demonstrate conditionals in action with their bot. 8th - Meet the Neighbors • Say "hello" to all the neighbors while giving a tour of the neighborhood.

	• Use conditionals to make sprites react to each other. • Nest conditionals inside loops.
Teacher Materials	6th - Introduction to Ozobot Blockly 04: Conditionals, Ozoblockly, 7- 8th - Welcome to CS First Lesson Plan, Meet the Neighbors Activity Guide
Additional Resources	6-7th - Ozobot Teacher Basic Training, Ozobot Pacing Guides The Ozobot Classroom Lesson Library 8th CS First Getting Started Guide, Scratch Vocabulary slides
	Lesson 5
NJSLS	6-8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 1.4 Innovative Designer Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions. 1.5 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. 1.6 Creative Communicator Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.
Learning Objective	6-7th - Introduction to Ozobot Blockly 05: Skills Check 1 • Create a maze with obstacles for their bot to complete by following a set sequence. • Program their bot with OzoBlockly to successfully get through the maze using sequences, loops, and conditionals. • Identify the different sequences, loops, and conditionals in their maze and in their program. 8th - Characterization • Use event blocks (like “when flag clicked”) to trigger a series of code. • Sequence at least 3 “say” blocks to start their story (by selecting a character).

	• Use motion blocks (like “glide to X Y“) to personalize their story. • Use wait blocks to construct a dialogue between two sprites.
Teacher Materials	6th- Introduction to Ozobot Blockly 05: Skills Check 1, Ozoblockly, 7- 8th – Welcome to CS First Lesson Plan , Characterization
Additional Resources	6-7th - Ozobot Teacher Basic Training, Ozobot Pacing Guides The Ozobot Classroom Lesson Library 8th – CS First Getting Started Guide, Scratch Vocabulary slides,
	Lesson 6
NJSLS	6-8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 1.4 Innovative Designer Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions. 1.5 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. 1.6 Creative Communicator Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.
Learning Objective	6-7th - Introduction to Ozobot Blockly 06: Line Navigation • Construct a program using the blocks in the Line Navigation category. • Identify the requirements and limitations of the blocks in the Line Navigation category. 8th - Interactive Presentation • Create an interactive presentation in Scratch for CS First that includes text, images, and animation. Use event blocks (like “when this sprite clicked”) to trigger a series of code. • Sequence at least 3 “say” blocks to introduce their topic (by selecting a narrator sprite).

Teacher Materials	6-7th - Introduction to Ozobot Blockly 06: Line Navigation, Ozoblockly 8th – Welcome to CS First Lesson Plan, Interactive Presentation Lesson Plan
Additional Resources	6-7th - Ozobot Teacher Basic Training, Ozobot Pacing Guides The Ozobot Classroom Lesson Library 8th – CS First Getting Started Guide, Scratch Vocabulary slides, CS First Shot Out Poster, Stickers, Printing Instructions, Certificates, Contingency Plan
	Lesson 7
NJSLS	6-8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 1.4 Innovative Designer Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions. 1.5 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. 1.6 Creative Communicator Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.
Learning Objective	6-7th -Introduction to Ozobot Blockly 07: Debugging • Define debugging and explain why it is important. • Examine a block-based code and the behavior of their bot to find a bug in a program. • Edit a block-based code and test the program to fix the bug. 8th - Dialogue • Use looks blocks (like “say”) and wait blocks to construct a dialogue between two characters (sprites). • Use sound blocks (like “play sound until done”) to trigger a series of code. Add events blocks (like “broadcast”) to sequence the story. Use looks blocks (like “switch costume to“ and “switch backdrop to”) to personalize their story.
Teacher Materials	6th- -Introduction to Ozobot Blockly 07: Debugging, Ozoblockly 8th – Welcome to CS First Lesson Plan, Dialogue

Additional Resources	6-7th - Ozobot Teacher Basic Training, Ozobot Pacing Guides The Ozobot Classroom Lesson Library 8th – CS First Getting Started Guide, Scratch Vocabulary slides, CS First Shot Out Poster, Stickers, Printing Instructions, Certificates, Contingency Plan
	Lesson 8
NJSLS	6-8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 1.4 Innovative Designer Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions. 1.5 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. 1.6 Creative Communicator Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.
Learning Objective	6-7th -Introduction to Ozobot Blockly 08: Skills Check 2 • Use lines and colors to create a pathway with the sequential steps in their bot wash. • Program their bot to demonstrate different actions and effects when responding to colors and intersections at each step in the bot wash. • Identify the different sequences, loops, and conditionals on their pathway and in their program. 8th - Narration • Sequence “say” blocks to tell a story in the first-person or third person. • Use event blocks (like “when flag clicked”) to trigger a series of code. • Use wait blocks to construct a dialogue between two sprites or think blocks to describe a new sprite. • Use motion blocks (like “glide to X Y“), sound effects, and animation to personalize their story.

Teacher Materials	6-7th - -Introduction to Ozobot Blockly 08: Skills Check 2 7th - 8th – Welcome to CS First Lesson Plan, Narration
Additional Resources	6-7th - Ozobot Teacher Basic Training, Ozobot Pacing Guides The Ozobot Classroom Lesson Library 8th – CS First Getting Started Guide, Scratch Vocabulary slides, CS First Shot Out Poster, Stickers, Printing Instructions, Certificates, Contingency Plan
	Lesson 9
NJSLS	6-8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 1.4 Innovative Designer Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions. 1.5 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. 1.6 Creative Communicator Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.
Learning Objective	6-7th - The Ozobot Classroom Lesson Library *Select a lesson appropriate for student/teacher skill level - Objective may vary* 8th - Figurative Language • Add figurative language using "say" blocks to show the literal and figurative meaning of the text. • Use motion blocks (like "glide to X Y"), to move their character around the stage and "show" what their figurative language seems to mean versus what it really means. • Add new object sprites and backdrops to help "show" the meaning of a snippet of figurative language. • Use event blocks (like "broadcast") to trigger a series of code.
Teacher Materials	6-7th - The Ozobot Classroom Lesson Library

	8th – Welcome to CS First Lesson Plan, Figurative Language
Additional Resources	6-7th - Ozobot Teacher Basic Training, Ozobot Pacing Guides The Ozobot Classroom Lesson Library 8th – CS First Getting Started Guide, Scratch Vocabulary slides, CS First Shot Out Poster, Stickers, Printing Instructions, Certificates, Contingency Plan

Marking Period 1	Information and Media Literacy	Grade(s)	6 - 8
Unit Plan Title:	**Information and Media Literacy**		

Unit Overview

6-8th Google's Applied Digital Skills Curriculum

In this unit, students will dive into Google's Applied Digital Skills, where they will gain essential digital literacy and technology skills to confidently navigate the digital world. The curriculum covers a wide array of topics, including online safety, responsible digital citizenship, productivity tools, collaborative work, and effective communication. Through interactive projects, students will develop problem-solving abilities and become responsible digital citizens, equipped with the skills needed to succeed in the digital era and beyond.

Note: *Various lessons can be used to cover learning standards from this strand. Options are provided as a guide, however, choose lessons from the curriculum that are appropriate for student skill/interests. Lesson 4 provides multi-unit lessons that are project based and will take students multiple class sessions to complete.*

Essential Question(s)

6-8th

How can digital tools help us analyze and make data-based decisions?
How can we use digital tools to communicate real-world problems effectively?
What digital tools and productivity techniques can we use to manage tasks, stay organized, and work collaboratively with others effectively?
How can we utilize technology to communicate clearly and professionally through email and online collaboration platforms?
What are the benefits of data analysis and visualization, and how can we present information effectively using digital tools and spreadsheets?
How can we leverage AI-powered digital tools and strategies while exploring the digital world?

Enduring Understandings

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.

Digital tools allow for remote collaboration and rapid sharing of ideas unrestricted by geographic location or time.

Assessments

Formative Assessment: Digital Tool Exploration, In-class Activities and Discussions, Project Milestones
Summative Assessment: Digital Literacy Portfolio, Project Presentations, Reflection and Self-Assessment

Digitial Assessment Tools: , Nearpod, Peardeck, Edpuzzle, Kahoot, Quizziz, Blooket

Lesson and Learning Goal/Pacing	
Lesson 1	6th Gr - Exploring Digital Tools for Information Management 7th Gr - Exploring Digital Tools for Content Creation and Collaboration

	8th Gr – Exploring Digital Tools for Data Analysis and Data Visualization *All lessons are 2 days.
Lesson 2	**6th Gr** - Creating Texts and Visualizations with Digital Tools 7th Gr - Digital Storytelling and Multimedia Presentations 8th Gr - Multimedia Content Creation and Presentation *All lessons are 2 days.
Lesson 3	**6th Gr** - Introduction to Digital Models and Simulations **7th Gr** - Introduction to Coding and Computational Thinking **8th Gr** - Advanced Coding and Programming Concepts *All lessons are 2 days.
Lesson 4	**6th Gr** - Remote Collaboration and Idea Sharing with Digital Tools **7th Gr** - Remote Collaboration and Online Communication **8th Gr** - Technology Integration and Project-Based Learning *All lessons are 2 days.
	Lesson 1
NJSLS	8.1.6.A.1 - Use digital tools to gather, organize, and present information. 9.4.8.TL.1: Construct a spreadsheet in order to analyze multiple data sets, identify relationships, and facilitate data-based decision-making. 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). 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 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).
Learning Objective	**6th Gr - <u>Exploring Digital Tools for Information Management</u>** Students will identify different digital tools for gathering information (e.g., search engines, online databases). Students will practice organizing information using digital tools (e.g., spreadsheets, mind mapping tools). Students will create a presentation using appropriate digital tools to communicate their findings. **7th Gr - <u>Exploring Digital Tools for Content Creation and Collaboration</u>**

	Students will explore various digital tools for conducting research and gathering information (e.g., search engines, databases). Students will practice organizing and analyzing information using digital tools such as spreadsheets and mind mapping software. Students will evaluate the reliability and credibility of digital sources for their research. **8th Gr - Data Analysis and Data Visualization** Students will explore advanced digital tools for data analysis (e.g., spreadsheet software, data visualization platforms). Students will practice analyzing complex datasets and drawing meaningful insights from them. Students will create visually appealing data visualizations to communicate their findings effectively.
Teacher/Student Materials	**6th Gr – Google's Applied Digital Skills Lessons:** Create a Guide to an Area. Research and Develop a Topic, Explore a Topic: Equal Access to Technology, **7th Gr - Google's Applied Digital Skills Lessons:** Research and Develop a Topic, Explore a Topic: Equal Access to Technology, Organize Group Projects in Google Sheets, Understanding and Evaluating Online Searches **8th Gr - Google's Applied Digital Skills Lessons:** Try a Career in Digital Marketing & E-commerce, Understand Your Digital Footprint
Additional Resources	Google's Applied Digital Skills Curriculum Mind Mapping Tools: Coggle, Mind Meister, Mural Digital Tools: Google Sheets, Google Docs, Google Slides, Google Drawings Canva, Adobe Express Collaborative Tools: Nearpod, Padlet, Peardeck, Jamboard, Canva Whiteboard, Whiteboard Team Research Databases: Brittanica, Google Scholar, JSTOR, EBSCO
	Lesson 2
NJSLS	8.1.6.A.1 - Use digital tools to gather, organize, and present information.

	9.4.8.TL.1: Construct a spreadsheet in order to analyze multiple data sets, identify relationships, and facilitate data-based decision-making. 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). 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 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).
Learning Objective	**6th Gr** - Creating Texts and Visualizations with Digital Tools Students will explore different digital tools for creating text (e.g., word processors, collaborative writing platforms). Students will use digital tools to create visualizations (e.g., infographics, charts) to represent data and information effectively. Students will understand how to combine text and visuals to convey information clearly. **7th Gr** - Digital Storytelling and Multimedia Presentations Students will explore digital tools for creating engaging written content and incorporating multimedia elements (e.g., images, videos) into their presentations. Students will practice using storytelling techniques to effectively communicate their ideas in a multimedia format. Students will create a digital storytelling project that combines text and multimedia elements. **8th Gr** - Multimedia Content Creation and Presentation Students will explore advanced multimedia content creation tools (e.g., video editing software, graphic design tools). Students will create multimedia presentations that combine text, visuals, and multimedia elements (e.g., videos, animations). Students will develop effective presentation skills and strategies for engaging an audience.
Teacher/Student Materials	**6th Gr** – Google's Applied Digital Skills: Create a Photo Journal in Google Docs, Write an If-Then Adventure Story, Build a Logo to Express Who You Are, Show Appreciation with Google Slides, Make a Promotional Flyer **7th Gr** - Google's Applied Digital Skills Lessons: Create a Photo Journal in Google Docs, Write an If-Then Adventure Story, Build a Logo to Express Who You Are, Show Appreciation with Google Slides, Make a Promotional Flyer Write a story using Emojis, **8th Gr** - Google's Applied Digital Skills Lessons: Create a Photo Journal in Google Docs, Write an If-Then Adventure Story, Build a Logo to Express Who You Are, Show Appreciation with Google Slides, Make a Promotional Flyer Write a story using Emojis,

Additional Resources	Google's Applied Digital Skills Curriculum Mind Mapping Tools: Coggle, Mind Meister, Mural Digital Tools: Google Sheets, Google Docs, Google Slides, Google Drawings Canva, Adobe Express Collaborative Tools: Nearpod, Padlet, Peardeck, Jamboard, Canva Whiteboard, Whiteboard Team
	Lesson 3
NJSLS	8.1.6.A.1 - Use digital tools to gather, organize, and present information. 9.4.8.TL.1: Construct a spreadsheet in order to analyze multiple data sets, identify relationships, and facilitate data-based decision-making. 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). 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 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).
Learning Objective	**6th Gr** - **Introduction to Digital Models and Simulations** Students will understand the concept of digital models and simulations. Students will explore digital tools for creating simple models and simulations. Students will create a basic digital model or simulation related to a real-life scenario. **7th Gr** - **Introduction to Coding and Computational Thinking** Students will understand the basics of coding and computational thinking. Students will explore coding platforms and tools suitable for their skill level. Students will apply computational thinking strategies to solve problems and create simple programs. **8th Gr** - **Advanced Coding and Programming Concepts** Students will learn advanced programming concepts (e.g., loops, conditionals, functions). Students will explore advanced coding languages or development environments (e.g., Python, JavaScript). Students will apply advanced coding concepts to solve complex problems and create more sophisticated programs.

Teacher/Student Materials	6th - Discover AI in Daily Life, Introduction to Machine Learning 7th - Program a Progress Bar, Create a Guide to an Area 8th - Code a Joke-Telling Talkbot, Create an Editing Tool with Programming,
Additional Resources	Google's Applied Digital Skills Curriculum Mind Mapping Tools: Coggle, Mind Meister, Mural Digital Tools: Google Sheets, Google Docs, Google Slides, Google Drawings Canva, Adobe Express Collaborative Tools: Nearpod, Padlet, Peardeck, Jamboard, Canva Whiteboard, Whiteboard Team
	Lesson 4
NJSLS	8.1.6.A.1 - Use digital tools to gather, organize, and present information. 9.4.8.TL.1: Construct a spreadsheet in order to analyze multiple data sets, identify relationships, and facilitate data-based decision-making. 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). 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 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).
Learning Objective	**6th Gr** - **Remote Collaboration and Idea Sharing with Digital Tools** Students will explore digital tools that enable remote collaboration (e.g., video conferencing, project management tools). Students will engage in a collaborative project using digital tools to work with peers in real-time. Students will experience the benefits of rapid idea sharing and feedback through digital collaboration. **7th Gr** - **Remote Collaboration and Online Communication** Students will explore digital tools that facilitate collaboration and communication (e.g., video conferencing, collaborative platforms). Students will engage in a

	collaborative project using digital tools to work with peers in real-time. Students will practice effective online communication and collaboration skills. **8th Gr - Technology Integration and Project-Based Learning** Students will explore project-based learning and how technology can enhance project outcomes. Students will plan and execute a technology-integrated project that incorporates various digital tools. Students will reflect on their project experience and the impact of technology integration on their learning process.
Teacher/Student Materials	6th - Google's Applied Digital Skills: Organize Group Projects in Google Sheets, Organize a Club with Google Sheets, Create a Collaborative Study Guide Welcome New Students with a Presentation, Create a Guessing Game 7th - Google's Applied Digital Skills: Organize Group Projects in Google Sheets, Organize a Club with Google Sheets, Create a Collaborative Study Guide Welcome New Students with a Presentation, Avoid Online Scams, 8th - Google's Applied Digital Skills: Introduction to Machine Learning, Write an If-Then Adventure Story, Create a Guide to an Area, Research and Develop a Topic, Plan and Promote an Event, Build Healthy Digital Habits, Create an Editing Tool with Programming, Explore a Topic: Celebrate Black History
Additional Resources	Google's Applied Digital Skills Curriculum Mind Mapping Tools: Coggle, Mind Meister, Mural Digital Tools: Google Sheets, Google Docs, Google Slides, Google Drawings Canva, Adobe Express Collaborative Tools: Nearpod, Padlet, Peardeck, Jamboard, Canva Whiteboard, Whiteboard Team

Marking Period 2	Digital Citizenship	Grade(s)	6 – 8
Unit Plan Title:	**Digital Citizenship**		

Unit Overview

6th

In this unit, students will explore various aspects of digital citizenship and online safety. They will learn about protecting themselves from online threats, identifying credible information on the internet, understanding ethical roles as content creators and consumers, and practicing responsible online behavior while addressing cyberbullying effectively.

7th

In this unit, students will focus on data privacy and responsible digital engagement. They will explore data collection by companies, understand rights related to fair use, learn about promoting good digital citizenship, and examine the impact of social media on behavior.

8th

In this unit, 8th-grade students will enhance their digital literacy skills. They will learn about safeguarding online privacy, critically reacting to breaking news, promoting ethical online media/content sharing, and designing community-focused challenges with a balanced understanding of their pros and cons.

Essential Question(s)

6th

How can you protect yourself from phishing?
How can I find credible information on the internet?
How can I identify and understand my roles as ethical creators and consumers online.
How can students practice responsible online use and combat cyberbullying effectively?

7th

How do companies collect and use data about you?
What rights to fair use do you have as a creator?
How can I promote good digital citizenship by accessing and creating online media/content legally and ethically?
How do social media platforms affect my behavior?

8th

How can you protect your privacy when you're online?
How should I react to breaking news?
How can I promote good digital citizenship through legal and ethical online media/content sharing?
How can I design a community focused TikTok Challenge while understanding its pros and cons?

Enduring Understandings

Essential digital literacy skills are necessary to protect from phishing, finding credible online information, understanding ethical roles as creators and consumers, and combating cyberbullying responsibly, fostering positive digital citizenship, safety, and integrity online.

Exploring data collection by companies, fair use rights for content creators, the promotion of good digital citizenship, and the influence of social media helps us to develop appropriate online behavior.

Developing a deeper understanding of data privacy, copyright laws, ethical online behavior, and the impact of social media, empowers one to make responsible decisions in their digital interactions and contributions to the online community.
Assessments
Formative: Lesson Handouts, Discussions Summative: Lesson Quizzes

Lesson and Learning Goal/Pacing	
Lesson 1	6th - Don't Feed the Phish 7th - Big, Big Data 8th - Being Aware of What You Share *All lessons are 2 days.
Lesson 2	6th - Finding Credible News 7th - The Four Factors of Fair Use 8th - This Just In! *All lessons are 2 days.
Lesson 3	6th -Creativity in the Online World — Our Roles as Creators and Consumers 7th - Acquiring Content Legally and Ethically 8th - Sharing Content — How Much is OK? *All lessons are 2 days.
Lesson 4	6th - Social Media Behaviors and Cyber Bullying 7th – Tik Tok 8th – Tik Tok Challenges *All lessons are 2 days.
	Lesson 1
NJSLS	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.5: Manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure.
Learning Objective	6th - Don't Feed the Phish Compare and contrast identity theft with other kinds of theft. Describe different ways that identity theft can occur online. Use message clues to identify examples of phishing. 7th - Big, Big Data

	Explain why information about them and their behaviors is valuable to companies. Analyze how certain types of data are used by companies. Learn three strategies to limit individual data collection by companies. 8th - Being Aware of What You Share Reflect on the concept of privacy, including what they feel comfortable sharing and not sharing with which people. Analyze different ways that advertisers collect information about users to send them targeted ads. Identify strategies for protecting their privacy, including opting out of specific features and analyzing app or website privacy policies.
Teacher/Student Materials	6th -Lesson Slides, Trick Questions! Practice Quiz (Google Form): Handout, Trick Questions! Practice Quiz (Printable): Handout, How to Catch A Phish: Handout Teacher Version, Lesson Quiz 7th - Lesson Slides, ThreadMeister: Handout, Lesson Quiz 8th - Lesson Slides, Ad Detective: Handout Teacher Version, Lesson Quiz
Additional Resources	6th - Family Activity, Family Tips, Family Engagement Resources 7th - Family Activity, Family Tips, Family Engagement Resources 8th - Family Activity, Family Tips, Family Engagement Resources *Extension and Supplemental Resources 6-8th Grade* Common Sense Digital Connections - Video Series Common Sense Digital Compass - Interactive Game Social Media Test Drive - Social Media Simulation
	Lesson 2
NJSLS	9.4.8.IML.1: Critically curate multiple resources to assess the credibility of sources when searching for information. • 9.4.8.IML.2: 9.4.8.IML.6: Identify subtle and overt messages based on the method of communication. 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). 9.4.8.IML.15: Explain ways that individuals may experience the same media message differently.
Learning Objective	6th - Finding Credible News

	Learn reasons that people put false or misleading information on the internet. Learn criteria for differentiating fake news from credible news. Practice evaluating the credibility of information they find on the internet. 7th - The Four Factors of Fair Use Define the terms "copyright," "public domain," and "fair use." Identify the purpose of the Four Factors of Fair Use. Apply fair use to real-world examples, making a case for or against. 8th- This Just In! Define breaking news and understand why individuals and news outlets want to be first to report a story. Analyze breaking news alerts to identify clues of false or incomplete information. Reflect on the consequences of reacting right away to breaking news alerts.
Teacher Materials	6th – Lesson Slides, News or Fake News? Handout Teacher Version, Example #3 Article: Handout, Lesson Quiz 7th - Lesson Slides, Video: Creativity, Copyright and Fair Use, Fair and Square: Handout Teacher Version, Lesson Quiz 8th – Lesson Slides, Canceled Concert? Handout Teacher Version, Breaking News! Handout Teacher Version, Lesson Quiz
Additional Resources	6th – Family Activity, Family Tips, Family Engagement Resources 7th - Family Activity, Family Tips, Family Engagement Resources 8th - Family Activity, Family Tips, Family Engagement Resources *Extension and Supplemental Resources 6-8th Grade* Common Sense Digital Connections - Video Series Common Sense Digital Compass - Interactive Game Social Media Test Drive - Social Media Simulation
	Lesson 3
NJSLS	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.6: Analyze online information to distinguish whether it is helpful or harmful to reputation. 9.4.8.IML.1: Critically curate multiple resources to assess the credibility of sources when searching for information. • 9.4.8.IML.2:

	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). 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).
Learning Objective	6th - Creativity in the Online World — Our Roles as Creators and Consumers Students will identify and understand their roles as ethical creators and consumers online. 7th - Acquiring Content Legally and Ethically Students will identify and understand how to get media/content online in legal and ethical ways that promote good digital citizenship. 8th- Sharing Content — How Much is OK? Students will identify and understand ethical strategies for sharing online content with others.
Teacher/Student Materials	6th – Lesson Plan, Lesson Slides 7th - Lesson Plan, Lesson Slides 8th – Lesson Plan, Lesson Slides
Additional Resources	6th – All Lesson Resources 7th - All Lesson Resources 8th - All Lesson Resources Students as Creators: Exploring Copyright Libguides
	Lesson 4
NJSLS	9.4.8.DC.5: Manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure. 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.IML.13: Identify the impact of the creator on the content, production, and delivery of information (e.g., 8.2.8.ED.1). 9.4.8.IML.14: Analyze the role of media in delivering cultural, political, and other societal messages. 9.4.8.IML.15: Explain ways that individuals may experience the same media message differently.
Learning Objective	6th- Social Media Behaviors and Cyber Bullying

	Students will learn the importance of responsible use of online platforms, and how to spot and stop cyberbullying. 7th – Tik Tok Students will explain how TikTok's platform works, how TikTok generates revenue, and what demographics it targets. Students will evaluate the possible ethical implications of TikTok's features and reflect on their own use of TikTok moving forward. 8th – Tik Tok Challenges Students will learn about TikTok and the challenges that some TikTok users participate in. Students will discuss the pros and cons of TikTok challenges. Students will design a Tik Tok Challenge they would like to see in their community.
Teacher/Student Materials	*The lessons in this section are from the Nearpod Library and 21st Century Program. Make sure you're signed up to access these lessons and activities.* Nearpod
Additional Resources	Netsmartz videos and activities to help teach students to be safer online NearPod | Digital Citizenship & Literacy Curriculum Interland is an adventure-packed online game that makes learning about digital safety and citizenship interactive and fun

Marking Period 2	Technology Literacy	Grade(s)	6 - 8
Unit Plan Title:	**Technology Literacy**		

Unit Overview

In this unit from Code.org, students will continue to explore problem solving while diving into the fascinating world of computer systems and their essential components. They will explore the fundamental concepts of how computers use input and output to gather and deliver information for effective problem-solving. Students will investigate the various methods and techniques used by computers to process information efficiently. while understanding the importance of storage in the computing process. Throughout the unit, students will be introduced to the IOSP (Input-Output-Storage-Processing) model, which will guide them in designing problem-solving apps that address real-world challenges.

Essential Question(s)

How does the use of input and output enable computers to acquire and provide information for problem-solving?
How can computers process information using different methods and techniques?
How does storage play a crucial role in the computing process?
How does the IOSP model aid in designing problem-solving apps that address real-world challenges?

Enduring Understandings

Computers utilize input and output to acquire and provide essential information required for problem-solving.
There are diverse methods through which computers process information efficiently.
Storage plays a vital role in the computing process, contributing significantly to its overall functionality.
The IOSP model provides valuable guidance in designing problem-solving apps that effectively tackle real-world challenges.

Assessments

Formative Assessment: Observe student participation in discussions and assess their understanding of concepts, lesson quizzes, reflective journal, activity sheets

Summative Assessment: Evaluate student-created work based on accuracy, clarity, and insight gained.

Digitial Assessment Tools: Nearpod, Peardeck, Kahoot, Quizizz, Blooket, Edpuzzle, FlipGrid, Kami, Google Forms

Lesson and Learning Goal/Pacing	
Lesson 1	6-8 Input and Output In this lesson, students consider how computers get and give information to the user through inputs and outputs. *All lessons are 2 days.
Lesson 2	6-8 Processing This lesson introduces the concept of processing within computational problem-solving. *All lessons are 2 days.

Lesson 3	6-8 Storage This lesson introduces the final component of the unit's model of computing: storage. *All lessons are 2 days.
Lesson 4	6–8 Project-Propose an App This project combines the two major themes of the problem-solving process and the input/output/store/process model of a computer, to have students identify real-world problems and find ways to use technology to help solve them. *All lessons are 2 days.
Additional Lessons	Need more? Extend this topic with CodeHS World of Computing Unit (5 weeks/25 hours) *Students dive into the history of computing, learn about the various parts that make up modern computers, and explore the impact computing has had on today's world.* CodeHS The Internet Unit (5 weeks/25 hours) *Students explore the structure and design of the internet, and how this design affects the reliability of network communication, the security of data, and personal privacy.*
	Lesson 1
NJSLS	8.1.8.CS.1: Recommend improvements to computing devices in order to improve the ways users interact with the devices. 8.1.8.CS.2: Design a system that combines hardware and software components to process data. 8.1.8.CS.3: Justify design decisions and explain potential system trade-offs. 8.1.8.CS.4: Systematically apply troubleshooting strategies to identify and resolve hardware and software problems in computing systems.
Learning Objective	• *Explain the role that input and output take when computers are used to solve information problems.* • *Select the inputs and outputs used to perform common computing tasks*
Teacher/Student Materials	Input and Output Lesson Plan For the teachers • Input and Output - Slides Make a Copy For the students • Input and Output - Activity Guide Make a Copy

Additional Resources	Getting Started with Code.org
	Lesson 2
NJSLS	8.1.8.CS.2: Design a system that combines hardware and software components to process data. 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode.
Learning Objective	• *Define processing as the work done (possibly by a computer) to turn an input into an output* • *Determine which types of processing are appropriate for a particular computing problem.* • *Identify several common types of processing used in computing.*
Teacher/Student Materials	Processing Lesson Plan For the teachers • Apps with Processing - Slides Make a Copy For the students • Apps with Processing - Activity Guide Make a Copy
Additional Resources	Getting Started with Code.org
	Lesson 3
NJSLS	8.1.8.CS.2: Design a system that combines hardware and software components to process data. 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values.
Learning Objective	• *Determine which information in a computing problem should be stored for later use.* • *Identify guidelines regarding what information should and should not be stored as part of the computing process.* • *Use the input-output-storage-processing model to describe a computing process.*
Teacher/Student Materials	Storage For the teachers • Apps with Storage - Slides Make a Copy For the students • Apps with Storage - Activity Guide Make a Copy • What Do Computers Do - Video (Download)

Additional Resources	Getting Started with Code.org
	Lesson 4
NJSLS	8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 8.1.8.AP.6: Refine a solution that meets users' needs by incorporating feedback from team members and users.
Learning Objective	• *Design an app that inputs, outputs, stores, and processes information in order to solve a problem* • *Identify and define a problem that could be solved using computing* • *Provide and incorporate targeted peer feedback to improve a computing artifact*
Teacher/Student Materials	Project-Propose an App This project combines the two major themes of the problem-solving process and the input/output/store/process model of a computer, to have students identify real-world problems and find ways to use technology to help solve them. For the teachers • Project - Propose an App - Slides Make a Copy For the students • Apps and Problem Solving - Activity Guide Make a Copy • Apps and Problem Solving - Peer Review Make a Copy • Apps and Problem Solving - Rubric Make a Copy • Apps and Problem Solving - Student Checklist - Resource Make a Copy • Computer Science Practices - Reflection Make a Copy
Additional Resources	Getting Started with Code.org

Marking Period 2	Critical Thinking & Problem Solving	Grade(s)	6 – 8
Unit Plan Title:	**Critical Thinking & Problem Solving** **6th Coding Explorations -Sports** **7th Coding Exploration - Generating Art** **8th Coding Explorations - Music**		

Unit Overview

6th - Coding + Sports introduces students to the basics of coding through sports! In this block-coding environment, students develop their own sports video games and simulations using code. Throughout the module, students build different sports visualizations and multi-level games that can be played with friends.

7th - Coding + Art introduces students to the basics of coding through art! In this block-coding environment, students explore the digital art medium by building coding programs that create collages, imitate techniques of famous artists like Jackson Pollock and Andy Warhol, and tell stories through a sequence of multimedia scenes.

8th - Coding + Music introduces students to the basics of coding through music! In this block-coding environment, students investigate how code can be used to create and enhance music by building programs that generate beat patterns, chord progressions, and musical sequences with visualizations.

Essential Question(s)

6th
How can coding principles be applied to simulate real-world sports scenarios?
In what ways can computational thinking enhance our understanding and enjoyment of sports?
How does the development of a sports video game incorporate elements of problem-solving and creativity?

7th
How can we use coding as a medium for artistic expression?
How can algorithms replicate traditional artistic styles?
How does the integration of technology and art lead to new forms of storytelling?

8th
How can coding be used to create and manipulate musical elements?
How does understanding algorithms enhance our ability to compose and appreciate music?
What role does technology play in the evolution and visualization of music?

Enduring Understandings

Multiple solutions often exist to solve a problem. An essential aspect of problem solving is being able to self-reflect on why possible solutions for solving problems were or were not successful.
Algorithms that are readable are easier to follow, test, and debug.
Programmers create variables to store data values of different types and perform appropriate operations on their values.
Programs use procedures to organize code and hide implementation details.
Individuals design and test solutions to identify problems taking into consideration the diverse needs of the users and the community.

Assessments	
Formative: Course activities Summative: Course Evaluations, Quizzes	
Lesson and Learning Goal/Pacing	
Lesson 1	**6th Gr -** 1.1 Sports Research **7th Gr -** 1.1 Memes Memes Memes **8th Gr -** 1.1 Making Beats with Code *All lessons are 2 days.
Lesson 2	**6th Gr -** 1.2 Game Events **7th Gr -** 1.2 Filtered Collage **8th Gr** - 1.2 Visualizing Music *All lessons are 2 days.
Lesson 3	**6th Gr -** 1.3 Sound Effects **7th Gr -** 1.3 Famous Artists **8th Gr -** 1.3 Simple Song Maker *All lessons are 2 days.
Lesson 4	**6th Gr -** 1.3 Sound Effects **7th Gr -** 1.4 Face Filters **8th Gr** - 1.4 Custom Song Builder *All lessons are 2 days.
Lesson 5	**6th Gr –** 1.5 Air Horn App **7th Gr -** 1.5 Paintbrush **8th Gr -** 1.5 Chord Builder *All lessons are 2 days.

Lesson 6	**6th Gr** - 1.6 Event Handlers **7th Gr -** 1.6 Turtle Patterns **8th Gr -** 1.6 Loops in Music *All lessons are 2 days.
Lesson 7	**6th Gr -**1.7 Putting Game **7th Gr** -1.7GIF Generator **8th Gr -**1.7 Building Songs with Beats *All lessons are 2 days.
Lesson 8	**6th Gr -** 1.8 Level Up! **7th Gr -** 1.8 GIFs With Background Music **8th Gr -** 1.8 Visualizing a Song *All lessons are 2 days.
Lesson 9	**6th Gr** – 1.9 Final Touches **7th Gr –** 1.9 Art Stories **8th Gr** - 1.9 Final Project *All lessons are 2 days.
Lesson 10	**6th Gr -** 1.10 Make a Game! **7th Gr –** 1.10 Final Masterpiece **8th Gr -** 1.9 Final Project (Cont'd) *All lessons are 2 days.
Additional Resources	Google's CS First Hour of Code Lessons - Supplement Lessons for Hour of Code Code.org's Accelerated Intro to Computer Science - This 20-hour course covers the core computer science and programming concepts Code.org's Express Course - Students learn to create computer programs, develop problem-solving skills, and work through fun challenges!

	Lesson 1
NJSLS	6th –8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 1.5 Computational Thinker Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
Learning Objective	6th 1.1 Sports Research Objective: Students will be able to: • Use JavaScript block coding to create a customized make-a-shot game by changing parameters for background images, ball objects, goals, and paddle types. 7th 1.1 Memes Memes Memes Objective: Students will be able to: • Use JavaScript block coding to create their own meme using images and changing parameters. 8th 1.1 Making Beats with Code Objective: Students will be able to: • Use JavaScript block coding to create their own beat with music visualization by creating an array of beats on which to play sounds through the use of parameters.
Teacher/Student Materials	6th – Course Syllabus, Coding Explorations -Sports 7th – Course Syllabus, Coding Exploration - Generating Art 8th – Course Syllabus, Coding Explorations - Music
Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account
	Lesson 2

NJSLS	6th –8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 1.5 Computational Thinker Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
Learning Objective	6th 1.2 Game Events Objective: Students will be able to: • Create a custom make-a-shot type game by adding events and event handlers from the JavaScript code blocks. 7th 1.2 Filtered Collage Objective: Students will be able to: • Use JavaScript block coding to create a collage of multiple images, using a coordinate system to place images and parameters to alter their appearance. 8th 1.2 Visualizing Music Objective: Students will be able to: • Create a custom music visualization by changing the song, color, and shape parameters in visualization code blocks.
Teacher Materials	6th – Course Syllabus, Coding Explorations -Sports 7th – Course Syllabus, Coding Exploration - Generating Art 8th – Course Syllabus, Coding Explorations - Music
Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account
	Lesson 3
NJSLS	6th –8th

	8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 1.5 Computational Thinker Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
Learning Objective	6th 1.3 Sound Effects Objective: Students will be able to: • Create a custom sports game by adding sound effect parameters from the JavaScript code blocks. 7th 1.3 Famous Artists Objective: Students will be able to: • Use JavaScript block coding to create digital art that emulates well-known artists, using a coordinate system to place images and parameters to alter their appearance. 8th 1.3 Simple Song Maker Objective: Students will be able to: • Use blocks to create a song consisting of a single measure by choosing which notes to use as the parameters to their beat's blocks.
Teacher/Student Materials	6th – Course Syllabus, Coding Explorations -Sports 7th – Course Syllabus, Coding Exploration - Generating Art 8th – Course Syllabus, Coding Explorations - Music
Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account
	Lesson 4
NJSLS	6th –8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode.

	8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 1.5 Computational Thinker Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
Learning Objective	6th 1.4 Make a Shot! Objective: Students will be able to: • Create a custom sports game by adding instructions and bringing in everything they have learned so far (events, event handlers, images, sound effects) from the JavaScript code blocks. 7th 1.4 Face Filters Objective: Students will be able to: • Explain how face filters detect and map facial features to correctly place filters. 8th 1.4 Custom Song Builder Objective: Students will be able to: • Use blocks to create a song consisting of a single measure by mixing different notes together and modifying the accompanying visualization's colors.
Teacher/Student Materials	6th – Course Syllabus, Coding Explorations -Sports 7th – Course Syllabus, Coding Exploration - Generating Art 8th – Course Syllabus, Coding Explorations - Music
Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account
	Lesson 5
NJSLS	6th –8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values.

	8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 1.5 Computational Thinker Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
Learning Objective	6th 1.5 Air Horn App Objective: Students will be able to: • Create a custom air horn app by modifying parameters (e.g., background image, horn image, sound effect, voiceover sounds) from the JavaScript code blocks. 7th 1.5 Paintbrush Objective: Students will be able to: • Set event handlers to develop their own interactive paint program. 8th 1.5 Chord Builder Objective: Students will be able to: • Use JavaScript block coding to create a song by choosing the chord parameters to create common chord progressions.
Teacher/Student Materials	6th – Course Syllabus, Coding Explorations -Sports 7th – Course Syllabus, Coding Exploration - Generating Art 8th – Course Syllabus, Coding Explorations - Music
Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account
	Lesson 6: XXXX
NJSLS	6th –8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs.

	1.5 Computational Thinker Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
Learning Objective	6th 1.6 Event Handlers Objective: Students will be able to: • Create a mini-golf game by adding event handlers and modifying parameters (e.g., background image, ball image) from the JavaScript code blocks. ***Specifically, their first main task is to define the events that will let someone hit the ball, cause it to bounce off the walls, and get it in the hole.*** 7th 1.6 Turtle Patterns Objective: Students will be able to: • Use block coding with Tracy the Turtle to create fractal spirals with various backgrounds, colors and shapes. 8th 1.6 Loops in Music Objective: Students will be able to: • Use JavaScript block coding and for loops to repeat chord progressions in their songs.
Teacher/Student Materials	6th – Course Syllabus, Coding Explorations -Sports 7th – Course Syllabus, Coding Exploration - Generating Art 8th – Course Syllabus, Coding Explorations - Music
Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account
	Lesson 7
NJSLS	6th –8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs.

	1.5 Computational Thinker Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
Learning Objective	6th 1.7 Putting Game Objective: Students will be able to: • Create a mini-golf game by adding their own obstacles and corresponding events from the JavaScript code blocks. 7th 1.7 GIF Generator Objective: Students will be able to: • Use block coding to create a gif composed of multiple images with additional annotations, such as text. 8th 1.7 Building Songs with Beats Objective: Students will be able to: • Use JavaScript block coding to create a full-length song using beats, chords, chord progressions, and for loops.
Teacher/Student Materials	6th – Course Syllabus, Coding Explorations -Sports 7th – Course Syllabus, Coding Exploration - Generating Art 8th – Course Syllabus, Coding Explorations - Music
Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account
	Lesson 8
NJSLS	6th –8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs.

	1.5 Computational Thinker Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
Learning Objective	6th 1.8 Level Up! Objective: Students will be able to: • create a mini-golf game by adding multiple holes from the JavaScript code blocks. 7th 1.8 GIFs With Background Music Objective: Students will be able to: • Use block coding to create a gif composed of multiple images with additional annotations, such as text. 8th 1.8 Visualizing a Song Objective: Students will be able to: • Create a visualization for their own composition using block beats, chords, chord progressions, and loops.
Teacher/Student Materials	6th – Course Syllabus, Coding Explorations -Sports 7th – Course Syllabus, Coding Exploration - Generating Art 8th – Course Syllabus, Coding Explorations - Music
Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account
	Lesson 9
NJSLS	6th –8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs.

	1.5 Computational Thinker Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
Learning Objective	6th 1.9 Final Touches Objective: Students will be able to: • Create a mini-golf game by adding an instructions page from the JavaScript code blocks. 7th 1.9 Art Stories Objective: Students will be able to: • Use block coding to create a multi-image story, complete with music and narration. 8th 1.9 Final Project Objective: Students will be able to: • Create a visualization for their own composition using block beats, chords, chord progressions, and loops.
Teacher/Student Materials	6th – Course Syllabus, Coding Explorations -Sports 7th – Course Syllabus, Coding Exploration - Generating Art 8th – Course Syllabus, Coding Explorations - Music
Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account
	Lesson 10
NJSLS	6th –8th 8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs.

	1.5 Computational Thinker Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
Learning Objective	6th 1.10 Make a Game! Objective: Students will be able to: • Complete creating a mini-golf game by using the JavaScript code blocks. 7th 1.10 Final Masterpiece Objective: Students will be able to: • Use block coding to create a multi-image story using images with image filters, complete with music and narration. 8th 1.9 Final Project Objective: Students will be able to: • Create a visualization for their own composition using block beats, chords, chord progressions, and loops.
Teacher/Student Materials	6th – Course Syllabus, Coding Explorations -Sports 7th – Course Syllabus, Coding Exploration - Generating Art 8th – Course Syllabus, Coding Explorations - Music
Additional Resources	Getting Started with CodeHS Setting Up Your Teacher Account

Marking Period 2	Creativity & Innovation	Grade(s)	6 - 8
Unit Plan Title:	**Creativity & Innovation**		

Unit Overview

6th

In this hands-on and engaging unit, students will continue their journey through Ozobot Ozoblockly, an innovative educational platform that integrates coding and robotics. Through interactive activities, students will develop essential computational thinking skills, learning to program Ozobot robots using block-based coding. They will explore programming elements such as sequences, loops, and conditional statements, and gradually advance to more complex problem-solving challenges. Collaborative projects will encourage creativity, teamwork, and critical thinking as students invent solutions to real-world problems.

7-8th

Throughout the Google CS First - Multiday Units Curriculum, students will engage in hands-on activities, projects, and challenges, allowing them to apply the learned concepts practically. Students will dive into various computer science concepts, enhancing their computational thinking and problem-solving abilities. Each unit focuses on a specific area of application and fosters creativity, while reinforcing coding fundamentals. By the end of the curriculum, students will have a solid foundation in computer science principles and be equipped with coding skills that can be applied to various creative and real-world applications.

Essential Question(s)

6th

How can Ozoblockly be used to program Ozobot robots, and what coding concepts are involved in controlling their movements?
How can logical reasoning and problem-solving skills be applied to troubleshoot and refine Ozobot programs for desired outcomes?
In what ways can Ozobots be used as tools to demonstrate scientific, mathematical, and engineering concepts?
How does creativity play a role in designing unique Ozobot behaviors and interactive experiences?

7-8th

Unit 1: Creative Storytelling

How can coding and computational thinking enhance storytelling and creativity in multimedia projects?
What are the key components and strategies involved in designing and developing interactive stories using Scratch?
How does programming through loops, conditionals, and events contribute to creating dynamic and engaging narratives?

Unit 2: Game Design

What techniques and tools can be employed to ensure responsible game design and fair user experiences?
How do variables, user input, and collision detection contribute to designing interactive and challenging games in Scratch?
How can students leverage game logic and conditional statements to create win/lose conditions and implement rules in their games?

Unit 3: Music and Sound

What creative possibilities does Scratch offer for composing music and sound effects, and how can timing and synchronization enhance animations?
How can broadcasting messages between sprites be used to coordinate sound effects and interactions in Scratch projects?

Unit 4: Art and Animation
What are the fundamental principles of animation, and how can coding be used to bring artistic ideas to life in Scratch?
How can sprite movement, costumes, and cloning be utilized to create visually dynamic and engaging animations?

Unit 5: Social Media
What are the responsibilities and ethical considerations associated with using social media and digital communication in a connected world?
How can students use Scratch projects to promote positive online interactions, prevent cyberbullying, and be responsible digital citizens?

Enduring Understandings

Computational thinking is a foundational skill that empowers one to creatively solve problems, design interactive experiences, and explore the world of computer science through coding.
Computational concepts, programming fundamentals, and responsible digital citizenship equips one with the essential skills to thrive in a technology-driven society and contribute meaningfully to the digital world.

Assessments

Formative: In-class coding exercises, Peer code reviews, Quizzes and short assessments, Observation and feedback
Summative: Project presentations, Unit assessments, Coding portfolio, Reflective essays

Lesson and Learning Goal/Pacing	
Lesson 1	6th - Ozobot Makes Music Part 1
7-8th **Lessons 1-8**	7-8th The following activities are CS first multi-day units - Teach coding with units that include eight lessons aligned with student passions. You can allow students to choose a unit that aligns to their skill level and/or passion. *All lessons are 2 days. **Beginner** Storytelling - Students use code to tell fun and interactive stories. Storytelling emphasizes creativity by encouraging students to tell a unique story each day. Music and Sound - Students play musical notes, create a music video, and build an interactive music display.

	Intermediate Friends - Students work in pairs, tell the story of how their friendship started, and imagine a company together. Fashion & Design - Students build fashion-themed programs including a fashion walk, a stylist tool, and a pattern maker. Art - Students create animations, interactive artwork, photograph filters, and other exciting, artistic projects using code. **Advanced** Sports - Students use computer science to simulate extreme sports, make their own commercial, and create commentary for a sporting event. Game Design - Students learn basic video game coding concepts by making different types of games, including racing, platform, and launching.
Lesson 2	6th - Ozobot Makes Music Part 2 **7-8th** **Beginner** Storytelling - Students use code to tell fun and interactive stories. Storytelling emphasizes creativity by encouraging students to tell a unique story each day. *All lessons are 2 days.
Lesson 3	6th - Ozobot Makes Music Part 2 **7-8th** **Beginner** Music and Sound - Students play musical notes, create a music video, and build an interactive music display. *All lessons are 2 days.
Lesson 4	6th - Ozobot Blockly Challenge: ShapeTracer 1 7-8th **Intermediate** Friends - Students work in pairs, tell the story of how their friendship started, and imagine a company together. *All lessons are 2 days.
Lesson 5	6th - Ozobot Blockly Challenge: ShapeTracer 1 Cont'd 7-8th

	Intermediate Fashion & Design - Students build fashion-themed programs including a fashion walk, a stylist tool, and a pattern maker. *All lessons are 2 days.
Lesson 6	6th - Ozobot Blockly Challenge: ShapeTracer 2 7-8th **Intermediate** Art - Students create animations, interactive artwork, photograph filters, and other exciting, artistic projects using code. *All lessons are 2 days.
Lesson 7	6th - Ozobot Blockly Challenge: ShapeTracer 2 Cont'd 7-8th **Advanced** Sports - Students use computer science to simulate extreme sports, make their own commercial, and create commentary for a sporting event. *All lessons are 2 days.
Lesson 8	6th - Ozobot Blockly Challenge: OzoTown 7-8th Game Design - Students learn basic video game coding concepts by making different types of games, including racing, platform, and launching. *All lessons are 2 days.
Additional Lessons	The Ozobot Classroom Lesson Library Google's CS First Hour of Code Lessons - Supplement Lessons for Hour of Code
	Lesson 1
NJSLS	8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode.

	8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 8.1.8.AP.6: Refine a solution that meets users' needs by incorporating feedback from team members and users. 9.4.8.CI.2: Repurpose an existing resource in an innovative way. 9.4.8.CI.4: Explore the role of creativity and innovation in career pathways and industries. 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option. 9.4.8.IML.12: Use relevant tools to produce, publish, and deliver information supported with evidence for an authentic audience.
Learning Objective	6th - Ozobot Makes Music Part 1 • I can solidify their understanding of conditionals. • I can use conditionals to program Ozobot to play music. **7-8th** **Move on to Unit/Lesson of choice**
Teacher Materials	6th - Ozobot Makes Music Part 1
Additional Resources	6th - Ozobot Teacher Basic Training, Ozoblockly, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library 7-8th - CS First Getting Started Guide, Scratch Vocabulary slides
	Lesson 2
NJSLS	8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode.

	8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 8.1.8.AP.6: Refine a solution that meets users' needs by incorporating feedback from team members and users. 9.4.8.CI.2: Repurpose an existing resource in an innovative way. 9.4.8.CI.4: Explore the role of creativity and innovation in career pathways and industries. 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option. 9.4.8.IML.12: Use relevant tools to produce, publish, and deliver information supported with evidence for an authentic audience.
Learning Objective	6th - Ozobot Makes Music Part 2 • I can program Ozobot to play a full song. • I can show understanding of conditionals. **7-8th Beginner** Storytelling - Students use code to tell fun and interactive stories. Storytelling emphasizes creativity by encouraging students to tell a unique story each day. • Utilize computational thinking concepts to design and code animated stories in Scratch, incorporating characters, dialogues, and events. • Demonstrate proficiency in using loops and conditionals to create dynamic and interactive narratives within their animated stories. • Showcase creativity and imagination by integrating custom graphics, animations, and sound effects into their storytelling projects. • Collaborate with peers to provide constructive feedback and iterate on their creative storytelling projects, fostering a culture of collaboration and growth.
Teacher Materials	6th - Ozobot Makes Music Part 2 7-8th - Storytelling Lesson Plan, Solutions Sheet
Additional Resources	6th - Ozobot Teacher Basic Training, Ozoblockly, Ozobot Pacing Guides, The Ozobot Classroom Lesson Library 7- 8th - CS First Getting Started Guide, Scratch Vocabulary slides,

	Lesson 3
NJSLS	8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 8.1.8.AP.6: Refine a solution that meets users' needs by incorporating feedback from team members and users. 9.4.8.CI.2: Repurpose an existing resource in an innovative way. 9.4.8.CI.4: Explore the role of creativity and innovation in career pathways and industries. 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option. 9.4.8.IML.12: Use relevant tools to produce, publish, and deliver information supported with evidence for an authentic audience.
Learning Objective	6th - Ozobot Makes Music Part 2 • I can program Ozobot to play a full song. • I can show understanding of conditionals. **7-8th** **Beginner** Music and Sound - Students play musical notes, create a music video, and build an interactive music display. • Compose and integrate original music and sound effects using Scratch, enhancing the audio experience in their animations and interactive projects. • Demonstrate an understanding of timing and synchronization to align sound elements with visual animations effectively. • Utilize broadcasting techniques to coordinate sound effects and interactions between sprites, enhancing interactivity in their projects. • Experiment with various sound editing tools and techniques to create unique and immersive audio experiences, showcasing their creativity and technical skills.

Teacher Materials	6th - Ozobot Makes Music Part 2 7-8th - Music and Sound Lesson Plan, Solutions Sheet
Additional Resources	6th - Ozobot Teacher Basic Training, Ozoblockly, Ozobot Pacing Guides The Ozobot Classroom Lesson Library 7– 8th - CS First Getting Started Guide, Scratch Vocabulary slides,
	Lesson 4
NJSLS	8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 8.1.8.AP.6: Refine a solution that meets users' needs by incorporating feedback from team members and users. 9.4.8.CI.2: Repurpose an existing resource in an innovative way. 9.4.8.CI.4: Explore the role of creativity and innovation in career pathways and industries. 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option. 9.4.8.IML.12: Use relevant tools to produce, publish, and deliver information supported with evidence for an authentic audience.
Learning Objective	6th - Ozobot Blockly Challenge: ShapeTracer 1 • I can write and run accurate code sequences for 10 levels of ShapeTracer 1. 7-8th **Intermediate** Friends - Students work in pairs, tell the story of how their friendship started, and imagine a company together.

	• Utilize computational thinking concepts to design and code animated stories in Scratch, incorporating characters, dialogues, and events. • Demonstrate proficiency in using loops and conditionals to create dynamic and interactive narratives within their animated stories. • Showcase creativity and imagination by integrating custom graphics, animations, and sound effects into their storytelling projects. • Collaborate with peers to provide constructive feedback and iterate on their creative storytelling projects, fostering a culture of collaboration and growth.
Teacher Materials	6th - Ozobot Blockly Challenge: ShapeTracer 1, Shape Tracer 1 7-8th - Friends Lesson Plan, Solutions Sheet
Additional Resources	6th - Ozobot Teacher Basic Training, Ozoblockly, Ozobot Pacing Guides The Ozobot Classroom Lesson Library 7– 8th - CS First Getting Started Guide, Scratch Vocabulary slides,
	Lesson 5
NJSLS	8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 8.1.8.AP.6: Refine a solution that meets users' needs by incorporating feedback from team members and users. 9.4.8.CI.2: Repurpose an existing resource in an innovative way. 9.4.8.CI.4: Explore the role of creativity and innovation in career pathways and industries. 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option.

	9.4.8.IML.12: Use relevant tools to produce, publish, and deliver information supported with evidence for an authentic audience.
Learning Objective	6th - Ozobot Blockly Challenge: ShapeTracer 1 • I can write and run accurate code sequences for 10 levels of ShapeTracer 1. 7-8th **Intermediate** Fashion & Design - Students build fashion-themed programs including a fashion walk, a stylist tool, and a pattern maker. • Apply animation principles to design and animate creative projects in Scratch, demonstrating proficiency in sprite movement, costumes, and effects. • Experiment with cloning and iterative animations to create dynamic and visually engaging projects. • Utilize coding to implement interactive elements within their animations, encouraging user engagement and participation. • Showcase their artistic expression and storytelling ability through visually appealing and interactive projects, emphasizing the connection between art and technology.
Teacher Materials	6th - Ozobot Blockly Challenge: ShapeTracer 1, Shape Tracer 1 7-8th - Fashion and Design Lesson Plan, Solutions Sheet
Additional Resources	6th - Ozobot Teacher Basic Training, Ozoblockly, Ozobot Pacing Guides The Ozobot Classroom Lesson Library 7– 8th - CS First Getting Started Guide, Scratch Vocabulary slides,
	Lesson 6
NJSLS	8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals.

	8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 8.1.8.AP.6: Refine a solution that meets users' needs by incorporating feedback from team members and users. 9.4.8.CI.2: Repurpose an existing resource in an innovative way. 9.4.8.CI.4: Explore the role of creativity and innovation in career pathways and industries. 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option. 9.4.8.IML.12: Use relevant tools to produce, publish, and deliver information supported with evidence for an authentic audience.
Learning Objective	6th - Ozobot Blockly Challenge: ShapeTracer 2 • Students will build and run accurate code sequences for 10 levels of ShapeTracer 2. 7-8th **Intermediate** Art - Students create animations, interactive artwork, photograph filters, and other exciting, artistic projects using code. • Apply animation principles to design and animate creative projects in Scratch, demonstrating proficiency in sprite movement, costumes, and effects. • Experiment with cloning and iterative animations to create dynamic and visually engaging projects. • Utilize coding to implement interactive elements within their animations, encouraging user engagement and participation. • Showcase their artistic expression and storytelling ability through visually appealing and interactive projects, emphasizing the connection between art and technology.
Teacher Materials	6th - Ozobot Blockly Challenge: ShapeTracer 2, Shape Tracer 2 7-8th - Art Lesson Plan, Solutions Sheet

Additional Resources	6th - Ozobot Teacher Basic Training, Ozoblockly, Ozobot Pacing Guides The Ozobot Classroom Lesson Library 7– 8th - CS First Getting Started Guide, Scratch Vocabulary slides,
	Lesson 7
NJSLS	8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 8.1.8.AP.6: Refine a solution that meets users' needs by incorporating feedback from team members and users. 9.4.8.CI.2: Repurpose an existing resource in an innovative way. 9.4.8.CI.4: Explore the role of creativity and innovation in career pathways and industries. 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option. 9.4.8.IML.12: Use relevant tools to produce, publish, and deliver information supported with evidence for an authentic audience.
Learning Objective	6th - Ozobot Blockly Challenge: ShapeTracer 2 • Students will build and run accurate code sequences for 10 levels of ShapeTracer 2. 7-8th **Advanced** Sports - Students use computer science to simulate extreme sports, make their own commercial, and create commentary for a sporting event. • Apply coding skills to design and develop interactive games in Scratch, incorporating user input, sprite movement, and game mechanics.

	• Utilize variables and conditional logic to implement scoring systems, win/lose conditions, and dynamic gameplay elements within their games. • Demonstrate critical thinking by playtesting and refining their games, identifying areas for improvement, and implementing creative solutions. • Engage in peer playtesting and feedback sessions to assess and enhance the playability and enjoyment of each other's games, fostering a sense of community and mutual support.
Teacher Materials	6th - Ozobot Blockly Challenge: ShapeTracer 2, Shape Tracer 2 7-8th - Sports Lesson Plan, Solutions Sheet
Additional Resources	6th - Ozobot Teacher Basic Training, Ozoblockly, Ozobot Pacing Guides The Ozobot Classroom Lesson Library 7– 8th - CS First Getting Started Guide, Scratch Vocabulary slides,
	Lesson 8
NJSLS	8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. 8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 8.1.8.AP.4: Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs. 8.1.8.AP.6: Refine a solution that meets users' needs by incorporating feedback from team members and users. 9.4.8.CI.2: Repurpose an existing resource in an innovative way. 9.4.8.CI.4: Explore the role of creativity and innovation in career pathways and industries. 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option. 9.4.8.IML.12: Use relevant tools to produce, publish, and deliver information supported with evidence for an authentic audience.

Learning Objective	6th - Ozobot Blockly Challenge: OzoTown • Students will build and run accurate code sequences for 10 levels of OzoTown. 7-8th **Advanced** Game Design - Students learn basic video game coding concepts by making different types of games, including racing, platform, and launching. • Apply coding skills to design and develop interactive games in Scratch, incorporating user input, sprite movement, and game mechanics. • Utilize variables and conditional logic to implement scoring systems, win/lose conditions, and dynamic gameplay elements within their games. • Demonstrate critical thinking by playtesting and refining their games, identifying areas for improvement, and implementing creative solutions. • Engage in peer playtesting and feedback sessions to assess and enhance the playability and enjoyment of each other's games, fostering a sense of community and mutual support.
Teacher Materials	6th - Ozobot Blockly Challenge: OzoTown, Ozotown 7-8th - Game Design Lesson Plan, Solutions Sheet
Additional Resources	6th - Ozobot Teacher Basic Training, Ozoblockly, Ozobot Pacing Guides The Ozobot Classroom Lesson Library 7– 8th - CS First Getting Started Guide, Scratch Vocabulary slides,

Marking Period 2	Information and Media Literacy	Grade(s)	6 - 8
Unit Plan Title:	**Information and Media Literacy**		

Unit Overview

6-8th Google's Applied Digital Skills Curriculum

In this unit, students will dive into Google's Applied Digital Skills, where they will gain essential digital literacy and technology skills to confidently navigate the digital world. The curriculum covers a wide array of topics, including online safety, responsible digital citizenship, productivity tools, collaborative work, and effective communication. Through interactive projects, students will develop problem-solving abilities and become responsible digital citizens, equipped with the skills needed to succeed in the digital era and beyond.

Note: *Various lessons can be used to cover learning standards from this strand. Options are provided as a guide, however, choose lessons from the curriculum that are appropriate for student skill/interests. Lesson 4 provides multi-unit lessons that are project based and will take students multiple class sessions to complete.*

Essential Question(s)

6-8th

How can digital tools help us analyze and make data-based decisions?
How can we use digital tools to communicate real-world problems effectively?
What digital tools and productivity techniques can we use to manage tasks, stay organized, and work collaboratively with others effectively?
How can we utilize technology to communicate clearly and professionally through email and online collaboration platforms?
What are the benefits of data analysis and visualization, and how can we present information effectively using digital tools and spreadsheets?
How can we leverage AI-powered digital tools and strategies while exploring the digital world?

Enduring Understandings

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.

Digital tools allow for remote collaboration and rapid sharing of ideas unrestricted by geographic location or time.

Assessments

Formative Assessment: Digital Tool Exploration, In-class Activities and Discussions, Project Milestones
Summative Assessment: Digital Literacy Portfolio, Project Presentations, Reflection and Self-Assessment

Digitial Assessment Tools: , Nearpod, Peardeck, Edpuzzle, Kahoot, Quizziz, Blooket

Lesson and Learning Goal/Pacing	
Lesson 1	6th Gr - Exploring Digital Tools for Information Management

	7th Gr - Exploring Digital Tools for Content Creation and Collaboration **8th Gr** – Exploring Digital Tools for Data Analysis and Data Visualization *All lessons are 2 days.
Lesson 2	**6th Gr** - Creating Texts and Visualizations with Digital Tools 7th Gr - Digital Storytelling and Multimedia Presentations 8th Gr - Multimedia Content Creation and Presentation *All lessons are 2 days.
Lesson 3	**6th Gr** - Introduction to Digital Models and Simulations **7th Gr** - Introduction to Coding and Computational Thinking **8th Gr** - Advanced Coding and Programming Concepts *All lessons are 2 days.
Lesson 4	**6th Gr** - Remote Collaboration and Idea Sharing with Digital Tools **7th Gr** - Remote Collaboration and Online Communication **8th Gr** - Technology Integration and Project-Based Learning *All lessons are 2 days.
	Lesson 1
NJSLS	8.1.6.A.1 - Use digital tools to gather, organize, and present information. 9.4.8.TL.1: Construct a spreadsheet in order to analyze multiple data sets, identify relationships, and facilitate data-based decision-making. 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). 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 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).
Learning Objective	**6th Gr - <u>Exploring Digital Tools for Information Management</u>** Students will identify different digital tools for gathering information (e.g., search engines, online databases). Students will practice organizing information using digital tools (e.g., spreadsheets, mind mapping tools). Students will create a presentation using appropriate digital tools to communicate their findings.

	7th Gr - Exploring Digital Tools for Content Creation and Collaboration Students will explore various digital tools for conducting research and gathering information (e.g., search engines, databases). Students will practice organizing and analyzing information using digital tools such as spreadsheets and mind mapping software. Students will evaluate the reliability and credibility of digital sources for their research. **8th Gr - Data Analysis and Data Visualization** Students will explore advanced digital tools for data analysis (e.g., spreadsheet software, data visualization platforms). Students will practice analyzing complex datasets and drawing meaningful insights from them. Students will create visually appealing data visualizations to communicate their findings effectively.
Teacher/Student Materials	**6th Gr – Google's Applied Digital Skills Lessons:** Create a Guide to an Area. Research and Develop a Topic, Explore a Topic: Equal Access to Technology, **7th Gr - Google's Applied Digital Skills Lessons:** Research and Develop a Topic, Explore a Topic: Equal Access to Technology, Organize Group Projects in Google Sheets, Understanding and Evaluating Online Searches **8th Gr - Google's Applied Digital Skills Lessons:** Try a Career in Digital Marketing & E-commerce, Understand Your Digital Footprint
Additional Resources	Google's Applied Digital Skills Curriculum Mind Mapping Tools: Coggle, Mind Meister, Mural Digital Tools: Google Sheets, Google Docs, Google Slides, Google Drawings Canva, Adobe Express Collaborative Tools: Nearpod, Padlet, Peardeck, Jamboard, Canva Whiteboard, Whiteboard Team Research Databases: Brittanica, Google Scholar, JSTOR, EBSCO
	Lesson 2
NJSLS	8.1.6.A.1 - Use digital tools to gather, organize, and present information.

	9.4.8.TL.1: Construct a spreadsheet in order to analyze multiple data sets, identify relationships, and facilitate data-based decision-making. 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). 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 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).
Learning Objective	**6th Gr** - Creating Texts and Visualizations with Digital Tools Students will explore different digital tools for creating text (e.g., word processors, collaborative writing platforms). Students will use digital tools to create visualizations (e.g., infographics, charts) to represent data and information effectively. Students will understand how to combine text and visuals to convey information clearly. **7th Gr** - Digital Storytelling and Multimedia Presentations Students will explore digital tools for creating engaging written content and incorporating multimedia elements (e.g., images, videos) into their presentations. Students will practice using storytelling techniques to effectively communicate their ideas in a multimedia format. Students will create a digital storytelling project that combines text and multimedia elements. **8th Gr** - Multimedia Content Creation and Presentation Students will explore advanced multimedia content creation tools (e.g., video editing software, graphic design tools). Students will create multimedia presentations that combine text, visuals, and multimedia elements (e.g., videos, animations). Students will develop effective presentation skills and strategies for engaging an audience.
Teacher/Student Materials	**6th Gr** – Google's Applied Digital Skills: Create a Photo Journal in Google Docs, Write an If-Then Adventure Story, Build a Logo to Express Who You Are, Show Appreciation with Google Slides, Make a Promotional Flyer **7th Gr** - Google's Applied Digital Skills Lessons: Create a Photo Journal in Google Docs, Write an If-Then Adventure Story, Build a Logo to Express Who You Are, Show Appreciation with Google Slides, Make a Promotional Flyer Write a story using Emojis, **8th Gr** - Google's Applied Digital Skills Lessons: Create a Photo Journal in Google Docs, Write an If-Then Adventure Story, Build a Logo to Express Who You Are, Show Appreciation with Google Slides, Make a Promotional Flyer Write a story using Emojis,

Additional Resources	Google's Applied Digital Skills Curriculum Mind Mapping Tools: Coggle, Mind Meister, Mural Digital Tools: Google Sheets, Google Docs, Google Slides, Google Drawings Canva, Adobe Express Collaborative Tools: Nearpod, Padlet, Peardeck, Jamboard, Canva Whiteboard, Whiteboard Team
	Lesson 3
NJSLS	8.1.6.A.1 - Use digital tools to gather, organize, and present information. 9.4.8.TL.1: Construct a spreadsheet in order to analyze multiple data sets, identify relationships, and facilitate data-based decision-making. 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). 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 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).
Learning Objective	**6th Gr** - **Introduction to Digital Models and Simulations** Students will understand the concept of digital models and simulations. Students will explore digital tools for creating simple models and simulations. Students will create a basic digital model or simulation related to a real-life scenario. **7th Gr** - **Introduction to Coding and Computational Thinking** Students will understand the basics of coding and computational thinking. Students will explore coding platforms and tools suitable for their skill level. Students will apply computational thinking strategies to solve problems and create simple programs. **8th Gr** - **Advanced Coding and Programming Concepts** Students will learn advanced programming concepts (e.g., loops, conditionals, functions). Students will explore advanced coding languages or development environments (e.g., Python, JavaScript). Students will apply advanced coding concepts to solve complex problems and create more sophisticated programs.

Teacher/Student Materials	6th - Discover AI in Daily Life, Introduction to Machine Learning 7th - Program a Progress Bar, Create a Guide to an Area 8th - Code a Joke-Telling Talkbot, Create an Editing Tool with Programming,
Additional Resources	Google's Applied Digital Skills Curriculum Mind Mapping Tools: Coggle, Mind Meister, Mural Digital Tools: Google Sheets, Google Docs, Google Slides, Google Drawings Canva, Adobe Express Collaborative Tools: Nearpod, Padlet, Peardeck, Jamboard, Canva Whiteboard, Whiteboard Team
	Lesson 4
NJSLS	8.1.6.A.1 - Use digital tools to gather, organize, and present information. 9.4.8.TL.1: Construct a spreadsheet in order to analyze multiple data sets, identify relationships, and facilitate data-based decision-making. 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). 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 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).
Learning Objective	**6th Gr - Remote Collaboration and Idea Sharing with Digital Tools** Students will explore digital tools that enable remote collaboration (e.g., video conferencing, project management tools). Students will engage in a collaborative project using digital tools to work with peers in real-time. Students will experience the benefits of rapid idea sharing and feedback through digital collaboration. **7th Gr - Remote Collaboration and Online Communication**

	Students will explore digital tools that facilitate collaboration and communication (e.g., video conferencing, collaborative platforms). Students will engage in a collaborative project using digital tools to work with peers in real-time. Students will practice effective online communication and collaboration skills. **8th Gr - Technology Integration and Project-Based Learning** Students will explore project-based learning and how technology can enhance project outcomes. Students will plan and execute a technology-integrated project that incorporates various digital tools. Students will reflect on their project experience and the impact of technology integration on their learning process.
Teacher/Student Materials	6th - Google's Applied Digital Skills: Organize Group Projects in Google Sheets, Organize a Club with Google Sheets, Create a Collaborative Study Guide Welcome New Students with a Presentation, Create a Guessing Game 7th - Google's Applied Digital Skills: Organize Group Projects in Google Sheets, Organize a Club with Google Sheets, Create a Collaborative Study Guide Welcome New Students with a Presentation, Avoid Online Scams, 8th - Google's Applied Digital Skills: Introduction to Machine Learning, Write an If-Then Adventure Story, Create a Guide to an Area, Research and Develop a Topic, Plan and Promote an Event, Build Healthy Digital Habits, Create an Editing Tool with Programming, Explore a Topic: Celebrate Black History
Additional Resources	Google's Applied Digital Skills Curriculum Mind Mapping Tools: Coggle, Mind Meister, Mural Digital Tools: Google Sheets, Google Docs, Google Slides, Google Drawings Canva, Adobe Express Collaborative Tools: Nearpod, Padlet, Peardeck, Jamboard, Canva Whiteboard, Whiteboard Team