

Course:Technology & Design	
Introduction to Tech & Design Lab: Unit 1	
Grade Level(s): 4	Length of Unit: 1 week
Unit Rationale: <i>Students will be using technology to support their learning in a variety of platforms during the school year. In this unit, students will learn about safety and rules of the tech lab, and how they should behave appropriately during technology classroom. Teacher will discuss appropriate and acceptable usage of the computers and technology equipment not only within the lab, but within their classrooms as well. Students will also receive their passwords, and log onto the Chromebooks.</i>	
Stage 1 - Desired Results	
Understandings: <i>Students will understand that...</i> <ul style="list-style-type: none"> ● <i>Students will be using technology to support their learning in a variety of platforms during the school year. In this unit, students will learn about safety and rules of the tech lab, and how they should behave appropriately during technology classroom.</i> ● <i>Teacher will discuss appropriate and acceptable usage of the computers and technology equipment not only within the lab, but within their classrooms as well. Students will also receive their passwords, and log onto the Chromebooks.</i> 	Essential Questions: <ul style="list-style-type: none"> ● What does it mean to use the computer appropriately? ● What are the expectations of behavior in the technology lab? ● How does a student log onto the computer network at school? ● What projects are you excited about this year?
Content: <i>Students will know...</i> <ul style="list-style-type: none"> ● <i>the appropriate rules in the technology lab.</i> ● <i>log on to the chromebooks, using their username and password.</i> 	Skills: <i>Students will be able to...</i> <ul style="list-style-type: none"> ● <i>Identify the rules of the technology lab.</i> ● <i>Know the procedures of the classroom.</i> ● <i>Understand safety in the classroom.</i> ● <i>Memorize username and password.</i>
NJ Student Learning Standards - CRP2. Apply appropriate academic and technical skills CRP11. Use technology to enhance productivity	
NJSLS-Career Readiness, Life Literacies, and Key Skills:Standards & Disciplinary Concepts (Career Readiness, Life Literacies, and Key Skills Practices and 9.2 Career Awareness, Exploration and Preparation Standards)	
CLKS Practices: <ol style="list-style-type: none"> 1. Act as a responsible and contributing community members and employee 	

- 5. Demonstrate creativity and innovation
- 8. Use technology to enhance productivity increase collaboration and communicate effectively

Explanation of how **CLKS Practices** connect to the unit:
 Students will learn about the responsibilities of learning in the technology lab, learning how technology, collaboration and creativity will be used throughout the school year.

9.2 standards

Explanation of how 9.2 standards connect to the unit:

Interdisciplinary Standards

SL.4.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.

Explanation of how interdisciplinary standards connect to the unit:

Collaborative discussions

Technology Integration (9.4 Standards) -

9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).

9.4.5.DC.5: Identify the characteristics of a positive and negative online identity and the lasting implications of online activity.

Explanation of how 9.4 standards connect to the unit:

Students will be involved in discussions on how to use the technology safely within the classroom setting, and at home, and what it means to use computers responsibly.

Stage 2- Assessment Evidence:

Assessment:

Formative	Informal assessment through questioning, exit tickets, health and wellness journal, student reflections
Summative	Student portfolios, end of unit project based on journal entries, Kahoot, Quizlet, presentations

Alternative	Slideshow, poster, oral presentation
Benchmark	Questionnaire, survey
Other	Informal assessment through questioning, exit tickets, sketch books journal, student reflections

Stage 3 - Learning Plan	
<p>Learning Activities:</p> <ul style="list-style-type: none"> • Hold class discussion over rules of the classroom and expectations for the year. 	<p>ELL:</p> <ul style="list-style-type: none"> • Extend time requirements • Preferential seating • Check often for understanding • Oral/visual directions/prompts when needed • Provide hands-on materials and/ manipulatives for students to practice using new content knowledge <p><i>The ELL Math Resources Folder is located HERE</i></p>
	<p>G&T:</p> <ul style="list-style-type: none"> • Allow students to take an active role in teaching content to other students in the school • Propose interest-based extension activities for early finishers
	<p>Special Ed:</p> <ul style="list-style-type: none"> • Utilize a multi-sensory approach during instruction • Modify test content and/or format • Preferential seating as needed
	<p>504:</p> <ul style="list-style-type: none"> • Review, restate and repeat • Provide notes • Chunk assignments

Students at Risk:

- Deliver instruction utilizing varied learning styles including audio, visual and tactile/kinesthetic
- Provide individual instruction as needed
- Meet with students frequently to ensure understanding
- Allow verbal rather than written responses

Link to [Math Differentiation Chart](#) and [2021 Accommodations Chart](#)

Core Instructional Resources

Teacher Pedagogical Resources: *What skills/strategies, and resources helped the teacher design this unit*

Student Materials: *What materials are provided to students during this unit. (core texts, websites, etc.)*

***All materials must list a Lexile Level (<https://hub.lexile.com/find-a-book/search>)*

Notes:

Course: Technology & Design	
Digital Photography: Unit 2	
Grade Level(s): 4	Length of Unit: 1 week
Unit Rationale: Digital photography is an artform in which students can display creativity, and artistry. Within this unit, students will be taking photos of nature in the Bedwell garden, while learning photography techniques for lighting, subject matter, the rule of 3rds, zooming, cropping, and enhancing through digital techniques in the app Pixlr on the ipad. Student work will be featured in framed photos, and displayed at a local art gallery.	
Stage 1 - Desired Results	
Understandings: <i>Students will understand that...</i> <ul style="list-style-type: none"> ● <i>Digital tools provide opportunities for people to express their ideas and vision through photography.</i> ● <i>Photography is a form of artwork, used to capture beauty within nature.</i> ● <i>Photography can be a fun skill used for a variety of purposes.</i> 	Essential Questions: <ul style="list-style-type: none"> ● How can digital tools help enhance photography? ● What are some photography techniques to help you take a better picture?
Content: <i>Students will know...</i> <ul style="list-style-type: none"> ● how to take an artistic photo of nature ● edit/crop photo ● upload a photo to their google drive ● share the photo with the teacher 	Skills: <i>Students will be able to...</i> <ul style="list-style-type: none"> ● take a photo on the ipad camera ● edit/crop photo ● upload a photo to their drive ● share the photo with the teacher
NJ Student Learning Standards - CRP2. Apply appropriate academic and technical skills CRP11. Use technology to enhance productivity	
NJSLS-Career Readiness, Life Literacies, and Key Skills: Standards & Disciplinary Concepts (Career Readiness, Life Literacies, and Key Skills Practices and 9.2 Career Awareness,	

Exploration and Preparation Standards)

CLKS Practices:

1. Plan education and career paths aligned to personal goals
2. Use technology to enhance productivity increase collaboration and communicate effectively

Explanation of how **CLKS Practices** connect to the unit:
 Use technology to take photographs, and brainstorm ways photograph can be used in different professions.

9.2 standards

Explanation of how 9.2 standards connect to the unit:

Interdisciplinary Standards

RI.5.7 Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

Explanation of how interdisciplinary standards connect to the unit:
Numeracy connects mathematics with situations that require capabilities such as problem solving, critical judgment, and sense-making related to non-mathematical contexts.

Technology Integration (9.4 Standards)

9.4.5.CI.4: Research the development process of a product and identify the role of failure as a part of the creative process (e.g., W.4.7, 8.2.5.ED.6).

Explanation of how 9.4 standards connect to the unit:
Students will look at the ipad to determine if the photos they took included elements of good photography explained in the opening lesson.

Stage 2- Assessment Evidence:

Assessment:	
Formative	<i>Questioning</i>
Summative	
Alternative	<i>Class discussion and sharing photograph on smartboard</i>
Benchmark	

Other	Photography Art Show
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Stage 3 - Learning Plan	
<p>Learning Activities:</p> <ul style="list-style-type: none"> ● Learn about different photography techniques and look at examples from previous years. ● Take photos of the garden, and share photos with the class. ● Press and display photos in Bedwell garden. 	<p>ELL:</p> <ul style="list-style-type: none"> ● Extend time requirements ● Preferential seating ● Check often for understanding ● Oral/visual directions/prompts when needed ● Provide hands-on materials and/ manipulatives for students to practice using new content knowledge
	<p>G&T:</p> <ul style="list-style-type: none"> ● Allow students to take an active role in teaching content to other students in the school ● Propose interest-based extension activities for early finishers
	<p>Special Ed:</p> <ul style="list-style-type: none"> ● Utilize a multi-sensory approach during instruction ● Modify test content and/or format ● Preferential seating as needed
	<p>504:</p> <ul style="list-style-type: none"> ● Review, restate and repeat ● Provide notes ● Chunk assignments
	<p>Students at Risk:</p> <ul style="list-style-type: none"> ● Deliver instruction utilizing varied learning styles including audio, visual and tactile/kinesthetic ● Provide individual instruction as needed ● Meet with students frequently to ensure understanding ● Allow verbal rather than written responses

Core Instructional Resources

Teacher Pedagogical Resources: *What skills/strategies, and resources helped the teacher design this unit*

Student Materials: *What materials are provided to students during this unit. (core texts, websites, etc.)*

****All materials must list a Lexile Level (<https://hub.lexile.com/find-a-book/search>)**

Notes:

Course: Technology & Design

Keyboarding: Unit 3

Grade Level(s): 4	Length of Unit: 3/4 weeks
<p>Unit Rationale: Communicating on the computer with word processing will be essential to the success of students within their academic careers, and beyond. Students will learn proper technique and keyboarding skills using a typing program. To enhance these typing skills, students will need repetition and practice, and by tracking their progress, students and teachers will be able to assess how well they have improved in their typing skills throughout the year.</p>	
Stage 1 - Desired Results	
<p>Understandings:</p> <p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> ● <i>Students will develop keyboarding proficiency through a variety of strategies such as: direct instruction, guided review and practice, and timed sessions to determine speed and accuracy.</i> ● <i>Students will utilize online tools such as http://typingclub.com to improved speed and accuracy.</i> ● <i>Keyboarding technique is an essential tool for computer literacy.</i> ● <i>Speed and accuracy must be developed together.</i> 	<p>Essential Questions:</p> <ul style="list-style-type: none"> ● What are the proper techniques for keyboarding? ● Why is it important to be able to type appropriately? ● How do you develop faster and more accurate typing?
<p>Content:</p> <p><i>Students will know...</i></p> <ul style="list-style-type: none"> ● <i>Students will be able to log on to the program www.typingclub.com using a username and password provided by the teacher.</i> ● <i>Students will be able to track their progress and set goals for themselves.</i> 	<p>Skills:</p> <p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> ● <i>demonstrate appropriate keyboarding techniques.</i> ● <i>evaluate their typing efficiency and progress</i> ● <i>demonstrate the ability to keyboard from straight-copy material</i> ● <i>demonstrate the ability to proofread</i> ● <i>demonstrate improvement with speed and accuracy throughout the course</i>
<p>NJ Student Learning Standards -</p> <p>8.1.2.A.2 Create a document using a word processing application.</p> <p>CRP2. Apply appropriate academic and technical skills</p> <p>CRP11. Use technology to enhance productivity</p>	
<p>NJSLS-Career Readiness, Life Literacies, and Key Skills:Standards & Disciplinary Concepts (Career Readiness, Life Literacies, and Key Skills Practices and 9.2 Career Awareness, Exploration and Preparation Standards)</p> <p>CLKS Practices:</p> <ol style="list-style-type: none"> 1. Use technology to enhance productivity increase collaboration and communicate effectively 	

2. Work productively in teams while using cultural/global competence

Explanation of how **CLKS Practices** connect to the unit:

Students will work productively as a team to use keyboarding as a way to communicate effectively. Discussions will take place on how keyboarding will help students with their future communications within the workspace.

9.2 standards

<https://www.nj.gov/education/standards/clicks/Docs/2020NJSLS-9.2CareerAwareness.pdf> (Starts on pg.37)

9.2.5.CAP.4: Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.

Explanation of how 9.2 standards connect to the unit:

Discuss how keyboarding is required in most every career, and how training is required for keyboarding in specific job qualifications.

Interdisciplinary Standards

W.K.6 With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers.

NJSLSA.W6 Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

MP.2 Reason abstractly and quantitatively.

MP.4. Model with mathematics.

MP.5. Use appropriate tools strategically.

Explanation of how interdisciplinary standards connect to the unit:

Numeracy connects mathematics with situations that require capabilities such as problem solving, critical judgment, and sense-making related to non-mathematical contexts.

Technology Integration (9.4 Standards) -

9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).

9.4.5.DC.6: Compare and contrast how digital tools have changed social interactions (e.g.,

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.

Explanation of how 9.4 standards connect to the unit:

Students will learn the importance of keyboarding, and how it has changed the way we communicate. Students will use keyboarding platforms as a way to model safe online interactions.

Stage 2- Assessment Evidence:	
Assessment:	
Formative	<i>Student reflection</i>
Summative	<i>Leveled typing tests</i>
Alternative	
Benchmark	<i>Benchmark typing tests</i>
Other	<i>Class typing competitions</i>

Stage 3 - Learning Plan	
<p>Learning Activities:</p> <ul style="list-style-type: none"> ● Learn the proper techniques of keyboarding through platform typingclub.com ● Take a pre-test to assess what level typing speed and accuracy a student is in the beginning of the year. ● Progress through hundreds of levels, keeping your score and compete against students in your class and other classes. ● Take a post-test at the end of the school year to see how far you've progressed since then. 	<p>ELL:</p> <ul style="list-style-type: none"> ● Extend time requirements ● Preferential seating ● Check often for understanding ● Oral/visual directions/prompts when needed ● Provide hands-on materials and/ manipulatives for students to practice using new content knowledge
	<p>G&T:</p> <ul style="list-style-type: none"> ● Allow students to take an active role in teaching content to other students in the school ● Propose interest-based extension activities for early finishers
	<p>Special Ed:</p> <ul style="list-style-type: none"> ● Utilize a multi-sensory approach during instruction ● Modify test content and/or format ● Preferential seating as needed
	<p>504:</p> <ul style="list-style-type: none"> ● Review, restate and repeat

	<ul style="list-style-type: none">● Provide notes● Chunk assignments
	<p>Students at Risk:</p> <ul style="list-style-type: none">● Deliver instruction utilizing varied learning styles including audio, visual and tactile/kinesthetic● Provide individual instruction as needed● Meet with students frequently to ensure understanding● Allow verbal rather than written responses

Core Instructional Resources

Teacher Pedagogical Resources: *What skills/strategies, and resources helped the teacher design this unit*

Student Materials: *What materials are provided to students during this unit. (core texts, websites, etc.)*

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Notes:

Course:Technology & Design

Flight Design Challenge: Unit 4

Grade Level(s): 4

Length of Unit: 6/7 weeks

Unit Rationale:

In this Unit, students will be exploring the world of aircraft, as they will become engineers, responsible for requirements in specific design based on specific materials distributed. Students will use the design process to combine materials to meet goals of the fastest and farthest and longest flying aircraft, then present their designs to an airline interested in purchasing your model from their designing company. Students will experiment with their models after learning basic flight principles, then test their models, evaluate their results based on scientific findings.

Stage 1 - Desired Results

Understandings:

Students will understand that...

- *An object's motion is the result of all forces acting on it.*
- *Engineering design is a creative process that anyone can do which may result in new inventions and innovations*
- *Using teamwork will help further their project goals with positive collaborative efforts.*

Essential Questions:

- What causes objects to move?
- What effect do the design elements have on the actual performance of a product?
- How can a presentation help enhance the concept or design model to make it exciting?
- What are Newton's Laws?
- What is friction?
- What is the Bernoulli Principle?
- What are aerodynamics?
- What are the basic forces acting upon an aircraft during flight: thrust, weight, lift, drag

Content:

Students will know...

- Principles such as Newton's Laws, friction, and Bernoulli's Principle when designing your planes.
- that Economic limitations will be a factor.
- how to collect information, data, and concepts related to motion and flight after researching Newton's Laws, Bernoulli's Principle and aerodynamics.
- how to Choose and sketch your designs backed by research on the previous principles.
- what materials they will need to build an airplane model, and calculate the cost to build each plane.

Skills:

Students will be able to...

- Create blueprint design for airplane structure
- - Design 3-d shapes within structure
- - Gather supplies and locate recyclables
- - Use cooperative teamwork skills
- - Utilize the design process
- - Build and construct using supplies given
- - Create a model design that resembles the original design
- - Track data related to their test runs, including time afloat, distance, and speed.
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(This cost will need to be compared to actual airplane construction costs in order to determine the practicality of your cost.)

NJ Student Learning Standards -

8.2.5.C.1 Collaborate with peers to illustrate components of a designed system.

8.2.5.C.2 Explain how specifications and limitations can be used to direct a product's development.

8.2.5.C.3 Research how design modifications have lead to new products.

8.2.5.C.4 Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models.

8.2.5.C.5 Explain the functions of a system and subsystems.

8.2.5.C.6 Examine a malfunctioning tool and identify the process to troubleshoot and present options to repair the tool.

8.2.5.C.7 Work with peers to redesign an existing product for a different purpose.

8.2.5.D.1 Identify and collect information about a problem that can be solved by technology, generate ideas to solve the problem, and identify constraints and trade-offs to be considered.

8.2.5.D.2 Evaluate and test alternative solutions to a problem using the constraints and trade-offs identified in the design process to evaluate potential solutions.

21st Century College & Career Practice Standards

CRP2. Apply appropriate academic and technical skills

CRP4. Communicate clearly and effectively and with reason

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP6. Demonstrate creativity and innovation.

CRP9. Model integrity, ethical leadership and effective management.

CRP11. Use technology to enhance productivity

CRP12. Work productively in teams while using cultural global competence.

NJSLS-Career Readiness, Life Literacies, and Key Skills: Standards & Disciplinary Concepts (Career Readiness, Life Literacies, and Key Skills Practices and 9.2 Career Awareness, Exploration and Preparation Standards)

CLKS Practices:

1. Act as a responsible and contributing community members and employee
4. Demonstrate creativity and innovation
5. Utilize critical thinking to make sense of problems and persevere in solving them
9. Work productively in teams while using cultural/global competence

Explanation of how **CLKS Practices** connect to the unit:

Students will use problem solving skills to design their model, working together in teams, using

creativity to improve their project.

9.2 standards

- **6.1.2.CivicsPD.1:** Engage in discussions effectively by asking questions, considering facts, listening to the ideas of others, and sharing opinions.
- **6.1.2.CivicsPD.2:** Establish a process for how individuals can effectively work together to make decisions.

Explanation of how 9.2 standards connect to the unit:

Interdisciplinary Standards

RI.5.7 Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

MP.2 Reason abstractly and quantitatively.

MP.4. Model with mathematics.

MP.5. Use appropriate tools strategically.

Explanation of how interdisciplinary standards connect to the unit:

Technology Integration (9.4 Standards) -

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 (e.g., 6.1.5.CivicsCM.3).

9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one’s thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).

• 9.4.5.CI.4: Research the development process of a product and identify the role of failure as a part of the creative process (e.g., W.4.7, 8.2.5.ED.6).

Explanation of how 9.4 standards connect to the unit:

Students will use technology to help design their project, and apply critical and problem solving strategies to do so.

Stage 2- Assessment Evidence:

Assessment:

Formative	Informal assessment through questioning, exit tickets, health and wellness journal, student reflections
Summative	Student portfolios, end of unit project based on journal entries, Kahoot, Quizlet, presentations

Alternative	Slideshow, poster, oral presentation
Benchmark	Questionnaire, survey
Other	Informal assessment through questioning, exit tickets, sketchbook journal, student reflections

Stage 3 - Learning Plan	
<p>Learning Activities:</p> <ul style="list-style-type: none"> ● Research a project you would like to build ● Print and sketch out a prototype ● Brainstorm what materials you will need ● Build project initially with cardboard and tape and recyclables to give it stability and strength that resembles the original model ● Paper mache the structure to give it more strength and an outer coating. ● Study the details of the original structure, and add details with sharpies ● Create a research slide that explains the history of your prototype. ● Present your project to small and large groups <p><i>Trajectory of how you are bringing students to develop the understandings listed above</i></p>	<p>ELL:</p> <ul style="list-style-type: none"> ● Extend time requirements ● Preferential seating ● Check often for understanding ● Oral/visual directions/prompts when needed ● Provide hands-on materials and/ manipulatives for students to practice using new content knowledge
	<p>G&T:</p> <ul style="list-style-type: none"> ● Allow students to take an active role in teaching content to other students in the school ● Propose interest-based extension activities for early finishers
	<p>Special Ed:</p> <ul style="list-style-type: none"> ● Utilize a multi-sensory approach during instruction ● Modify test content and/or format ● Preferential seating as needed
	<p>504:</p> <ul style="list-style-type: none"> ● Review, restate and repeat ● Provide notes ● Chunk assignments

	<p>Students at Risk:</p> <ul style="list-style-type: none">● Deliver instruction utilizing varied learning styles including audio, visual and tactile/kinesthetic● Provide individual instruction as needed● Meet with students frequently to ensure understanding● Allow verbal rather than written responses

Core Instructional Resources

Teacher Pedagogical Resources: *What skills/strategies, and resources helped the teacher design this unit*

Student Materials: *What materials are provided to students during this unit. (core texts, websites, etc.)*

***All materials must list a Lexile Level (<https://hub.lexile.com/find-a-book/search>)*

Notes:

Course: Technology & Design	
News Magazine: Unit 5	
Grade Level(s): 4	Length of Unit: 4 weeks
<p>Unit Rationale: Digital storytelling is a fantastic way for students to be creative with their words, and share their ideas through stories. With the growing amount of available tools, students can collaborate and give feedback in more ways than they were ever able to before. Students will collaborate on writing news stories together, sharing their ideas through a variety of platforms, while working together to create a finished product. Students will report on current or upcoming events that are occurring in the school. This will include first person interviews with faculty about relevant topics. Students will explore questioning techniques and learn about what it takes to create a real newspaper. Each class will design their own newspaper, share the file on google docs, including title of the paper, and the topics included. Students will be designated specific slides to work on throughout the project.</p>	
Stage 1 - Desired Results	
<p>Understandings:</p> <p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> ● <i>Students will be using technology to support their 1. Digital tools provide opportunities for people to have new experiences, recognize problems, design solutions, and express their ideas.</i> ● <i>2. Producing a media rich story is an effective way to communicate ideas and enhance the storytelling experience.</i> ● <i>3. Students will demonstrate effective inputting of text.</i> ● <i>1. Google Drive is an effective and efficient way to publish work (am i repeating this in #4)</i> ● <i>2. Creating professional looking documents enhances the communication of information.</i> ● <i>3. Collaborating with other members promotes efficiency and ensures accuracy.</i> ● <i>4. The multiple components of google drive, and various ways to publish work.</i> ● <i>5. Google drive enables students to access their work anywhere through the cloud saving.</i> ● <i>6. Their work will be able to be shared with their classmates and teachers, to enable editing and feedback</i> ● 	<p>Essential Questions:</p> <ul style="list-style-type: none"> ● - How can digital tools help enhance storytelling? ● - What are different ways to share an article with one another? ● - Can you apply your typing skills to a digital format, by creating an article? ● - How can digital tools be used for creating original and innovative works, ideas, and solutions? ● - What types of documents can I create with a Google Drive? ● - How do I create these documents? ● - How will formatting documents in an attractive way enhance the communication of information? ● - Why would you want to collaborate and comment with others on a Google Document?
<p>Content:</p> <p><i>Students will know...</i></p> <ul style="list-style-type: none"> ● how to produce a media rich story, based on first person interviews about a significant local event or issue. ● how to share the document and receive feedback from their classmates. 	<p>Skills:</p> <p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> ● create a document ● · conduct an interview ● · include uploaded visual image ● · demonstrate effective typing skills

<ul style="list-style-type: none"> • <i>create professional documents using features of a Google Documents.</i> • <i>Students will create and edit a document.</i> • <i>Students will use the sharing features of Google Documents to collaborate, comment, and provide positive feedback with other students.</i> 	<ul style="list-style-type: none"> • share the document and give feedback - Identify the many uses of Google Documents. - Identify the major components of the word processing window. - Create, rename, save, close, open and print a document. - Format text. - Insert an image into a document. - Use the drawing tools. - Create a bulleted and numbered list. - Share a document with a teacher/student. •
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NJ Student Learning Standards -

8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

8.1.5.A.2 Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures.

8.1.5.B.1 Collaborative to produce a digital story about a significant local event or issue based on first-person interviews

NJSLS-Career Readiness, Life Literacies, and Key Skills: Standards & Disciplinary Concepts (Career Readiness, Life Literacies, and Key Skills Practices and 9.2 Career Awareness, Exploration and Preparation Standards)

CLKS Practices:

1. Act as a responsible and contributing community members and employee
4. Demonstrate creativity and innovation
8. Use technology to enhance productivity increase collaboration and communicate effectively
9. Work productively in teams while using cultural/global competence

Explanation of how **CLKS Practices** connect to the unit:

Students will create an article, collaborating as a team within a shared Google document and within that story will demonstrate creativity. Students will be chosen as editors, and photographers and writers, given various responsibilities when writing their article, and encouraged to work productively.

9.2 standards

9.2.5.CAP.4: Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.

Explanation of how **9.2 standards** connect to the unit:

Students will have discussions with high school newspaper and authors to learn about the skills it takes to become a successful writer and editor of a news magazine.

Interdisciplinary Standards

- **6.1.2.CivicsPD.1:** Engage in discussions effectively by asking questions, considering facts, listening to the ideas of others, and sharing opinions.
- **6.1.2.CivicsPD.2:** Establish a process for how individuals can effectively work together to make decisions.

Explanation of how interdisciplinary standards connect to the unit:

Editors, writers and photographers will all work together for a common cause of creating a news magazine that represents their class.

Technology Integration (9.4 Standards) -

9.4.5.CI.2: Investigate a persistent local or global issue, such as climate change, and collaborate with individuals with diverse perspectives to improve upon current actions designed to address the issue (e.g., 6.3.5.CivicsPD.3, W.5.7).

- **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.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 (e.g., 1.2.5CR1d).

Explanation of how 9.4 standards connect to the unit:

Students will investigate local events and issues to be included in their article within the school and town community. Students will cite sources if using websites for research, and will determine what images they can and cannot use in their articles.

Stage 2- Assessment Evidence:

Assessment:

Formative	<i>Exit tickets, oral and written responses</i>
Summative	<i>Completed article</i>
Alternative	<i>Meeting held with teacher to help complete assignment in smaller group setting</i>
Benchmark	<i>Rough Draft, Final Copy</i>
Other	<i>Completed News Magazine article</i>

Stage 3 - Learning Plan

<p>Learning Activities:</p> <ul style="list-style-type: none"> ● Develop 3 different possible story articles about an event happening in our town or school environment ● Choose one of those article ideas and begin to draft your story. ● Within Google Docs, share the document with a team member, and work on a final copy ● Share your story with classmates 	<p>ELL:</p> <ul style="list-style-type: none"> ● Extend time requirements ● Preferential seating ● Check often for understanding ● Oral/visual directions/prompts when needed ● Provide hands-on materials and/ manipulatives for students to practice using new content knowledge
	<p>G&T:</p> <ul style="list-style-type: none"> ● Allow students to take an active role in teaching content to other students in the school ● Propose interest-based extension activities for early finishers
	<p>Special Ed:</p> <ul style="list-style-type: none"> ● Utilize a multi-sensory approach during instruction ● Modify test content and/or format ● Preferential seating as needed
	<p>504:</p> <ul style="list-style-type: none"> ● Review, restate and repeat ● Provide notes ● Chunk assignments
	<p>Students at Risk:</p> <ul style="list-style-type: none"> ● Deliver instruction utilizing varied learning styles including audio, visual and tactile/kinesthetic ● Provide individual instruction as needed ● Meet with students frequently to ensure understanding ● Allow verbal rather than written responses

Core Instructional Resources

Teacher Pedagogical Resources: *What skills/strategies, and resources helped the teacher design this unit*

Student Materials: *What materials are provided to students during this unit. (core texts, websites, etc.)*

****All materials must list a Lexile Level (<https://hub.lexile.com/find-a-book/search>)**

Notes:

Course: Technology & Design	
Businesses: Unit 6	
Grade Level(s): 4	Length of Unit: 6 weeks
Unit Rationale: Presentation skills are an extremely important component when combining digital projects, and the art of public speaking. In this project, students will plan and outline an idea, in which they will be creating their own unique businesses. Students will have to use persuasive writing in a digital format to produce a media rich project selling their businesses pitch to customers. In this project, students will be creating a presentation (website/presentation/digital animation), along with business cards (with audio component QR Code).	
Stage 1 - Desired Results	
Understandings: <i>Students will understand that...</i> <ul style="list-style-type: none"> ● <i>Create a document with text formatting using a word processing program.</i> ● <i>Create and present your business pitch in a multimedia presentation that includes graphics.</i> ● <i>Show confidence in public speaking.</i> 	Essential Questions: <ul style="list-style-type: none"> ● What is a logo? ● What is a slogan? ● What makes a business successful? ● Can you create a business model with a graphic organizer?
Content: <i>Students will know...</i> <ul style="list-style-type: none"> ● develop a unique business plan, and transfer ideas to a digital format ● design a logo using a logomaker tool ● create a business card ● design a business presentation using appropriate technology tools. ● present their business to an audience 	Skills: <i>Students will be able to...</i> <ul style="list-style-type: none"> · <i>Design and imagine a business</i> · <i>Create a logo</i> · <i>Develop a slogan</i> · <i>Create a presentation (website/prezi/digital animation)</i> · <i>Transfer ideas from paper to digital format</i> · <i>Import images</i> · <i>Create wordart or animated text</i>
NJ Student Learning Standards - 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. 8.1.5.A.2 Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures. 8.1.5.A.3 Use a graphic organizer to organize information about problem or issue. 8.2.5.C.1 Collaborate with peers to illustrate components of a designed system. 8.2.5.C.2 Explain how specifications and limitations can be used to direct a product's development. 8.2.5.C.3 Research how design modifications have lead to new products. 8.2.5.C.4 Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models. 8.2.5.C.5 Explain the functions of a system and subsystems. 8.2.5.C.6 Examine a malfunctioning tool and identify the process to troubleshoot and present options to repair the tool.	

8.2.5.C.7 Work with peers to redesign an existing product for a different purpose.

8.2.5.D.1 Identify and collect information about a problem that can be solved by technology, generate ideas to solve the problem, and identify constraints and trade-offs to be considered.

8.2.5.D.2 Evaluate and test alternative solutions to a problem using the constraints and trade-offs identified in the design process to evaluate potential solutions.

NJ: 2008 Standard 3: Language Arts Literacy, NJ: Grade 4 , 3.3 Speaking

D. Oral Presentation

- 1. Speak for a variety of audiences and purposes.
 - 2. Prepare, rehearse, and deliver a formal presentation in logical or sequential order, including an opening, supportive details, and a closing statement.
 - 3. Use notes or other memory aids to structure a presentation.
4. Maintain audience interest during formal presentations, incorporating adequate volume, proper pacing, and clear enunciation.

21st Century College & Career Practice Standards

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills

CRP4. Communicate clearly and effectively and with reason

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP6. Demonstrate creativity and innovation.

CRP9. Model integrity, ethical leadership and effective management.

CRP11. Use technology to enhance productivity

NJSLS-Career Readiness, Life Literacies, and Key Skills:Standards & Disciplinary Concepts (Career Readiness, Life Literacies, and Key Skills Practices and 9.2 Career Awareness, Exploration and Preparation Standards)

Career readiness, life literacies, and key skills education provides students with the necessary skills to make informed career and financial decisions, engage as responsible community members in a digital society, and to successfully meet the challenges and opportunities in an interconnected global economy.

<https://www.nj.gov/education/standards/clicks/index.shtml> or

<https://www.nj.gov/education/standards/clicks/Docs/2020NJSLS-CLKS.pdf> (Pgs 15-16)

Two or three Career Readiness, Life Literacies, and Key Skills Practices standards should be left in each unit, the rest should be removed from the list below.

CLKS Practices:

1. Act as a responsible and contributing community members and employee
2. Attend to financial well-being
5. Demonstrate creativity and innovation
7. Plan education and career paths aligned to personal goals
8. Use technology to enhance productivity increase collaboration and communicate effectively

Explanation of how **CLKS Practices** connect to the unit:

Students in this unit will use technology and creativity within their slideshow presentations as they take a glimpse into their future career paths. Within this project, they will choose a career that aligns to their personal goals and interests.

9.2 standards

- **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.4:** Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.

Explanation of how 9.2 standards connect to the unit:

Students will choose a career on areas they currently like in their life, and they'll present a slide on how they make an income. Some of these careers will be traditional, and others will be non-traditional. Discussions and research will include how particular careers require specific training, skills and certification.

Interdisciplinary Standards

W.K.6 With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers.

NJSLSA.W6 Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Explanation of how interdisciplinary standards connect to the unit:

Technology Integration (9.4 Standards) -

9.4.5.CI.4: Research the development process of a product and identify the role of failure as a part of the creative process (e.g., W.4.7, 8.2.5.ED.6).

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.

9.2.5.CAP.6: Compare the characteristics of a successful entrepreneur with the traits of successful employees.

- **9.2.5.CAP.7:** Identify factors to consider before starting a business.

Explanation of how 9.4 standards connect to the unit:

Students will research their careers and discuss the challenges facing if starting their own business. Students will plan out their weekly schedule which also considers their lifestyle

and benefits of particular jobs and careers.

Stage 2- Assessment Evidence:

Assessment:

Formative	<i>Exit tickets, oral and written responses</i>
Summative	<i>End of Unit presentation</i>
Alternative	<i>Audio or video recording of presentation</i>
Benchmark	<i>Mid Unit Checklists</i>
Other	<i>Presentations</i>

Stage 3 - Learning Plan

Learning Activities:

- Create a business concept idea
- Come up with a slogan
- Use Google Slides as a tool to create a presentation to guide you
- Create slide transitions and effects within your presentation to help enhance your speaking
- Present an oral report in front of a small and large audience.

Trajectory of how you are bringing students to develop the understandings listed above

ELL:

- Extend time requirements
- Preferential seating
- Check often for understanding
- Oral/visual directions/prompts when needed
- Provide hands-on materials and/ manipulatives for students to practice using new content knowledge

G&T:

- Allow students to take an active role in teaching content to other students in the school
- Propose interest-based extension activities for early finishers

Special Ed:

- Utilize a multi-sensory approach during instruction
- Modify test content and/or format
- Preferential seating as needed

	<p>504:</p> <ul style="list-style-type: none">● Review, restate and repeat● Provide notes● Chunk assignments
	<p>Students at Risk:</p> <ul style="list-style-type: none">● Deliver instruction utilizing varied learning styles including audio, visual and tactile/kinesthetic● Provide individual instruction as needed● Meet with students frequently to ensure understanding● Allow verbal rather than written responses

Core Instructional Resources

Teacher Pedagogical Resources: *What skills/strategies, and resources helped the teacher design this unit*

Student Materials: *What materials are provided to students during this unit. (core texts, websites, etc.)*

***All materials must list a Lexile Level (<https://hub.lexile.com/find-a-book/search>)*

Notes:

Course: Technology & Design	
Coding: Unit 7	
Grade Level(s): 4	Length of Unit: 3 weeks
Unit Rationale: In the growing world of technology, there are increasingly more ways to create and design applications and programs, in very kid friendly ways. Students will need to understand that there are easy ways to program on the computer, to create projects. Learning to code can open a world of possibilities for students, including the avenue to create video games, apps, and websites. In this introduction to programming, students will learn basics that they can continue from home on the websites www.code.org , and www.scratch.mit.edu	
Stage 1 - Desired Results	
Understandings: <i>Students will understand that...</i> <ul style="list-style-type: none"> ● <i>Understand the importance of coding in our world today.</i> ● <i>Discover how to complete simple coding tasks.</i> ● <i>Use online tools to solve multiple problems.</i> ● <i>Computer programming impacts our everyday lives.</i> 	Essential Questions: <ul style="list-style-type: none"> ● What is code? ● Why is important to learn how to code? ● What can you create from code? ● How do computers process data? ● What is block language? ● What is a loop? Event? Procedures? memory? storage? processing? software? coding? procedure? data? ● What is input/output? ● How does computer programming impact our everyday lives? ● What is an algorithm?
Content: <i>Students will know...</i> <ul style="list-style-type: none"> ● learn simple coding basics. ● log onto the website www.code.org ● create a simple code action. 	Skills: <i>Students will be able to...</i> <ul style="list-style-type: none"> ● - create a simple code action ● - log onto www.code.org ● - create algorithms to solve simple code problems
NJ Student Learning Standards - 8.2.5.E.1 Identify how computer programming impacts our everyday lives. 8.2.5.E.2 Demonstrate an understanding of how a computer takes input of data, processes and stores the data through a series of commands, and outputs information. 8.2.5.E.3 Using a simple, visual programming language, create a program using loops, events and procedures to generate specific output. 8.2.5.E.4 Use appropriate terms in conversation (e.g., algorithm, program, debug, loop, events, procedures, memory, storage, processing, software, coding, procedure, and data).	

NJSLS-Career Readiness, Life Literacies, and Key Skills: Standards & Disciplinary Concepts (Career Readiness, Life Literacies, and Key Skills Practices and 9.2 Career Awareness, Exploration and Preparation Standards)

CLKS Practices:

4. Demonstrate creativity and innovation
5. Utilize critical thinking to make sense of problems and persevere in solving them
8. Use technology to enhance productivity increase collaboration and communicate effectively
9. Work productively in teams while using cultural/global competence

Explanation of how **CLKS Practices** connect to the unit:

Within this coding unit, students will use creativity and innovation, critical thinking and technology to help aid them in solving algorithms. Students will also work in teams to help each other, and understand that code is a worldwide activity and can be written in different languages, and can be learned in a variety of languages.

9.2 standards

- **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.4: Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.**

Explanation of how **9.2 standards** connect to the unit:

Becoming a programmer is a lot of hard work, and specific requirements, which students will explore in discussions.

Interdisciplinary Standards

NJSLS-M.4.OA. Operations and Algebraic Thinking

Explanation of how **interdisciplinary standards** connect to the unit:

Operations and Algebraic Thinking in Coding tasks.

Technology Integration (9.4 Standards)

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

Explanation of how 9.4 standards connect to the unit:

Students will try a couple different coding activities and see the different types of programming languages there are out there, and what the advantages and disadvantages may be to using different coding platforms, and brainstorm how these tools may be used to solve problems.

Stage 2- Assessment Evidence:**Assessment:**

Formative	<i>Exit tickets, oral and written responses</i>
Summative	End of unit coding tasks completed
Alternative	<i>One on One individual work with student</i>
Benchmark	<i>Each coding class has levels to complete</i>
Other	

Stage 3 - Learning Plan

Learning Activities: <ul style="list-style-type: none"> Participate in code.org hour of code activities. 	ELL: <ul style="list-style-type: none"> Extend time requirements Preferential seating Check often for understanding Oral/visual directions/prompts when needed Provide hands-on materials and/ manipulatives for students to practice using new content knowledge
	G&T: <ul style="list-style-type: none"> Allow students to take an active role in teaching content to other students in the school Propose interest-based extension activities for early finishers
	Special Ed: <ul style="list-style-type: none"> Utilize a multi-sensory approach during instruction Modify test content and/or format Preferential seating as needed

	504: <ul style="list-style-type: none">● Review, restate and repeat● Provide notes● Chunk assignments
	Students at Risk: <ul style="list-style-type: none">● Deliver instruction utilizing varied learning styles including audio, visual and tactile/kinesthetic● Provide individual instruction as needed● Meet with students frequently to ensure understanding● Allow verbal rather than written responses

Core Instructional Resources

Teacher Pedagogical Resources: *What skills/strategies, and resources helped the teacher design this unit*

Student Materials: *code.org*

****All materials must list a Lexile Level (<https://hub.lexile.com/find-a-book/search>)**

Notes:

Course: Technology & Design	
Egg Drop Unit 8	
Grade Level(s): 4	Length of Unit: 4 weeks
<p>Unit Rationale: Students will understand and apply the Technology Problem Solving Design Loop by creating a structure out of recyclables they have collected and brought into class. Students will be able to work efficiently in groups, brainstorm and design a vehicle to safely transport a raw egg from the roof of the school to the ground below. While building their structures, students will make appropriate modifications, troubleshooting problems, while discovering alternative uses for existing recyclable products. Students will explore the scientific factors involved in this project, which power the reasoning of the engineering skills. Students will explore Force, weight, gravity, air resistance, speed, weight /mass</p>	
Stage 1 - Desired Results	
<p>Understandings:</p> <p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> ● <i>Understand the steps and sequence of the design process.</i> ● <i>Understand the importance of recycling and reusing supplies.</i> ● <i>Collaborating with peers on a single design and project goal requires good and effective teamwork, responsibility, and communication.</i> ● <i>Forces acting upon the egg will cause it to crack</i> ● 	<p>Essential Questions:</p> <ul style="list-style-type: none"> ● What are some alternative uses for recyclable products? ● What is the design process? ● How do you use the design process effectively? ● How can a group work together efficiently? ● How have scientists used the design process to solve major questions? ● What science principles are included in the project? i.e. gravity, acceleration, energy, potential energy, kinetic energy, speed ● What would help lessen the force upon the object upon impact? ● How does height effect the outcome of the egg drop? ●
<p>Content:</p> <p><i>Students will know...</i></p> <ul style="list-style-type: none"> ● · Students will be able to ● · design an alternative use for an existing recyclable product ● · understand the importance and impact of recycling ● · analyze their designs and make adjustments and changes based on observations ● · examine any malfunctions in their design, and troubleshoot and repair the egg drop structure ● · work in cooperative groups, sharing responsibility when creating their structure 	<p>Skills:</p> <p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> ● Create blueprint design for egg drop structure ● - Design 3-d shapes within structure ● - Gather supplies and locate recyclables ● - Use cooperative teamwork skills ● - Utilize the design process ● - Build and construct using supplies given ● - Create a model design that resembles the original design ●

- understand and use the steps in the design process.
- 1. *Identify the problem.*
- 2. *Conduct research.*
- 3. *Brainstorm several possible solutions by sketching.*
- 4. *Select the best solution by weighing product feasibility and trade-offs.*
- 5. *Design the final solution utilizing technical drawing techniques.*
- 6. *Build/model solution according to plan.*
- 7. *Test and evaluate the solution.*

NJ Student Learning Standards -

NJ Core Curriculum Content & Common Core Standards -

- 8.2.5.C.1 Collaborate with peers to illustrate components of a designed system.
- 8.2.5.C.2 Explain how specifications and limitations can be used to direct a product’s development.
- 8.2.5.C.3 Research how design modifications have lead to new products.
- 8.2.5.C.4 Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models.
- 8.2.5.C.5 Explain the functions of a system and subsystems.
- 8.2.5.C.6 Examine a malfunctioning tool and identify the process to troubleshoot and present options to repair the tool.
- 8.2.5.C.7 Work with peers to redesign an existing product for a different purpose.

- 8.2.5.D.1 Identify and collect information about a problem that can be solved by technology, generate ideas to solve the problem, and identify constraints and trade-offs to be considered.

- 8.2.5.D.2 Evaluate and test alternative solutions to a problem using the constraints and trade-offs identified in the design process to evaluate potential solutions.

21st Century College & Career Practice Standards

- CRP2. Apply appropriate academic and technical skills
- CRP4. Communicate clearly and effectively and with reason
- CRP5. Consider the environmental, social and economic impacts of decisions.
- CRP6. Demonstrate creativity and innovation.
- CRP9. Model integrity, ethical leadership and effective management.
- CRP11. Use technology to enhance productivity
- CRP12. Work productively in teams while using cultural global competence.

NJSLS-Career Readiness, Life Literacies, and Key Skills: Standards & Disciplinary Concepts (Career Readiness, Life Literacies, and Key Skills Practices and 9.2 Career Awareness, Exploration and Preparation Standards)

CLKS Practices:

- 1. Act as a responsible and contributing community members and employee

- 4. Demonstrate creativity and innovation
- 5. Utilize critical thinking to make sense of problems and persevere in solving them
- 9. Work productively in teams while using cultural/global competence

Explanation of how **CLKS Practices** connect to the unit:

Students will use problem solving skills to design their model, working together in teams, using creativity to improve their project.

9.2 standards

- **9.2.5.CAP.4:** Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.

Explanation of how 9.2 standards connect to the unit:

Engineers need specific training, skills and certifications to conduct their jobs.

Interdisciplinary Standards

- **6.1.2.CivicsPD.1:** Engage in discussions effectively by asking questions, considering facts, listening to the ideas of others, and sharing opinions.
- **6.1.2.CivicsPD.2:** Establish a process for how individuals can effectively work together to make decisions.

Explanation of how interdisciplinary standards connect to the unit:

Students will listen to one another and work together in groups to create their own version of their Egg Drop structure.

Technology Integration (9.4 Standards) -

- **9.4.5.CI.3:** Participate in a brainstorming session with individuals with diverse perspectives to expand one’s thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).
- **9.4.5.CI.4:** Research the development process of a product and identify the role of failure as a part of the creative process (e.g., W.4.7, 8.2.5.ED.6).

Explanation of how 9.4 standards connect to the unit:

Students will conduct brainstorming sessions on what design features will help the egg structure protect the egg. Failure of the egg to survive will also be discussed, and reflection and discussion will occur based on the students findings.

Stage 2- Assessment Evidence:

Assessment:

Formative

Exit tickets, questioning, discussions

Summative	<i>Completed Egg Drop Structure</i>
Alternative	
Benchmark	
Other	<i>Egg Drop structure</i>

Stage 3 - Learning Plan	
<p>Learning Activities:</p> <ul style="list-style-type: none"> ● Bring in recyclables from your house that you think will be good materials to use for building the project. ● Work in teams to design a prototype blueprint based on what materials you have at your disposal ● Build and test a structure that will protect the egg from a drop off the roof of the school. <p><i>Trajectory of how you are bringing students to develop the understandings listed above</i></p>	<p>ELL:</p> <ul style="list-style-type: none"> ● Extend time requirements ● Preferential seating ● Check often for understanding ● Oral/visual directions/prompts when needed ● Provide hands-on materials and/ manipulatives for students to practice using new content knowledge
	<p>G&T:</p> <ul style="list-style-type: none"> ● Allow students to take an active role in teaching content to other students in the school ● Propose interest-based extension activities for early finishers
	<p>Special Ed:</p> <ul style="list-style-type: none"> ● Utilize a multi-sensory approach during instruction ● Modify test content and/or format ● Preferential seating as needed
	<p>504:</p> <ul style="list-style-type: none"> ● Review, restate and repeat ● Provide notes ● Chunk assignments
	<p>Students at Risk:</p> <ul style="list-style-type: none"> ● Deliver instruction utilizing varied learning styles including audio, visual and tactile/kinesthetic

	<ul style="list-style-type: none"> ● Provide individual instruction as needed ● Meet with students frequently to ensure understanding ● Allow verbal rather than written responses
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<p>Core Instructional Resources</p>
<p>Teacher Pedagogical Resources: <i>What skills/strategies, and resources helped the teacher design this unit</i></p>
<p>Student Materials: <i>What materials are provided to students during this unit. (core texts, websites, etc.)</i></p> <p><i>**All materials must list a Lexile Level (https://hub.lexile.com/find-a-book/search)</i></p>

<p>Notes:</p>

<p>Course:Technology & Design</p>	
<p>Email: Unit 9</p>	
<p>Grade Level(s): 4</p>	<p>Length of Unit: 1 week</p>
<p>Unit Rationale: Communicating with email has become a daily component of everyone's lives, and remains an important tool for connecting with people in a variety of ways. Students will be using email in their academic careers to collaborate on projects, create discussions, and asking teachers questions. It is important that students utilize this tool appropriately, and understand the consequences of online behavior, and what is the proper way to communicate through email.</p>	

Stage 1 - Desired Results	
<p>Understandings:</p> <p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> ● 1. Email is one of the most important forms of communication in the 21st century. ● 2. It is important to proofread emails, and address recipients appropriately. 	<p>Essential Questions:</p> <ul style="list-style-type: none"> ● --Why is email an important way to communicate? ● -What are the procedures to creating a new email? ● -What are the major toolbar icons? ● -How do I create a subject? ● -How do I change font? ● -How do I locate a contact? ● -How do I reply to an email? ● -What is the proper format to an email?
<p>Content:</p> <p><i>Students will know...</i></p> <ul style="list-style-type: none"> ● open email, and create a new composition ● write an email to a teacher/staff member from Bedwell School. ● understand the importance of maintaining appropriate email communication. 	<p>Skills:</p> <p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> ● Open the email ● Create an email composition ● Change the font type/font color ● Change the subject ● Locate a contact in the recipient ● Reply to an email
<p>NJ Student Learning Standards - NJ: 2009 CCCS: Standard 8: Technology, NJ: Grade 4 , 8.1 Educational Technology 8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge. A. Technology Operations and Concepts · 8.1.4.A.2 Create a document with text formatting and graphics using a word processing program. D. Digital Citizenship · 8.1.4.D.1 Explain the need for each individual, as a member of the global community, to practice cyber safety, cyber security, and cyber ethics when using existing and emerging technologies. 8.1.4.D.3 Explain the purpose of an acceptable use policy and the consequences of inappropriate use of technology. 21st Century College & Career Practice Standards</p>	
<p>NJSLS-Career Readiness, Life Literacies, and Key Skills:Standards & Disciplinary Concepts (Career Readiness, Life Literacies, and Key Skills Practices and 9.2 Career Awareness, Exploration and Preparation Standards)</p> <p><i>Career readiness, life literacies, and key skills education provides students with the necessary skills to make informed career and financial decisions, engage as responsible community members in a digital society, and to successfully meet the challenges and opportunities in an interconnected global economy.</i></p> <p>https://www.nj.gov/education/standards/clicks/index.shtml or https://www.nj.gov/education/standards/clicks/Docs/2020NJSLS-CLKS.pdf (Pgs 15-16)</p> <p>Two or three Career Readiness, Life Literacies, and Key Skills Practices standards should be left in each unit, the rest should be removed from the list below.</p> <p>CLKS Practices:</p>	

1. Act as a responsible and contributing community members and employee
8. Use technology to enhance productivity increase collaboration and communicate effectively

Explanation of how **CLKS Practices** connect to the unit:

Students will review responsible appropriate use of email and how it can be used to communicate and collaborate effectively.

9.2 standards should be listed when appropriate. The appropriate grade band must be used for these standards.

<https://www.nj.gov/education/standards/clicks/Docs/2020NJSLS-9.2CareerAwareness.pdf> (Starts on pg.37)

Explanation of how 9.2 standards connect to the unit:

Interdisciplinary Standards

W.K.6 With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers.
NJSLSA.W6 Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Explanation of how interdisciplinary standards connect to the unit:

Comprehension, collaboration, and literacy in Tech education

Technology Integration (9.4 Standards) -

- 9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).**
- 9.4.5.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.IML.4: Determine the impact of implicit and explicit media messages on individuals, groups, and society as a whole.**

Explanation of how 9.4 standards connect to the unit:

Students will use appropriate use of email, and how they conduct themselves online determines how they are perceived by teachers. Discuss what email is supposed to be used for in an academic setting.

Assessment:	
Formative	<i>Exit Tickets, discussions, Q & A</i>
Summative	<i>Completed E-mail, email is cced and checked by teacher</i>
Alternative	<i>Handwritten note that will be transcribed onto email, or audio/video message</i>
Benchmark	
Other	

Stage 3 - Learning Plan	
<p>Learning Activities:</p> <ul style="list-style-type: none"> Students will write an email to a staff member 	<p>ELL:</p> <ul style="list-style-type: none"> Extend time requirements Preferential seating Check often for understanding Oral/visual directions/prompts when needed Provide hands-on materials and/ manipulatives for students to practice using new content knowledge
	<p>G&T:</p> <ul style="list-style-type: none"> Allow students to take an active role in teaching content to other students in the school Propose interest-based extension activities for early finishers
	<p>Special Ed:</p> <ul style="list-style-type: none"> Utilize a multi-sensory approach during instruction Modify test content and/or format Preferential seating as needed
	<p>504:</p> <ul style="list-style-type: none"> Review, restate and repeat Provide notes Chunk assignments
	Students at Risk:

	<ul style="list-style-type: none">● Deliver instruction utilizing varied learning styles including audio, visual and tactile/kinesthetic● Provide individual instruction as needed● Meet with students frequently to ensure understanding● Allow verbal rather than written responses
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Core Instructional Resources

Teacher Pedagogical Resources: *What skills/strategies, and resources helped the teacher design this unit*

Student Materials: *What materials are provided to students during this unit. (core texts, websites, etc.)*

***All materials must list a Lexile Level (<https://hub.lexile.com/find-a-book/search>)*

Notes: