Grade K-2 Scope and Sequence for Technology

Students participate in rotating marking periods.	Unit	Number of Instructional Days
MP -1, 2	Technology Operations and Concepts	4 Instructional Days
MP -1, 2	Creativity and Innovation	4 Instructional Days
MP -1, 2	Communication and Collaboration	3 Instructional Days
MP -1, 2	Digital Citizenship	3 Instructional Days
MP -1, 2	Research and Information Fluency	4 Instructional Days
MP -1, 2	Critical Thinking, Problem Solving, & Decision-Making	4 Instructional Days

K-2 Grade Technology Curriculum		
Course Title: Technology		
Philosophy	Quick Link	
Unit 1: Technology Operations and Concepts	Quick Link to Unit 1	
Unit 2: Creativity and Innovation	Quick Link to Unit 2	
Unit 3: Communication and Collaboration	Quick Link to Unit 3	
Unit 4: Digital Citizenship	Quick Link to Unit 4	
Unit 5: Research and Information Fluency	Quick Link to Unit 5	
Unit 6: Critical Thinking, Problem Solving, & Decision-Making	Quick Link to Unit 6	

Philosophy

The Florham Park School District's technology curriculum encourages students to use creativity, problem solving, critical thinking, and decision making skills to prepare for the global workplace. In today's global economy, students need to be lifelong learners who have the knowledge and skills to adapt to an evolving workplace and world. To address these demands, Standard 9, 21st Century Life and Careers, which includes the 12 Career Ready Practices, establishes clear guidelines for what students need to know and be able to do in order to be successful in their future careers and to achieve financial independence.

21st century life and career skills enable students to make informed decisions that prepare them to engage as active citizens in a dynamic global society and to successfully meet the challenges and opportunities of the 21st century global workplace.

Unit 1: Technology Operations and Concepts

Grades: K-2

Unit Summary

Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.

NJ Student Learning Standards

2020 NJSLS - Computer Science and Design Thinking

Core Ideas:

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.

Describing a problem is the first step toward finding a solution when computing systems do not work as expected.

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.

Data can be used to make predictions about the world.

Real world information can be stored and manipulated in programs as data (e.g., numbers, words, colors, images).

The availability of technology for essential tasks varies in different parts of the world.

Performance Expectations:

- 8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
- 8.1.2.CS.2: Explain the functions of common software and hardware components of computing systems.
- 8.1.2.CS.3: Describe basic hardware and software problems using accurate terminology.
- 8.1.2.DA.1: Collect and present data, including climate change data, in various visual formats.
- 8.1.2.DA.2: Store, copy, search, retrieve, modify, and delete data using a computing device.
- 8.1.2.DA.3: Identify and describe patterns in data visualizations.
- 8.1.2.DA.4: Make predictions based on data using charts or graphs.
- 8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information.
- 8.2.2.EC.1: Identify and compare technology used in different schools, communities, regions, and parts of the world.

Unit Sequence		
Part A: Essential Questions	Part B: Enduring Understandings	
 In a world of constant change, what skills should we learn? How do I choose which technological tools to use and when it is appropriate to use them? How can I transfer what I know to new technological situations/experiences How can we use technology to collect and present data? Climate Change Raw Data and Graphing Tools 	 Technology is constantly changing and requires continuous learning of new skills. The use of digital tools and media-rich resources enhances creativity and the construction of knowledge. A tool is only as good as the person using it. 	

Unit 1: Technology Operations and Concepts	Teaching Point
	 Today I will teach you to use an input device to select an item and navigate the screen. Today I will teach you to navigate the basic functions of a browser. Today I will teach you to use digital devices to create stories with pictures, numbers, letters and words. Today I will teach you to use basic technology terms in the proper context in conversation with peers and teachers (e.g., camera, tablet, Internet, mouse, keyboard, and printer). Today I will teach you to demonstrate the ability to access and use resources on a computing device. Today I will teach you to identify the basic features of a digital device and explain its purpose. Today I will teach you to identify the basic features of a computer and explain how to use them effectively. Today I will teach you to create a document using a word processing application. Today I will teach you to compare the common uses of at least two different digital applications and identify the advantages and disadvantages of using each. Today I will teach you to demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums). Today I will teach you to enter information into a spreadsheet and sort the information. Today I will teach you to enter information into a database or spreadsheet and filter the information. Today I will teach you to use the mouse to negotiate a simple menu on the screen (e.g., to print a picture). Today I will teach you to use various programs and websites to navigate in virtual environments Today I will teach you to use various programs and websites to navigate in virtual environments Today I will teach you to identify the "power keys" (e.g., ENTER, spacebar) on a keyboard. Today I will teach you to identify the "power keys" (e.g., ENTER, spacebar) on a keyboard.

- Today I will teach you to recognize that the number keys are in a row on the top of the keyboard.
- Today I will teach you to use basic technology terms in conversations (e.g., digital camera, battery, screen, computer, Internet, mouse, keyboards, and printer).
- Today I will teach you to use technology terms in daily practice.
- Today I will teach you to discuss the common uses of computer applications and hardware and identify their advantages and disadvantages.
- Today I will teach you to create a document with text using a word processing program.
- Today I will teach you to demonstrate the ability to navigate in virtual environments that are developmentally appropriate.
- Today I will teach you to introduce shortcuts for saving and printing
- Today I will teach you to enhance writing pieces by using different font styles, sizes and colors.
- Today I will teach you to collect and post the results of a digital classroom survey about a problem or issue and use data to suggest solutions.
- Today I will teach you to students collect information about products and systems.
- Today I will teach you to students create a graph in Wixie.

Evidence of Learning (Assessments) **Accommodations and Modifications** Formative Assessments: **Special Education:** Curricular Modifications and Guidance for Students Educated in Special Class Settings Pre-test Subgroup Accommodations and Modifications Teacher observation Project completion/rubrics Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Performance Tasks Self-Evaluations Differentiation: Surveys Preview content and concepts Behavior management plan Highlight text **Summative Assessments:** Small group setting High-Prep Differentiation: Alternative formative and summative assessments Unit Projects Guided Reading Summative tests Personal agendas Questionnaire Project-based learning Demonstrations Tiered activities/assignments Digital Portfolio Varying organizers for instructions Learning Log Low-Prep Differentiation: Clubbing activities **Benchmark Assessments:** Exploration by interest Flexible groupings

 Initial Benchmark: Beginning of first marking period Mid-Year Benchmark: Given in January 	English Language Learners:
End of year Benchmark: end of marking period Alternative Assessments:	 Subgroup Accommodations and Modifications Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)
Choice Projects Simplified or modified lessons Portfolios	Students at Risk for Failure:
Portrolios	 Subgroup Accommodations and Modifications Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)
	Gifted and Talented
	 Subgroup Accommodations and Modifications Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)
	Students with 504 Plans
	 Subgroup Accommodations and Modification Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)
Core Instructional and Supplemental Materials	Core Instructional, Supplemental, Instructional, and
Professional Resources:	Intervention Resources

Core Professional Resources:

- Tech4Learning
- Alice Keeler Education
- Typing.com
- International Technology Education Association
- Common Sense Education

Supplemental Professional Resources:

- ISTE NET-S Implementation Wiki
- Partnership for 21st Century Skills
- Learning Activity Types William And Mary University TPACK
- https://sites.google.com/a/fpks.org/toolsforteachers/tools-to-enhance-instruction
- http://www.typingweb.com/tutor/courses/

Core Instructional Resources:

- Brain Pop JR.
- Typing.com
- Google Form
- Wixie
- Excel

Supplemental Resources:

Suggested Lessons for Differentiation with Small Groups:

- All Standards, All Students/Case Studies
- (Restructure Lessons with UDL)
- Project Based learning
- Brain Pop JR.
- Web Translation Tools
- Climate Change Raw Data and Graphing Tools

Intervention Resources:

- Graphic Organizers
- Scaffolded Notes
- Closed Notes
- Shared Notes and slide presentations
- Study guides
- All lessons will be modeled through the use of an interactive board
- Keyboards will be marked with specific colors on various keys.
- Screens can be magnified if necessary
- Cooperative Learning Groups
- Posters will be displayed as a visual to assist students when completing the computer basics.
- Brain Pop JR.

Interdisciplinary Connections

- All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.
- Correlates to routine units in technology.
- Highlight texts, themes, and reflections that connect to themes related to ethical use and cyberbullying.

Integration of Technology through NJSLS

- All students will have access to a computer with wireless capabilities during this time. Use overhead projector with Smartboard for shared lessons
- Use of Chromebooks or iPads
- Use of microphone or camera feature on laptop

Ongoing:

 Use of Computers with headphones, Internet access, digital camera, camcorder, microphones, green screen, drawing tablets

Math

K-2 Technology

1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. Math Practice Make sense of problems and persevere in solving them. ELA RF.1.4 Read with sufficient accuracy and fluency to support comprehension. RF.1.4a Read grade-level text with purpose and understanding. RF.1.4b Read grade-level text orally with accuracy, appropriate rate, and expression. SL.1.5 Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. SL.1.6 Produce complete sentences when appropriate to task and situation. Standard 8 Computer Science	 Climate Change Raw Data and Graphing Tools Use overhead projector with Smartboard for shared lessons Other: Use Microsoft Word, Wixie, Smart Board for shared lessons, Google Apps, Clever Apps Use www.typing.com to practice typing weekly
8.1.2.DA.3: Identify and describe patterns in data visualizations.	
Standard 9 Career Readiness, Life Literacy, and Key Skills	
9.1.2.CR.1: Recognize ways to volunteer in the classroom, school and community.	
Integration of 21st Century Themes and Skills	Media Literacy Integration
 Global Awareness Environmental Literacy Creativity and Innovation Critical Thinking and Problem Solving Communication Collaboration 	 Ask students to look for specific things when they view videos or read print material, and then ask questions about those items Build on the intuitive knowledge students have gained from media about the story and character Clarify the distinction between fiction and nonfiction in different types of media reporting on the same topic Use print materials to practice reading and comprehension skills
Career Education	Global Perspective
 Virtual Field Trips EdTech Videos TechLearning.com Google Teacher Tribe Podcast 	Black History Month National Women's History Month Week of Respect Kindness Month Week of Respect National Compliment Week St. Patrick's Day

Unit 2: Creativity and Innovation	Grades: K-2
Unit Summary	

Educational Technology- All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge. Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.

Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology

NJ Student Learning Standards

2020 NJSLS - Computer Science and Design Thinking

Core Ideas:

Engineering design is a creative process for meeting human needs or wants that can result in multiple solutions.

Performance Expectations:

8.2.2.ED.1: Communicate the function of a product or device.

8.1.P.B.1 Create a story about a picture taken by the student on a digital camera or mobile device

8.1.2.B.1 Illustrate and communicate original ideas and stories using multiple digital tools and resources

Unit Se	quence	:	
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Part A: Essential Questions	Part B: Enduring Understandings
How can digital tools be used for creating original and innovative works, ideas, and solutions?	Digital tools provide enhanced opportunities to design innovative solutions, and express ideas creatively.

Unit 2: Creativity and Innovation	tivity and Teaching Point	
	 Today I will teach you to use a digital camera to take a picture. Today I will teach you to create original graphics with digital tools. Today I will teach you to manipulate digital images from files and digital cameras Today I will teach you to record audio narrations to be embedded in illustrations Today I will teach you to illustrate and communicate original ideas and stories using digital tools and media-rich resources. Today I will teach you to create a digital scrapbook. Include information about how each family member contributes to the family unit and talk about anything that makes the person special. Images can be hand drawn and scanned or digital pictures may be used. Today I will teach you to create a short video about a favorite activity. 	

Evidence of Learning (Assessments)	Accommodations and Modifications

Formative Assessments:

- Pre-test
- Teacher observation
- Project completion/rubrics
- Performance Tasks
- Self-Evaluations
- Surveys

Summative Assessments:

- Unit Projects
- Summative tests
- Questionnaire
- Demonstrations
- Digital Portfolio
- Learning Log

Benchmark Assessments:

- Initial Benchmark: Beginning of first marking period
- Mid-Year Benchmark: Given in January
- End of year Benchmark: end of marking period

Alternative Assessments:

- Choice Projects
- Simplified or modified lessons
- Portfolios

Special Education:

- <u>Curricular Modifications and Guidance for Students Educated in Special Class</u>
 Settings
- Subgroup Accommodations and Modifications
- Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)

Differentiation:

- Preview content and concepts
- Behavior management plan
- Highlight text
- Small group setting

High-Prep Differentiation:

- Alternative formative and summative assessments
- Guided Reading
- Personal agendas
- Project-based learning
- Tiered activities/assignments
- Varying organizers for instructions

Low-Prep Differentiation:

- Clubbing activities
- Exploration by interest
- Flexible groupings

English Language Learners:

- Subgroup Accommodations and Modifications
- Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)

Students at Risk for Failure:

- Subgroup Accommodations and Modifications
- Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)

Gifted and Talented

- Subgroup Accommodations and Modifications
- Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)

Students with 504 Plans

K-2 Technology

	 Subgroup Accommodations and Modification Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)
Core Instructional and Supplemental Materials Professional Resources:	Core Instructional, Supplemental, Instructional, and Intervention Resources
Core Professional Resources:	Core Instructional Resources:
 Tech4Learning Alice Keeler Education Typing.com International Technology Education Association Common Sense Education 	Brain Pop IR. Typing.com Google Form Wixie Digital cameras Computer on-board cameras Computer on-board Microphone
Supplemental Professional Resources: ISTE NET-S Implementation Wiki Partnership for 21st Century Skills Learning Activity Types — William And Mary University - TPACK https://sites.google.com/a/fpks.org/toolsforteachers/tools-to-enhance-instruction http://www.typingweb.com/tutor/courses/	Supplemental Resources: Suggested Lessons for Differentiation with Small Groups: All Standards, All Students/Case Studies (Restructure Lessons with UDL) Project Based learning Brain Pop IR. Web Translation Tools
	Intervention Resources: Graphic Organizers Scaffolded Notes Closed Notes Shared Notes and slide presentations Study guides All lessons will be modeled through the use of an interactive board Keyboards will be marked with specific colors on various keys. Screens can be magnified if necessary Cooperative Learning Groups Posters will be displayed as a visual to assist students when completing the computer basics. Brain Pop JR.

Interdisciplinary Connections	Integration of Technology through NJSLS
 All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health. Correlates to routine units in technology. Highlight texts, themes, and reflections that connect to themes related to ethical use and cyberbullying. Math 1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. Math Practice Make sense of problems and persevere in solving them. ELA RF.1.4 Read with sufficient accuracy and fluency to support comprehension. RF.1.4b Read grade-level text with purpose and understanding. RF.1.4b Read grade-level text orally with accuracy, appropriate rate, and expression. SL.1.5 Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. SL.1.6 Produce complete sentences when appropriate to task and situation. Standard 8 Computer Science 8.1.2.DA.3: Identify and describe patterns in data visualizations. Standard 9 Career Readiness, Life Literacy, and Key Skills 9.1.2.CR.1: Recognize ways to volunteer in the classroom, school and community. 	All students will have access to a computer with wireless capabilities during this time. Use overhead projector with Smartboard for shared lessons Use of Chromebooks or iPads Use of microphone or camera feature on laptop Ongoing: Use of Computers with headphones, Internet access, digital camera, camcorder, microphones, green screen, drawing tablets Use overhead projector with Smartboard for shared lessons Other: Use Microsoft Word, Wixie, Smart Board for shared lessons, Google Apps, Clever Apps Use www.typing.com to practice typing weekly
Integration of 21st Century Themes and Skills	Media Literacy Integration
 Global Awareness Environmental Literacy Creativity and Innovation Critical Thinking and Problem Solving Communication Collaboration 	 Ask students to look for specific things when they view videos or read print material, and then ask questions about those items Build on the intuitive knowledge students have gained from media about the story and character Clarify the distinction between fiction and nonfiction in different types of media reporting on the same topic Use print materials to practice reading and comprehension skills
Career Education	Global Perspective
 Virtual Field Trips EdTech Videos TechLearning.com Google Teacher Tribe Podcast 	 Black History Month National Women's History Month Week of Respect Kindness Month Week of Respect National Compliment Week St. Patrick's Day

Unit 3: Communication/Collaboration

Grades: K-2

Unit Summary

Educational Technology- All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge. Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

NJ Student Learning Standards

2020 NJSLS - Computer Science and Design Thinking

Core Ideas:

Computing technology has positively and negatively changed the way individuals live and work (e.g., entertainment, communication, productivity tools).

Engineering design is a creative process for meeting human needs or wants that can result in multiple solutions.

Performance Expectations:

- 8.1.2.IC.1: Compare how individuals live and work before and after the implementation of new computing technology.
- 8.2.2.ED.1: Communicate the function of a product or device.
- 8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.

Unit Sequence		
Part A: Essential Questions		Part B: Enduring Understandings
How has the use of di communication and c	gital tools improved opportunities for ollaboration?	Digital tools allow for communication and collaboration anytime/anyplace worldwide.
Unit 3: Basic Publishing - Technology Operations and Concepts	Publishing - Technology Operations and Teaching Point	
	Today I will teach you to operate freq formats.	quently used, high-quality, interactive games or activities in either screen or toy-based

- Today I will teach you to engage in a variety of developmentally appropriate learning activities with students in other classes, schools, or countries using electronic tools.
- Today I will teach you to compare information about plants, animals and non-living objects found in the schoolyard with other students from around the country and the world.
- Today I will teach you to participate in a project that combines artwork with the development of reading and writing skills.
- Today I will teach you to create and interpret graphs, use descriptive text.

Accommodations and Modifications Evidence of Learning (Assessments) Formative Assessments: **Special Education:** Curricular Modifications and Guidance for Students Educated in Special Class Settings Pre-test Teacher observation Subgroup Accommodations and Modifications Project completion/rubrics Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Performance Tasks Self-Evaluations Differentiation: Surveys Preview content and concepts Behavior management plan Highlight text **Summative Assessments:** Small group setting High-Prep Differentiation: Unit Projects Alternative formative and summative assessments Summative tests Guided Reading Questionnaire Personal agendas Demonstrations Project-based learning Digital Portfolio Tiered activities/assignments Learning Log Varying organizers for instructions Low-Prep Differentiation: **Benchmark Assessments:** Clubbing activities Exploration by interest Flexible groupings Initial Benchmark: Beginning of first marking period Mid-Year Benchmark: Given in January End of year Benchmark: end of marking period **English Language Learners:** Alternative Assessments: Subgroup Accommodations and Modifications Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners) Choice Projects Simplified or modified lessons Portfolios Students at Risk for Failure:

K-2 Technology

Subgroup Accommodations and Modifications Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Gifted and Talented Subgroup Accommodations and Modifications Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Students with 504 Plans Subgroup Accommodations and Modification Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Core Instructional and Supplemental Materials Core Instructional, Supplemental, Instructional, and **Professional Resources: Intervention Resources Core Professional Resources: Core Instructional Resources:** Tech4Learning Brain Pop JR. Alice Keeler Education Typing.com Typing.com Google Form International Technology Education Association Wixie Common Sense Education Clever **Supplemental Professional Resources:** Supplemental Resources: ISTE NET-S Implementation Wiki Suggested Lessons for Differentiation with Small Groups: Partnership for 21st Century Skills All Standards, All Students/Case Studies Learning Activity Types – William And Mary University - TPACK (Restructure Lessons with UDL) https://sites.google.com/a/fpks.org/toolsforteachers/tools-to-enhance-instruction Project Based learning http://www.typingweb.com/tutor/courses/ Brain Pop IR. Web Translation Tools **Intervention Resources:** Graphic Organizers

	 Scaffolded Notes Closed Notes Shared Notes and slide presentations Study guides All lessons will be modeled through the use of an interactive board Keyboards will be marked with specific colors on various keys. Screens can be magnified if necessary Cooperative Learning Groups Posters will be displayed as a visual to assist students when completing the computer basics. Brain Pop JR.
Interdisciplinary Connections	Integration of Technology through NJSLS
 All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health. Correlates to routine units in technology. Highlight texts, themes, and reflections that connect to themes related to ethical use and cyberbullying. Math 1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. Math Practice Make sense of problems and persevere in solving them. ELA RF.1.4 Read with sufficient accuracy and fluency to support comprehension. RF.1.4a Read grade-level text with purpose and understanding. RF.1.4b Read grade-level text orally with accuracy, appropriate rate, and expression. SL.1.5 Add drawings or other visual displays to descriptions when appropriate to clarify ideas, 	 All students will have access to a computer with wireless capabilities during this time. Use overhead projector with Smartboard for shared lessons Use of Chromebooks or iPads Use of microphone or camera feature on laptop Ongoing: Use of Computers with headphones, Internet access, digital camera, camcorder, microphones, green screen, drawing tablets Use overhead projector with Smartboard for shared lessons Other: Use Microsoft Word, Wixie, Smart Board for shared lessons, Google Apps, Clever Apps Use www.typing.com to practice typing weekly
thoughts, and feelings. SL.1.6 Produce complete sentences when appropriate to task and situation.	
Standard 8 Computer Science 8.1.2.DA.3: Identify and describe patterns in data visualizations. Standard 9 Career Readiness, Life Literacy, and Key Skills 9.1.2.CR.1: Recognize ways to volunteer in the classroom, school and community.	
Integration of 21st Century Themes and Skills	Media Literacy Integration
 Global Awareness Environmental Literacy Creativity and Innovation Critical Thinking and Problem Solving Communication 	 Ask students to look for specific things when they view videos or read print material, and then ask questions about those items Build on the intuitive knowledge students have gained from media about the story and character

Grades: K-2

Collaboration	 Clarify the distinction between fiction and nonfiction in different types of media reporting on the same topic Use print materials to practice reading and comprehension skills
Career Education	Global Perspective
 Virtual Field Trips Ed'Tech Videos TechLearning.com Google Teacher Tribe Podcast 	 Black History Month National Women's History Month Week of Respect Kindness Month Week of Respect National Compliment Week St. Patrick's Day

Unit 4: Digital Citizenship

Unit Summary

Educational Technology- All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

Digital Citizenship: Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

NJ Student Learning Standards

2020 NJSLS - Computer Science and Design Thinking

Core Ideas:

Computing technology has positively and negatively changed the way individuals live and work (e.g., entertainment, communication, productivity tools).

The availability of technology for essential tasks varies in different parts of the world.

Connecting devices to a network or the Internet provides great benefits, but care must be taken to use authentication measures, such as strong passwords, to protect devices and information from unauthorized access.

Performance Expectations:

- 8.1.2.IC.1: Compare how individuals live and work before and after the implementation of new computing technology.
- 8.1.2.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others.
- 8.1.2.NI.4: Explain why access to devices need to be secured.
- 8.2.2.EC.1: Identify and compare technology used in different schools, communities, regions, and parts of the world.

Unit Sequence	
Part A: Essential Questions	Part B: Enduring Understandings

What are an individual's responsibilities for using technology?
 What constitutes misuse and how can it best be prevented?
 Technology use can have positive or negative impact on both users and those affected by their use.

Unit4: Digital Citizenship	Teaching Point
	 Today I will teach you to develop an understanding of ownership of print and non-print information. Today I will teach you to understand the need for and use of copyrights. Today I will teach you to analyze the resource citations in online materials for proper use. Today I will teach you to demonstrate an understanding of the need to practice cyber safety, cyber security, and cyber ethics when using technologies and social media. Today I will teach you to understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media. Today I will teach you to model legal and ethical behaviors when using both print and non-print information by citing resources. Today I will teach you to 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. Today I will teach you to analyze the need for and use of copyrights. Today I will teach you to explain the purpose of an acceptable use policy and the consequences of inappropriate use of technology Today I will teach you to recognize ownership of work by identifying the title, author or source of a book, article, song or poem provided by their teacher. Today I will teach you the importance of creating a unique password and why it is important to not share the password. Today I will teach you to cite the specific website beneath a picture that is used for a project/lesson.

Evidence of Learning (Assessments)	Accommodations and Modifications
Formative Assessments:	Special Education:
 Pre-test Teacher observation Project completion/rubrics Performance Tasks 	 Curricular Modifications and Guidance for Students Educated in Special Class Settings Subgroup Accommodations and Modifications Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)

- Self-Evaluations
- Surveys

Summative Assessments:

- Unit Projects
- Summative tests
- Questionnaire
- Demonstrations
- Digital Portfolio
- Learning Log

Benchmark Assessments:

- Initial Benchmark: Beginning of first marking period
- Mid-Year Benchmark: Given in January
- End of year Benchmark: end of marking period

Alternative Assessments:

- Choice Projects
- Simplified or modified lessons
- Portfolios

Differentiation:

- Preview content and concepts
- Behavior management plan
- Highlight text
- Small group setting

High-Prep Differentiation:

- Alternative formative and summative assessments
- Guided Reading
- Personal agendas
- Project-based learning
- Tiered activities/assignments
- Varying organizers for instructions

Low-Prep Differentiation:

- Clubbing activities
- Exploration by interest
- Flexible groupings

English Language Learners:

- Subgroup Accommodations and Modifications
- Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)

Students at Risk for Failure:

- Subgroup Accommodations and Modifications
- Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)

Gifted and Talented

- Subgroup Accommodations and Modifications
- Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)

Students with 504 Plans

- Subgroup Accommodations and Modification
- Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners).

Core Instructional and Supplemental Materials Professional Resources:	Core Instructional, Supplemental, Instructional, and Intervention Resources
Core Professional Resources: Tech4Learning Alice Keeler Education Typing.com International Technology Education Association Common Sense Education Supplemental Professional Resources: ISTE NET-S Implementation Wiki Partnership for 21st Century Skills	Core Instructional Resources: - Brain Pop JR Typing.com - Google Form - Wixie - Clever Supplemental Resources: Suggested Lessons for Differentiation with Small Groups: - All Standards, All Students/Case Studies
 Learning Activity Types – William And Mary University - TPACK https://sites.google.com/a/fpks.org/toolsforteachers/tools-to-enhance-instruction http://www.typingweb.com/tutor/courses/ 	(Restructure Lessons with UDL) Project Based learning Brain Pop JR. Web Translation Tools Intervention Resources: Graphic Organizers Scaffolded Notes Closed Notes
	 Shared Notes and slide presentations Study guides All lessons will be modeled through the use of an interactive board Keyboards will be marked with specific colors on various keys. Screens can be magnified if necessary Cooperative Learning Groups Posters will be displayed as a visual to assist students when completing the computer basics. Brain Pop IR.
Interdisciplinary Connections	Integration of Technology through NJSLS
 All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health. Correlates to routine units in technology. Highlight texts, themes, and reflections that connect to themes related to ethical use and cyberbullying. 	 All students will have access to a computer with wireless capabilities during this time. Use overhead projector with Smartboard for shared lessons Use of Chromebooks or iPads Use of microphone or camera feature on laptop Ongoing:

Use of Computers with headphones, Internet access, digital camera, camcorder, Math microphones, green screen, drawing tablets 1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of Use overhead projector with Smartboard for shared lessons adding to, taking from, putting together, taking apart, and comparing, with unknowns in all Other: positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number Use Microsoft Word, Wixie, Smart Board for shared lessons, Google Apps, Clever Apps to represent the problem. Use www.typing.com to practice typing weekly Math Practice Make sense of problems and persevere in solving them. RF.1.4 Read with sufficient accuracy and fluency to support comprehension. RF.1.4a Read grade-level text with purpose and understanding. RF.1.4b Read grade-level text orally with accuracy, appropriate rate, and expression. SL.1.5 Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. SL.1.6 Produce complete sentences when appropriate to task and situation. **Standard 8 Computer Science** 8.1.2.DA.3: Identify and describe patterns in data visualizations. Standard 9 Career Readiness, Life Literacy, and Key Skills 9.1.2.CR.1: Recognize ways to volunteer in the classroom, school and community. **Media Literacy Integration** Integration of 21st Century Themes and Skills Global Awareness Ask students to look for specific things when they view videos or read print material, and Environmental Literacy then ask questions about those items Creativity and Innovation Build on the intuitive knowledge students have gained from media about the story and Critical Thinking and Problem Solving Clarify the distinction between fiction and nonfiction in different types of media reporting Communication Collaboration on the same topic Use print materials to practice reading and comprehension skills **Career Education Global Perspective** Black History Month Virtual Field Trips EdTech Videos National Women's History Month Week of Respect TechLearning.com Google Teacher Tribe Podcast Kindness Month Week of Respect National Compliment Week

Unit 5: Research and Information Fluency

Grades: K-2

Unit Summary

Educational Technology- All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge. Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.

St. Patrick's Day

Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.

NJ Student Learning Standards

2020 NJSLS - Computer Science and Design Thinking

Core Ideas:

Computer networks can be used to connect individuals to other individuals, places, information, and ideas. The Internet enables individuals to connect with others worldwide.

The use of technology developed for the human designed world can affect the environment, including land, water, air, plants, and animals.

Technologies that use natural sources can have negative effects on the environment, its quality, and inhabitants.

Reusing and recycling materials can save money while preserving natural resources and avoiding damage to the environment.

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Reusing and recycling materials can save money while preserving natural resources and avoiding damage to the environment.

Performance Expectations:

- 8.1.2.NI.2: Describe how the Internet enables individuals to connect with others worldwide.
- 8.2.2.ETW.1: Classify products as resulting from nature or produced as a result of technology.
- 8.2.2.ETW.2: Identify the natural resources needed to create a product.
- 8.2.2.ETW.3: Describe or model the system used for recycling technology.
- 8.2.2.ETW.4: Explain how the disposal of or reusing a product affects the local and global environment.

Unit Sequence	
Part A: Essential Questions	Part B: Enduring Understandings
 What are an individual's responsibilities for using technology? What constitutes misuse and how can it best be prevented? What are the environmental impacts of technology? 	Technology use can have positive or negative impact on both users and those affected by their use.
Unit 5: Research and Information Fluency	Teaching Point

- Today I will teach you to use the Internet to explore and investigate questions with a teacher's support.
- Today I will teach you to use digital tools and online resources to explore a problem or issue effecting children, and discuss possible solutions.
- Today I will teach you the natural resources needed to create a product and the effects on the environment.
- Today I will teach you to explore various types of tool and their intended use, which can be harmful or helpful (discussion in digital citizenship)

Evidence of Learning (Assessments) **Accommodations and Modifications** Formative Assessments: **Special Education:** Curricular Modifications and Guidance for Students Educated in Special Class Pre-test Teacher observation Settings Project completion/rubrics Subgroup Accommodations and Modifications Performance Tasks Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Self-Evaluations Surveys Differentiation: Preview content and concepts Behavior management plan **Summative Assessments:** Highlight text Small group setting Unit Projects High-Prep Differentiation: Summative tests Alternative formative and summative assessments Ouestionnaire Guided Reading Demonstrations Personal agendas Digital Portfolio Project-based learning Learning Log Tiered activities/assignments Varying organizers for instructions **Benchmark Assessments:** Low-Prep Differentiation: Clubbing activities Exploration by interest Initial Benchmark: Beginning of first marking period Flexible groupings Mid-Year Benchmark: Given in January End of year Benchmark: end of marking period **English Language Learners:** Alternative Assessments: Subgroup Accommodations and Modifications Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Choice Projects Learners) Simplified or modified lessons Portfolios

K-2 Technology

	Students at Risk for Failure:
	 Subgroup Accommodations and Modifications Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)
	Gifted and Talented
	 Subgroup Accommodations and Modifications Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)
	Students with 504 Plans
	 Subgroup Accommodations and Modification Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)
Core Instructional and Supplemental Materials Professional Resources:	Core Instructional, Supplemental, Instructional, and Intervention Resources

Core Professional Resources:

- Tech4Learning
- Alice Keeler Education
- Typing.com
- International Technology Education Association
- Common Sense Education

Supplemental Professional Resources:

- ISTE NET-S Implementation Wiki
- Partnership for 21st Century Skills
- Learning Activity Types William And Mary University TPACK
- https://sites.google.com/a/fpks.org/toolsforteachers/tools-to-enhance-instruction
- http://www.typingweb.com/tutor/courses/

Core Instructional Resources:

- Brain Pop JR.
- Typing.com
- Google Form
- Wixie

Supplemental Resources:

Suggested Lessons for Differentiation with Small Groups:

- All Standards, All Students/Case Studies
- (Restructure Lessons with UDL)
- Project Based learning
- Brain Pop IR.
- Web Translation Tools

Intervention Resources:

- Graphic Organizers
- Scaffolded Notes
- Closed Notes
- Shared Notes and slide presentations
- Study guides
- All lessons will be modeled through the use of an interactive board
- Keyboards will be marked with specific colors on various keys.
- Screens can be magnified if necessary
- Cooperative Learning Groups
- Posters will be displayed as a visual to assist students when completing the computer basics.
- Brain Pop IR.

Interdisciplinary Connections

- All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.
- Correlates to routine units in technology.
- Highlight texts, themes, and reflections that connect to themes related to ethical use and cyberbullying.

Math

1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all

Integration of Technology through NJSLS

- All students will have access to a computer with wireless capabilities during this time. Use overhead projector with Smartboard for shared lessons
- Use of Chromebooks or iPads
- Use of microphone or camera feature on laptop

Ongoing:

- Use of Computers with headphones, Internet access, digital camera, camcorder, microphones, green screen, drawing tablets
- Use overhead projector with Smartboard for shared lessons

Other:

	K-2 Techno
positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. Math Practice Make sense of problems and persevere in solving them. ELA RF.1.4 Read with sufficient accuracy and fluency to support comprehension. RF.1.4a Read grade-level text with purpose and understanding. RF.1.4b Read grade-level text orally with accuracy, appropriate rate, and expression. SL.1.5 Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. SL.1.6 Produce complete sentences when appropriate to task and situation. Standard 8 Computer Science 8.1.2.DA.3: Identify and describe patterns in data visualizations. Standard 9 Career Readiness, Life Literacy, and Key Skills	 Use Microsoft Word, Wixie, Smart Board for shared lessons, Google Apps, Clever Apps Use www.typing.com to practice typing weekly
9.1.2.CR.1: Recognize ways to volunteer in the classroom, school and community.	
Integration of 21st Century Themes and Skills	Media Literacy Integration
 Global Awareness Environmental Literacy Creativity and Innovation Critical Thinking and Problem Solving Communication Collaboration 	 Ask students to look for specific things when they view videos or read print material, and then ask questions about those items Build on the intuitive knowledge students have gained from media about the story and character Clarify the distinction between fiction and nonfiction in different types of media reporting on the same topic Use print materials to practice reading and comprehension skills
Career Education	Global Perspective
 Virtual Field Trips EdTech Videos TechLearning.com Google Teacher Tribe Podcast 	 Black History Month National Women's History Month Week of Respect Kindness Month Week of Respect National Compliment Week St. Patrick's Day

Unit 6: Critical Thinking, Problem Solving, & Decision-Making

Grades: K-2

Unit Summary

Educational Technology- All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge. Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

NJ Student Learning Standards

2020 NJSLS - Computer Science and Design Thinking Core Ideas:

Engineering design is a creative process for meeting human needs or wants that can result in multiple solutions. Limitations (constraints) must be considered when engineering designs

Performance Expectations:

8.2.2.ED.1: Communicate the function of a product or device.

8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.

8.2.2.ED.3: Select and use appropriate tools and materials to build a product using the design process.

8.2.2.ED.4: Identify constraints and their role in the engineering design process.

Unit Sequence	
Part A: Essential Questions	Part B: Enduring Understandings
 How do I choose which technological tools to use and when it is appropriate to use them? How can I transfer what I know to new technological situations/experiences? 	 Selection of technology should be based on personal and/or career needs assessment. A tool is only as good as the person using it.

Unit 6: Critical Thinking, Problem Solving, & Decision-Making	Teaching Point
	 Today I will teach you to navigate the basic functions of a browser, including how to open or close windows and use the "back" key. Today I will teach you to use mapping tools to plan and choose alternate routes to and from various locations. Today I will teach you to use mapping software to create a replica of your town, identifying types of services that are available. Today I will teach you to make a list of addresses of the local police station, firehouse, hospital, and library. Use Google's mapping tools to identify where each of these buildings is located in relation to the school.

Evidence of Learning (Assessments)	Accommodations and Modifications
Formative Assessments:	Special Education:

- Pre-test
- Teacher observation
- Project completion/rubrics
- Performance Tasks
- Self-Evaluations
- Surveys

Summative Assessments:

- Unit Projects
- Summative tests
- Questionnaire
- Demonstrations
- Digital Portfolio
- Learning Log

Benchmark Assessments:

- Initial Benchmark: Beginning of first marking period
- Mid-Year Benchmark: Given in January
- End of year Benchmark: end of marking period

Alternative Assessments:

- Choice Projects
- Simplified or modified lessons
- Portfolios

- Curricular Modifications and Guidance for Students Educated in Special Class Settings
- Subgroup Accommodations and Modifications
- Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)

Differentiation:

- Preview content and concepts
- Behavior management plan
- Highlight text
- Small group setting

High-Prep Differentiation:

- Alternative formative and summative assessments
- Guided Reading
- Personal agendas
- Project-based learning
- Tiered activities/assignments
- Varying organizers for instructions

Low-Prep Differentiation:

- Clubbing activities
- Exploration by interest
- Flexible groupings

English Language Learners:

- Subgroup Accommodations and Modifications
- Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)

Students at Risk for Failure:

- Subgroup Accommodations and Modifications
- Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)

Gifted and Talented

- Subgroup Accommodations and Modifications
- Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)

Students with 504 Plans

• Subgroup Accommodations and Modification

	Differentiation for All Students (Special Needs, ESL, Gifted Learners, & Mainstream Learners)
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Supplemental Professional Resources:	Supplemental Resources:
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incep., / www.cypingweb.com/ euto/yeoutses/	Intervention Resources:
	 Graphic Organizers Scaffolded Notes Closed Notes Shared Notes and slide presentations Study guides All lessons will be modeled through the use of an interactive board Keyboards will be marked with specific colors on various keys. Screens can be magnified if necessary Cooperative Learning Groups Posters will be displayed as a visual to assist students when completing the computer basics. Brain Pop JR.
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 All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health. 	All students will have access to a computer with wireless capabilities during this time. Use overhead projector with Smartboard for shared lessons

- Correlates to routine units in technology.
- Highlight texts, themes, and reflections that connect to themes related to ethical use and cyberbullying.

Math

2.MD.D.10 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.

Math Practice

Make sense of problems and persevere in solving them.

ELA

RI.2.4. Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.

RI.2.6. Identify the main purpose of a text, including what the author wants to answer, explain, or describe.

RI.2.7. Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.

RI.2.8. Describe and identify the logical connections of how reasons support specific points the author makes in a text.

Standard 8 Computer Science

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

Standard 9 Career Readiness, Life Literacy, and Key Skills

9.1.2.CR.1: Recognize ways to volunteer in the classroom, school and community.

- Use of Chromebooks or iPads
- Use of microphone or camera feature on laptop

Ongoing:

- Use of Computers with headphones, Internet access, digital camera, camcorder, microphones, green screen, drawing tablets
- Use overhead projector with Smartboard for shared lessons

Other:

- Use Microsoft Word, Wixie, Smart Board for shared lessons, Google Apps, Clever Apps
- Use <u>www.typing.com</u> to practice typing weekly

Integration of 21st Century Themes and Skills	Media Literacy Integration
Global Awareness	Ask students to look for specific things when they view videos or read print material, and
Environmental Literacy	then ask questions about those items
Creativity and Innovation	Build on the intuitive knowledge students have gained from media about the story and
Critical Thinking and Problem Solving	character
Communication	Clarify the distinction between fiction and nonfiction in different types of media reporting
Collaboration	on the same topic
	Use print materials to practice reading and comprehension skills
Career Education	Global Perspective
Career Education • Virtual Field Trips	Black History Month
Virtual Field Trips	Black History Month
Virtual Field TripsEdTech Videos	Black History Month National Women's History Month
 Virtual Field Trips EdTech Videos TechLearning.com 	 Black History Month National Women's History Month Week of Respect
 Virtual Field Trips EdTech Videos TechLearning.com 	 Black History Month National Women's History Month Week of Respect Kindness Month