

# Unit 1

## Technology Curriculum K-2nd 2018

<b>Content Area:</b>	<b>Technology</b>	<b>Grade(s)</b>	<b>K-2nd</b>
<b>Unit Overview:</b>	<b>1<sup>st</sup> Marking Period</b>		
	<b>2014 New Jersey Core Curriculum Content Technology Standards</b>		
<p><b>8.1 Educational Technology:</b> 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.</p> <p><b>A. Technology Operations and Concepts:</b> Students demonstrate a sound understanding of technology concepts, systems and operations.</p> <p><b>D. Digital Citizenship:</b> Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.</p>			
<p><b>8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming:</b> All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.</p> <p><b>A. The Nature of Technology:</b> Creativity and Innovation Technology systems impact every aspect of the world in which we live.</p>			
<b>Standard(s) 8.1 Educational Technology</b>			
<ul style="list-style-type: none"> <li>● <b>8.1.P.A.1</b> Use an input device to select an item and navigate the screen</li> <li>● <b>8.1.P.A.2</b> Navigate the basic functions of a browser</li> <li>● <b>8.1.P.A.3</b> Use digital devices to create stories with pictures, numbers, letters and words</li> <li>● <b>8.1.P.A.4</b> Use basic technology terms in the proper context in conversation with peers and teachers (e.g., camera, tablet, Internet, mouse, keyboard, and printer).</li> <li>● <b>8.1.P.A.5</b> Demonstrate the ability to access and use resources on a computing device.</li> <li>● <b>8.1.2.A.1</b> Identify the basic features of a digital device and explain its purpose.</li> <li>● <b>8.1.2.A.2</b> Create a document using a word processing application.</li> <li>● <b>8.1.2.A.3</b> Compare the common uses of at least two different digital applications and identify the advantages and disadvantages of using each.</li> <li>● <b>8.1.2.A.4</b> Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).</li> <li>● <b>8.1.2.A.5</b> Enter information into a spreadsheet and sort the information.</li> <li>● <b>8.1.2.A.6</b> Identify the structure and components of a database.</li> <li>● <b>8.1.2.A.7</b> Enter information into a database or spreadsheet and filter the information.</li> <li>● <b>8.1.2.D.1</b> Develop an understanding of ownership of print and non-print information.</li> </ul>			
<b>8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming:</b>			
<ul style="list-style-type: none"> <li>○ <b>8.2.2.A.1</b> Define products produced as a result of technology or of nature.</li> <li>○ <b>8.2.2.A.2</b> Describe how designed products and systems are useful at school, home and work.</li> <li>○ <b>8.2.2.A.3</b> Identify a system and the components that work together to accomplish its purpose.</li> <li>○ <b>8.2.2.A.4</b> Choose a product to make and plan the tools and materials needed.</li> <li>○ <b>8.2.2.A.5</b> Collaborate to design a solution to a problem affecting the community.</li> </ul>			
<b>Essential Question(s)</b>		<b>Enduring Understandings</b>	
<ul style="list-style-type: none"> <li>● What are the parts of the computer and how do they work?</li> </ul>		<ul style="list-style-type: none"> <li>● Effective use of Internet sources and information for everyday tasks.</li> </ul>	

<ul style="list-style-type: none"> <li>• How do I choose which technological tools to use and when it is appropriate to use them?</li> <li>• How can I transfer what I know to new technological situations/experiences?</li> <li>• In a world of constant change, what skills should we learn?</li> <li>• What are the roles of each computer hardware component?</li> <li>• How is being a citizen of the internet the same/different than my home town?</li> <li>• What are the implications of digital citizenship in today's world?</li> </ul>	<ul style="list-style-type: none"> <li>• Effective use of technology competencies to reach a global audience.</li> <li>• Taking responsible measures when handling technology equipment and when using software and applications.</li> <li>• Being safe online is essential.</li> <li>• Digital tools help create and share ideas.</li> <li>• Lifelong learners use technology effectively.</li> </ul>
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<b>Interdisciplinary Connections</b>		
<b>Common Core Literacy</b>	<b>Common Core Math</b>	<b>Career Ready Practices</b>
CCSS.ELA-Literacy.CCRA.R.7	CCSS.MATH.PRACTICE.MP1	CRP1
CCSS.ELA-Literacy.CCRA.W.6	CCSS.MATH.PRACTICE.MP2	CRP4
CCSS.ELA-Literacy.RI.1.5	CCSS.MATH.PRACTICE.MP3	CRP6
CCSS.ELA-Literacy.RI.1.10	CCSS.MATH.PRACTICE.MP5	CRP8
CCSS.ELA-Literacy.RF.1.4.C	CCSS.MATH.PRACTICE.MP6	CRP11
CCSS.ELA-Literacy.W.1.6	CCSS.MATH.PRACTICE.MP7	
CCSS.ELA-Literacy.SL.1.1		
CCSS.ELA-Literacy.SL.1.1c		
CCSS.ELA-Literacy.SL.1.2		

Learning Plan		Suggested Activities			
Suggested Time Frame	Topic	Skills	Computational Thinking <small>(CT) is a way of solving problems, designing systems, and understanding human behavior by drawing on the concepts fundamental to computer science.</small>	Core Instructional Materials	Suggested Formative/ Summative Classroom Assessments
<b>Week 1</b>	Introduction: Identify the basic features of a digital device and explain its purpose.	Parts of computer or technology device used in the classroom. Programs/apps Start menu Program menus Power button Desktop Operating Systems. Digital tools Shortkeys Tech rules Visiting websites  Identify features of a computer and their uses.  Identify input, output, and processing devices.	Discuss how digital learners use technology in their lives by drawing a silhouette of a 21st century digital learner on the Starboard screen. List each Item mentioned by students and examine technology goals in terms of how technology supports student's education and life goals.  Review: Select, Drag and Double Space Windows and Controls Toolbars and Menus Data Storage Login-in Printer.	Digital learners will become familiar with the computer and its different parts and learn computer lab rules.  Compute Lab Rules <a href="http://www.edudemic.com/school-computer-lab-rules/">http://www.edudemic.com/school-computer-lab-rules/</a>  Computer basics websites and posters. <a href="http://www.gcflearnfree.org/computerbasics/what-is-a-computer/1/">http://www.gcflearnfree.org/computerbasics/what-is-a-computer/1/</a>  Computer Skills <a href="http://www.e-learningforkids.org/computer-skills/">http://www.e-learningforkids.org/computer-skills/</a>  Parts of a Computer <a href="http://www.primaryresources.co.uk/ict/pdfs/parts.pdf">http://www.primaryresources.co.uk/ict/pdfs/parts.pdf</a>	<b>Common Core State Standards Rubrics</b> <a href="http://www.scrockguide.net/assessment-and-rubrics.html">http://www.scrockguide.net/assessment-and-rubrics.html</a> Multimedia and Apps Rubrics <a href="http://www.scrockguide.net/assessment-and-rubrics.html">http://www.scrockguide.net/assessment-and-rubrics.html</a> New Jersey Project and Assessment Examples <a href="http://www.nj.gov/education/aps/cccs/tech/assessment/">http://www.nj.gov/education/aps/cccs/tech/assessment/</a>  <b>Links on Exit/Admit Slips</b> Readingrockets: Exit Slips <a href="http://www.readingrockets.org/strategies/exit-slips">http://www.readingrockets.org/strategies/exit-slips</a>
<b>Week 2</b>	Login-In Demonstrate development ally appropriate navigation skills in virtual environments		Go over Log-In Instructions. Review the @ key.	TechKnowledge  TurtleDiary <a href="https://www.turlediary.com/game/learn-keyboarding.html">https://www.turlediary.com/game/learn-keyboarding.html</a>  Learning with: Ipad Parts of an Ipad *See Handbook	

<p><b>Week 3</b></p>	<p>Classroom Hardware</p> <p>Identify the basic features of a digital device and explain its purpose.</p>	<p>Use proper vocabulary to name the basic parts of the programs interface.</p> <p>Use proper vocabulary to open, save and print a document. Distinguish between an operating systems and computer programs.</p> <p>Identify other kinds of technology: Tablets, Cell Phone, Television, Automobile, Train, Plane, Machines, etc.</p>	<p>Explain the steps to operate the digital device used in classroom. The difference between iPads and Chromebooks operating systems. Compare the common uses of at least two different digital applications and identify the advantages and disadvantages of using each. Digital learners can make a connection between their digital devices used in school and the ones they own at home. Additionally, digital learners can briefly discuss the of recycling these devices once they go obsolete.</p>	<p>Internet, mouse websites  <a href="http://activities.macmillanmh.com/Techknowledge/data/_shell/_global/files/_sw/tk.php?level=01&amp;unit=03&amp;lesson=20">http://activities.macmillanmh.com/Techknowledge/data/_shell/_global/files/_sw/tk.php?level=01&amp;unit=03&amp;lesson=20</a></p> <p>Computer parts                      Computer parts                      Computer parts  <a href="http://www.primaryresources.co.uk/ict/pdfs/parts.pdf">http://www.primaryresources.co.uk/ict/pdfs/parts.pdf</a>                      WiFi, iPads.</p> <p>BrainPop and JR:                      Parts of the Computer                      Data Storage                      Devices</p> <p>Recycling:  <a href="http://sustainablog.org/2015/05/33-recycling-games-for-teaching-your-kids-and-yourself-about-responsible-waste-disposal/">http://sustainablog.org/2015/05/33-recycling-games-for-teaching-your-kids-and-yourself-about-responsible-waste-disposal/</a></p>	<p>AdLit.org:                      Exit Slips  <a href="http://www.adlit.org/strategy/19805">http://www.adlit.org/strategy/19805</a></p> <p>Writing                      Across the Curriculum:                      Entry/Exit Slips  <a href="http://writing2.richmond.edu/wac/entexit.html">http://writing2.richmond.edu/wac/entexit.html</a></p> <p>Exit Slips:                      Effective Bell-Ringer                      Activities  <a href="http://www.teachhub.com/news/article/cat/14/item/377">http://www.teachhub.com/news/article/cat/14/item/377</a></p> <p>Admit Slips                      and Exit Slips  <a href="http://literacy.kent.edu/eureka/strategies/admit_slips09.pdf">http://literacy.kent.edu/eureka/strategies/admit_slips09.pdf</a></p>
<p><b>Week 4</b></p>	<p>Digital Tools in the Classroom</p> <p>Use digital tools and online resources to explore a problem or issue.</p>	<p>Distinguish between an operating systems and computer programs.</p> <p>Software vs. Online tool                      Compare &amp; Contrast                      Pros and cons                      Software                      Web Tools</p> <p>Demonstrate the ability to navigate in virtual environments that are developmentally appropriate.</p>	<p>Students use digital tools to encourage learning. Software vs online Tool Compare-contrast                      Pros and cons                      Software and Webtools.</p> <p>Research a topic or an item with other digital learners. For Example:                      A new innovated toy advertised on T.V.                      Digital learners need to make a connection with the digital world to learn new skills or research new information,</p>	<p>Internet Search                      Bar                      Drawing and Microsoft Paint program,                      Cursor Skills  <a href="http://activities.macmillanmh.com/Techknowledge/data/_shell/_global/files/_sw/tk.php?level=01&amp;unit=01&amp;lesson=03">http://activities.macmillanmh.com/Techknowledge/data/_shell/_global/files/_sw/tk.php?level=01&amp;unit=01&amp;lesson=03</a></p> <p>Sites                      WiFi connection,                      iPads                      Tools that require log-ins.                      Abcya.com                      Tumble Books                      Brain Pop Jr.                      Turtle.com                      cookie.com                      *See Handbook</p>	<p>Admit Slips                      and Exit Slips  <a href="http://literacy.kent.edu/eureka/strategies/admit_slips09.pdf">http://literacy.kent.edu/eureka/strategies/admit_slips09.pdf</a></p>

<p><b>Week 5</b></p>	<p>Tools, Toolbars, and Symbols Demonstrate developmentally appropriate navigation skills in virtual environments</p>	<p>Symbols Tools, toolbars Digital citizenship Icons Drawing program Taskbar Letter websites Log-in Care of digital devices Troubleshooting Sound and other Hardware problems.</p>	<p>Review hardware problems that arise daily when using digital devices and how to solve them.</p>	<p>Techknowledge <a href="http://activities.macmillanmh.com/Techknowledge/data/_shell/_global/files/_sw/tk.php?level=02&amp;unit=06&amp;lesson=63">http://activities.macmillanmh.com/Techknowledge/data/_shell/_global/files/_sw/tk.php?level=02&amp;unit=06&amp;lesson=63</a> Internet word processing keyboarding program Drawing program Cursor websites Google Doc Word Doc</p>
<p><b>Week 6</b></p>	<p>Intro to Pre-keyboarding Pre-keyboarding Shortkeys Important keys Review hand placement (home row keys)</p>	<p>keyboarding overview keyboarding short keys. Keyboarding: ABCDE FGHIJ KLMNO PQRST UVWXYZ Numbers Word Spaces Cursor, Arrow, Tab Shift and Symbols Touch Keyboarding-Discussion Call out letters and have them type the letter spoken in a document Journal- Animal Story.</p>	<p>What are some ways humans communicate using technology?  Discuss keyboarding with students. Have they seen parents or siblings use a keyboard? What for? Why are keys not in alphabetic order? How have students used the keyboard at home or in preschool?</p>	<p>Internet, keyboard program, drawing program,  Learning.com: Easy Tech Keyboarding Skills Lessons <a href="http://www.learning.com/easytech">http://www.learning.com/easytech</a>  Learning.com Easy Tech Journal Project Learning.com-Discussion Google Doc/Word Doc <a href="http://www.learning.com/easytech">http://www.learning.com/easytech</a></p>
<p><b>Week 7</b></p>	<p>Photo Story</p>	<p>Make a list of student problems (from prior years) Problem-solving strategies Hardware problem Shortkeys</p>	<p>Digital Learners can take pictures and narrate themselves asking a question about a hardware problem. Instructors must reinforce the importance of students solving their own problems. Why is this essential? Who solves their</p>	<p>Digital camera Video camera Audio Downloading Instructors can find detailed instructions for creating a Photo Story on their web site. <a href="http://www.microsoft.com/windowsxp/using/digitalphotography/photostory/tips/firststoryv.mspx">http://www.microsoft.com/windowsxp/using/digitalphotography/photostory/tips/firststoryv.mspx</a>  Project Sample <a href="http://www.microsoft.com/windowsxp/using/digitalphoto">http://www.microsoft.com/windowsxp/using/digitalphoto</a></p>

			<p>problems now? Are they always around? Finally, students will create a photo story solution to one of the computer problems.</p>	<p><a href="http://graphy/photostory/tips/firststory.mspix">graphy/photostory/tips/firststory.mspix</a></p>
<b>Week 8</b>	Explore The Wonderful World Wide Web Safely.	<p>Internet safety</p> <p>Advertising Tabs</p> <p>Browsing Digital Neighborhood Online safety Internet Browser Parts</p>	<p>What do students know about the internet? What are the implications of digital citizenship in today's world? Discuss browsers (like Chrome and Firefox). Compare the internet toolbar to other toolbars students use (i.e., the toolbar for drawing program or keyboarding tool).</p>	<p>Multimedia</p> <p><a href="http://ikeepsafe.org/i/ksc_kids/">http://ikeepsafe.org/i/ksc_kids/</a></p> <p><a href="http://cybersmartcurriculum.org/lessonsbygrade">http://cybersmartcurriculum.org/lessonsbygrade</a></p> <p>Internet Safety Pledge</p> <p><a href="https://elementarylabinstructors.wikispaces.com/file/view/InternetSafety%20%28Lesson%201_2%29.pdf/131682449/InternetSafety%20%28Lesson%201_2%29.pdf">https://elementarylabinstructors.wikispaces.com/file/view/InternetSafety%20%28Lesson%201_2%29.pdf/131682449/InternetSafety%20%28Lesson%201_2%29.pdf</a></p>
<b>Week 9 Week 10</b>	Digital Citizenship	<p>Shortkey</p> <p>Digital citizenship</p> <p>Tabbed browsing Pre-keyboarding posture/position</p> <p>Digital citizenship</p> <p>Internet safety</p> <p>Using the internet</p> <p>Cyberbullying</p> <p>Passwords</p> <p>Digital rights and responsibilities</p>	<p>Online Communication: Safe Site Strategies Open Communication Netiquette and Cyberbullying Discussion Surf Swell Island Online Communication-BrainPop JR: Internet Safety CyberBullying What are the digital rights and responsibilities of a P-2nd digital learner? Cyberbullying Digital rights and responsibilities Internet safety Passwords. Have students develop their own scenarios related to online safety and</p>	<p>Internet Safety Packet</p> <p><a href="https://elementarylabinstructors.wikispaces.com/file/view/WebWiseKids.com%20Internet%20Safety%20Packet.pdf/205653922/WebWiseKids.com%20Internet%20Safety%20Packet.pdf">https://elementarylabinstructors.wikispaces.com/file/view/WebWiseKids.com%20Internet%20Safety%20Packet.pdf/205653922/WebWiseKids.com%20Internet%20Safety%20Packet.pdf</a></p> <p>Internet safety links</p> <p><a href="http://www.netmartzkids.org/">http://www.netmartzkids.org/</a></p> <p><a href="http://www.carnegiecybercademy.com/">http://www.carnegiecybercademy.com/</a></p> <p>Media Curriculum.</p> <p><a href="http://platform.learning.com/content/Partner/COM/Journals/Are_These_Students_Practicing_Online_Safety.pdf">http://platform.learning.com/content/Partner/COM/Journals/Are_These_Students_Practicing_Online_Safety.pdf</a></p> <p>Online Communication Resources: Password Rap</p> <p><a href="http://www.netmartzkids.org/tunes/index.htm">http://www.netmartzkids.org/tunes/index.htm</a></p>

			<p>role-play them for the class. After each scenario, the class discusses whether the students in the scenario practiced being safe online. Have students create posters to hang up.</p>		
<b>Week 11</b>	Spreadsheets	<p>Graphic organizers</p> <p>Brainstorming</p> <p>Mindmapping</p>	<p>Introduce concept of ‘brainstorming, also called ‘mindmapping’ a collaborative visual Approach to thinking through and presenting ideas.</p> <p>A gift list or a todo list can be created on a Excel spreadsheet.</p> <p>Digital learners need to make the connection that they can use spreadsheets to organize their lives.</p>	<p>Intro to Spreadsheets  <a href="http://activities.macmillanmh.com/Technology/data/shell/global/files/sw/tk.php?level=02&amp;unit=07&amp;lesson=67">http://activities.macmillanmh.com/Technology/data/shell/global/files/sw/tk.php?level=02&amp;unit=07&amp;lesson=67</a></p> <p>Excel                      Google Sheets                      Graphic organizer sites:  <a href="http://www.simonhaughton.co.uk/introducing-spreadsheets/">http://www.simonhaughton.co.uk/introducing-spreadsheets/</a></p>	
<b>Week 12</b>	Hour of Code	<p>Coding programming</p> <p>Problem solving</p> <p>Using code to build programs. and games</p> <p>Computational Creations.</p>	<p>Coding is also a great tie-in to Common Core Math Standards. Anytime you show students how to use math skills outside of math, it surprises them. They don’t expect a discussion on problem solving or modeling to come from math.</p>	<p>Coding websites  <a href="http://www.hongkiat.com/blog/sites-to-learn-coding-online/">http://www.hongkiat.com/blog/sites-to-learn-coding-online/</a>  <a href="http://www.code.org">www.code.org</a>  <a href="http://www.kodable.com">www.kodable.com</a>  <a href="https://scratch.mit.edu/">https://scratch.mit.edu/</a></p> <p>Daisy the Dinosaur App (Ipad).</p>	

<b>Supportive Strategies</b>
<p><b>1. Special Education</b></p> <ul style="list-style-type: none"> <li>• Employ assistive technology as needed (For example, use of Dyslexic font, high contrast or screen magnification on Chromebook, or spoken text features).</li> <li>• Graphic Organizers.</li> <li>• Modifications on IEP.</li> <li>• Provide written and oral directions, utilizing visuals and exemplars. (For example, teacher models on StarBoard how to login to Code.org and provides Step-by-Step instruction handout to student).</li> <li>• Reduction in workload.</li> <li>• Repetition and Reinforcement of classroom material.</li> <li>• Strategic Grouping for all group work.</li> <li>• Extra time for assigned tasks.</li> <li>• Extra response time.</li> <li>• Repeat, clarify or reword directions.</li> <li>• Emphasize multi-sensory learning.</li> </ul>
<p><b>2. ESL</b></p> <ul style="list-style-type: none"> <li>• Employ assistive technology as needed (For example, online translation or Language text settings on technology device) .</li> <li>• For collaborative assignments, appropriate roles will be assigned. (For example, time-keeper, activity starter) .</li> <li>• Make content culturally relevant.</li> <li>• Partner English Learners with Strong English Speakers.                             <ul style="list-style-type: none"> <li>• Provide written and oral directions for all lessons, utilizing visuals and exemplars.</li> </ul> </li> <li>• Repeat classroom procedure and routines as much as possible to reinforce language learning.</li> <li>• Visual Aids.</li> </ul>
<p><b>3. Student at risk of failure</b></p> <ul style="list-style-type: none"> <li>•Employ assistive technology as needed (For example, use of Dyslexic font, high contrast or screen magnification on devices, or spoken text features).</li> <li>• Flexible acceptance of missing/lost/incomplete assignment.</li> <li>• Strategic Grouping for all group work</li> </ul>
<p><b>4. Gifted and Talented</b></p> <p>Higher level learners will be provided with more intellectually demanding learning activities. (For example, students who complete lessons on Code.org can continue to the next levels at their own pace).</p> <ul style="list-style-type: none"> <li>• Higher Order Questioning.</li> <li>• Utilize different reading levels appropriate for students.</li> </ul>
<p><b>DOE Resources and Sample Activities 8.1.A, 8.2.A (Assessment)</b></p>



Using a word processing application create a “Wellness Class” document that is an informative text. Students summarize facts and definitions from the article about strategies to prevent the spread of common cold or flu. (See lesson link for article.) Revise, edit and share the final version with students and/or class guests, providing a reference and reinforcing good wellness practices.

In groups, students will attempt to build the tallest tower out of marshmallows and uncooked spaghetti (See Marshmallow Challenge lesson link below). Students will routinely write descriptions of their process and progress. They will first draw a sketch of their tower, illustrating how the shape of the objects will help their tower to be the tallest. After the tower is built, students will reflect on the experience and both write about and discuss how the individual pieces worked together in the construction of the tower.

<http://www.state.nj.us/education/cccs/2014/tech/cad/CADS81A.pdf>

<http://www.state.nj.us/education/cccs/2014/tech/cad/CADS82A.pdf>

**Unit Vocabulary**

Toolbar	Text box	Windows	Online help
Start menu	Button	Dropdown	Toolbar
Power button	Resize	Menu	Icon
Desktop	Restore	Checkbox	Properties
Operating Systems	Printer	Output device	Menu
Highlight	Processor	Speaker	Cursor
Mouse	Illustrating	Maximize	Exit
Drag and drop	Computer	Dialog box	Name
Double click	Keyboard	Minimize	Print
Select	Code	Hard drive	File format
Pointer	Disk	Desktop	Select
Recycle bin	Data storage device	File structure	software
Delete	Flash drive	Scroll bar	Software
Folder	write	CD	Save
Trash	Optical drive	Function	Close
Drive	USB	Input device	Video
DVD	Programming	Keyboard	Technology
Digital Citizenship	Delete	Monitor	Audio
	Virus		Symbol
	Cyberbully		

## Unit 2 Technology Curriculum K-2nd 2018

<b>Content Area:</b>	<b>Technology</b>	<b>Grade(s)</b>	<b>K-2nd</b>
<b>Unit Overview:</b>	<b>2<sup>nd</sup> Marking Period</b>		
	<b>2014 New Jersey Core Curriculum Content Technology Standards</b>		
<p><b>8.1 Educational Technology:</b> 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.</p> <p><b>B. Creativity and Innovation:</b> Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.</p> <p><b>C. Communication and Collaboration:</b> 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.</p>			
<p><b>8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming:</b> All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.</p> <p><b>B. Technology and Society:</b> Knowledge and understanding of human, cultural and societal values are fundamental when designing technological systems and products in the global society.</p> <p><b>C. Design:</b> The design process is a systematic approach to solving problems.</p>			
<b>Standard(s) 8.1 Educational Technology</b>			
<p><b>8.1.P.B.1</b> Create a story about a picture taken by the student on a digital camera or mobile device.</p> <p><b>8.1.2.B.1</b> Illustrate and communicate original ideas and stories using multiple digital tools and <a href="#">resources</a>.</p> <p><b>8.1.P.C.1</b> Collaborate with peers by participating in interactive digital games or activities.</p> <p><b>8.1.2.C.1</b> Engage in a variety of developmentally appropriate learning activities with students in other classes, schools, or countries using various media formats such as online collaborative tools, and social media.</p>			
<b>8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming:</b>			
<p><b>8.2.2.B.1</b> Identify how technology impacts or improves life.</p> <p><b>8.2.2.B.2</b> Demonstrate how reusing a product affects the local and global environment.</p> <p><b>8.2.2.B.3</b> Identify products or systems that are designed to meet human needs.</p> <p><b>8.2.2.B.4</b> Identify how the ways people live and work has changed because of technology.</p> <p><b>8.2.2.C.1</b> Brainstorm ideas on how to solve a problem or build a product.</p> <p><b>8.2.2.C.2</b> Create a drawing of a product or device that communicates its function to peers and discuss.</p> <p><b>8.2.2.C.3</b> Explain why we need to make new products.</p> <p><b>8.2.2.C.4</b> Identify designed products and brainstorm how to improve one used in the classroom</p> <p><b>8.2.2.C.5</b> Describe how the parts of a common toy or tool interact and work as part of a system.</p> <p><b>8.2.2.C.6</b> Investigate a product that has stopped working and brainstorm ideas to correct the problem</p>			
<b>Essential Question(s)</b>		<b>Enduring Understandings</b>	
<p>How do I use digital tools to communicate and solve problems?</p> <p>How does computer programming help me in other aspects of life?</p> <p>How does computer programming help us solve problems, create, and design?</p>		<p>Computer programming is a tool used to help us solve problems, create, and design.</p> <p>Digital tools help create and share ideas.</p> <p>Lifelong learners use technology effectively.</p>	

<p>Why do I need to use digital tools responsibly?                  What are the roles of each computer hardware component?                  What are the parts of the computer and how do they work?                  How can I use the mouse to access and start programs and make things happen while working on the computer?                  How does experimenting with different tools help me learn how the computer works?                  What can I do with programs to show what I know?                  How can I use the computer to communicate with words and pictures?</p>	
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Interdisciplinary Connections		
Common Core Literacy	Common Core Math	Career Ready Practices
CCSS.ELA-Literacy.CCRA.R.7	CCSS.MATH.PRACTICE.M P1	CRP1.
CCSS.ELA-Literacy.CCRA.W.6	CCSS.MATH.PRACTICE.M P2	CRP4.
CCSS.ELA-Literacy.RI.1.5	CCSS.MATH.PRACTICE.M P3	CRP6.
CCSS.ELA-Literacy.RI.1.10	CCSS.MATH.PRACTICE.M P5	CRP8.
CCSS.ELA-Literacy.RF.1.4a	CCSS.MATH.PRACTICE.M P6	CRP11
CCSS.ELA-Literacy.W.1.6	CCSS.MATH.PRACTICE.M P7	
CCSS.ELA-Literacy.SL.1.1		
CCSS.ELA-Literacy.SL.1.1c		
CCSS.ELA-Literacy.SL.1.2		

Learning Plan		Suggested Activities			
Suggested Time Frame	Topic	Skills	Computational Thinking (CT) is a way of solving problems, designing systems, and understanding human behavior by drawing on the concepts fundamental to computer science.	Core Instructional Materials	Suggested Formative/ Summative Classroom Assessments
Week 13	Technology Skills (Cursor Skills)	Digital Drawing and Math. Digital puzzles.	<p>How can I use the mouse to access and start programs and make things happen while working on the computer?</p> <p>Expect digital learners to work independently as possible and problem solve on their own.</p>	<p>Learning.com MultiMedia Lessons MS Paint <a href="http://minimouse.us">http://minimouse.us</a></p> <p><a href="http://www.primarygames.com/math.php">http://www.primarygames.com/math.php</a></p> <p><a href="http://www.mathplayground.com/">http://www.mathplayground.com/</a></p>	<p>Common Core State Standards Rubrics <a href="http://www.schrockguide.net/assessment-and-rubrics.html">http://www.schrockguide.net/assessment-and-rubrics.html</a> Multimedia and Apps Rubrics <a href="http://www.schrockguide.net/assessment-and-rubrics.html">http://www.schrockguide.net/assessment-and-rubrics.html</a> New Jersey Project and Assessment Examples <a href="http://www.nj.gov/education/aps/cccs/tech/assessment/">http://www.nj.gov/education/aps/cccs/tech/assessment/</a></p> <p>Links on Exit/Admit Slips Readingrockets: Exit Slips <a href="http://www.readingrockets.org/strategies/exit_slips">http://www.readingrockets.org/strategies/exit_slips</a></p>

					<p>AdLit.org: Exit Slips  <a href="http://www.adlit.org/strategies/19805">http://www.adlit.org/strategies/19805</a>                  Writing Across the Curriculum:                  Entry/Exit Slips  <a href="http://writing2.richmond.edu/wac/entexit.html">http://writing2.richmond.edu/wac/entexit.html</a>                  Exit Slips: Effective Bell-Ringer Activities  <a href="http://www.teachhub.com/news/article/c/14/item/377">http://www.teachhub.com/news/article/c/14/item/377</a>                  Admit Slips and Exit Slips  <a href="http://literacy.kent.edu/eureka/strategies/admit_slips09.pdf">http://literacy.kent.edu/eureka/strategies/admit_slips09.pdf</a></p>
Week 14					
Week 15	Shapes I	<p>Beginning Graphics                  Brushes and Lines                  Shapes and Fills                  Shapes</p> <p>Digital learners will know how to click, hold, drag and drop.</p>	<p>Introduction to graphic design, digital learners will discuss shapes around the classroom and how do they relate to real life objects?                  What are their attributes?                  Encourage children to find similarities and differences in other children’s names.</p>	<p>Teaching and</p> <p>MS Paint                  KidPix Studio  <a href="http://www.brainpopjr.com">www.brainpopjr.com</a>                  (Not a District-wide subscription)</p>	
Week 16	<p>Digital writing</p> <p>Word processing Skills</p>	<p>Pre-keyboarding                  Digital drawing                  Log on procedure                  Drawing shapes                  Digital Citizenship</p>	<p>How do shapes relate to the real world? Shapes are everywhere in the environment and help digital learners understand objects, functions. Ex, wheels, car tires, etc.                  An important part of technology is authentically applying it to real life objects.</p> <p>Digital learners can solve a problem they are facing with an everyday household item. For example: they can add casters to a table they wished they could move but its too heavy.</p>	<p>Real world shapes video.  <a href="https://www.youtube.com/watch?v=3uYB5YpYpZw">https://www.youtube.com/watch?v=3uYB5YpYpZw</a></p> <p>Shapes in the real world.  <a href="http://www.watchknowlearn.org/Category.aspx?CategoryID=1011">http://www.watchknowlearn.org/Category.aspx?CategoryID=1011</a></p> <p>Microsoft Paint</p>	

<p>Week 17</p>	<p>Google Earth</p>	<p>Review Tools on Google Earth Dragging tools Grid lines Lats-longs</p>	<p>Digital learners can discuss the geography of the united states. As a result digital learners will work in groups of three to explore google earth.</p>	<p>Google Earth video <a href="https://www.youtube.com/watch?v=NT7YpblBsFO">https://www.youtube.com/watch?v=NT7YpblBsFO</a>  Virtual tour instructions. <a href="https://corinastechspot.wikispaces.com/file/view/GoogleEarthHowToVFT.pdf">https://corinastechspot.wikispaces.com/file/view/GoogleEarthHowToVFT.pdf</a> Google Earth App.</p>	
<p>Week 18</p>	<p>Beyond classrooms' walls I</p>	<p>Digital learners will become familiar with google earth's tools for moving around the world and how to get to and from any locations.</p>	<p>Digital learners will understand that they can utilize technology to visit the world. Instructor can post directions to one of the digital learners favorite destinations, a famous theme park, etc.</p>	<p>Virtual tour instructions. <a href="https://corinastechspot.wikispaces.com/file/view/GoogleEarthHowToVFT.pdf">https://corinastechspot.wikispaces.com/file/view/GoogleEarthHowToVFT.pdf</a></p>	
<p>Week 19</p>	<p>Beyond our classrooms' walls II</p>	<p>Digital learners will become familiar with google earth's tools for moving around the world and how to get to and from any locations.</p>	<p>Digital learners will utilize models and simulations to explore complex systems and issues. Additionally, they will be given a mystery destination to visit. The objective is for learners to find their way back to school by reversing directions.</p>	<p>Google Earth sites. <a href="http://www.educationworld.com/a_tech/tech/tech071.shtml">http://www.educationworld.com/a_tech/tech/tech071.shtml</a>  Google Earth's virtual field trips. <a href="http://www.theachersguide.com/virtualtours.html#Museums">http://www.theachersguide.com/virtualtours.html#Museums</a></p>	
<p>Week 20</p>	<p>Digital Passport</p>	<p>Digital learners must evaluate and select information sources and digital tools based on task, such as:</p>	<p>Digital learners will create a passport in which they will use a digital camera or a digital device to take pictures. Additionally, digital learners will write small facts regarding the</p>	<p>Digital Passport Worksheet <a href="http://dubon101.weebly.com/uploads/1/8/1/4/18149577/itinerar_ytemplatesforvirtualfieldtrips.pdf">http://dubon101.weebly.com/uploads/1/8/1/4/18149577/itinerar_ytemplatesforvirtualfieldtrips.pdf</a></p>	

		Screenshots, Copy, and Paste.	places they visited utilizing google earth.	<a href="http://dubon101.weebly.com/uploads/1/8/1/4/18149577/allaboutmepassportinenglishspanish.pdf">http://dubon101.weebly.com/uploads/1/8/1/4/18149577/allaboutmepassportinenglishspanish.pdf</a>	
Week 21	Computer Programming	The goal of coding is for digital learners to be able to recognize aspects of themselves that can be represented through images and sounds.	Digital learners will use code to build programs and games.  Computational Creations.	<a href="http://www.code.org">www.code.org</a> <a href="http://www.kodable.com">www.kodable.com</a> Scratch Daisy the Dinosaur App BrainPop.com BrainPop: Computer Programming.	

**Supportive Strategies**

**1. Special Education**

- Employ assistive technology as needed (For example, use of Dyslexie font, high contrast or screen magnification on Chromebook, or spoken text features)
- Graphic Organizers
- Modifications on IEP
- Provide written and oral directions, utilizing visuals and exemplars. (For example, teacher models on StarBoard how to login to Code.org and provides Step-by-Step instruction sheet to student).
- Reduction in workload
- Repetition and Reinforcement of classroom material
- Strategic Grouping for all group work

**2. ESL**

- Employ assistive technology as needed (For example, online translation or Language text settings on Chromebook).
- For collaborative assignments, appropriate roles will be assigned. (For example, time-keeper, activity Starter).
- Make content culturally relevant.
- Partner English Learners with Strong English Speakers.
- Provide written and oral directions for all lessons, utilizing visuals and exemplars.
- Repeat classroom procedure and routines as much as possible to reinforce language learning.
- Visual Aids.

**3. Student at risk of failure**

- Employ assistive technology as needed (For example, use of Dyslexic font, high contrast or screen magnification on Chromebook, or spoken text features)
- Flexible acceptance of missing/lost/incomplete assignment
- Strategic Grouping for all group work

**4. Gifted and Talented**

- Higher level learners will be provided with more intellectually demanding learning activities. (For example, students who complete lessons on Code.org can continue to the next levels at their own pace)
- Higher Order Questioning
- Utilize different reading levels appropriate for students

**DOE Resources and Sample Activities 8.1.B, 8.2.B (Assessment)**

**DOE Resources and Sample Activities 8.1.C, 8.2.C (Assessment)**

Use a variety of digital tools and resources to produce, illustrate and publish a digital scrapbook. Collaborate with peers discussing the roles and responsibilities of family members. Include information about each member’s responsibilities in the family and anything that makes the person special. With guidance and support from adults, images (hand drawn/ scanned, digital pictures or clip art) can be inserted.

Collect rock samples from the surrounding area. Classify the rocks by size, shape, etc. to observe the similarities and differences of the materials they are made of. Capture an image of a rock sample; develop a description to share online. Recall your experiences to collaborate with students in other classes, schools, or countries to compare rock classifications in different areas. (See Rock Hunter lesson link.)

<http://www.state.nj.us/education/cccs/2014/tech/cad/CADS81B.pdf>

<http://www.state.nj.us/education/cccs/2014/tech/cad/CADS81C.pdf>

In a classroom discussion, determine technology that is used to improve our lives. Students should examine the positive and negative impacts of technology i.e. environmental concerns. Students should then examine how advances in technology have changed their lives. Present facts and definitions to the class which conclude how technology impacts or improves life and actions taken to improve any negative impacts. (See Technology at Work lesson plan).

Participate in shared research investigating a broken toy or object to identify potential causes for the malfunction. Use technology to record your questions and observations. Gather information identifying the parts and their interactions with each other. Produce a shared writing project describing the problem, your observations and how the object could be fixed or improved.

<http://www.state.nj.us/education/cccs/2014/tech/cad/CADS82B.pdf>

<http://www.state.nj.us/education/cccs/2014/tech/cad/CADS82C.pdf>

**Unit Vocabulary**

Menus	Resize	Print file
Select video	Restore	Format
Technology	Dropdown menu	Select software
Audio	Checkbox	Software
Symbol	Symbols	Save
Video	Online help	Function
Technology	Letters	Computing
Audio	Maximize	Computer
Symbol	Dialog box	Keyboard
CD	Minimize text box	Graphics
Function	Graphics software	Drag and drop
Recycle bin	Drawing area	Drawing
Delete folder	Tool box	Software
Toolbar icon	Fill color	Color
Keyboard Sounds	Shape tool	Palette



Language Arts Science Classification Visual Mapping Software trash desktop file Structure file scroll bar	Tool Box menu Mouseover Latitude Longitude Coordinates	Software
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## Unit 3 Technology Curriculum K-2nd 2018

<b>Content Area:</b>	<b>Technology</b>	<b>Grade(s)</b>	<b>K-2nd</b>
<b>Unit Overview:</b>	<b>3<sup>rd</sup> Marking Period</b>		
	<b>2014 New Jersey Core Curriculum Content Technology Standards</b>		
<p><b>8.1 Educational Technology:</b> 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.</p> <p><b>D. Digital Citizenship:</b> Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.</p> <p><b>E: Research and Information Fluency:</b> Students apply digital tools to gather, evaluate, and use information.</p>			
<p><b>8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming:</b> All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.</p> <p><b>D. Abilities for a Technological World:</b> The designed world is the product of a design process that provides the means to convert resources into products and systems.</p> <p><b>E. Computational Thinking: Programming:</b> Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.</p>			
<b>Standard(s) 8.1 Educational Technology</b>			
<p><b>8.1.2.D.1</b> Develop an understanding of ownership of print and non-print information.</p> <p><b>8.1.P.E.1</b> Use the Internet to explore and investigate questions with a teacher’s support.</p> <p><b>8.1.2.E.1</b> Use digital tools and online resources to explore a problem or issue.</p>			
<b>8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming:</b>			
<p><b>8.2.2.D.1</b> Collaborate and apply a design process to solve a simple problem from everyday experiences.</p> <p><b>8.2.2.D.2</b> Discover how a product works by taking it apart, sketching how parts fit, and putting it back together.</p> <p><b>8.2.2.D.3</b> Identify the strengths and weaknesses in a product or system.</p> <p><b>8.2.2.D.4</b> Identify the resources needed to create technological products or systems</p> <p><b>8.2.2.D.5</b> Identify how using a tool (such as a bucket or wagon) aids in reducing work.</p> <p><b>8.2.2.E.1</b> List and demonstrate the steps to an everyday task.</p> <p><b>8.2.2.E.2</b> Demonstrate an understanding of how a computer takes input through a series of written commands and then interprets and displays information as output.</p> <p><b>8.2.2.E.3</b> Create algorithms (a sets of instructions) using a pre-defined set of commands (e.g., to move a student or a character through a maze).</p> <p><b>8.2.2.E.4</b> Debug an algorithm (i.e., correct an error).</p> <p><b>8.2.2.E.5</b> Use appropriate terms in conversation (e.g., basic vocabulary words: input, output, the operating system, debug, and algorithm).</p>			
<b>Essential Question(s)</b>		<b>Enduring Understandings</b>	
<p>Why do I need to know how to use a word processing program?</p> <p>How is a word processing program used?</p> <p>How is a document opened?</p> <p>How is placement of text determined?</p> <p>How does a combination of drawing and writing communicate information text can't?</p>		<p>Communicating ideas to varied audiences requires a combination of media.</p> <p>I can communicate not only with text, but audio, visual, movies, color, and illustrations.</p> <p>Communicating ideas requires a combination of media</p>	

<p>What grammar and spelling conventions should I follow when writing? How do images catch viewer attention where text can't?</p>	
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Interdisciplinary Connections		
Common Core Literacy	Common Core Math	Career Ready Practices
CCSS.ELA-Literacy.CCRA.R.7	CCSS.MATH.PRACTICE.MP1	CRP1
CCSS.ELA-Literacy.CCRA.W.6	CCSS.MATH.PRACTICE.MP2	CRP4
CCSS.ELA-Literacy.RI.1.5	CCSS.MATH.PRACTICE.MP3	CRP6
CCSS.ELA-Literacy.RI.1.10	CCSS.MATH.PRACTICE.MP5	CRP8
CCSS.ELA-Literacy.RF.1.4.A	CCSS.MATH.PRACTICE.MP6	CRP11
CCSS.ELA-Literacy.W.1.6	CCSS.MATH.PRACTICE.MP7	
CCSS.ELA-Literacy.SL.1.1		
CCSS.ELA-Literacy.SL.1.1c		
CCSS.ELA-Literacy.SL.1.2		

Learning Plan	Suggested Activities				
Suggested Time Frame	Topic	Skills	Computational Thinking (CT) is a way of solving problems, designing systems, and understanding human behavior by drawing on the concepts fundamental to computer science.	Core Instructional Materials	Suggested Formative/Summative Classroom Assessments
<p>Week 21</p> <hr/> <p>Week 22</p>	Digital Storytelling	Pre-word processing Editing Digital storytelling Cursor skills Digital drawing Pre-keyboarding Digital citizenship	<p>How can I use the computer to communicate with words and pictures?</p> <p>Digital learners will write a story with images to celebrate technology skills accomplished</p>	<p>ABCYa Story Maker  <a href="http://www.abcya.com/story_maker.htm">http://www.abcya.com/story_maker.htm</a></p> <p>Alphabet Soup (http://www.alphabet-soup.net/)  <a href="http://www.zefrank.com/scribbler">http://www.zefrank.com/scribbler</a></p>	<p><b>Common Core State Standards Rubrics</b>  <a href="http://www.schrockguide.net/assessment-and-rubrics.html">http://www.schrockguide.net/assessment-and-rubrics.html</a>                      Multimedia and Apps Rubrics  <a href="http://www.schrockguide.net/assessment-and-rubrics.html">http://www.schrockguide.net/assessment-and-rubrics.html</a></p>

			<p>during the school year. They will use all the basics (tools, toolbars, fills, drag-and-drop, backgrounds, clipart, text and everything else you covered throughout the year). Additionally, digital learners will collaborate with peers..</p>	<p>Sketchpad — <a href="https://sketch.io/sketchpad/">https://sketch.io/sketchpad/</a></p> <p>Ipad Doodle Buddy <a href="http://apple.co/1pAVkga">http://apple.co/1pAVkga</a></p> <p>ScreenChomp <a href="http://apple.co/1kX7eAH">http://apple.co/1kX7eAH</a></p> <p>Wixie <a href="https://www.wixie.com/sitelogin">https://www.wixie.com/sitelogin</a></p>	<p><a href="#">sment-and-rubrics.html</a></p> <p>New Jersey Project and Assessment Examples <a href="http://www.nj.gov/education/aps/ccs/tech/assessment/">http://www.nj.gov/education/aps/ccs/tech/assessment/</a></p> <p><b>Links on Exit/Admit Slips</b></p> <p>Readingrockets: Exit Slips <a href="http://www.readingrockets.org/strategies/exit_slips">http://www.readingrockets.org/strategies/exit_slips</a></p> <p>AdLit.org: Exit Slips <a href="http://www.adlit.org/strategies/19805">http://www.adlit.org/strategies/19805</a></p> <p>Writing Across the Curriculum: Entry/Exit Slips <a href="http://writing2.richmond.edu/wac/entirexit.html">http://writing2.richmond.edu/wac/entirexit.html</a></p> <p>Exit Slips: Effective Bell-Ringer Activities <a href="http://www.teachhub.com/news/article/cat/14/item/377">http://www.teachhub.com/news/article/cat/14/item/377</a></p> <p>Admit Slips and Exit Slips <a href="http://literacy.kent.edu/eureka/strategies/admit_slips09.pdf">http://literacy.kent.edu/eureka/strategies/admit_slips09.pdf</a></p>
Week 23	<p>A picture is worth 100 words. Communicate information, ideas effective use of digital tools to multiple audiences using a variety of media, formats.</p>	<p>Digital drawing Pre-keyboarding Pre-word processing Site words Cursor skills</p>	<p>Digital learners will demonstrate how to construct a sentence using pictures and class site words to convey a message.</p> <p>Visual Mapping: Create an alphabet sing along book as a class using images.</p>	<p>Slideshow Sites <a href="http://www.guidingtech.com/27924/kids-slideshows-learn/">http://www.guidingtech.com/27924/kids-slideshows-learn/</a></p> <p>Poster maker <a href="http://www.scholastic.com/kids/games/postermaker/">http://www.scholastic.com/kids/games/postermaker/</a></p> <p>Sight word sites <a href="http://interactivsites.weebly.com/readingsight-words.html">http://interactivsites.weebly.com/readingsight-words.html</a></p>	
Week 24	<p><b>Digital Writing</b></p> <p>A Digital short story projects can be completed in five-ten minutes.</p>	<p>Online tools Pre-keyboarding</p>	<p>Digital learners use images and text to demonstrate understanding of words used in conversation.</p>	<p>Drawing program, site word list, keyboarding Program and lesson Sites. ABCYa Paint — <a href="http://www.abcya.com/abcya_p_a">http://www.abcya.com/abcya_p_a</a></p>	

	<p>They are a great tie-in to class inquiry about history, literacy, or vocabulary. They are well-suited to use as warm ups or exit tickets. Students write a few sentences and then draw a picture according to their grade-level writing conventions.</p>			<p>Scribbler  <a href="http://www.zefrank.com/scribbler">http://www.zefrank.com/scribbler</a>                  Sketchpad —  <a href="https://sketch.io/sketchpad/">https://sketch.io/sketchpad/</a>                  Ipad                  Doodle Buddy  <a href="http://apple.co/1pAVkga">http://apple.co/1pAVkga</a>                  ScreenChomp  <a href="http://apple.co/1kX7eAH">http://apple.co/1kX7eAH</a>                  Wixie  <a href="https://www.wixie.com/sitelogin">https://www.wixie.com/sitelogin</a></p>	
<p>Week 25 Week 26</p>	<p>A perfect product</p> <p>Introduce students to the field of industrial design as a career..</p>	<p>Manufactured products Digital Tools in Drawing</p>	<p>Gather examples of manufactured products for discussion (stapler, lamp, chair...) Ask digital learners to brainstorm a list of manufactured products they used today. Have them think about who made them. For example, inventors and engineers think of the idea and make it work. Industrial designers are concerned with the look, feel and usability of</p>	<p><a href="http://artpad.art.com/artpad/painter/">http://artpad.art.com/artpad/painter/</a></p> <p>Microsoft Paint</p> <p>ABCYa Paint —  <a href="http://www.abcya.com/abcya_p_a">http://www.abcya.com/abcya_p_a</a></p>	

			<p>the objective. Only after industrial designers make an object safe, attractive and functional is it mass produced by factory workers and machines. Digital learners can redesigned object by using their drawing skills.</p>	
Week 27	Safety on the Internet	<p>Editing text Pre-keyboarding Digital citizenship</p>	<p>Digital learners will review previously learned Internet safety rules and learn techniques to help them remember. Digital learners can type sentences with images describing how to be safe while using the computer.</p>	

**Supportive Strategies**

**1. Special Education**

- Employ assistive technology as needed (For example, use of Dyslexie font, high contrast or screen magnification on Chromebook, or spoken text features)
- Graphic Organizers
- Modifications on IEP
- Provide written and oral directions, utilizing visuals and exemplars. (For example, teacher models on StarBoard how to login to Code.org and provides Step-by-Step instruction sheet to student).
- Reduction in workload
- Repetition and Reinforcement of classroom material
- Strategic Grouping for all group work

**2. ESL**

- Employ assistive technology as needed (For example, online translation or Language text settings on Chromebook).
- For collaborative assignments, appropriate roles will be assigned. (For example, time-keeper, activity Starter).
- Make content culturally relevant.
- Partner English Learners with Strong English Speakers.
- Provide written and oral directions for all lessons, utilizing visuals and exemplars.
- Repeat classroom procedure and routines as much as possible to reinforce language learning.
- Visual Aids.

**3. Student at risk of failure**

- Employ assistive technology as needed (For example, use of Dyslexic font, high contrast or screen magnification on Chromebook, or spoken text features)
- Flexible acceptance of missing/lost/incomplete assignment
- Strategic Grouping for all group work

**4. Gifted and Talented**

- Higher level learners will be provided with more intellectually demanding learning activities. (For example, students who complete lessons on Code.org can continue to the next levels at their own pace)
- Higher Order Questioning
- Utilize different reading levels appropriate for students

**DOE Resources and Sample Activities 8.1.D, 8.2.D (Assessment)**

**DOE Resources and Sample Activities 8.1.E, 8.2.E (Assessment)**

Gather print or digital images from any available resource depicting unfair or bullying actions. Create a caption and describe solutions or ways they could help resolve the bullying or unfair action being depicted in the image. Identify and include the source and ownership of the image used and share.

Digital Show and Tell – Students locate or create a digital image based on the topic assigned. The students then will present the image to the class demonstrating the conventions of Standard English grammar when recounting information about their picture with appropriate facts and relevant descriptive details, making sure to speak audibly in coherent sentences. Students can input their sentences to develop a class album.

<http://www.state.nj.us/education/cccs/2014/tech/cad/CADS81D.pdf>

<http://www.state.nj.us/education/cccs/2014/tech/cad/CADS81E.pdf>

Collaborate in groups and disassemble given products. As groups disassemble the products, sketches should be drawn to show how the parts fit together to create the final product. When appropriate, students should use the appropriate tool to measure the pieces to add to their sketches. Groups should then use the sketches to put the products back together. Groups will then inform how their products work by looking at the parts of the project and how they work together.

Students will write an addition equation to describe a given situation. Then, students will collaboratively develop the steps to solve the equation, using whatever method they choose (10 frame, number line, manipulatives, etc). Finally, students will present their step-by-step process to the class.

<http://www.state.nj.us/education/cccs/2014/tech/cad/CADS82D.pdf>

<http://www.state.nj.us/education/cccs/2014/tech/cad/CADS82E.pdf>

<b>Unit Vocabulary</b>		
Microsoft Word	Formatting	Flash drive
Word processing	Digital Video	Optical drive
Hardware	Communication	Storage file
Software	Drive	Delete
Operating system	Disk Storage	Digital Tools
Laptop	Save	Product
Desktop mouse	Copy	Design
USB drive	Download	Design Process
Headset	Network	Problem Solving
Icon	Cursor	Resources
Start menu	Toolbar	Research
Drive	Drag	Print
File	Drop	Command
Folder	Spacebar	
Minimize	Font	
Maximize		



## Unit 4 Technology Curriculum K-2nd 2018

<b>Content Area:</b>	<b>Technology</b>	<b>Grade(s)</b>	<b>Pre K-2nd</b>
<b>Unit Overview:</b>	<b>4<sup>th</sup> Marking Period</b>		
	<b>2014 New Jersey Core Curriculum Content Technology Standards</b>		
<p><b>8.1 Educational Technology:</b> 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.</p> <p><b>F: Critical thinking, problem solving, and decision making:</b> Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.</p>			
<p><b>8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming:</b> All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.</p> <p><b>E. Computational Thinking: Programming:</b> Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.</p>			
<b>Standard(s) 8.1 Educational Technology</b>			
<ul style="list-style-type: none"> <li>• <b>8.1.2.F.1</b> Use geographic mapping tools to plan and solve problems.</li> </ul>			
<b>8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming:</b>			
<ul style="list-style-type: none"> <li>• <b>8.2.2.E.1</b> List and demonstrate the steps to an everyday task.</li> <li>• <b>8.2.2.E.2</b> Demonstrate an understanding of how a computer takes input through a series of written commands and then interprets and displays information as output.</li> <li>• <b>8.2.2.E.3</b> Create algorithms (a sets of instructions) using a pre-defined set of commands (e.g., to move a student or a character through a maze).</li> <li>• <b>8.2.2.E.4</b> Debug an algorithm (i.e., correct an error).</li> <li>• <b>8.2.2.E.5</b> Use appropriate terms in conversation (e.g., basic vocabulary words: input, output, the operating system, debug, and algorithm).</li> </ul>			
<b>Essential Question(s)</b>		<b>Enduring Understandings</b>	
<ul style="list-style-type: none"> <li>• How can I use a variety of digital tools to share creatively?</li> <li>• How does following a logical progression of ideas help me succeed in a project?</li> <li>• Can knowledge of language conventions help me tell my story?</li> <li>• How does detail enhance the power of a story including characters, plot, and setting?</li> </ul>		<ul style="list-style-type: none"> <li>• Identify and define authentic problems and significant questions for investigation.</li> <li>• Plan and manage activities to develop a solution or complete a project.</li> <li>• Collect and analyze data to identify solutions and/or make informed decisions.</li> <li>• Use multiple processes and diverse perspectives to explore alternative solutions.</li> </ul>	

Interdisciplinary Connections					
Common Core Literacy	Common Core Math			Career Ready Practices	
CCSS.ELA-Literacy.CCRA.R.7	CCSS.MATH.PRACTICE.MP1			CRP1	
CCSS.ELA-Literacy.CCRA.W.6	CCSS.MATH.PRACTICE.MP2			CRP4	
CCSS.ELA-Literacy.RI.1.5	CCSS.MATH.PRACTICE.MP3			CRP6	
CCSS.ELA-Literacy.RI.1.10	CCSS.MATH.PRACTICE.MP5			CRP8	
CCSS.ELA-Literacy.RF.1.4.A	CCSS.MATH.PRACTICE.MP6			CRP11	
CCSS.ELA-Literacy.W.1.6	CCSS.MATH.PRACTICE.MP7				
CCSS.ELA-Literacy.SL.1.1					
CCSS.ELA-Literacy.SL.1.1.C					
CCSS.ELA-Literacy.SL.1.2					
Learning Plan	Suggested Activities				
Suggested Time Frame	Topic	Skills	Computational Thinking (CT) is a way of solving problems, designing systems, and understanding human behavior by drawing on the concepts fundamental to computer science.	Core Instructional Materials	Suggested Formative/Summative Classroom Assessments
<b>Week 29</b>  <b>Week 30</b>	Greeting Cards	Drawing Digital writing Digital Citizenship Pre-keyboarding Screenshots.	Challenge digital learners to put their problem-solving skills into practice by using handouts, and multimedia sources to create a greeting card for a special family member.	Drawing programs. <a href="https://sketch.io/sketchpad/">Sketchpad (https://sketch.io/sketchpad/)</a> <a href="http://www.sumopaint.com/">SumoPaint (http://www.sumopaint.com/)</a> <a href="http://apple.co/1DiadsI">Drawing Desk (http://apple.co/1DiadsI)</a>	<b>Common Core State Standards Rubrics</b> <a href="http://www.schrocks.com/assessments-and-rubrics.html">http://www.schrocks.com/assessments-and-rubrics.html</a> Multimedia and Apps Rubrics <a href="http://www.schrocks.com/assessments-and-rubrics.html">http://www.schrocks.com/assessments-and-rubrics.html</a> New Jersey Project and Assessment Examples <a href="http://www.nj.gov/education/aps/cccs/tech/assessment/">http://www.nj.gov/education/aps/cccs/tech/assessment/</a>
<b>Week 31</b>	Recycling	Speaking and listening skills Practicing Mouse Control. Digital learners apply existing knowledge to	Discuss items that cause pollution with digital learners. Have digital learners work in groups to make a chart on the board of things that they can recycle, (such as plastic	Google Diagrams <a href="https://www.draw.io/">https://www.draw.io/</a>	

<p><b>Week 32</b></p>		<p>generate new ideas, products, or processes to solve this issue.</p>	<p>bottles, glass, grocery bags, etc.)</p>		<p><b>Links on Exit/Admit Slips</b>                  Readingrockets: Exit Slips  <a href="http://www.readingrockets.org/strategies/exit_slips">http://www.readingrockets.org/strategies/exit_slips</a>                  AdLit.org: Exit Slips  <a href="http://www.adlit.org/strategies/19805">http://www.adlit.org/strategies/19805</a>                  Writing Across the Curriculum: Entry/Exit Slips  <a href="http://writing2.richmond.edu/wac/entry_exit.html">http://writing2.richmond.edu/wac/entry_exit.html</a>                  Exit Slips: Effective Bell-Ringer Activities  <a href="http://www.teachhub.com/news/article/cat/14/item/377">http://www.teachhub.com/news/article/cat/14/item/377</a>                  Admit Slips and Exit Slips  <a href="http://literacy.kent.edu/eureka/strategies/admit_slips09.pdf">http://literacy.kent.edu/eureka/strategies/admit_slips09.pdf</a></p>
<p><b>Week 33</b></p>	<p>Excel sheet: Where am I?</p>	<p>Basic Excel vocabulary Algorithm</p>	<p>Students will locate various shapes on the Excel worksheet and identify the corresponding cell name.</p> <p>Review the following features in an Excel spreadsheet: identifying cells names.</p>	<p>Algorithm  <a href="https://www.khanacademy.org/computing/computer-science/algorithms/intro-to-algorithms/v/what-are-algorithms">https://www.khanacademy.org/computing/computer-science/algorithms/intro-to-algorithms/v/what-are-algorithms</a></p> <p>Where am I? Worksheet chrome-extension://gbkeegbaaiigmenfmjfcldgdpi/mamgkj/views/app.html</p>	
<p><b>Week 34</b></p>			<p>Have a copy of “Where Am I?” in shared student drive. Introduce the correct way to name a cell (letter number). Direct students to SAVE AS the student document in student shared drive. Students will complete the spreadsheet by typing in the name of the shape in column K beside the correct cell name found in column J. A word box is provided for spelling the shape’s name. Students should save their final copy in their folder on the shared student drive.</p>		
<p><b>Week 35</b></p>	<p>All about me Multimedia Presentation</p>	<p>Digital tools Drawing Digital Storytelling</p>	<p>Digital students will create four slides about their personal information and</p>	<p>Drawing Program, Multimedia Presentations</p>	

<b>Week 36</b>		Copy and Paste	demonstrate steps to teach the class something new they are good at. Finally their plans for each slide will include a picture and text that will be presented to the class.	Presentation Tools Sites <a href="http://cooltoolsforschools.wikispaces.com/Presentation+Tools">http://cooltoolsforschools.wikispaces.com/Presentation+Tools</a>  PowToon <a href="https://www.powtoon.com/?edgetrackerid=14012230703292&amp;utm_source=bing&amp;utm_medium=cpc&amp;utm_campaign=Presentation-AU+&amp;utm_content=Multimedia">https://www.powtoon.com/?edgetrackerid=14012230703292&amp;utm_source=bing&amp;utm_medium=cpc&amp;utm_campaign=Presentation - AU &amp; NZ&amp;utm_content=Multimedia</a>	
<b>Supportive Strategies</b>					
<b>1. Special Education</b>					
<ul style="list-style-type: none"> <li>• Employ assistive technology as needed (For example, use of Dyslexie font, high contrast or screen magnification on Chromebook, or spoken text features)</li> <li>• Graphic Organizers</li> <li>• Modifications on IEP</li> <li>• Provide written and oral directions, utilizing visuals and exemplars. (For example, teacher models on StarBoard how to login to Code.org and provides Step-by-Step instruction sheet to student).</li> <li>• Reduction in workload</li> <li>• Repetition and Reinforcement of classroom material</li> <li>• Strategic Grouping for all group work</li> </ul>					
<b>2. ESL</b>					
<ul style="list-style-type: none"> <li>• Employ assistive technology as needed (For example, online translation or Language text settings on Chromebook).</li> <li>• For collaborative assignments, appropriate roles will be assigned. (For example, time-keeper, activity Starter).</li> <li>• Make content culturally relevant.</li> <li>• Partner English Learners with Strong English Speakers.</li> <li>• Provide written and oral directions for all lessons, utilizing visuals and exemplars.</li> <li>• Repeat classroom procedure and routines as much as possible to reinforce language learning.</li> <li>• Visual Aids.</li> </ul>					
<b>3. Student at risk of failure</b>					
<ul style="list-style-type: none"> <li>• Employ assistive technology as needed (For example, use of Dyslexic font, high contrast or screen magnification on Chromebook, or spoken text features)</li> <li>• Flexible acceptance of missing/lost/incomplete assignment</li> <li>• Strategic Grouping for all group work</li> </ul>					
<b>4. Gifted and Talented</b>					

- Higher level learners will be provided with more intellectually demanding learning activities. (For example, students who complete lessons on Code.org can continue to the next levels at their own pace)
- Higher Order Questioning
- Utilize different reading levels appropriate for students.

**DOE Resources and Sample Activities 8.1.F, 8.2.E (Assessment)**

Provide a word problem about how road construction may result in traffic being rerouted around the school. Use addition and subtraction to solve the problem involving lengths given in the same units. Use an online mapping tool to look at the features of your community. Use the tool to draw and show the routes with and without construction and measure the distances for each. Show an equation representing each problem with a symbol for the unknown number. Calculate the differences for the routes.

<http://www.state.nj.us/education/cccs/2014/tech/cad/CADS81F.pdf>

Students will write an addition equation to describe a given situation. Then, students will collaboratively develop the steps to solve the equation, using whatever method they choose (10 frame, number line, manipulatives, etc). Finally, students will present their step-by-step process to the class.

<http://www.state.nj.us/education/cccs/2014/tech/cad/CADS82E.pdf>

**Unit Vocabulary**

Mouse	Recycle bin	Audio CD
Drag and drop	Delete	Function
Double click	Folder	Network
Select	Trash	Jam
Pointer	Desktop	Toner
Input device	File	Paper
Keyboard	Scroll bar	Tray
Computer monitor	Maximize	Preview
Printer	Dialog box	Ink
Processor	Minimize	Copies
End punctuation	Text box	Backspace
Lowercase	Button	Shift menu
Period	Resize	New print
Open	Restore	Save
Capitalization	Windows	Text toolbar
Printing	Spinner	Erase
Word processing	Dropdown	Cursor
Exit	Menu	Input
Question mark	Checkbox	Focus clipart
Spacing	Output device	Font
Close	Speaker	Text elements
Save	Toolbar	
Exclamation	Label	

Point effect	Click	
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