

## **BUTLER SCHOOL DISTRICT**

### **Grade 3 Curriculum**

Authored by:  
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Adapted from:  
New Jersey Visual and Performing Arts Standards 2020

Reviewed by:  
Dr. Daniel R. Johnson, Superintendent  
Margaret Lynch, Supervisor of STEAM

Adopted:  
September 2019

Last Updated:  
August 2022

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## **VISION**

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

The Butler School District's STE(A)M Department believes that it is our charge to teach our students the responsibility inherent within the use of the internet and social media, while building their skills within Science, Technology, Engineering, Art, and Math. Through our efforts, our students will learn: how to balance their media usage to protect their well-being; how to ensure their privacy is intact; to understand their digital footprint; how to be responsible with their usage; and how to determine valid and reliable sources.

### ***As a result of a Butler STEAM\_Media education, students will be able to...***

- Synthesize skills across disciplines
- Develop into confident learners.
- Learn at their own pace and advance their understanding in a variety of ways
- Collaborate with others and contribute productively and articulately
- Act responsibly and be accountable for actions, in person and online
- Persevere through difficult situations and tasks and maintain a growth mindset despite adversity.
- Draw on knowledge from a wide variety of topics with flexibility to approach the same problem from different perspectives.
- Evaluate their own reasoning and critique the reasoning of others.

## **COURSE OVERVIEW**

The Butler School District's STE(A)M Curriculum works to expose our students to all aspects of technology starting in kindergarten. As lessons progress, students will be exposed to increasingly complex lessons, allowing them to leverage this knowledge for success during their lives. To balance this, coursework will also teach students how to be responsible stewards,

protecting their privacy and understanding the responsibility that comes with the use of technology.

## **COMPONENTS OF THE COURSE**

### **GOALS**

New Jersey Learning Standards for Career Readiness, Life Literacies and Key Skills, 2020

New Jersey Student Learning Standards for Computer Science and Design Thinking, 2020

### **AASL STANDARDS**

The American Association of School Librarians (AASL) has established Standards for the 21st Century Learner; their purpose is to ensure that all members of the school library field collaborate to:

- Provide leadership in the total education program
- Participate as active partners in the teaching/learning process
- Connect learners with ideas and information
- Prepare students for life-long learning, informed decision-making, a love of reading, and the use of information technologies

### **ASSESSMENT**

Student learning will be assessed through a variety of formative, summative, benchmark, and alternative assessments.

## **SCOPE AND SEQUENCE (*Pacing Guide*)**

Unit of Study	Estimated time
Rings of Responsibility & Password Power Up	6 weeks
This is Me & Our Digital Citizenship Pledge	6 weeks
The Power of Words & Is Seeing Believing?	6 weeks
Chromebook Basics and Media	6 weeks
Library Skills	Ongoing throughout year
Typing and Google Platform	Ongoing throughout year

Design Process	8 weeks
Coding	10 weeks
STEAM applications	18 weeks

### **AFFIRMATIVE ACTION COMPLIANCE STATEMENT**

The Butler Public Schools are committed to the achievement of increased cultural awareness, respect, and equity amongst our students, teachers, and community. We are pleased to present all pupils with information pertaining to possible career, professional, or vocational opportunities which in no way restricts or limits options on the basis of race, color, creed, religion, sex, ancestry, national origin, or socioeconomic status.

### **INTEGRATED ACCOMMODATIONS AND MODIFICATIONS**

**Students with IEPs, 504s, and/or Students at Risk of Failure** Students read authentic texts and write authentic pieces at their independent and instructional reading levels. Individualized feedback is provided through conferences and small groups. The teacher utilizes visual and multi-sensory methods of instruction in addition to assistive technology when needed. Students are provided with graphic organizers and other scaffolded material. Modification of content and product may be deemed necessary based on student needs. Students are provided with testing accommodations and authentic assessments.

**Gifted & Talented Students** Students read authentic texts and write authentic pieces at their independent and instructional reading levels. Individualized feedback is provided to the student through conferences and small groups. Students are engaged through inquiry-based instruction to develop higher-order thinking skills. Activities are developed based on student interests and student goals. Students engage in real-world projects and scenarios.

**English Language Learners** Students read authentic texts and write authentic pieces at their independent and instructional reading levels. Individualized feedback is provided to students through conferences and small groups. Students are pre-taught vocabulary terms and concepts. Teachers engage students through visual learning, including the use of graphic organizers. Teachers use cognates to increase comprehension. The teacher models tasks and concepts, and pairs students learning English with students who have more advanced English language skills. Scaffolding is provided including word walls, sentence frames, think-pair-share, cooperative learning groups, and teacher think-alouds.

### **21ST CENTURY THEMES & SKILLS**

Embedded in many of our units of study and problem based learning projects are the 21st Century Themes as prescribed by the New Jersey Department of Education. These themes are as follows:

- Global Awareness
- Financial, Economic, Business, and Entrepreneurial Literacy
- Civic Literacy
- Health Literacy

#### **CURRICULUM ADDENDA FOR SPECIAL EDUCATION**

This curriculum can be both grade and age appropriate for special education students and serves as a guide for the special education teacher in line with the district's written philosophy of special education, as stated within Policy #6700 concerning Programs for Educationally Disabled Students. Based on the Child Study Team evaluation and consultation with the parent and classroom teacher, an individualized education plan may include modifications to content, instructional procedures, student expectations, and targeted achievement outcomes of this curriculum document in accordance with the identified needs of an eligible student. This educational plan will then become a supplement guide that the classroom teacher, parent, and Child Study Team will use to measure the individual student's performance and achievement.

#### **CURRICULUM ADDENDA FOR ENGLISH LANGUAGE LEARNERS**

This curriculum guide is appropriate and is implemented for all students according to age and grade, and is in line with the district's written philosophy of English language acquisition concerning Bilingual Instruction and English as a Second Language Programs. In accordance with the New Jersey Administrative Code 6A:15, the contents herein provide equitable instructional opportunities for English Language Learners to meet the New Jersey Student Learning Standards and to participate in all academic and non-academic courses. Students enrolled in a Bilingual and/or an ESL program may, in consultation with the classroom teacher and Bilingual and/or ESL teacher, receive modification to content, instructional procedures, student expectations and targeted achievement outcomes of this curriculum document in accordance with the students developmental and linguistic needs.

#### **DIVERSITY AND INCLUSION**

In alignment with the 2020 NJSLS for Computer Science and Design Thinking, curriculum materials will:

Cultivate respect towards minority groups to foster appreciation of their differences as well as their contributions to the advancement of the Computer Science and Design Thinking.

Analyze and appreciate the diverse contributions made in the past (scientifically, economically, politically, and socially) at both the state and federal level as exemplified through technology

Examine grade-level texts that simultaneously highlight STEAM as well as the contributions made to it by those of different genders, ethnicities, and abilities.

Employ technology as a means of communication — whether in regard to empathy, inclusivity, or advocacy — in an effort to creatively inspire solutions for those with specific needs.

Engage in authentic learning experiences that motivate the acquisition and application of varied perspectives in the STEAM

Facilitate the ability to communicate effectively through STEAM while applying content knowledge, interdisciplinary connections, and artistic thinking skills to do so.

Foster active student participation in an inclusive STEAM culture that honors contributors of all genders, ethnicities, and abilities.

Analyze and develop an understanding of how scientific, economic, political, social, and cultural aspects of society influence new technological and artistic processes.

Reflect on both personal and non-personal experiences aimed to promote empathy and inclusivity for all regardless of our differences.

## **UNIT 1 Digital Citizenship - Rings of Responsibility and Password Power Up**

### **UNIT SUMMARY**

Teaching digital citizenship is all about helping kids think beyond themselves and recognize the ripple effects of their actions. Personal responsibility is important, but understanding their responsibilities to others can help kids unlock new ways to learn and connect with their communities -- and even change those communities for the better

Stronger, more secure online passwords are a good idea for everyone. But how can we help kids create better passwords and actually remember them? Use the tips in this lesson to help kids make passwords that are both secure and memorable.

### **NEW JERSEY STUDENT LEARNING STANDARDS for Life Literacies and Key Skills 2020**

**9.1.5.CR.1:** Compare various ways to give back and relate them to your strengths, interests, and other personal factors.

**9.2.5.CAP.1:** Evaluate personal likes and dislikes and identify careers that might be suited to personal likes. •

**9.2.5.CAP.2:** Identify how you might like to earn an income. •

**9.2.5.CAP.3:** Identify qualifications needed to pursue traditional and non-traditional careers and occupations

**9.2.5.CAP.5:** Identify various employee benefits, including income, medical, vacation time, and lifestyle benefits provided by different types of jobs and careers

**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

**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.CT.1:** Identify and gather relevant data that will aid in the problem-solving process

**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.CT.3:** Describe how digital tools and technology may be used to solve problems.

**9.4.5.CT.4:** Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global

**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

**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

**9.4.5.DC.7:** Explain how posting and commenting in social spaces can have positive or negative consequences.

**9.4.5.IML.1:** Evaluate digital sources for accuracy, perspective, credibility and relevance

**9.4.5.IML.2:** Create a visual representation to organize information about a problem or issue

**9.4.5.IML.3:** Represent the same data in multiple visual formats in order to tell a story about the data

**9.4.5.IML.4:** Determine the impact of implicit and explicit media messages on individuals, groups, and society as a whole.

**9.4.5.IML.6:** Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions

**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.

**9.4.5.TL.2:** Sort and filter data in a spreadsheet to analyze findings.

**9.4.5.TL.3:** Format a document using a word processing application to enhance text, change page formatting, and include appropriate images graphics, or symbols.

**9.4.5.TL.5:** Collaborate digitally to produce an artifact

**9.4.8.DC.1:** Analyze the resource citations in online materials for proper use.

**9.4.8.DC.2:** Provide appropriate citation and attribution elements when creating media products

**9.4.8.DC.4:** Explain how information shared digitally is public and can be searched, copied, and potentially seen by public audiences.

**9.4.8.DC.5:** Manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure. •

**9.4.8.DC.6:** Analyze online information to distinguish whether it is helpful or harmful to reputation.

**9.4.8.GCA.1:** Model how to navigate cultural differences with sensitivity and respect

## **INTERDISCIPLINARY CONNECTIONS**

### **NJSLS- English Language Arts:**

**NJSLSA.R1.** Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

**RL.3.1.** Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

**RL.3.5.** Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections.

**NJSLSA.R2.** Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

**NJSLSA.R4.** Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

**NJSLSA.R7.** Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

**RI.3.1.** Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

**RI.3.5.** Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.

**NJSLSA.SL1.** Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

**NJSLSA.SL4.** Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

**SL.3.4.** Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.

### **NJSLS-Mathematics:**

**3.MD.B** Represent and interpret data.

MP.1 Make sense of problems and persevere in solving them.

MP.2 Reason abstractly and quantitatively.

MP.3 Construct viable arguments and critique the reasoning of others.

MP.5 Use appropriate tools strategically.

MP.6 Attend to precision.

### **2020 NJSLS Computer Science and Design Thinking:**

**8.1.5.NI.2:** Describe physical and digital security measures for protecting sensitive personal information.

**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



**8.1.5.DA.1:** Collect, organize, and display data in order to highlight relationships or support a claim.

**8.2.5.ED.2:** Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.

**8.2.5.ED.4:** Explain factors that influence the development and function of products and systems (e.g., resources, criteria, desired features, constraints).

**8.2.5.ED.5:** Describe how specifications and limitations impact the engineering design process. •

**8.2.5.ED.6:** Evaluate and test alternative solutions to a problem using the constraints and tradeoffs identified in the design process

**8.2.5.ITH.2:** Evaluate how well a new tool has met its intended purpose and identify any shortcomings it might have.

**8.2.5.NT.1:** Troubleshoot a product that has stopped working and brainstorm ideas to correct the problem.

#### **2020 NJSLS for Visual and Performing Arts**

**1.2.5.Cr1a:** Generate ideas for media artwork, using a variety of tools, methods and/or materials.

**1.2.5.Cr1d:** Collaboratively form ideas, plans, and models to prepare for media artwork

**1.5.5.Cr1a:** Brainstorm and curate ideas to innovatively solve during artmaking and design projects.

**1.5.5.Cn10a:** Create works of art that reflect community cultural traditions. Discuss using formal and conceptual vocabulary.

#### **21st CENTURY LIFE AND CAREER STANDARDS**

**Career Readiness, Life Literacies, and Key Skills Practices** describe the habits of the mind that all educators in all content areas should seek to develop in their students. They are practices that have been linked to increase college, career, and life success.

Act as a responsible and contributing citizen and employee.

Attend to financial wellbeing

Consider the environmental, social and economic impacts of decisions

Demonstrate creativity and innovation.

Utilize critical thinking to make sense of problems and persevere in problem 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

##### **9.1: Personal Financial Literacy**

Financial Institutions

Financial Psychology

Planning and Budgeting

Risk Management and

Insurance

Civic Financial Responsibility

Credit Profile

Economic and Government

##### **9.2: Career Awareness, Exploration & Preparation, and Training**

Career Awareness (K-2)

Career Awareness and Planning (3-5)

Career Awareness and Planning (6-8)

Career Awareness and Planning (9-12)

##### **9.3: Career and Technical Education**

Agriculture

Architecture

Arts,A/V, Technology

Business Management

Education

Finance

Government

Health Science

Influences Credit and Debt Management	<b>9.4 Life Literacies and Key Skills</b> A. Creativity and Innovation B. Critical Thinking and Problem-solving C. Digital Citizenship D. Global and Cultural Awareness E. Information and Media Literacy F. Technology Literacy	Hospital & Tourism Human Services Information Tech. Law and Public Safety Manufacturing Marketing Science, Technology, Engineering & Math Trans./Logistics
ENDURING UNDERSTANDINGS		ESSENTIAL QUESTIONS
Digital Citizens understand that balance is important with media use Digital Citizens need to be respectful in an online world Digital Citizens need to be responsible in an online world Digital Citizens understand the need to be respectful in an online world Digital Citizens need to be responsible in an online world Digital Citizens make wise decisions regarding online media use Digital Citizens make wise decisions regarding online security and safety		<ul style="list-style-type: none"> <li>- How can we be good digital citizens?</li> <li>- What is my responsibility for being a good digital citizen?</li> <li>- What are the Rings of Responsibility?</li> <li>- How does my behavior affect myself? Others?</li> <li>- How can a strong password help protect your privacy?</li> <li>- What is a password and what is its purpose?</li> </ul>
STUDENT LEARNING OBJECTIVES (Students are learning to / Students are learning that)		
<i>Students are learning to/that...</i> -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. Define the term "password" and describe a password's purpose. Understand why a strong password is important. Practice creating a memorable and strong password.		
SUGGESTED ACTIVITIES		
-Watch videos on the Rings of Responsibility and think -pair -share with a partner how our actions affect ourselves, our community and our world <b>DEI</b> -match an activity to the ring(s) that it affects		

- With a partner, discuss what it means to be a good digital citizen
- Color a handout on their personal Rings
- Discuss with a partner potential passwords
- Think-Pair Share examples of weak passwords
- Think-Pair-Share something in your life that you want to protect. How did you do it?
- Have a group discussion of scenarios in which passwords were stolen
- Come up with ideas for strong passwords by using phrases, symbols, and meaningful numbers

## EVIDENCE OF LEARNING

### Formative Assessments:

Classroom Discussion  
Exit Slip  
Checklists  
Peer Assessment  
Vocabulary Quizzes  
Rubrics  
Participation and teacher observation  
Mini Whiteboard Responses  
Think-Pair-Share  
Concept Map  
Classroom Poll

### Summative Assessment:

Unit Tests  
End-of-Book Test

### Benchmark Assessment:

Teacher created Assessments  
Unit Benchmarks

### Alternative Assessments:

Project  
Portfolio

## INSTRUCTIONAL RESOURCES

### Core Instructional Resource:

[www.commonsense.org/education/digital-citizenship/lesson/your-rings-of-responsibility](http://www.commonsense.org/education/digital-citizenship/lesson/your-rings-of-responsibility)  
  
<https://www.commonsense.org/education/digital-citizenship/lesson/password-power-up>

### Teacher Created Materials

### Supplemental Resources:

[Creative Process rubric](#)

## INTEGRATED ACCOMMODATIONS AND MODIFICATIONS

### Special Education:

Provide modified notes and access to extra copies online  
Provide oral reminders and check student work during independent work time  
Model skills/techniques to be mastered  
Check and sign assignment planner  
Preferential seating  
Pair visual prompts with verbal presentations  
Modified or scaffolded homework and classwork  
Extended time as needed  
Provide graphic organizers and study guides

**English Learners:**

Provide scaffolded assignments and assessments  
Pair visual prompts with visual presentations  
Check and sign assignment planner  
Native Language translation (peer, online assistive technology, translation device, bilingual dictionary)  
Extended time for assignment and assessment as needed  
Highlight key vocabulary  
Use graphic organizers  
Provide verbal and written directions  
Preferential seating with a English-speaking peer

**At Risk of Failure:**

Check and sign assignment planner  
Encourage class participation and reinforce skills  
Model skills and assignments  
Extended to time to complete class work  
Preferential seating  
Provide extra help outside of class and 1:1 instruction when needed  
Communicate regularly with students' other teachers  
Provide positive feedback for tasks well done  
Encourage student to proofread assessments and projects and ask for teacher proofreading of large writing assignments

**Gifted and Talented:**

Pose higher-level thinking questions  
Provide higher level reading and writing materials for literacy based activities  
Probe student to extend thinking beyond the text or connect two or more texts  
Provide alternate or project-based assessments and assignments

**Students with 504 Plans**

Provide extended time as needed  
Modify length of writing assignment  
Provide short breaks within the lesson  
Provide scaffolding for students  
Utilize graphic organizers

## UNIT 2 Digital Citizenship: This is Me & Our Digital Citizenship Pledge

### UNIT SUMMARY

From selfies to social media, many of us create unique online identities for ourselves, and our students are no different. But do kids always understand how others might perceive what they post? Help your students think critically about the online identities they're creating. Belonging to various communities is important for kids' development. But some online communities can be healthier than others. Show your students how they can strengthen both online and in-person communities by creating norms that everyone pledges to uphold.

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**RI.3.5.** Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.

**NJSLSA.SL1.** Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

**NJSLSA.SL4.** Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

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**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

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**8.2.5.ED.2:** Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.

**8.2.5.ED.4:** Explain factors that influence the development and function of products and systems (e.g., resources, criteria, desired features, constraints).

**8.2.5.ED.5:** Describe how specifications and limitations impact the engineering design process. •

**8.2.5.ED.6:** Evaluate and test alternative solutions to a problem using the constraints and tradeoffs identified in the design process

**8.2.5.ITH.2:** Evaluate how well a new tool has met its intended purpose and identify any shortcomings it might have.

**8.2.5.NT.1:** Troubleshoot a product that has stopped working and brainstorm ideas to correct the problem.

### **2020 NJSLS for Visual and Performing Arts**

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**1.2.5.Cr1d:** Collaboratively form ideas, plans, and models to prepare for media artwork

**1.5.5.Cr1a:** Brainstorm and curate ideas to innovatively solve during artmaking and design projects.

**1.5.5.Cn10a:** Create works of art that reflect community cultural traditions. Discuss using formal and conceptual vocabulary.

## 21st CENTURY LIFE AND CAREER STANDARDS

**Career Readiness, Life Literacies, and Key Skills Practices** describe the habits of the mind that all educators in all content areas should seek to develop in their students. They are practices that have been linked to increase college, career, and life success.

Act as a responsible and contributing citizen and employee.

Attend to financial wellbeing

Consider the environmental, social and economic impacts of decisions

Demonstrate creativity and innovation.

Utilize critical thinking to make sense of problems and persevere in problem 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

### 9.1: Personal Financial Literacy

Civic Responsibility

Financial Institutions

Financial Psychology

Planning and Budgeting

Risk Management and

Insurance

Civic Financial Responsibility

Credit Profile

Economic and Government

Influences

Credit and Debt Management

### 9.2: Career Awareness, Exploration & Preparation, and Training

Career Awareness (K-2)

Career Awareness and Planning (3-5)

Career Awareness and Planning (6-8)

Career Awareness and Planning (9-12)

### 9.4 Life Literacies and Key Skills

A. Creativity and Innovation

B Critical Thinking and Problem-solving

C. Digital Citizenship

D. Global and Cultural Awareness

E. Information and Media Literacy

F. Technology Literacy

### 9.3: Career and Technical Education

Agriculture

Architecture

Arts,A/V, Technology

Business Management

Education

Finance

Government

Health Science

Hospital & Tourism

Human Services

Information Tech.

Law and Public Safety

Manufacturing

Marketing

Science, Technology,

Engineering & Math

Trans./Logistics

## ENDURING UNDERSTANDINGS

Digital Citizens make wise decisions regarding online safety and security

Digital Citizens need to be respectful in an online world

## ESSENTIAL QUESTIONS

- How does what I post online affect my identity?

- What makes a strong online community?

- What are norms?



<p>Digital Citizens need to be responsible in an online world</p> <p>Digital Citizens make wise decisions regarding online safety and security</p> <p>Digital Citizens can evaluate the quality of a website used for a task</p> <p>Digital Citizens need to be responsible in an online world</p> <p>Digital Citizens need to be respectful in an online world</p>	<p>- How can norms help us achieve our goals?</p>
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## **STUDENT LEARNING OBJECTIVES (Students are learning to / Students are learning that)**

*Students are learning to/that...*

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.

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.

## **SUGGESTED ACTIVITIES**

-Think-Pair-share when and where people take selfies and make a Google Doc **DEI**

-Draw and describe a selfie that they might take for the general online public to see. Ask a partner if any incorrect assumptions could be made from your selfie

-Brainstorm with a partner what makes you the person you are. Discuss a selfie redo **DEI**

-Discuss with a partner how you describe the people where you live. Do most people know each other? **DEI**

-Discuss with the class -What are our classroom norms?

-With a partner determine online norms for certain browsers and sites

-Color the Digital Pledger Poster and display in class

Perform a gallery walk to share activity results

## **EVIDENCE OF LEARNING**

### **Formative Assessments:**

Classroom Discussion  
Exit Slip  
Checklists  
Peer Assessment  
Vocabulary Quizzes  
Rubrics  
Participation and teacher observation  
Mini Whiteboard Responses  
Think-Pair-Share  
Concept Map  
Classroom Poll

### **Summative Assessment:**

Unit Tests  
End-of-Book Test  
  
NJSLA Test

<b>Benchmark Assessment:</b> Star 360 Benchmark Unit Benchmarks	<b>Alternative Assessments:</b> Project Portfolio
<b>INSTRUCTIONAL RESOURCES</b>	
<b>Core Instructional Resource:</b>  <a href="https://www.commonsense.org/education/digital-citizenship/lesson/this-is-me">https://www.commonsense.org/education/digital-citizenship/lesson/this-is-me</a>  <a href="https://www.commonsense.org/education/digital-citizenship/lesson/our-digital-citizenship-ledg">https://www.commonsense.org/education/digital-citizenship/lesson/our-digital-citizenship-ledg</a>	<b>Supplemental Resources:</b>  <a href="#">Creative Process rubric</a>
<b>INTEGRATED ACCOMMODATIONS AND MODIFICATIONS</b>	
<p><b>Special Education:</b>  Provide modified notes and access to extra copies online  Provide oral reminders and check student work during independent work time  Model skills/techniques to be mastered  Check and sign assignment planner  Preferential seating  Pair visual prompts with verbal presentations  Modified or scaffolded homework and classwork  Extended time as needed  Provide graphic organizers and study guides</p> <p><b>English Learners:</b>  Provide scaffolded assignments and assessments  Pair visual prompts with visual presentations  Check and sign assignment planner  Native Language translation (peer, online assistive technology, translation device, bilingual dictionary)  Extended time for assignment and assessment as needed  Highlight key vocabulary  Use graphic organizers  Provide verbal and written directions  Preferential seating with a English-speaking peer</p> <p><b>At Risk of Failure:</b>  Check and sign assignment planner  Encourage class participation and reinforce skills</p>	

Model skills and assignments  
 Extended to time to complete class work  
 Preferential seating  
 Provide extra help outside of class and 1:1 instruction when needed  
 Communicate regularly with students' other teachers  
 Provide positive feedback for tasks well done  
 Encourage student to proofread assessments and projects and ask for teacher proofreading of large writing assignments

**Gifted and Talented:**

Pose higher-level thinking questions  
 Provide higher level reading and writing materials for literacy based activities  
 Probe student to extend thinking beyond the text or connect two or more texts  
 Provide alternate or project-based assessments and assignments

**Students with 504 Plans**

Provide extended time as needed  
 Modify length of writing assignment  
 Provide short breaks within the lesson  
 Provide scaffolding for students  
 Utilize graphic organizers

**UNIT 3 Digital Citizenship: The Power of Words & Is Seeing Believing?**

**UNIT SUMMARY**

As kids grow, they'll naturally start to communicate more online. But some of what they see could make them feel hurt, sad, angry, or even fearful. Help your students build empathy for others and learn strategies to use when confronted with cyberbullying  
 The web is full of photos, and even videos, that are digitally altered. And it's often hard to tell the difference between what's real and what's fake. Help your students ask critical questions about why someone might alter a photo or video in the first place.

**NEW JERSEY STUDENT LEARNING STANDARDS for Life Literacies and Key Skills 2020**

**9.1.5.CR.1:** Compare various ways to give back and relate them to your strengths, interests, and other personal factors.

**9.2.5.CAP.1:** Evaluate personal likes and dislikes and identify careers that might be suited to personal likes. •

**9.2.5.CAP.2:** Identify how you might like to earn an income. •

**9.2.5.CAP.3:** Identify qualifications needed to pursue traditional and non-traditional careers and occupations

**9.2.5.CAP.5:** Identify various employee benefits, including income, medical, vacation time, and lifestyle benefits provided by different types of jobs and careers

**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

**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.CT.1:** Identify and gather relevant data that will aid in the problem-solving process

**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.CT.3:** Describe how digital tools and technology may be used to solve problems.

**9.4.5.CT.4:** Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global

**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

**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

**9.4.5.DC.7:** Explain how posting and commenting in social spaces can have positive or negative consequences.

**9.4.5.IML.1:** Evaluate digital sources for accuracy, perspective, credibility and relevance

**9.4.5.IML.2:** Create a visual representation to organize information about a problem or issue

**9.4.5.IML.3:** Represent the same data in multiple visual formats in order to tell a story about the data

**9.4.5.IML.4:** Determine the impact of implicit and explicit media messages on individuals, groups, and society as a whole.

**9.4.5.IML.6:** Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions

**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.

**9.4.5.TL.2:** Sort and filter data in a spreadsheet to analyze findings.

**9.4.5.TL.3:** Format a document using a word processing application to enhance text, change page formatting, and include appropriate images graphics, or symbols.

**9.4.5.TL.5:** Collaborate digitally to produce an artifact

**9.4.8.DC.1:** Analyze the resource citations in online materials for proper use.

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**9.4.8.DC.4:** Explain how information shared digitally is public and can be searched, copied, and potentially seen by public audiences.

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**9.4.8.GCA.1:** Model how to navigate cultural differences with sensitivity and respect

## **INTERDISCIPLINARY CONNECTIONS**

### **NJSLS- English Language Arts:**

**NJSLSA.R1.** Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

**RL.3.1.** Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

**RL.3.5.** Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections.

**NJSLSA.R2.** Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

**NJSLSA.R4.** Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

**NJSLSA.R7.** Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

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**NJSLSA.SL1.** Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

**NJSLSA.SL4.** Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

**SL.3.4.** Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.

### **NJSLS-Mathematics:**

**3.MD.B** Represent and interpret data.

MP.1 Make sense of problems and persevere in solving them.

MP.2 Reason abstractly and quantitatively.

MP.3 Construct viable arguments and critique the reasoning of others.

MP.5 Use appropriate tools strategically.

MP.6 Attend to precision.

### **2020 NJSLS Computer Science and Design Thinking:**

**8.1.5.NI.2:** Describe physical and digital security measures for protecting sensitive personal information.

**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

**8.1.5.DA.1:** Collect, organize, and display data in order to highlight relationships or support a claim.

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**8.2.5.ED.4:** Explain factors that influence the development and function of products and systems (e.g., resources, criteria, desired features, constraints).

**8.2.5.ED.5:** Describe how specifications and limitations impact the engineering design process. •

**8.2.5.ED.6:** Evaluate and test alternative solutions to a problem using the constraints and tradeoffs identified in the design process

**8.2.5.ITH.2:** Evaluate how well a new tool has met its intended purpose and identify any shortcomings it might have.

**8.2.5.NT.1:** Troubleshoot a product that has stopped working and brainstorm ideas to correct the problem.

### **2020 NJSLS for Visual and Performing Arts**

**1.2.5.Cr1a:** Generate ideas for media artwork, using a variety of tools, methods and/or materials.

**1.2.5.Cr1d:** Collaboratively form ideas, plans, and models to prepare for media artwork

**1.5.5.Cr1a:** Brainstorm and curate ideas to innovatively solve during artmaking and design projects.

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### **9.1: Personal Financial Literacy**

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Planning and Budgeting

Risk Management and

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### **9.2: Career Awareness, Exploration & Preparation, and Training**

Career Awareness (K-2)

Career Awareness and Planning (3-5)

Career Awareness and Planning (6-8)

### **9.3: Career and Technical Education**

Agriculture

Architecture

Arts,A/V, Technology

Business Management

Education

Finance

Civic Financial Responsibility Credit Profile Economic and Government Influences Credit and Debt Management	Career Awareness and Planning (9-12)  <b>9.4 Life Literacies and Key Skills</b> A. Creativity and Innovation B. Critical Thinking and Problem-solving C. Digital Citizenship D. Global and Cultural Awareness E. Information and Media Literacy F. Technology Literacy	Government Health Science Hospital & Tourism Human Services Information Tech. Law and Public Safety Manufacturing Marketing Science, Technology, Engineering & Math Trans./Logistics
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ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
Digital Citizens communicate with real people using real tools Digital Citizens need to be respectful in an online world Digital Citizens need to be responsible in an online world Digital Citizens make wise decisions regarding online safety and security Digital Citizens understand that balance is important with media use Digital Citizens need to be respectful in an online world Digital Citizens need to be responsible in an online world Digital Citizens communicate with real people using real tools	<ul style="list-style-type: none"> <li>- What should you do when someone uses mean or hurtful language on the internet?</li> <li>- Why do people alter digital photos and videos?</li> </ul>

STUDENT LEARNING OBJECTIVES (Students are learning to / Students are learning that)
<i>Students are learning to/that...</i> -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 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. -discuss with a partner if the photos are real or fake -Think-Pair-Share why people retouch photos -Watch two you-tube videos and discuss as a class how the videos were made

-In groups, analyze retouched photos and brainstorm reasons why they might have been done

### SUGGESTED ACTIVITIES

-Watch the lesson slide show. Think-Pair-Share on what the internet is  
What video-"The Power of Words" Use STOP to practice kindness online (Step away-Tell a trusted adult-OK sites only-Pause and think online) **DEI**  
Play the OK game in a group- move to the OK/Not OK side of the room when read messages sent in an online gaming room between players

### EVIDENCE OF LEARNING

**Formative Assessments:**

Classroom Discussion  
Exit Slip  
Checklists  
Peer Assessment  
Vocabulary Quizzes  
Rubrics  
Participation and teacher observation  
Mini Whiteboard Responses  
Think-Pair-Share  
Concept Map  
Classroom Poll

**Summative Assessment:**

Unit Tests  
End-of-Book Test  
  
NJSLA Test

**Benchmark Assessment:**

Star 360 Benchmark  
Unit Benchmarks

**Alternative Assessments:**

Project  
Portfolio

### INSTRUCTIONAL RESOURCES

**Core Instructional Resource:**

<https://www.commonsense.org/education/digital-citizenship/lesson/the-power-of-words>

<https://www.commonsense.org/education/digital-citizenship/lesson/is-seeing-believing>

**Supplemental Resources:**

[Creative Process rubric](#)

### INTEGRATED ACCOMMODATIONS AND MODIFICATIONS

**Special Education:**



Provide modified notes and access to extra copies online  
Provide oral reminders and check student work during independent work time  
Model skills/techniques to be mastered  
Check and sign assignment planner  
Preferential seating  
Pair visual prompts with verbal presentations  
Modified or scaffolded homework and classwork  
Extended time as needed  
Provide graphic organizers and study guides

**English Learners:**

Provide scaffolded assignments and assessments  
Pair visual prompts with visual presentations  
Check and sign assignment planner  
Native Language translation (peer, online assistive technology, translation device, bilingual dictionary)  
Extended time for assignment and assessment as needed  
Highlight key vocabulary  
Use graphic organizers  
Provide verbal and written directions  
Preferential seating with a English-speaking peer

**At Risk of Failure:**

Check and sign assignment planner  
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**Students with 504 Plans**

Provide extended time as needed  
Modify length of writing assignment  
Provide short breaks within the lesson  
Provide scaffolding for students  
Utilize graphic organizers

## UNIT 4 Media: Chromebook Basics and Media Center

### UNIT SUMMARY

This unit will assist students in learning how to turn on their chromebooks, charge their chromebook, and access apps.

### NEW JERSEY STUDENT LEARNING STANDARDS for Life Literacies and Key Skills 2020

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 Use technology to enhance productivity,increase collaboration and communicate effectively  
 Work productively in teams while using cultural/global competence

**9.1: Personal Financial Literacy**

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 Financial Institutions  
 Financial Psychology  
 Planning and Budgeting  
 Risk Management and Insurance  
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 Credit Profile  
 Economic and Government Influences  
 Credit and Debt Management

**9.2: Career Awareness, Exploration & Preparation, and Training**

Career Awareness (K-2)  
 Career Awareness and Planning (3-5)  
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A. Creativity and Innovation  
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 Business Management  
 Education  
 Finance  
 Government  
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 Hospital & Tourism  
 Human Services  
 Information Tech.  
 Law and Public Safety  
 Manufacturing  
 Marketing  
 Science, Technology, Engineering & Math  
 Trans./Logistics

**ENDURING UNDERSTANDINGS**

Digital Citizens understand what a chromebook is and what it can do for the learning process  
 Digital Citizens can perform online searches efficiently

**ESSENTIAL QUESTIONS**

- What can I do with a chromebook?
- How do I sign on to a chromebook?
- How can I access certain sites?
- How can I create products in the Google platform?

**STUDENT LEARNING OBJECTIVES (Students are learning to / Students are learning that)**

*Students are learning to/that...*  
 Use and care for a chromebook  
 Perform searches  
 Create a doc in the Google platform

Create a sheet in the Google platform

### SUGGESTED ACTIVITIES

- Turn on a chromebook and access an application
- Learn about and use Pair Programming to learn about computers
- Create Docs and Sheets with a partner illustrating the chromebook use and how to search
- Create a Sheet that keeps track of media use on a weekly basic
- Discuss Chromebook usage throughout the world and how they are used to help with communication **DEI**

### EVIDENCE OF LEARNING

**Formative Assessments:**

Classroom Discussion  
Exit Slip  
Checklists  
Peer Assessment  
Vocabulary Quizzes  
Rubrics  
Participation and teacher observation  
Mini Whiteboard Responses  
Think-Pair-Share  
Concept Map  
Classroom Poll

**Summative Assessment:**

Unit Tests  
End-of-Book Test  
  
NJSLA Test

**Benchmark Assessment:**

Star 360 Benchmark  
Unit Benchmarks

**Alternative Assessments:**

Project  
Portfolio

### INSTRUCTIONAL RESOURCES

**Core Instructional Resource:**

Code.org K-5 Educator  
Resources:  
<https://curriculum.code.org/csf-19/coursea/>

**Supplemental Resources:**

[Creative Process rubric](#)

### INTEGRATED ACCOMMODATIONS AND MODIFICATIONS

**Special Education:**

Provide modified notes and access to extra copies online  
Provide oral reminders and check student work during independent work time  
Model skills/techniques to be mastered  
Check and sign assignment planner

Preferential seating  
Pair visual prompts with verbal presentations  
Modified or scaffolded homework and classwork  
Extended time as needed  
Provide graphic organizers and study guides

**English Learners:**

Provide scaffolded assignments and assessments  
Pair visual prompts with visual presentations  
Check and sign assignment planner  
Native Language translation (peer, online assistive technology, translation device, bilingual dictionary)  
Extended time for assignment and assessment as needed  
Highlight key vocabulary  
Use graphic organizers  
Provide verbal and written directions  
Preferential seating with a English-speaking peer

**At Risk of Failure:**

Check and sign assignment planner  
Encourage class participation and reinforce skills  
Model skills and assignments  
Extended to time to complete class work  
Preferential seating  
Provide extra help outside of class and 1:1 instruction when needed  
Communicate regularly with students' other teachers  
Provide positive feedback for tasks well done  
Encourage student to proofread assessments and projects and ask for teacher proofreading of large writing assignments

**Gifted and Talented:**

Pose higher-level thinking questions  
Provide higher level reading and writing materials for literacy based activities  
Probe student to extend thinking beyond the text or connect two or more texts  
Provide alternate or project-based assessments and assignments

**Students with 504 Plans**

Provide extended time as needed  
Modify length of writing assignment  
Provide short breaks within the lesson  
Provide scaffolding for students  
Utilize graphic organizers

## UNIT SUMMARY

This unit will allow the students to understand the rules and routines of the media center.

## NEW JERSEY STUDENT LEARNING STANDARDS for Life Literacies and Key Skills 2020

**9.1.5.CR.1:** Compare various ways to give back and relate them to your strengths, interests, and other personal factors.

**9.2.5.CAP.1:** Evaluate personal likes and dislikes and identify careers that might be suited to personal likes. •

**9.2.5.CAP.2:** Identify how you might like to earn an income. •

**9.2.5.CAP.3:** Identify qualifications needed to pursue traditional and non-traditional careers and occupations

**9.2.5.CAP.5:** Identify various employee benefits, including income, medical, vacation time, and lifestyle benefits provided by different types of jobs and careers

**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

**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.CT.1:** Identify and gather relevant data that will aid in the problem-solving process

**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.CT.3:** Describe how digital tools and technology may be used to solve problems.

**9.4.5.CT.4:** Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global

**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

**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

**9.4.5.DC.7:** Explain how posting and commenting in social spaces can have positive or negative consequences.

**9.4.5.IML.1:** Evaluate digital sources for accuracy, perspective, credibility and relevance

**9.4.5.IML.2:** Create a visual representation to organize information about a problem or issue

**9.4.5.IML.3:** Represent the same data in multiple visual formats in order to tell a story about the data

**9.4.5.IML.4:** Determine the impact of implicit and explicit media messages on individuals, groups, and society as a whole.

**9.4.5.IML.6:** Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions



**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.

**9.4.5.TL.2:** Sort and filter data in a spreadsheet to analyze findings.

**9.4.5.TL.3:** Format a document using a word processing application to enhance text, change page formatting, and include appropriate images graphics, or symbols.

**9.4.5.TL.5:** Collaborate digitally to produce an artifact

**9.4.8.DC.1:** Analyze the resource citations in online materials for proper use.

**9.4.8.DC.2:** Provide appropriate citation and attribution elements when creating media products

**9.4.8.DC.4:** Explain how information shared digitally is public and can be searched, copied, and potentially seen by public audiences.

**9.4.8.DC.5:** Manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure. •

**9.4.8.DC.6:** Analyze online information to distinguish whether it is helpful or harmful to reputation.

**9.4.8.GCA.1:** Model how to navigate cultural differences with sensitivity and respect

## INTERDISCIPLINARY CONNECTIONS

### NJSLS- English Language Arts:

**NJSLSA.R1.** Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

**RL.3.1.** Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

**RL.3.5.** Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections.

**NJSLSA.R2.** Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

**NJSLSA.R4.** Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

**NJSLSA.R7.** Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

**RI.3.1.** Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

**RI.3.5.** Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.

**NJSLSA.SL1.** Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

**NJSLSA.SL4.** Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

**SL.3.4.** Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.

**NJSLS-Mathematics:**

**3.MD.B** Represent and interpret data.

MP.1 Make sense of problems and persevere in solving them.

MP.2 Reason abstractly and quantitatively.

MP.3 Construct viable arguments and critique the reasoning of others.

MP.5 Use appropriate tools strategically.

MP.6 Attend to precision.

**2020 NJSLS Computer Science and Design Thinking:**

**8.1.5.NI.2:** Describe physical and digital security measures for protecting sensitive personal information.

**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

**8.1.5.DA.1:** Collect, organize, and display data in order to highlight relationships or support a claim.

**8.2.5.ED.2:** Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.

**8.2.5.ED.4:** Explain factors that influence the development and function of products and systems (e.g., resources, criteria, desired features, constraints).

**8.2.5.ED.5:** Describe how specifications and limitations impact the engineering design process. •

**8.2.5.ED.6:** Evaluate and test alternative solutions to a problem using the constraints and tradeoffs identified in the design process

**8.2.5.ITH.2:** Evaluate how well a new tool has met its intended purpose and identify any shortcomings it might have.

**8.2.5.NT.1:** Troubleshoot a product that has stopped working and brainstorm ideas to correct the problem.

**2020 NJSLS for Visual and Performing Arts**

**1.2.5.Cr1a:** Generate ideas for media artwork, using a variety of tools, methods and/or materials.

**1.2.5.Cr1d:** Collaboratively form ideas, plans, and models to prepare for media artwork

**1.5.5.Cr1a:** Brainstorm and curate ideas to innovatively solve during artmaking and design projects.

**1.5.5.Cn10a:** Create works of art that reflect community cultural traditions. Discuss using formal and conceptual vocabulary.

**21st CENTURY LIFE AND CAREER STANDARDS**

**Career Readiness, Life Literacies, and Key Skills Practices** describe the habits of the mind that all educators in all content areas should seek to develop in their students. They are practices that have been linked to increase college, career, and life success.

Act as a responsible and contributing citizen and employee.

Attend to financial wellbeing

Consider the environmental, social and economic impacts of decisions

Demonstrate creativity and innovation.

Utilize critical thinking to make sense of problems and persevere in problem 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

### 9.1: Personal Financial Literacy

Civic Responsibility  
 Financial Institutions  
 Financial Psychology  
 Planning and Budgeting  
 Risk Management and Insurance  
 Civic Financial Responsibility  
 Credit Profile  
 Economic and Government Influences  
 Credit and Debt Management

### 9.2: Career Awareness, Exploration & Preparation, and Training

Career Awareness (K-2)  
 Career Awareness and Planning (3-5)  
 Career Awareness and Planning (6-8)  
 Career Awareness and Planning (9-12)

### 9.4 Life Literacies and Key Skills

A. Creativity and Innovation  
 B Critical Thinking and Problem-solving  
 C. Digital Citizenship  
 D. Global and Cultural Awareness  
 E. Information and Media Literacy  
 F. Technology Literacy

### 9.3: Career and Technical Education

Agriculture  
 Architecture  
 Arts,A/V, Technology  
 Business Management  
 Education  
 Finance  
 Government  
 Health Science  
 Hospital & Tourism  
 Human Services  
 Information Tech.  
 Law and Public Safety  
 Manufacturing  
 Marketing  
 Science, Technology, Engineering & Math  
 Trans./Logistics

## ENDURING UNDERSTANDINGS

Students understand media center rules and routines  
 Students display proper behaviour in the media center

## ESSENTIAL QUESTIONS

- What does it mean to be a responsible media center patron?
- How can the media center enhance my life?

## STUDENT LEARNING OBJECTIVES (Students are learning to / Students are learning that)

*Students are learning to/that...*

- Be a responsible media student
- Be respectful of others while in the media center

## SUGGESTED ACTIVITIES

Participate in a scavenger hunt to find important key points of the media center  
 Complete a flipgrid or kahoot with a partner depicting media center rules and guidelines

Read a fiction and a non-fiction book of choice **DEI**  
Expose students to a variety of authors and different types of quality literature. **DEI**

#### EVIDENCE OF LEARNING

**Formative Assessments:**

Classroom Discussion  
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Checklists  
Peer Assessment  
Vocabulary Quizzes  
Rubrics  
Participation and teacher observation  
Mini Whiteboard Responses  
Think-Pair-Share  
Concept Map  
Classroom Poll

**Summative Assessment:**

Unit Tests  
End-of-Book Test  
  
NJSLA Test

**Benchmark Assessment:**

Star 360 Benchmark  
Unit Benchmarks

**Alternative Assessments:**

Project  
Portfolio

#### INSTRUCTIONAL RESOURCES

**Core Instructional Resource:**

<http://www.scholastic.com/teachers/student-activities>  
  
<http://www.librarygames.com/>  
  
<http://www.librarypatch.com/>  
<https://www.youtube.com/>  
  
<http://www.articlesbase.com/childhood-education-articles/10-important-tips-for-getting-children-to-read-292772.html>  
<https://www.teachervision.com/>

**Supplemental Resources:**

[Creative Process rubric](#)

#### INTEGRATED ACCOMMODATIONS AND MODIFICATIONS

**Special Education:**

Provide modified notes and access to extra copies online  
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**Students with 504 Plans**

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Provide short breaks within the lesson  
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## UNIT 6 Google Platform and Typing

### UNIT SUMMARY

In this unit, students will learn proper finger placement and keyboarding skills. Students will create a document, begin research and cite sources.

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**Career Readiness, Life Literacies, and Key Skills Practices** describe the habits of the mind that all educators in all content areas should seek to develop in their students. They are practices that have been linked to increase college, career, and life success.



Act as a responsible and contributing citizen and employee.  
 Attend to financial wellbeing  
 Consider the environmental, social and economic impacts of decisions  
 Demonstrate creativity and innovation.  
 Utilize critical thinking to make sense of problems and persevere in problem 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

### 9.1: Personal Financial Literacy

Civic Responsibility  
 Financial Institutions  
 Financial Psychology  
 Planning and Budgeting  
 Risk Management and Insurance  
 Civic Financial Responsibility  
 Credit Profile  
 Economic and Government Influences  
 Credit and Debt Management

### 9.2: Career Awareness, Exploration & Preparation, and Training

Career Awareness (K-2)  
 Career Awareness and Planning (3-5)  
 Career Awareness and Planning (6-8)  
 Career Awareness and Planning (9-12)

### 9.4 Life Literacies and Key Skills

A. Creativity and Innovation  
 B Critical Thinking and Problem-solving  
 C. Digital Citizenship  
 D. Global and Cultural Awareness  
 E. Information and Media Literacy  
 F. Technology Literacy

### 9.3: Career and Technical Education

Agriculture  
 Architecture  
 Arts,A/V, Technology  
 Business Management  
 Education  
 Finance  
 Government  
 Health Science  
 Hospital & Tourism  
 Human Services  
 Information Tech.  
 Law and Public Safety  
 Manufacturing  
 Marketing  
 Science, Technology, Engineering & Math  
 Trans./Logistics

## ENDURING UNDERSTANDINGS

Digital tools/technologies may have multiple purposes used in creating, communicating, problem solving, and entertaining, among others.

Manipulating, navigating, and effectively using digital tools/technology is a developed proficiency that requires practice.

Technology is used both personally and professionally to research, analyze, communicate, create, and store information

## ESSENTIAL QUESTIONS

- What are digital tools?
- 
- Why are digital tools (computers/apps/programs/etc.) used by people?
- 
- What can one do with digital tools?
- 
- How can I use technology to solve problems and create innovative solutions?
-

A person's ability to communicate and collaborate both locally and globally is enhanced by the use of digital tools/technology.

The design process is a systematic approach to solving problems.

- How can technology help people collaborate and communicate effectively?
- 
- How can technology help people collaborate and communicate effectively?
- 
- How can one develop a solution for a problem using the design process?

### **STUDENT LEARNING OBJECTIVES (Students are learning to / Students are learning that)**

*Students are learning to/that...*

- Engineering design is a creative process for meeting human needs or wants that can result in multiple solutions.
- Human needs and desires determine which new tools are developed.
- 
- Technology has changed the way people live and work.
- 
- Individuals use computing devices to perform a variety of tasks accurately and quickly. Computing devices interpret and follow the instructions they are given literally
- 
- A computing system is composed of software and hardware.
- 
- Computing technology has positively and negatively changed the way individuals live and work (e.g., entertainment, communication, productivity tools).
- 
- Individuals collect, use, and display data about individuals and the world around them.
- 
- Computers store data that can be retrieved later. Data can be copied, stored in multiple locations, and retrieved.
- 
- A sequence of steps can be expressed as an algorithm that a computer can process.
- 
- Complex tasks can be broken down into simpler instructions, some of which can be broken down even further

### **SUGGESTED ACTIVITIES**

Typing Practice  
Timed Typing Practice  
Create a SHEET to keep track of books read from the media center (ongoing)  
Create a DOC to use for typing practice  
Utilize databases to conduct research **DEI**  
Create a Google Doc or Slide to share research  
Discuss the various typing speeds of people around the world **DEI**

EVIDENCE OF LEARNING		
<b>Formative Assessments:</b> Classroom Discussion Exit Slip Checklists Peer Assessment Vocabulary Quizzes Rubrics Participation and teacher observation Mini Whiteboard Responses Think-Pair-Share Concept Map Classroom Poll		<b>Summative Assessment:</b> Unit Tests End-of-Book Test  NJSLA Test
<b>Benchmark Assessment:</b> Star 360 Benchmark Unit Benchmarks		<b>Alternative Assessments:</b> Project Portfolio
INSTRUCTIONAL RESOURCES		
<b>Core Instructional Resource:</b>  Code.org    K-5    Educator Resources: <a href="https://curriculum.code.org/csf-19/coursea/">https://curriculum.code.org/csf-19/coursea/</a>		<b>Supplemental Resources:</b>  <a href="#">Creative Process rubric</a>  <a href="http://www.scholastic.com/teachers/student-activities">http://www.scholastic.com/teachers/student-activities</a> <a href="http://www.librarygames.com/">http://www.librarygames.com/</a> <a href="http://www.librarypatch.com/">http://www.librarypatch.com/</a> <a href="https://www.youtube.com/">https://www.youtube.com/</a> <a href="http://www.articlesbase.com/childhood-education-articles/10-important-tips-for-getting-children-to-read-292772.html">http://www.articlesbase.com/childhood-education-articles/10-important-tips-for-getting-children-to-read-292772.html</a> <a href="https://www.teachervision.com/">https://www.teachervision.com/</a> various websites as appropriate
INTEGRATED ACCOMMODATIONS AND MODIFICATIONS		
<b>Special Education:</b> Provide modified notes and access to extra copies online Provide oral reminders and check student work during independent work time Model skills/techniques to be mastered Check and sign assignment planner Preferential seating		

Pair visual prompts with verbal presentations  
Modified or scaffolded homework and classwork  
Extended time as needed  
Provide graphic organizers and study guides

**English Learners:**

Provide scaffolded assignments and assessments  
Pair visual prompts with visual presentations  
Check and sign assignment planner  
Native Language translation (peer, online assistive technology, translation device, bilingual dictionary)  
Extended time for assignment and assessment as needed  
Highlight key vocabulary  
Use graphic organizers  
Provide verbal and written directions  
Preferential seating with a English-speaking peer

**At Risk of Failure:**

Check and sign assignment planner  
Encourage class participation and reinforce skills  
Model skills and assignments  
Extended to time to complete class work  
Preferential seating  
Provide extra help outside of class and 1:1 instruction when needed  
Communicate regularly with students' other teachers  
Provide positive feedback for tasks well done  
Encourage student to proofread assessments and projects and ask for teacher proofreading of large writing assignments

**Gifted and Talented:**

Pose higher-level thinking questions  
Provide higher level reading and writing materials for literacy based activities  
Probe student to extend thinking beyond the text or connect two or more texts  
Provide alternate or project-based assessments and assignments

**Students with 504 Plans**

Provide extended time as needed  
Modify length of writing assignment  
Provide short breaks within the lesson  
Provide scaffolding for students  
Utilize graphic organizers

**UNIT 7 STEAM**

## UNIT SUMMARY

This unit will work to introduce students to the Makerspace and the concept of STE(A)M education.

## NEW JERSEY STUDENT LEARNING STANDARDS

### 2020 NJSLS Computer Science and Design Thinking:

**8.1.5.NI.2:** Describe physical and digital security measures for protecting sensitive personal information.

**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

**8.1.5.DA.1:** Collect, organize, and display data in order to highlight relationships or support a claim

**8.1.5.AP.3:** Create programs that include sequences, events, loops, and conditionals.

**8.2.5.ED.1:** Explain the functions of a system and its subsystems.

**8.2.5.ED.2:** Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.

**8.2.5.ED.3:** Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task.

**8.2.5.ED.4:** Explain factors that influence the development and function of products and systems (e.g., resources, criteria, desired features, constraints).

**8.2.5.ED.5:** Describe how specifications and limitations impact the engineering design process.

**8.2.5.ED.6:** Evaluate and test alternative solutions to a problem using the constraints and tradeoffs identified in the design process.

## INTERDISCIPLINARY CONNECTIONS

### NJSLS- English Language Arts:

**NJSLSA.R1.** Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

**RL.3.1.** Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

**RL.3.5.** Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections.

**NJSLSA.R2.** Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

**NJSLSA.R4.** Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

**NJSLSA.R7.** Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

**RI.3.1.** Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

**RI.3.5.** Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.

**NJSLSA.SL1.** Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

**NJSLSA.SL4.** Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

**SL.3.4.** Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.

#### **NJSLS-Mathematics:**

**3.MD.B** Represent and interpret data.

MP.1 Make sense of problems and persevere in solving them.

MP.2 Reason abstractly and quantitatively.

MP.3 Construct viable arguments and critique the reasoning of others.

MP.5 Use appropriate tools strategically.

MP.6 Attend to precision.

#### **2020 NJSLS Science**

**3-5-ETS1-1** Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

**3-5-ETS1-2** Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

**3-5-ETS1-3** Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

#### **2020 NJSLS for Visual and Performing Arts - Media Arts**

**1.2.5.Cr1a:** Generate ideas for media artwork, using a variety of tools, methods and/or materials.

**1.2.5.Cr1d:** Collaboratively form ideas, plans, and models to prepare for media artwork

**1.5.5.Cr1a:** Brainstorm and curate ideas to innovatively solve during artmaking and design projects.

**1.5.5.Cn10a:** Create works of art that reflect community cultural traditions. Discuss using formal and conceptual vocabulary.

#### **2020 NJSLS Life Literacies and Key skills:**

**9.1.5.CR.1:** Compare various ways to give back and relate them to your strengths, interests, and other personal factors.

**9.4.5.Cl.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

**9.4.5.Cl.3:** Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity

**9.4.5.CT.1:** Identify and gather relevant data that will aid in the problem-solving process

**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.CT.3:** Describe how digital tools and technology may be used to solve problems.

**9.4.5.CT.4:** Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global

**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

**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

**9.4.5.DC.7:** Explain how posting and commenting in social spaces can have positive or negative consequences.

**9.4.5.IML.1:** Evaluate digital sources for accuracy, perspective, credibility and relevance

**9.4.5.IML.2:** Create a visual representation to organize information about a problem or issue

**9.4.5.IML.3:** Represent the same data in multiple visual formats in order to tell a story about the data

**9.4.5.IML.4:** Determine the impact of implicit and explicit media messages on individuals, groups, and society as a whole.

**9.4.5.IML.6:** Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions

**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.

**9.4.5.TL.2:** Sort and filter data in a spreadsheet to analyze findings.

**9.4.5.TL.3:** Format a document using a word processing application to enhance text, change page formatting, and include appropriate images graphics, or symbols.

**9.4.5.TL.5:** Collaborate digitally to produce an artifact

**9.4.8.DC.1:** Analyze the resource citations in online materials for proper use.

**9.4.8.DC.2:** Provide appropriate citation and attribution elements when creating media products

**9.4.8.DC.4:** Explain how information shared digitally is public and can be searched, copied, and potentially seen by public audiences.

**9.4.8.DC.5:** Manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure. •

**9.4.8.DC.6:** Analyze online information to distinguish whether it is helpful or harmful to reputation.

**9.4.8.GCA.1:** Model how to navigate cultural differences with sensitivity and respect

## **21st CENTURY LIFE AND CAREER STANDARDS**

**Career Readiness, Life Literacies, and Key Skills Practices** describe the habits of the mind that all educators in all content areas should seek to develop in their students. They are practices that have been linked to increase college, career, and life success.

Act as a responsible and contributing citizen and employee.

Attend to financial wellbeing

Consider the environmental, social and economic impacts of decisions

Demonstrate creativity and innovation.

Utilize critical thinking to make sense of problems and persevere in problem 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

## ENDURING UNDERSTANDINGS

**EU 1.1** Creative development can be an essential process for creating computational artifacts.

**EU 5.1** Programs can be developed for creative expression, to satisfy personal curiosity, to create new knowledge, or to solve problems (to help people, organizations, or society).

## ESSENTIAL QUESTIONS

- What is STEAM?
- What is creativity?
- How do we use the arts to communicate?
- What makes a thoughtful critique?
- How does this work make you feel or think differently?

## STUDENT LEARNING OBJECTIVES (Students are learning to / Students are learning that)

*Students are learning to/that...*

- Define STEAM.
- Explain creativity and how to use communication effectively.
- Analyze work with constructive criticism.
- Reflect on personal feelings related a projects success or failure.
- Define Keva Planks, Kinnects and Connecting Straws as tools.
- Learn and discover how communication affects construction.
- Analyze how their final structure might be different from their original concept.
- Use what others have done with their structure to improve theirs

## SUGGESTED ACTIVITIES

- Construct simple and complex designs.
- Prompt group discussion and cooperation.
- Build together: plan, build and present.
- Discuss innovators around the world and their impact on STEAM. **DEI**
- Wings Wanted Challenge
- Mystery Bag Challenge

## EVIDENCE OF LEARNING

### Formative Assessments:

Classroom Discussion  
 Exit Slip  
 Checklists  
 Peer Assessment

### Summative Assessment:

Unit Tests  
 End-of-Book Test  
 NJSLA Test



Vocabulary Quizzes Rubrics Participation and teacher observation Mini Whiteboard Responses Think-Pair-Share Concept Map Classroom Poll					
<b>Benchmark Assessment:</b> Star 360 Benchmark Unit Benchmarks	<b>Alternative Assessments:</b> Project Portfolio				
<b>INSTRUCTIONAL RESOURCES</b>					
<b>Core Instructional Resource:</b>  <a href="#">Westenwerks Shoe Challenge</a>  <a href="#">The Engineering Process</a>  <a href="#">Design new Wings for a Bat</a>	<table border="1"> <thead> <tr> <th data-bbox="518 697 927 741">Leveled Texts:</th> <th data-bbox="927 697 1334 741">Supplemental Resources:</th> </tr> </thead> <tbody> <tr> <td data-bbox="518 741 927 1262"> <b>The Most Magnificent Thing</b>  by Ashley Spires  <b>Perfect</b> by Max Amato  <a href="#">The Elves and the Shoemaker</a> </td><td data-bbox="927 741 1334 1262"> <a href="#">Creative Process rubric</a>   <a href="https://static1.squarespace.com/static/52c31d05e4b02fca6772809d/t/52d1f088e4b0587f97c79e57/1389490312666/KEVA+Lesson+Plan+130909+Mindware.pdf">https://static1.squarespace.com/static/52c31d05e4b02fca6772809d/t/52d1f088e4b0587f97c79e57/1389490312666/KEVA+Lesson+Plan+130909+Mindware.pdf</a>   <a href="https://stem.uark.edu/_resources/pdf/2016.construction.block.activities.pdf">https://stem.uark.edu/_resources/pdf/2016.construction.block.activities.pdf</a> </td></tr> </tbody> </table>	Leveled Texts:	Supplemental Resources:	<b>The Most Magnificent Thing</b> by Ashley Spires <b>Perfect</b> by Max Amato <a href="#">The Elves and the Shoemaker</a>	<a href="#">Creative Process rubric</a>  <a href="https://static1.squarespace.com/static/52c31d05e4b02fca6772809d/t/52d1f088e4b0587f97c79e57/1389490312666/KEVA+Lesson+Plan+130909+Mindware.pdf">https://static1.squarespace.com/static/52c31d05e4b02fca6772809d/t/52d1f088e4b0587f97c79e57/1389490312666/KEVA+Lesson+Plan+130909+Mindware.pdf</a>  <a href="https://stem.uark.edu/_resources/pdf/2016.construction.block.activities.pdf">https://stem.uark.edu/_resources/pdf/2016.construction.block.activities.pdf</a>
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<b>INTEGRATED ACCOMMODATIONS AND MODIFICATIONS</b>					
<p><b>Special Education:</b>  Provide modified notes and access to extra copies online  Provide oral reminders and check student work during independent work time  Model skills/techniques to be mastered  Check and sign assignment planner  Preferential seating  Pair visual prompts with verbal presentations  Modified or scaffolded homework and classwork  Extended time as needed  Provide graphic organizers and study guides</p> <p><b>English Learners:</b>  Provide scaffolded assignments and assessments  Pair visual prompts with visual presentations  Check and sign assignment planner</p>					

Native Language translation (peer, online assistive technology, translation device, bilingual dictionary)  
 Extended time for assignment and assessment as needed  
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 Use graphic organizers  
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**At Risk of Failure:**

Check and sign assignment planner  
 Encourage class participation and reinforce skills  
 Model skills and assignments  
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**Gifted and Talented:**

Pose higher-level thinking questions  
 Provide higher level reading and writing materials for literacy based activities  
 Probe student to extend thinking beyond the text or connect two or more texts  
 Provide alternate or project-based assessments and assignments

**Students with 504 Plans**

Provide extended time as needed  
 Modify length of writing assignment  
 Provide short breaks within the lesson  
 Provide scaffolding for students  
 Utilize graphic organizers

**UNIT 8 STEAM**

**UNIT SUMMARY**

This unit will work to introduce students to the concept of coding and how it relates to their everyday lives.

**NEW JERSEY STUDENT LEARNING STANDARDS**

**2020 NJSLS Computer Science and Design Thinking:**

**8.1.5.NI.2:** Describe physical and digital security measures for protecting sensitive personal information.

**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

**8.1.5.DA.1:** Collect, organize, and display data in order to highlight relationships or support a claim

**8.1.5.AP.3:** Create programs that include sequences, events, loops, and conditionals.

**8.2.5.ED.1:** Explain the functions of a system and its subsystems.

**8.2.5.ED.2:** Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.

**8.2.5.ED.3:** Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task.

**8.2.5.ED.4:** Explain factors that influence the development and function of products and systems (e.g., resources, criteria, desired features, constraints).

**8.2.5.ED.5:** Describe how specifications and limitations impact the engineering design process.

**8.2.5.ED.6:** Evaluate and test alternative solutions to a problem using the constraints and tradeoffs identified in the design process.

**INTERDISCIPLINARY CONNECTIONS****NJSLS- English Language Arts:**

**NJSLSA.R1.** Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

**RI.3.1.** Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

**RI.3.5.** Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections.

**NJSLSA.R2.** Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

**NJSLSA.R4.** Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

**NJSLSA.R7.** Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

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**RI.3.5.** Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.

**NJSLSA.SL1.** Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

**NJSLSA.SL4.** Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

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**NJSLS-Mathematics:**

**3.MD.B** Represent and interpret data.

MP.1 Make sense of problems and persevere in solving them.

MP.2 Reason abstractly and quantitatively.

MP.3 Construct viable arguments and critique the reasoning of others.

MP.5 Use appropriate tools strategically.

MP.6 Attend to precision.

**2020 NJSLS Science**

**3-5-ETS1-1** Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

**3-5-ETS1-2** Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

**3-5-ETS1-3** Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

**2020 NJSLS for Visual and Performing Arts - Media Arts**

**1.2.5.Cr1a:** Generate ideas for media artwork, using a variety of tools, methods and/or materials.

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**9.1.5.CR.1:** Compare various ways to give back and relate them to your strengths, interests, and other personal factors.

**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

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## 21st CENTURY LIFE AND CAREER STANDARDS

**Career Readiness, Life Literacies, and Key Skills Practices** describe the habits of the mind that all educators in all content areas should seek to develop in their students. They are practices that have been linked to increase college, career, and life success.

Act as a responsible and contributing citizen and employee.

Attend to financial wellbeing

Consider the environmental, social and economic impacts of decisions

Demonstrate creativity and innovation.

Utilize critical thinking to make sense of problems and persevere in problem 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

ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
<ul style="list-style-type: none"> <li>- Coding is essential to the future or prospective careers and is gaining awareness in our country.</li> <li>- Working together to complete a project does not always result in success, how do you handle a situation when you are frustrated.</li> </ul>	<ul style="list-style-type: none"> <li>- What is coding?</li> <li>- Why is it useful?</li> <li>- How does it affect our society?</li> <li>- How do I handle frustration when a project is not successful?</li> <li>- How to work through frustration to become successful?</li> </ul>
<b>STUDENT LEARNING OBJECTIVES (Students are learning to / Students are learning that)</b>	
<i>Students are learning to/that...</i> <ul style="list-style-type: none"> <li>- Engage in computational thinking and use computer programming as tools used in design and engineering</li> <li>- Develop algorithms</li> <li>- How to handle frustration when a project is not successful.</li> <li>- Persevere through tough projects.</li> </ul>	
<b>SUGGESTED ACTIVITIES</b>	
<ul style="list-style-type: none"> <li>- Learn the basics of computer science and internet safety.</li> <li>- Create their own game to share.</li> <li>- Learn repeat functions to shorten codes and create loops and functions.</li> <li>- Explore if/ else in coding.</li> <li>- Continue working on projects when hard and how to implement strategies to handle frustrations.</li> <li>- Create their own game or story to share. <b>DEI</b></li> <li>- Practice giving and following step by step directions to or from another person.</li> </ul>	
<b>EVIDENCE OF LEARNING</b>	
<b>Formative Assessments:</b> Classroom Discussion Exit Slip Checklists Peer Assessment Vocabulary Quizzes Rubrics Participation and teacher observation Mini Whiteboard Responses Think-Pair-Share Concept Map Classroom Poll	<b>Summative Assessment:</b> Unit Tests End-of-Book Test  NJSLA Test
<b>Benchmark Assessment:</b> Star 360 Benchmark Unit Benchmarks	<b>Alternative Assessments:</b> Project Portfolio

## INSTRUCTIONAL RESOURCES

**Core Instructional Resource:**  
<https://curriculum.code.org/csf-19/>

<https://code.org/educate/curriculum/elementary-school>

[https://code.org/curriculum/docs/csf/CSF\\_Curriculum\\_Guide\\_2018\\_smaller.pdf](https://code.org/curriculum/docs/csf/CSF_Curriculum_Guide_2018_smaller.pdf)

**Leveled Texts:**

**Supplemental Resources:**

[Creative Process rubric](#)

## INTEGRATED ACCOMMODATIONS AND MODIFICATIONS

### **Special Education:**

Provide modified notes and access to extra copies online  
Provide oral reminders and check student work during independent work time  
Model skills/techniques to be mastered  
Check and sign assignment planner  
Preferential seating  
Pair visual prompts with verbal presentations  
Modified or scaffolded homework and classwork  
Extended time as needed  
Provide graphic organizers and study guides

### **English Learners:**

Provide scaffolded assignments and assessments  
Pair visual prompts with visual presentations  
Check and sign assignment planner  
Native Language translation (peer, online assistive technology, translation device, bilingual dictionary)  
Extended time for assignment and assessment as needed  
Highlight key vocabulary  
Use graphic organizers  
Provide verbal and written directions  
Preferential seating with a English-speaking peer

### **At Risk of Failure:**

Check and sign assignment planner  
Encourage class participation and reinforce skills  
Model skills and assignments  
Extended to time to complete class work  
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Provide extra help outside of class and 1:1 instruction when needed

Communicate regularly with students' other teachers  
Provide positive feedback for tasks well done  
Encourage student to proofread assessments and projects and ask for teacher proofreading of large writing assignments

**Gifted and Talented:**

Pose higher-level thinking questions  
Provide higher level reading and writing materials for literacy based activities  
Probe student to extend thinking beyond the text or connect two or more texts  
Provide alternate or project-based assessments and assignments

**Students with 504 Plans**

Provide extended time as needed  
Modify length of writing assignment  
Provide short breaks within the lesson  
Provide scaffolding for students  
Utilize graphic organizers

**UNIT 9 STEAM**

**UNIT SUMMARY**

This unit will work to introduce students to the Ozobots, Little Bits, Dash and Dot, Cubelets, and the basics of coding using both markers and technology.

**NEW JERSEY STUDENT LEARNING STANDARDS**

**2020 NJSLs Computer Science and Design Thinking:**

**8.1.5.NI.2:** Describe physical and digital security measures for protecting sensitive personal information.

**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

**8.1.5.DA.1:** Collect, organize, and display data in order to highlight relationships or support a claim

**8.1.5.AP.3:** Create programs that include sequences, events, loops, and conditionals.

**8.2.5.ED.1:** Explain the functions of a system and its subsystems.

**8.2.5.ED.2:** Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.

**8.2.5.ED.3:** Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task.

**8.2.5.ED.4:** Explain factors that influence the development and function of products and systems (e.g., resources, criteria, desired features, constraints).



**8.2.5.ED.5:** Describe how specifications and limitations impact the engineering design process.

**8.2.5.ED.6:** Evaluate and test alternative solutions to a problem using the constraints and tradeoffs identified in the design process.

## **INTERDISCIPLINARY CONNECTIONS**

### **NJSLS- English Language Arts:**

**NJSLSA.R1.** Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

**RL.3.1.** Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

**RL.3.5.** Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections.

**NJSLSA.R2.** Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

**NJSLSA.R4.** Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

**NJSLSA.R7.** Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

**RI.3.1.** Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

**RI.3.5.** Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.

**NJSLSA.SL1.** Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

**NJSLSA.SL4.** Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

**SL.3.4.** Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.

### **NJSLS-Mathematics:**

**3.MD.B** Represent and interpret data.

MP.1 Make sense of problems and persevere in solving them.

MP.2 Reason abstractly and quantitatively.

MP.3 Construct viable arguments and critique the reasoning of others.

MP.5 Use appropriate tools strategically.

MP.6 Attend to precision.

### **2020 NJSLS Science**

**3-5-ETS1-1** Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

**3-5-ETS1-2** Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

**3-5-ETS1-3** Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

#### **2020 NJSLS for Visual and Performing Arts - Media Arts**

**1.2.5.Cr1a:** Generate ideas for media artwork, using a variety of tools, methods and/or materials.

**1.2.5.Cr1d:** Collaboratively form ideas, plans, and models to prepare for media artwork

**1.5.5.Cr1a:** Brainstorm and curate ideas to innovatively solve during artmaking and design projects.

**1.5.5.Cn10a:** Create works of art that reflect community cultural traditions. Discuss using formal and conceptual vocabulary.

#### **2020 NJSLS Life Literacies and Key skills:**

**9.1.5.CR.1:** Compare various ways to give back and relate them to your strengths, interests, and other personal factors.

**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

**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.CT.1:** Identify and gather relevant data that will aid in the problem-solving process

**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.CT.3:** Describe how digital tools and technology may be used to solve problems.

**9.4.5.CT.4:** Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global

**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

**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

**9.4.5.DC.7:** Explain how posting and commenting in social spaces can have positive or negative consequences.

**9.4.5.IML.1:** Evaluate digital sources for accuracy, perspective, credibility and relevance

**9.4.5.IML.2:** Create a visual representation to organize information about a problem or issue

**9.4.5.IML.3:** Represent the same data in multiple visual formats in order to tell a story about the data

**9.4.5.IML.4:** Determine the impact of implicit and explicit media messages on individuals, groups, and society as a whole.

**9.4.5.IML.6:** Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions

**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.

**9.4.5.TL.2:** Sort and filter data in a spreadsheet to analyze findings.

**9.4.5.TL.3:** Format a document using a word processing application to enhance text, change page formatting, and include appropriate images graphics, or symbols.

**9.4.5.TL.5:** Collaborate digitally to produce an artifact

**9.4.8.DC.1:** Analyze the resource citations in online materials for proper use.

**9.4.8.DC.2:** Provide appropriate citation and attribution elements when creating media products

**9.4.8.DC.4:** Explain how information shared digitally is public and can be searched, copied, and potentially seen by public audiences.

**9.4.8.DC.5:** Manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure. •

**9.4.8.DC.6:** Analyze online information to distinguish whether it is helpful or harmful to reputation.

**9.4.8.GCA.1:** Model how to navigate cultural differences with sensitivity and respect

## 21st CENTURY LIFE AND CAREER STANDARDS

**Career Readiness, Life Literacies, and Key Skills Practices** describe the habits of the mind that all educators in all content areas should seek to develop in their students. They are practices that have been linked to increase college, career, and life success.

Act as a responsible and contributing citizen and employee.

Attend to financial wellbeing

Consider the environmental, social and economic impacts of decisions

Demonstrate creativity and innovation.

Utilize critical thinking to make sense of problems and persevere in problem 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

### ENDURING UNDERSTANDINGS

Digital Citizens understand

- Uses and treats equipment with respect
- Displays appropriate conduct in real world and online learning environment
- Uses vocabulary appropriately
- Can access and use a variety of digital applications
- Participates in collaborative learning activities
- Creates and shares original work
- Understand how simple circuits work

### ESSENTIAL QUESTIONS

- What is an ozobot?
- How can I use and/or recognize coding and logic skills in my everyday activities?
- How did my plans change while I was coding or creating?
- Did I learn from my mistakes and keep persevering?
- What is a circuit?
- What is a little bit?
- How does each piece relate to each other to create a working model?

<ul style="list-style-type: none"> <li>- Understand that design and redesign are part of the process.</li> <li>- Understand that failure can be part of the design process and how to handle those feelings.</li> <li>- Compare how people live and work before and after the implementation or adoption of new computing technology.</li> <li>- Develop plans that describe a program's sequence of events, goals, and expected outcomes.</li> <li>- Use appropriate terminology in identifying and describing the function of common physical components of computing systems (hardware).</li> <li>- Work respectfully and responsibly with others online.</li> <li>- Students should be able to build robots that sense and act.</li> <li>- They should understand that the input/stimuli received affects the reaction/output of the robot.</li> </ul>	<ul style="list-style-type: none"> <li>- What pieces are essential to the design?</li> <li>- What is Dash &amp; Dot?</li> <li>- What are the basics of robotics?</li> <li>- What is a program?</li> <li>- How do programs control robots?</li> <li>- How do robots carry out tasks?</li> <li>- What is a cubelet?</li> <li>- What are the types of cubes necessary to make a robot?</li> <li>- What is making your robot behave?</li> <li>- What is it that your robot is sensing?</li> <li>- What makes a robot work?</li> </ul>
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**STUDENT LEARNING OBJECTIVES (Students are learning to / Students are learning that)**

*Students are learning to/that...*

- Define an ozobot as a tool.
- Use and/or recognize coding and logic skills in their everyday activities.
- Analyze how plans change while coding or creating.
- Define circuit and how to build one.
- Define Little Bits and how to build with them.
- Understand how each piece relates to each other to create a working model.
- Analyze each piece and decide which are essential to the design.
- Predict how changing bits will affect the design and function of the final product
- Use Dash & Dot and define the main differences with the robots.
- Understand the basics of robotics.
- Understand what a program is and how programs control robots.
- Understand some of the capabilities of Dash & Dot.
- Learn how a robot can carry out a task with coding
- Recall how Cubelets work together to create robots.
- Identify the types of cubes available and necessary to make a robot.
- Predict how changing a cube may change the robot.

**SUGGESTED ACTIVITIES**

- Code using paper and markers.
- Predict if ozobot will be able to drive along lines drawn based on their experience.
- Use colors to make ozobot change speed, direction and turn in a specific direction

- Locate all the pieces necessary to complete a task.
- Follow directions to create task projects.
- Troubleshoot (debug) problems that may arise when designing.
- Ability to drive Dash along a track and add speech.
- Create a maze for Dash and drive / code him through.
- Change Dot's colors and words.
- Review that there are different cubes and how they work together.
- Build a robot based on their knowledge of the cubes available.
- Solve a problem with a cubelet robot, what's missing.

## EVIDENCE OF LEARNING

### Formative Assessments:

Classroom Discussion  
Exit Slip  
Checklists  
Peer Assessment  
Vocabulary Quizzes  
Rubrics  
Participation and teacher observation  
Mini Whiteboard Responses  
Think-Pair-Share  
Concept Map  
Classroom Poll

### Summative Assessment:

Unit Tests  
End-of-Book Test  
  
NJSLA Test

### Benchmark Assessment:

Star 360 Benchmark  
Unit Benchmarks

### Alternative Assessments:

Project  
Portfolio

## INSTRUCTIONAL RESOURCES

### Core Instructional Resource:

<https://portal.ozobot.com/lessons>  
<https://ozobot.com/ozoblockly>  
<https://files.ozobot.com/stem-education/ozobot-color-codes.pdf>  
[https://d2q6sbo7w75ef4.cloudfront.net/littleBitsEducatorsGuide\\_FINAL.pdf](https://d2q6sbo7w75ef4.cloudfront.net/littleBitsEducatorsGuide_FINAL.pdf)

<https://www.modrobotics.com/education/educator-resource-hub/>

[https://docs.google.com/spreadsheets/d/1rDvRnEjAWwG3YNqVXBMQe8aHgsBAaIDaSeAMX\\_7fskE/edit#gid=1896676728](https://docs.google.com/spreadsheets/d/1rDvRnEjAWwG3YNqVXBMQe8aHgsBAaIDaSeAMX_7fskE/edit#gid=1896676728)

<https://www.modrobotics.com/education/lesson-plans/m>

### Supplemental Resources:

[Creative Process rubric](#)

<a href="http://www.ilmslibrary.com/simply-circuits---little-bits.html">http://www.ilmslibrary.com/simply-circuits---little-bits.html</a> <a href="https://education.makewonder.com/assets/files/standardsAlignment.pdf">https://education.makewonder.com/assets/files/standardsAlignment.pdf</a>  <a href="https://portal.makewonder.com/#/curriculum/learn-to-code#overview">https://portal.makewonder.com/#/curriculum/learn-to-code#overview</a>	<a href="#">eet-your-cubelets-units/scope-sequence-grades-1-3/</a>	
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## INTEGRATED ACCOMMODATIONS AND MODIFICATIONS

### Special Education:

Provide modified notes and access to extra copies online  
 Provide oral reminders and check student work during independent work time  
 Model skills/techniques to be mastered  
 Check and sign assignment planner  
 Preferential seating  
 Pair visual prompts with verbal presentations  
 Modified or scaffolded homework and classwork  
 Extended time as needed  
 Provide graphic organizers and study guides

### English Learners:

Provide scaffolded assignments and assessments  
 Pair visual prompts with visual presentations  
 Check and sign assignment planner  
 Native Language translation (peer, online assistive technology, translation device, bilingual dictionary)  
 Extended time for assignment and assessment as needed  
 Highlight key vocabulary  
 Use graphic organizers  
 Provide verbal and written directions  
 Preferential seating with a English-speaking peer

### At Risk of Failure:

Check and sign assignment planner  
 Encourage class participation and reinforce skills  
 Model skills and assignments  
 Extended to time to complete class work  
 Preferential seating

Provide extra help outside of class and 1:1 instruction when needed  
 Communicate regularly with students' other teachers  
 Provide positive feedback for tasks well done  
 Encourage student to proofread assessments and projects and ask for teacher proofreading of large writing assignments

**Gifted and Talented:**

Pose higher-level thinking questions  
 Provide higher level reading and writing materials for literacy based activities  
 Probe student to extend thinking beyond the text or connect two or more texts  
 Provide alternate or project-based assessments and assignments

**Students with 504 Plans**

Provide extended time as needed  
 Modify length of writing assignment  
 Provide short breaks within the lesson  
 Provide scaffolding for students  
 Utilize graphic organizers

**UNIT 10 STEAM? 3D Printing**

**UNIT SUMMARY**

This unit will work to have students review the 3D printer and use of the design process to create an object.

**NEW JERSEY STUDENT LEARNING STANDARDS**

**2020 NJSLs Computer Science and Design Thinking:**

- 8.1.5.NI.2:** Describe physical and digital security measures for protecting sensitive personal information.
- 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
- 8.1.5.DA.1:** Collect, organize, and display data in order to highlight relationships or support a claim
- 8.1.5.AP.3:** Create programs that include sequences, events, loops, and conditionals.
- 8.2.5.ED.1:** Explain the functions of a system and its subsystems.
- 8.2.5.ED.2:** Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.
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## **INTERDISCIPLINARY CONNECTIONS**

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**RI.3.5.** Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.

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MP.1 Make sense of problems and persevere in solving them.

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### **2020 NJSLS Science**

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## 21st CENTURY LIFE AND CAREER STANDARDS

**Career Readiness, Life Literacies, and Key Skills Practices** describe the habits of the mind that all educators in all content areas should seek to develop in their students. They are practices that have been linked to increase college, career, and life success.

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Attend to financial wellbeing

Consider the environmental, social and economic impacts of decisions

Demonstrate creativity and innovation.

Utilize critical thinking to make sense of problems and persevere in problem 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

### ENDURING UNDERSTANDINGS

Students will be able to:

- Use the design process and an appropriate design program to create their own 3D objects.
- Reflect on their success / failure and revise their designs as needed.

### ESSENTIAL QUESTIONS

- What is a3D printer?
- What is a benefit of using a 3D printer?
- How does the design process work?

### STUDENT LEARNING OBJECTIVES (Students are learning to / Students are learning that)

*Students are learning to/that...*

- Describe a 3D printer and its uses.
- Create a design that could be printed on a 3D printer.

- Understand the benefit of using a 3D printer in today's society.

### SUGGESTED ACTIVITIES

- Create a keychain using a premade template and changing the design.
- Print finished product and understand that it takes time to print finished product.

### EVIDENCE OF LEARNING

#### Formative Assessments:

Classroom Discussion  
Exit Slip  
Checklists  
Peer Assessment  
Vocabulary Quizzes  
Rubrics  
Participation and teacher observation  
Mini Whiteboard Responses  
Think-Pair-Share  
Concept Map  
Classroom Poll

#### Summative Assessment:

Unit Tests  
End-of-Book Test  
  
NJSLA Test

#### Benchmark Assessment:

Star 360 Benchmark  
Unit Benchmarks

#### Alternative Assessments:

Project  
Portfolio

### INSTRUCTIONAL RESOURCES

#### Core Instructional Resource:

<https://steam.xyzprinting.com/en-US/curriculum>  
  
<https://wjccschools.org/wp-content/uploads/sites/20/2014/03/3D-in-the-MC-Resources-Lesson-Plans-and-Lesson-Ideas.pdf>

<https://www.commonsense.org/education/lesson-plans/3d-snowflakes>

<https://www.commonsense.org/education/lesson-plans/using-tinkercad-to-create-door-stoppers>

<https://www.instructables.com/id/3D-Printed-Ring/>

#### Supplemental Resources:

[Creative Process rubric](#)

### INTEGRATED ACCOMMODATIONS AND MODIFICATIONS

**Special Education:**

Provide modified notes and access to extra copies online  
Provide oral reminders and check student work during independent work time  
Model skills/techniques to be mastered  
Check and sign assignment planner  
Preferential seating  
Pair visual prompts with verbal presentations  
Modified or scaffolded homework and classwork  
Extended time as needed  
Provide graphic organizers and study guides

**English Learners:**

Provide scaffolded assignments and assessments  
Pair visual prompts with visual presentations  
Check and sign assignment planner  
Native Language translation (peer, online assistive technology, translation device, bilingual dictionary)  
Extended time for assignment and assessment as needed  
Highlight key vocabulary  
Use graphic organizers  
Provide verbal and written directions  
Preferential seating with a English-speaking peer

**At Risk of Failure:**

Check and sign assignment planner  
Encourage class participation and reinforce skills  
Model skills and assignments  
Extended to time to complete class work  
Preferential seating  
Provide extra help outside of class and 1:1 instruction when needed  
Communicate regularly with students' other teachers  
Provide positive feedback for tasks well done  
Encourage student to proofread assessments and projects and ask for teacher proofreading of large writing assignments

**Gifted and Talented:**

Pose higher-level thinking questions  
Provide higher level reading and writing materials for literacy based activities  
Probe student to extend thinking beyond the text or connect two or more texts  
Provide alternate or project-based assessments and assignments

**Students with 504 Plans**

Provide extended time as needed  
Modify length of writing assignment  
Provide short breaks within the lesson  
Provide scaffolding for students  
Utilize graphic organizers