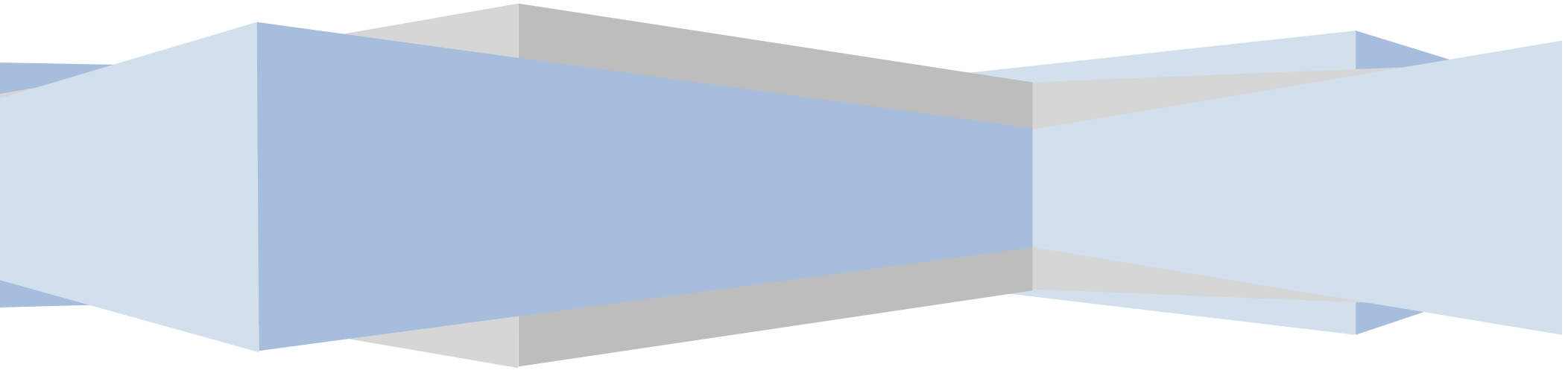
Montclair Public Schools

Computers/Technology
GRADES K-5
Curriculum Guide



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STATEMENT OF PURPOSE

In the year 2015, our students are socially connected, proficient users of mobile technology. Yet by 6th grade - given previous years lack of inequitable: access to technology, standards, resources, and professional development in the Montclair Public Schools, the majority students were lacking foundational technology skills to meet either the 8.1 New Jersey Core Curriculum Content Standards (NJ-CCCS), or the Common Core Curriculum standards needed for technology to support Language Arts or Math. As such, the majority of our 6th grade students la ck the skills to be proficient, digitally literate producers of technology products, as defined by the New Jersey Core Curriculum Content Standards for Technology - 8.1.

As such, this curriculum seeks to ensure mastery of the basic NJCCCS 8.1 to be delivered at each grade level (K-5), during scheduled computer sessions to be delivered a minimum of 30 periods, as follows.

Standards	K-2 Suggested Sessions	3-5 Suggested Sessions
Standard A: Technology Operations & concepts	20 sessions	15 sessions
Standard B: Creativity & Innovation Standard C: Communication & Collaboration	5 sessions	10 sessions
Standard D: Digital Citizenship Standard E: Research and Information Fluency Standard F: Critical Thinking, Problem Solving, and Decision Making	5 sessions	5 sessions

As Stated in the Introduction of The 8.1 Standards

"Advances in technology have drastically changed the way we interact with the world and each other. The digital age requires that we understand and are able to harness the power of technology to live and learn". - International Society for Technology in Education. In this ever-changing digital world where citizenship is being re-imagined, our students must be able to harness the power of technology to live, solve problems and learn in college, on the job and throughout their lives. Enabled with digital and civic citizenship skills, students are empowered to be responsible members of today's diverse global society (NJ-CCCS 8.1, 2014)

Mission

Technology enables students to solve real world problems, enhance life, and extend human capability as they meet the challenges of a dynamic global society.

Vision

The systematic integration of technology across the curriculum and in the teaching and learning processs fosters a population that leverages 21st century resources to:

build on the skills they acquired in their exposure to technology (as directed in the PTHSD K-8 Technology Scope and Sequence) to master the production of technology products to meet the New Jersey 8th grade proficiency assessment reported on the New Jersey State Report Card. Including the 8.1.8A standards:

- *Create professional documents (e.g., newsletter, personalized learning plan, business letter or flyer) using advanced features of a word processing program*
- *Plan and create a simple database, define fields, input data, and produce a report using sort and query*
- *Create a multimedia presentation including sound and images*
- *Generate a spreadsheet to calculate, graph, and present information*
- *Select and use appropriate tools and digital resources to accomplish a variety of tasks and to solve problems*

Additionally, throughout this 30-day course, as Cyber-Safety and Cyber-ethics are a mandated part of the New Jersey curriculum, these sessions seek to ensure that our students have mastered the concepts and skills necessary to participate using technology in a globally connected digitally literate manner.

Activities to complete these tasks make extensive use of:

- Common Sense Media (https://www.commonsensemedia.org/educators/scope-and-sequence)
- MPS Lesson Bank Materials for Grades K-5 (stored in the shared Google Drive)
- The Florida Technology Integration Matrix (http://fcit.usf.edu/matrix/gradelevel.php)

Recognizing that our children immerse themselves in a world of technology that encourages them to share media and messages through text on cell phones and Instant Messaging, through pictures from cell phones and digital cameras, through videos through soci al networking sites such as YouTube, and through a combination of media through social networking sites such as MySpace, Zanga, and MyJournal, this cours e poses essential questions such as: *"How can I model appropriate and responsible behavior using techno logy in relation to cyber-safety Cyberbullying, cyber security, and cyber ethics?"*

And to meet the New Jersey Core Curriculum Content Standards for Technology - .Such as the 8.1.5.D:

- *Analyze the resource citations in online materials for proper use.*
- *Demonstrate an understanding of the need to practice cyber safety, cyber security, and cyber ethics when using technologies and social media.*
- *Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.*

Furthermore, this course becomes the foundational gateway through which students master the knowledge and skills necessary to appropriately produce technology products for core course requirements, such as the technology requirements now embedded in the Common Core Standards for Reading, Writing, Speaking, Listening, and Language for students:

Students Use Technology and Digital Media Strategically and Capably

> *Students employ technology thoughtfully to enhance their reading, writing, speaking, listening, and language use. They tailor their searches online to acquire useful information efficiently, and they integrate what they learn using technology with what they learn offline. They are familiar with the strengths and limitations of various technological tools and mediums and can select and u se those best suited to their communication goals.*

And as reinforced in the New Jersey Core Curriculum Content Standards for Technology:

> *8.1.5.B - Collaborative to produce a digital story about a significant local event or issue based on first-person interviews.*
>
> 8.1.5.F - *Apply digital tools to collect, organize, and analyze data that support a scientific finding.*

THE LIVING CURRICULUM

Curriculum guides are designed to be working documents. Teachers are encouraged to make notes in the margins. Written comments can serve as the basis for future revisions. In addition, the teachers and administrators are invited to discuss elements of the guides as implemented in the classroom and to work collaboratively to develop recommendations for curriculum reforms as needed.

AFFIRMATIVE ACTION

During the development of this course of study, particular attention was paid to material, which might discriminate on the basis of sex, race, religion, national origin, or creed. Every effort has been made to uphold both the letter and spirit of affirmative action mandates as applied to the content, the texts and the instruction inherent in this course.

GENERAL GOALS

UNITS OF STUDY	ESSENTIAL QUESTIONS	ENDURING UNDERSTANDINGS
UNIT A: **Technology Operations and Concepts**	How can I use technology to present and publish information through the use of various applications?	Technology can help me organize, create, and publish a presentation that allows me to communicate more effectively, and through more modalities.
UNIT B: **Creativity and Innovation**	How can I use digital tools to enhance creativity and construct knowledge?	Technology can help me to synthesize new, novel, and original ideas to construct knowledge, and/or to create products that carry important messages that are valued by society.
UNIT C: **Communication and Collaboration**	How do I use digital tools to communicate and collaborate appropriately, either locally or globally, to explore and discuss real-life situations?	Technology gives me local and global access to interact with others, learn others perspectives, and acquire valued information from experts throughout the world.
UNIT D: **Digital Citizenship**	How can I model appropriate and responsible behavior using technology in regards to cyber-safety cyber-bullying, cyber-security, and cyber-ethics?	There is a Digital Citizenship etiquette that I must be mindful of when providing information online, interacting with others in virtual environments, or participating in online collaborative and/or social networking activities.
UNIT E. **Research and Information Literacy**	How can I efficiently gather and manage information using digital tools?	Technology tools allow me to efficiently search for answers and solutions. They allow me to create appropriate products to communicate these results and solutions.
UNIT F. **Critical Thinking, Problem Solving, and Decision-Making**	How can I access information through use of digital tools to assist in generating solutions and making decisions?	Technology tools allow me to collaborate with learners and experts locally and from other countries. Technology tools allow me to evaluate, summarize, and author findings. Technology tools assist me in presenting my own perspectives, and the perspectives of other cultures about a current event or contemporary figure.

GRADING PROCEDURES

Long Term Projects, Quizzes, Presentations, such as (but not limited to): **75%**

- Formatted Documents
- Flyers Brochures
- Newsletters
- Spreadsheets
- Quizzes

Daily Assessments and Skills, such as (but not limited to): **25%**

- Save to various digital locations
- Keyboarding/Speed Tests

Elementary School

- At the elementary school level, there will be on major technology proficiency assessment, in either grades 4 or 5, to assess mastery of technology skills in the NJ-CCCCS 8.1, and the CCSS.

MONTCLAIR PUBLIC SCHOOLS

COURSE PROFICIENCIES

Course: Title: TECHNOLOGY/COMPUTERS

In accordance with district policy as mandated by the New Jersey Administrative Code and the New Jersey Core Curriculum Content Standards, the following are proficiencies required for the successful completion of Technology/Computers.

The student will:

1. use computer navigation and terminology, and develop proficiency in keyboarding skills.
2. demonstrate print and successfully saving to various locations. Correctly name and save files into appropriate folders on all platforms.
3. identify and label the internal and external components of various technology tools, describe how to access wired and wirelesss Internet, and identify basic hardware problems.
4. create professional documents using basic and advanced features of a word processing program.
5. generate a spreadsheet to appropriately format and perform basic and advanced sorting and calculations including, functions, formulas, graphs, and charts for presentation.
6. plan and create a simple database, define fields, input data, and produce a report using sort and query.
7. create a multimedia presentation including sound and images.
8. select an appropriate software app to produce a submission containing (as needed) pictures, numbers, text, animations, and/or movies
9. use digital tools to enhance creativity.
10. collaborate with their peers using a “cloud” format.
11. follow approved district’s *Acceptable Use Policy* (AUP), fair use, and Creative Commons Guidelines in the use of all technology.
12. describe their rights and responsibilities as 21st Century creative artists, and the ethics of using creative work from others..
13. define Digital Citizenship and Cyberbullying.
14. explore the benefits and risks of online talk, learn to recognize inappropriate talk and the patterns of online predators, and apply strategies for safe online communications.
15. describe the information they share online. - Manage personal information, create strong passwords, and describe website privacy policies to understand how to keep information safe and secure.
16. explore the role of digital media in their lives, their communities, and their culture, and learn how good digital citizens harness these tools responsibly.
17. develop skills to protect their privacy and respect the privacy of others.
18. present themselves online can affect their relationships, sense of self, and reputations.

19. differentiate search sites, and databases to describe attributes and capabilities. They will also develop strategies to increase the accuracy of their keyword searches.
20. navigate websites with a critical eye for quality and "stickiness." Equipped with evaluation strategies, students will also learn how to correctly cite online sources.
21. gather and analyze data.
22. search efficiently online.
23. use electronic authoring tools (in collaboration with learners from other countries) to evaluate and summarize issues and/or the perspectives of other cultures about a current event or contemporary figure.

A. TECHNOLOGY OPERATIONS AND CONCEPTS

Essential Question(s): How can I use technology to present and publish information through the use of various applications?

Enduring Understanding(s): Technology can help me organize, create, and publish a presentation that allows me to communicate more effectively, and through more modalities.

TECHNOLOGY OPERATIONS AND CONCEPTS (8.1.A)				
PROFICIENCY / OBJECTIVE	***STANDARDS***	***SUGGESTED ACTIVITY***	***EVALUATION/ ASSESSMENT***	***TEACHER NOTES***
The student will be able to:		***Students will:***		
1. use computer navigation and terminology, and develop proficiency in keyboarding skills.	8.1.P.A.1 8.1.P.A.2 8.1.P.A.4 8.1.P.A.5 8.1.2.A.2 C.C.W.5.6	• use the Internet to research terms. • create a document containing basic technology terms and concepts. • use keyboarding application and/or online activities. **MPS Lesson Bank** K: All About Me K: Beginning Sounds K: Real Or Make Believe 1: Discovering Places 1: Five Senses 1: Rules Rule 1: Symbols of Our Country 2: Needs and Wants 2: The Water Cycle 3: Native American Cultures 3: Types of Communities 4: Animal Adaptations Lesson 4: United States Regions	Properly defined terms in a table assessed for accuracy, e.g., Internet, touch-screen, mouse, printer, CPU, hertz, processor speed, RAM, bytes, hard drive storage size, mega-, giga-, tera, USB (flash) drive, DVD, Bluetooth, etc. Through speed test and progress report generated by the application	*Technology Operations and Concepts* *K-2:* http://fcit.usf.edu/matrix/lessons/constructive_entry_languagearts http://fcit.usf.edu/matrix/lessons/authentic_entry_languagearts Keyboarding Examples: https://www.montclair.k12.nj.us/WebPage.aspx?Id=1662 3-5 http://fcit.usf.edu/matrix/lessons/active_entry_languagearts http://fcit.usf.edu/matrix/lessons/active_adoption_math http://fcit.usf.edu/matrix/lessons/active_adoption_science http://www.tekmom.com/buzzwords/index.html http://computer.yourdictionary.com/ http://www.webopedia.com/ http://www.techterms.com/

TECHNOLOGY OPERATIONS AND CONCEPTS (8.1.A)				
PROFICIENCY / OBJECTIVE	***STANDARDS***	***SUGGESTED ACTIVITY***	***EVALUATION/ ASSESSMENT***	***TEACHER NOTES***
The student will be able to:		***Students will:***		
2. demonstrate print and successfully saving to various locations. Correctly name and save files into appropriate folders on all platforms.	8.1.2.A.1 8.1.2.A.3	• log into computer, create and organize folders. Save to local and personal folders from teacher directions. • discuss file paths for, local, flashdrive, server, and Google Drive folders. **MPS Lesson Bank** 4: Animal Adaptations	Teacher observation of created folders. Successful student discussion identifying differences between saving locally vs. server and cloud services	Students will save appropriately to shared Google Drive.
3. identify and label the internal and external components of various technology tools, describe how to access wired and wireless Internet, and identify basic hardware problems.	8.1.P.A.1 8.1.2.A.1 8.1.2.A.3	• sample diagrams, authentic hardware, and videos. • create a picture (Google Draw) using a software program showing components. • discuss possible solutions to solve hardware problems as they occur. **MPS Lesson Bank** 1: Five Senses	Assessed for accuracy using rubric and completed projects Use desktop and toolbar icons, menu commands and shortcut keys, identify window: title bar, close box, zoom box, collapse box, vertical scroll bar and horizontal scroll bar	http://www.ipadnewsdaily.com/ipad-breakdown-whats-inside-and-what-it-costs-to- make-0711/ Daily troubleshooting

TECHNOLOGY OPERATIONS AND CONCEPTS (8.1.A)				
PROFICIENCY / OBJECTIVE	***STANDARDS***	***SUGGESTED ACTIVITY***	***EVALUATION/ ASSESSMENT***	***TEACHER NOTES***
The student will be able to:		***Students will:***		
4. create professional documents using basic and advanced features of a word processing program.	8.1.2.A.2 8.1.5.A.2 C.C.W.5.6 C.C.W.6.6	• create a flyer, business letter, report, table, newsletter, and/or brochure. **MPS Lesson Bank** K: What Is Your Name? 1: Symbols of Our Country 2: The Change Game 3: Types of Communities 5: Revising And Editing	*Successfully created a document with:* a. Inserted cliparts, resizing/scaling/rotating b. manipulated images and *WordArt* insert textboxes, format font, document layouts c. insert header/footer d. importing images from Internet e. orientation, margins, line spacing, alignment, indenting paragraphs, deleting and inserting f. spell and grammar check	K-2: http://fcit.usf.edu/matrix/lessons/active_adoption_languagearts http://fcit.usf.edu/matrix/lessons/authentic_adaptation_math
5. generate a spreadsheet to appropriately format and perform basic and advanced sorting and calculations including, functions, formulas, graphs, and charts for presentation.	8.1.2.A.5 8.1.2.A.7 8.1.5.A.4	• using a spreadsheet, create a graph to be used in a presentation. • Explain the analysis of the data **MPS Lesson Bank** 2: What Color Are Your Eyes? 3: Survey Your Class 4: Mean Median, Mode, Avg. 4: Time On Homework 5: A Tale of Two Cities	*Create a spreadsheet using:* • entry/formula bar • cell formatting • calculations • x/y axis labels • titles • sort • distinguish type of chart	Handouts: Excel Basics Excel; mean, median, mode, average 3-5 http://fcit.usf.edu/matrix/lessons/collaborative_entry_math

TECHNOLOGY OPERATIONS AND CONCEPTS (8.1.A)				
PROFICIENCY / OBJECTIVE	***STANDARDS***	***SUGGESTED ACTIVITY***	***EVALUATION/ ASSESSMENT***	***TEACHER NOTES***
The student will be able to:		***Students will:***		
6. plan and create a simple database, define fields, input data, and produce a report using sort and query.	8.1.2.A.6 8.1.2.A.7 8.1.5.A.5 8.1.5.A.6	• use a word processor and/or spreadsheet to design a database and merge data into a word processing document. **MPS Lesson Bank** 2: What Color Are Your Eyes? 3: Survey Your Class	Successfully produced a document based on merged fields from a database	*Spreadsheets*
7. create a multimedia presentation including sound and images.	8.1.5.A.1	• use an electronic presentation program to design and present a topic. **MPS Lesson Bank** 3: Our Montclair Community 4: Geometry Scavenger Hunt 5: Five Themes of Geography – Parts 1 & 2 5: March of time	*Successfully produced an electronic presentation with:* a. appropriate sound b. animations/images c. transitions d. 5x5 (5 bullets/5 words) rule or less e. font size no smaller than 24 g. citations to resources h. bibliography	K-2: http://fcit.usf.edu/matrix/lessons/collaborative_transformation_science http://fcit.usf.edu/matrix/lessons/collaborative_transformation_languagearts

8. select an appropriate software app to produce a submission containing (as needed) pictures, numbers, text, animations, and/or movies.	8.1.P.A.3 8.1.2.A.4 8.1.5.A.1 8.1.5.A.3	• Use a graphic organizer to organize information about a problem or issue. • Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. • demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums). **MPS Lesson Bank** 1: Discovering Places 1: Five Senses 1: Rules Rule 2: Needs and Wants 2: The Change Game 2: The Water Cycle 3: Native American Cultures 3: Water Field Trip 4: Animal Adaptations Lesson 4: Geometry Scavenger Hunt 4: United States Regions 5: A Tale of Two Cities	Successfully produced a completed graphic organizer such as a Venn Diagram, or Semantic Web. Completed a worksheet on a virtual field trip, such as a virtual visit to the Museum of Natural History	K-2: http://fcit.usf.edu/matrix/lessons/constructive_adoption_math http://fcit.usf.edu/matrix/lessons/active_adaptation_math http://fcit.usf.edu/matrix/lessons/constructive_adoption_science http://fcit.usf.edu/matrix/lessons/goaldirected_adoption_science http://fcit.usf.edu/matrix/lessons/active_adaptation_languagearts http://fcit.usf.edu/matrix/lessons/authentic_infusion_languagearts http://fcit.usf.edu/matrix/lessons/collaborative_transformation_science http://fcit.usf.edu/matrix/lessons/collaborative_transformation_languagearts 3-5 http://fcit.usf.edu/matrix/lessons/active_infusion_science http://fcit.usf.edu/matrix/lessons/active_transformation_socialstudies Examples: http://www.montclair.k12.nj.us/WebPage.aspx?Id=234 Khan Academy YouTube Wolfram Alpha Minecraft Metropolitan Museum of Art Museum of Natural History

B. CREATIVITY AND INNOVATION

Essential Question(s): How can I use digital tools to enhance creativity and construct knowledge?

Enduring Understanding(s): Technology can help me to synthesize new, novel, and original ideas to construct knowledge, and/or to create products that carry important messages that are valued by society.

CREATIVITY AND INNOVATION (8.1.B)				
PROFICIENCY / OBJECTIVE	***STANDARDS***	***SUGGESTED ACTIVITY***	***EVALUATION/SSESSMENT***	***TEACHER NOTES***
The student will be able to:		***Students will:***		
9. use digital tools to enhance creativity.	8.1.P.B.1 8.1.2.B.1 8.1.5.B.1 C.C.W.6.6	• Create a story about a picture taken by the student on a digital camera or mobile device. • Illustrate and communicate original ideas and stories using multiple digital tools and resources. • Collaborate to produce a digital story about a significant local event or issue based on first-person interviews. • share real-life bullying experiences by creating a first-person digital story, or by creating and interviewing other students, using various applications.	Completed digital files including (but not limited to) Collaborative Google Docs, Digital Stories, Presentations, Wordle, Prezi, and Photobooth products	K-2: http://fcit.usf.edu/matrix/lessons/authentic_entry_science http://fcit.usf.edu/matrix/lessons/goaldirected_entry_science http://fcit.usf.edu/matrix/lessons/active_infusion_socialstudies http://fcit.usf.edu/matrix/lessons/collaborative_transformation_science 3-5 http://fcit.usf.edu/matrix/lessons/collaborative_adaptation_science http://fcit.usf.edu/matrix/lessons/active_infusion_science Google Drive Documents and Presentations Wordle.net Prezi.com Photobooth

C. COMMUNICATION AND COLLABORATION

Essential Question(s): How do I use digital tools to communicate and collaborate appropriately, either locally or globally, to explore and discuss real-life situations.

Enduring Understanding(s): Technology gives me local and global access to interact with others, learn others perspectives, and acquire valued information from experts throughout the world.

COMMUNICATION AND COLLABORATION (8.1.C)				
PROFICIENCY / OBJECTIVE	***STANDARDS***	***SUGGESTED ACTIVITY***	***EVALUATION/ ASSESSMENT***	***TEACHER NOTES***
The student will be able to:		***Students will:***		
10. collaborate with their peers using a "cloud" format.	8.1.P.B.1 8.1.2.B.1 8.1.5.B.1 8.1.P.C.1 8.1.2.C.1 8.1.5.C.1	• collaborate with peers by participating in interactive digital games or activities. • 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. • engage in online discussions with learners of other cultures to investigate a worldwide issue from multiple perspectives and sources, evaluate findings and present possible solutions, using digital tools and online resources for all steps. • generate a Google Doc to share information. • learn about global initiatives such as Taking IT Global, Global Student Embassy, How to Restore a Rainforest	Student-made comments in shared document Students shared with teacher for revising and editing Successfully communicate knowledge	http://www.tigweb.org/ http://www.globalstudentembassy.org/local-programs/ecuador/ http://www.masarang.org/ http://www.ted.com/talks/willie_smits_restor es_a_rainforest.html 3-5 http://fcit.usf.edu/matrix/lessons/collaborative_entry_science **MPS Lesson Bank** American Revolution – Patriot or Loyalist

D. DIGITAL CITIZENSHIP

Essential Question(s): How can I model appropriate and responsible behavior using technology in regards to cyber-safety, cyber-bullying, cyber-security, and cyber-ethic?

Enduring Understanding(s): There is a Digital Citizenship etiquette that I must be mindful of when providing information online, interacting with others in virtual environments, or participating in online collaborative and/or social networking activities.

DIGITAL CITIZENSHIP (8.1.D)				
PROFICIENCY / OBJECTIVE	***STANDARDS***	***SUGGESTED ACTIVITY***	***EVALUATION/ASSESSMENT***	***TEACHER NOTES***
The student will be able to:		***Students will:***		
11. follow approved district's Acceptable Use Policy (AUP), fair use, and Creative Commons Guidelines in the use of all technology.	8.1.2.D.1 8.1.5.D.4	• share and discuss guidelines.	Teacher observation of student use of technology across a wide variety of course projects	*Digital Citizenship* https://www.commonsensemedia.org/educators/scope-and-sequence https://www.commonsensemedia.org/educators/curriculum
12. describe their rights and responsibilities as 21st Century creative artists, and the ethics of using creative work from others.	8.1.2.D.1 8.1.5.D.2	• learn about the importance of copyright law, fair use and public domain, and their rights of owners and users. • consider the differences between sharing creative works ethically and legally, and pirating, plagiarizing, illegal downloading and digital cheating. • explore different models for getting attribution for their own creative work. • learn that giving other people credit for their contribution is a sign of respect.	Citing sources appropriately, such as listing hyperlinks and credits at the end of every project 3-5 Results of a simple multiple choice test on the appropriate use of copyrights, fair use and Creative Commons	K-2 http://www.nj.gov/education/schools/security/links/kids.htm 3-5: Use of Easy Bib to create hyperlinked citations http://www.easybib.com/ http://www.noodletools.com

DIGITAL CITIZENSHIP (8.1.D)				
PROFICIENCY / OBJECTIVE	***STANDARDS***	***SUGGESTED ACTIVITY***	***EVALUATION/ ASSESSMENT***	***TEACHER NOTES***
The student will be able to:		***Students will:***		
13. define Digital Citizenship and Cyberbullying.	8.1.5.D.3	• view Internet Pitfalls and Dangers video. • complete questions and answer packet.	3-5 Completed packet	3-5 https://www.youtube.com/playlist?list=PL72C0DBBD3D2E6B84 https://www.commonsensemedia.org/educators/scope-and-sequence
14. explore the benefits and risks of online talk, learn to recognize inappropriate talk and the patterns of online predators, and apply strategies for safe online communications.	8.1.5.D.3	• understand that sharing personal information online is risky. • learn how to identify and avoid online contact.	Cybersmart worksheet with role-playing scenarios	*K-5* https://www.commonsensemedia.org/search/Safe%20online%20talk http://www.ncpc.org/topics/internet-safety Free on online materials (.pdf) http://www.onguardonline.gov/features/feature-0004-featured-net-cetera-toolkit
15. describe the information they share online. - Manage personal information, create strong passwords, and describe website privacy policies to understand how to keep information safe and secure.	8.1.5.D.3	• learn the benefits and risk of sharing information online. • create a strong password to protect and secure their information. • understand the concept of online privacy, why companies collect information, and the purpose of privacy policies. • feel empowered to keep information safe and secure by applying critical- thinking strategies to identity protection.	Teacher observation of student use of technology across a wide variety of course projects	*Common Sense Media Lessons:* • Strong Passwords • Private and Personal Information • What's the Big Deal about Internet Privacy?
16. explore the role of digital media in their lives, their communities, and their	8.1.5.D.2	• gain basic vocabulary and knowledge for discussing digital media, the Internet,	Teacher observation of student use of technology across a wide variety of course projects	*Common Sense Media Lessons:* • Digital Life • My Media

DIGITAL CITIZENSHIP (8.1.D)				
PROFICIENCY / OBJECTIVE	***STANDARDS***	***SUGGESTED ACTIVITY***	***EVALUATION/ ASSESSMENT***	***TEACHER NOTES***
The student will be able to:		***Students will:***		
culture, and learn how good digital citizens harness these tools responsibly.		and online life. • explore the role digital media by examining your own media habits and online activities. • evaluate the perils and possibilities of digital life for you and your community. • learn that using digital media safely, responsibly, and respectfully, is an important part of being a good digital citizen.		The Ups and Downs of Digital Life with Power Comes Responsibility
17. develop skills to protect their privacy and respect the privacy of others.	8.1.5.D.4	• become aware of your "digital footprint" online and reflect on the kind of personal information to share. • celebrate a "culture of sharing" through digital media while considering some possible harmful effects of over-sharing • learn to respect the privacy of others online. • develop privacy management skills, and personal and community privacy codes of conduct.	Digital files and Google account verification of "digital footprint" activities	*Common Sense Media Lessons:* • Trillion Dollar Footprint • Oops! I Broadcast It on the Internet • Secret Sharer • Top Secret The Ten Guidelines to Keep Your Computer Privileges at School

DIGITAL CITIZENSHIP (8.1.D)				
PROFICIENCY / OBJECTIVE	***STANDARDS***	***SUGGESTED ACTIVITY***	***EVALUATION/ ASSESSMENT***	***TEACHER NOTES***
The student will be able to:		***Students will:***		
18. describe that the way they present themselves online can affect their relationships, sense of self, and reputations.	8.1.5.D.4	• understand how anonymity impacts the way people explore and express different aspects of their personality online. • consider the motivations, benefits, and potential harms to oneself and others of assuming an online identity that's different than one's offline self.	Digital files and Google account verification of "digital footprint" activities	*Common Sense Media Lessons:* • Your Online Self • Which Me Should I Be?
19. differentiate search sites, and databases to describe attributes and capabilities. They will also develop strategies to increase the accuracy of their keyword searches.	8.1.5.E.1	• understand the differences between search engines, directories, and meta- search engines. • refine their online searches by using multiple words, synonyms, and alternative words and phrases.	Completed digital "keyword search" worksheet	*Common Sense Media Lessons:* • Crawling on the Web • The Key to Keywords 3-5 http://fcit.usf.edu/matrix/lessons/active_adoption_science Authoritative Library such as: • Groliers • EBSCO • Facts on File

20. navigate websites with a critical eye for quality and "stickiness." Equipped with evaluation strategies, students will also learn how to correctly cite online sources.	8.1.5.E.1	• learn and apply evaluation strategies to a site to determine how trustworthy and useful it is. • learn how to correctly cite multiple types of online sources. • consider ulterior marketing motives integrated into engaging websites.	Completed digital "keyword search" worksheet	*Common Sense Media Lessons:* • Identifying High-Quality Sites • How to Cite a Site • Sticky Sites 3-5 http://fcit.usf.edu/matrix/lessons/active_transformation_socialstudies

E. RESEARCH AND INFORMATION LITERACY

Essential Question(s): How can I efficiently gather and manage information using digital tools?

Enduring Understanding(s): Technology tools allow me to efficiently search for answers and solutions. They allow me to create appropriate products to communicate these results and solutions.

RESEARCH AND INFORMATION LITERACY (8.1.E)				
PROFICIENCY / OBJECTIVE	***STANDARDS***	***SUGGESTED ACTIVITY***	***EVALUATION/ ASSESSMENT***	***TEACHER NOTES***
The student will be able to:		***Students will:***		
21. gather and analyze data.	8.1.2.E.1 8.1.5.E.1	• create a media log to document media usage. **MPS Lesson Bank** 3: Our Montclair Community 3: Survey Your Class 3: Water Field Trip 4: Animal Adaptations 5: American Revolution – Patriot or Loyalist 5: A Tale of Two Cities 5: Five Themes of Geography – Parts 1 & 2	A successfully completed graph charting media usage.	K-2 http://fcit.usf.edu/matrix/lessons/active_infusion_socialstudies 3-5 "The Guidebook to Internet Searching" http://www.makeuseof.com/tag/guide-internet-searching/ http://fcit.usf.edu/matrix/lessons/collaborative_entry_languagearts

RESEARCH AND INFORMATION LITERACY (8.1.E)				
PROFICIENCY / OBJECTIVE	***STANDARDS***	***SUGGESTED ACTIVITY***	***EVALUATION/ ASSESSMENT***	***TEACHER NOTES***
The student will be able to:		***Students will:***		
22. search efficiently online.	8.1.P.E.1 8.1.2.E.1 8.1.5.E.1	• conduct research using advanced search strategies. • use Kathy Schrock's Bloom 's Taxonomy . **MPS Lesson Bank** 3: Our Montclair Community 3: Water Field Trip 4: Maps and My Neighborhood 4: Animal Adaptations 5: American Revolution – Patriot or Loyalist 5: A Tale of Two Cities	Completed class projects, such as the Internet research comparing 3 databases, and other class products demonstrating efficient Internet, databases, and authoritative solution searches	K-2: http://fcit.usf.edu/matrix/lessons/goaldirected_adaptation_science 3-5 http://fcit.usf.edu/matrix/lessons/active_entry_socialstudies

F. CRITICAL THINKING, PROBLEM SOLVING, AND DECISION-MAKING

Essential Question(s): How can I access information through use of digital tools to assist in generating solutions and making decisions?

Enduring Understanding(s): Technology tools allow me to collaborate with learners and experts locally and from other countries. Technology tools allow me to evaluate, summarize, and author findings. Technology tools assist me in presenting my own perspectives, and the perspectives of other cultures about a current

CRITICAL THINKING, PROBLEM SOLVING, AND DECISION-MAKING (8.1.F)				
PROFICIENCY / OBJECTIVE	***STANDARDS***	***SUGGESTED ACTIVITY***	***EVALUATION/ ASSESSMENT***	***TEACHER NOTES***
The student will be able to:		***Students will:***		
23. use electronic authoring tools (in collaboration with learners from other countries) to evaluate and summarize issues and/or the perspectives of other cultures about a current event or contemporary figure.	8.1.2.F.1 8.1.5.F.1	• Use geographic mapping tools to plan and solve problems. • blog with students from other countries about a current event, Internet Safety, and/or Cyberbullying **MPS Lesson Bank** 3: Native American Cultures 4: Maps and My Neighborhood 4: Animal Adaptations	Completed projects for presentation	K-2 http://fcit.usf.edu/matrix/lessons/authentic_infusion_languagearts 3-5 http://fcit.usf.edu/matrix/lessons/active_entry_socialstudies YouTube: Viral videos DeforestACTION

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APPENDIX A **SAMPLE AUTHENTIC ASSESSMENT**

WORD PROCESS ING RUBRIC

LEARNING OUTCOMES	EXEMPLARY	ACCOMPLISHED	DEVELOPING
Formatting Text • Select orientation • Set margins • Insert header/footer • Align text left and/or center • Set paragraph indent	At all times, I: • format my documents correctly with orientation, margins, headers/footers, alignment and paragraph indent. • require no reminders.	Most of the time, I: • format orientation, margins and headers/footers correctly. • align text left/center correctly. • set first line indent to format paragraphs correctly.	• I format orientation, margins, header/footer when reminded. • I press *Tab* or spacebar to center a title instead of using center alignment. • I press *Tab* to indent a paragraph instead of setting
Revising Meaning • Insert • Delete • Replace	At all times, I: • improve the meaning of my document by inserting, deleting and replacing text. • revised meaning efficiently and effectively, requiring no reminders.	Most of the time, I improve my document's meaning by using revision techniques, e.g., insert, delete and replace, correctly	• I delete an entire word or sentence instead of inserting or deleting the specific letter or word. • I delete text instead of doubling or dragging and keying the correct text.
Revising Organization • Copy and paste • Move text by cut and past and/or drag and drop	At all times, I: • organize my document by cut-ting/pasting and dragging/drop-ping • independently revise organization efficiently and effectively.	Most of the time, I revise my document's organization by using cut/past and drag/drop commands correctly.	• I key text again instead of using the copy/paste commands. • I delete text and retype instead of cutting/pasting or dragging/dropping.
Editing Text Spelling	At all times, I use the electronic spell check command to edit and ilq>rove the strength of my writing.	Most of the time, I use the electronic spell check command to edit my document.	I print my document without using the spell check command, OR I spell check when reminded, but I click *Ignore/Skip* when I am unsure how to correct.
Publishing Print preview	At all times, I: • preview the orientation and layout. • require no reminders.	Most of the time, I preview the orientation and layout of my document before printing.	• I preview the document before printing only when reminded. • I do not check the header/footer.

PEER REVIEW ASSESSMENT

Name: _____ **Reviewed by:** _____

Choose (check off √) the selection from each grouping that best describes the PPT presentation you're reviewing. Print the name of the person being graded at the top left; the person reviewing the presentation at the top right.

CRITERIA FOR POWERPOINT SLIDES

Data Organization	
Clear organization of slides, perfect amount of data on slides, bullets are double-spaced	
Some slide organization, some slides have too much data, and appear busy	
Messy slide organization; many slides have too much data, and are too busy.	
Topic/Thought	
Excellent thought given to topic, topics are clearly understood.	
Some thought given to the topic; some topics are not clearly understood.	
Minimal thought given to the topic: topics could have been better thought out.	
Slides/Techniques	
A wide variety of types of slides and techniques.	
Some variety of types of slides and techniques.	
Little variety of types of slides and techniques.	
PowerPoint Learning	
Show significant learning of formatting and PPT organization, using varying techniques.	
Shows something learned about formatting and PPT organization, some techniques used.	
No evidence of something learned about formatting and PPT few, if any techniques used.	
Grammar/Spelling	
Slides nave no grammatical or spelling errors.	
Slides have few grammatical or spelling errors.	
Slides have several grammatical or spelling errors.	
Transitions/Colors/Animations/Pictures	
Excellent use of transitions, colors, animation and clip art.	
Some use o f transitions, colors, animation and clip art.	
Little use of transitions, colors, animation and clip art.	
All Topics Covered (Title, Bibliography, Ending, Urls on Slides)	
Excellent covering of all required topics.	
Most required topics are covered.	
None or almost none of the requirements are met.	

PPT Peer Review **Date:** _____ **Period:** _____

GRADING RUBRIC

Autobiography Project – *PowerPoint* Grading Rubric

Name: _____ **Period:** _____

Print your slides as a handout, 6 per page and attach to this sheet and submit the packet.

OBJECTIVE	OUTSTANDING (20 pts)	ABOVE AVERAGE (15 pts)	AVERAGE (10 pts)	BELOW AVERAGE (5 pts)	POOR (0 pts)
All Topics Clearly Included in This Presentation					
Slide Transitions/ Animations					
Clipart/Pictures/Colors Clearly Shown					
Proper Amount of Data on Slides					
Grammar, Spelling and Punctuation					

Comments: _____

_____

Autobiography – Oral Presentation Rubric

Name: _____ **Period:** _____

CATEGORY	4	3	2	1	GRADING
PREPAREDNESS	Student is completely prepared and has obviously rehearsed.	Student seems pretty prepared but might have needed a couple more rehearsals.	The student is somewhat prepared, but it is clear that rehearsal was lacking	Student does not seem at all prepared to present	
USES COMPLETE SENTENCES	Always (99%-100% of time) speaks in complete sentences.	Mostly (80%-98%) speaks in complete sentences.	Sometimes (70%-80%) speaks in complete sentences.	Rarely speaks in complete sentences.	
POSTURE AND EYE CONTACT	Stands up straight, looks relaxed and confident. Establishes eye contact with everyone in the room during the presentation.	Stands up straight and establishes eye contact with everyone in the room during the presentation.	Sometimes stands up straight and establishes eye contact.	Slouches and/or does not look at people during the presentation.	
SPEAKS CLEARLY	Speaks clearly and distinctly all (95%-100%) the time.	Speaks clearly and distinctly most (85%-94%) of the time.	Speaks clearly (75%-84%) of the time.	Often mumbles or can not be understood OR mispronounces more than one word	
VOCABULARY	Uses vocabulary appropriate for the audience. Extends audience vocabulary by defining words that might be new to most of the audience.	Uses vocabulary appropriate for the audience. Includes 1-2 words that might be new to most of the audience, but does not define them	Uses vocabulary appropriate for the audience. Does not include any vocabulary that might be new to the audience.	Uses several (5 or more) words or phrases that are not understood by the audience.	

SELF-ASSESSMENT

Name: _____ **Period:** _____

Project Name: ***PowerPoint*** **Autobiography**

Grade Received: _____

Self-Assessment Questions

How do I think I performed on this project?

What did I learn from this project?

What, if anything, could I have done to improve on my grade on this project?

Name: _____ **Period:** _____

Project Name: **Presentation of Autobiography**

Grade Received: _____

Self-Assessment Questions

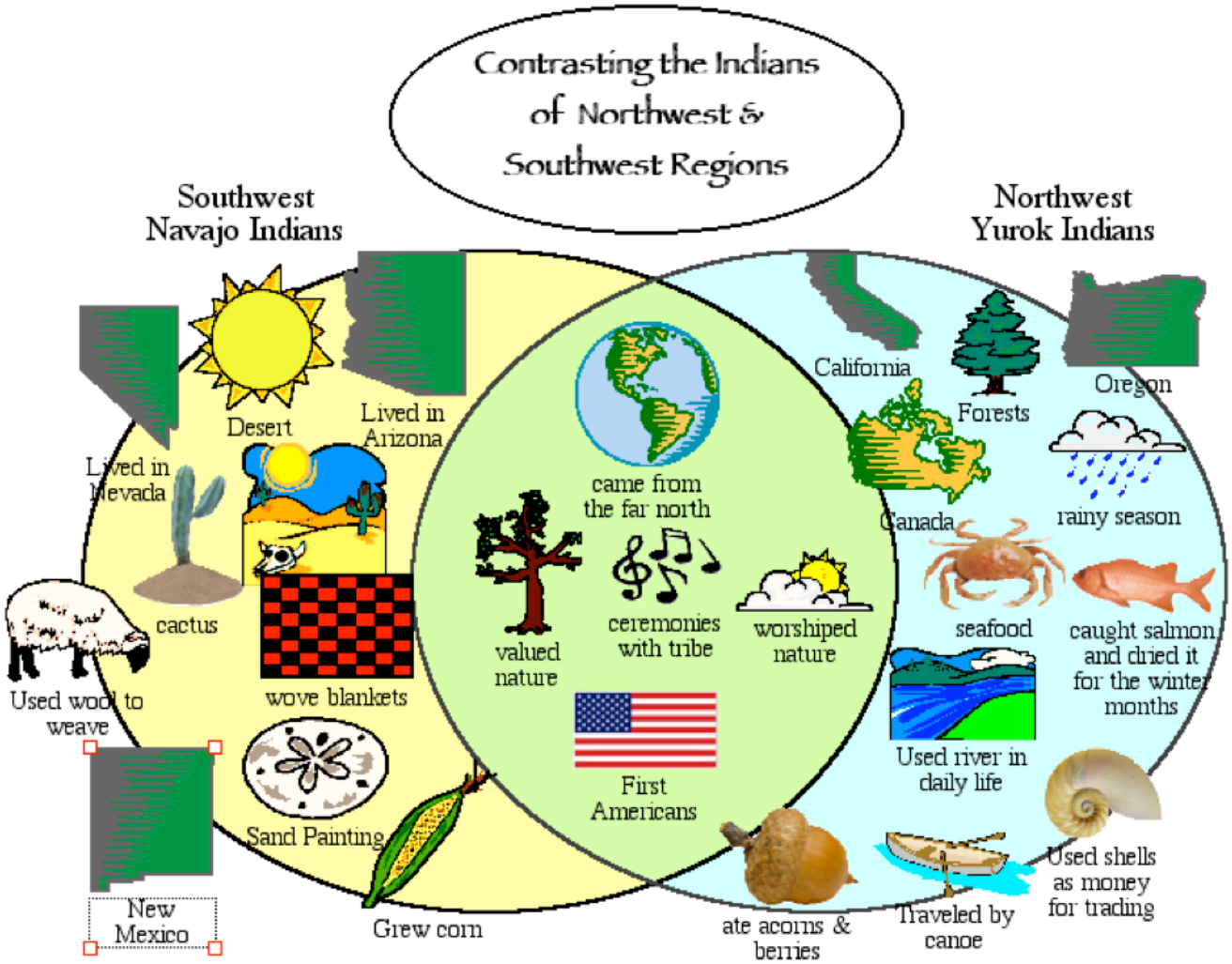
How do I think I performed on this project?

What did I learn from this project?

What, if anything, could I have done to improve on my grade on this project?

APPENDIX B **PROJECTS/ PRESENTATIONS**

Completed Venn Diagram on Native American Cultures



MY MEDIA LOG

Name _____ Period ____ Dates _____

Directions: Fill in the log with information about your media habits and include activities, both in and out of school. Use approximate times.

Activity	Description Where, when, with whom	Average Time Per Day
Cell Phone (Texting/talking)		
Example: Texting	Example: Before and after school with parents to let them know where I am With tons of friends before bed to catch up on gossip	Example: 10 minutes 30 minutes
Day 1	None	0 minutes
Day 2	None	0 minutes
Day 3	Changing the background	5 minutes
Day 4	Talking to my brother to find out what time he is going to be home	10 minutes
Day 5	None	0 minutes
	Total Time	15 minutes
Computer Software (Microsoft Office etc.)		
Day 1	Went to paint and "painted" a star and worked on my digital footprint	50 minutes
Day 2	None	None
Day 3	None	0 minutes
Day 4	None	0 minutes
Day 5	None	0 minutes
	Total Time	50 minutes
Video Games (Console, not on computer)		
Day 1	None	0 minutes
Day 2	None	0 minutes
Day 3	None	0 minutes
Day 4	Played SpongeBob on DS	10 minutes

Day 5	Played SpongeBob on DS	20 minutes
	Total Time	30 minutes
Television and DVD players		
Day 1	Watched a part of Antiques Roadshow	15 minutes
Day 2	Watched PBS kids	60 minutes
Day 3	Watched Disney channel	30 minutes
Day 4	Watched Antiques Roadshow	30 minutes
Day 5	Watched American Idol	60 minutes
	Total time	195 minutes
Internet (email, chat, FaceBook etc.)		
Day 1	Went to check my email and worked on a Google document for school	120 minutes
Day 2	Went to computer class	40 minutes
Day 3	Went on my email	30 minutes
Day 4	Went to computers class	40 minutes
Day 5	Went to computers class and checked my email	80 minutes
	Total time	310 minutes
iPod or any Music Device		
Day 1	None	0 minutes
Day 2	None	0 minutes
Day 3	None	0 minutes
Day 4	None	0 minutes
Day 5	None	0 minutes
	Total Time	0 minutes

TECHNOLOGY OPERATIONS AND CONCEPTS (8.1.A)

Newsletter

GREETINGS GREENLAND!

Flag of Greenland!

The flag of Greenland represents the early rising sun (white) reflecting off of the ice (red). This flag was adopted on June 21, 1985!

By Rachel Wang

Let's Neriniaritsi! (Eat)

Have you ever seen a wild deer roaming around your backyard, munching on your garden plants? Or a whale soaring gracefully in an arch over the ocean? Imagine eating these creatures on a daily or weekly basis. Greenlandic people are all about foods that are found in their own, native area. Many species of meat and fish are popular in this brisk, icy climate. Seal, whale, reindeer, and lamb are also extremely common delicacies. Eating out is usually unaffordable for most families. Therefore, hunting for your own family's dinner is absolutely normal!!

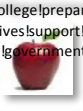
pg. 1

Who found Greenland?

The earliest known people that lived in Greenland were the Inuit tribe of North America. They settled there in as early as 2500 BCE. Later on in 930 ICE, the Europeans found Greenland but did not explore it until the Vikings colonized other settlements. In 986 ICE, two colonies had settled on the west land the least coast of Greenland. Over time, population grew as more citizens arrived in Greenland. Today, only about 57,600 people live in Greenland.

Student Education

Education in Greenland is absolutely free. The schooling ages range from 6 to 16. After students graduate at age 16, they have a choice to either prepare for college or train vocationally. Vocational training means to learn about a certain job or hobby that you would be interested in doing later on in life. If students choose college preparation, each of them receives support and guidance from the government.



pg. 2

Did You Know?

Facts to digest about Greenland

Greenland is actually an icy continent, not green.

Greenland is also the largest island on Earth. The size of this country is about three times the size of Texas.

Have you ever wanted to live on the coast by the beach? Well, almost every Greenlandic person lives on the coast of Greenland. The interior of Greenland is isolated.

If you want to get from one town to another by car or bus, you're out of luck. Roads or railroads connect no towns. If you must travel, plane or boat is the only option. (Unless you want to walk)

pg. 3

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APPENDIX C **TECHNOLOGY INTEGATION MATRIX**

FLORIDA TECHNOLOGY INTEGRATION MATRIX

Technology Integration Matrix Grade Level Index: http://fcit.usf.edu/matrix/gradelevel.php

This page provides a breakdown of videos within the Technology Integration Matrix by grade level. Although you may be primarily interested in a particular level, we encourage you to view the ways in which technology is used in other grade levels. For example, you will find videos of high school classrooms in which the technology tools could be used in the same way with middle school or elementary level students. Some videos involve students from both middle and high school grades and some involve students from both middle and elementary grades. These videos appear in both lists below.

Elementary: 3-5

Entry

- Active - Social Studies: *Fertile Crescent*
- Active - Language Arts: *Keyboarding Skills*
- Collaborative - Math: *Bar Graph Assessments*
- Collaborative - Science: *States of Matter*
- Collaborative - Language Arts: *Story Visualization*
- Constructive - Math: *Multiplication Practice*
- Constructive - Science: *Lungs: Lungs-Individual and Community Choices*
- Constructive - Social Studies: *Geography Preview*
- Authentic - Math: *Math Skills Practice*
- Goal-Directed - Math: *Practicing Fractions*
- Goal-Directed - Social Studies: *Organizing Data*
- Goal-Directed - Language Arts: *Reading Assessment*

Adoption

- Active - Math: *Mini-Lesson Assessment*
- Active - Science: *Water Cycle Webquest*
- Active - Social Studies: *Historical Fiction Graphic Organizer*
- Collaborative - Math: *Electronic Base Ten Blocks*
- Collaborative - Science: *States of Matter*
- Collaborative - Social Studies: *Spanish Explorer Animation*
- Constructive - Language Arts: *Fluency Assessment*
- Authentic - Science: *Word of the Day- Science*
- Authentic - Social Studies: *This Day in History*
- Goal-Directed - Math: *Plotting Decimals on a Number Line*
- Goal-Directed - Social Studies: *Digital Portfolio*
- Goal-Directed - Language Arts: *Planning with Inspiration*

Adaptation

- Active - Social Studies: *Freedom Quilt Squares*
- Collaborative - Math: *Fraction Videos*
- Collaborative - Science: *Biome Movies*
- Collaborative - Social Studies: *Recycling PSA*
- Constructive - Math: *Graphing Motion*
- Constructive - Social Studies: *American Revolution Culminating Event*
- Goal-Directed - Social Studies: *Community Service Budget*
- Goal-Directed - Language Arts: *Planning with Inspiration*

Infusion

- Active - Science: *Culminating Presentations*
- Collaborative - Math: *Adding and Subtracting Fractions*
- Collaborative - Science: *Space Exploration*
- Collaborative - Social Studies: *Photo Essays*
- Constructive - Science: *The Ducklings Have Hatched!*
- Constructive - Social Studies: *Country Creation*
- Authentic - Social Studies: *African Water Crisis*
- Goal-Directed - Language Arts: *Digital Daily Planner*

Transformation

- Active - Math: *Base Systems*
- Active - Social Studies: *Virtual Vacation Travel Guides*
- Active - Language Arts: *Poetry Podcast*
- Constructive - Math: *Iditarod Project*
- Constructive - Language Arts: *Podcasting*
- Constructive - Science: *Invention Convention Podcast*
- Goal-Directed - Math: *Fraction and Decimal Review Podcast*
- Goal-Directed - Science: *Public Service Announcement*

APPENDIX D **NEW JERSEY CORE CURRICULUM CONTENT STANDARDS FOR TECHNOLOGY**

New Jersey Core Curriculum Content Standards – Technology 8.1

New Jersey's Technology Standards consist of 8.1 Educational Technology and 8.2 Technology, Engineering, Design and Computational Thinking, which work symbiotically to provide students with the necessary skills for college and career readiness.
"Advances in technology have drastically changed the way we interact with the world and each other. The digital age requires that we understand and are able to harness the power of technology to live and learn". - International Society for Technology in Education
In this ever-changing digital world where citizenship is being re-imagined, our students must be able to harness the power of technology to live, solve problems and learn in college, on the job and throughout their lives. Enabled with digital and civic citizenship skills, students are empowered to be responsible members of today's diverse global society.

Readiness in this century demands that students actively engage in critical thinking, communication, collaboration, and creativity. Technology empowers students with real-world data, tools, experts and global outreach to actively engage in solving meaningful problems in all areas of their lives. The power of technology discretely supports all curricular areas and multiple levels of mastery for all students.

"A major consequence of accelerating technological change is a difference in levels of technological ability and understanding. The workforce of the future must have the ability to use, manage, and understand technology." – International Technology and Engineering Educators Association.
The design process builds in our students the recognition that success is not merely identifying a problem but working though a process and that failure is not an end but rather a point for reevaluation. Whether applied as a skill in product development, in the learning environment, in daily life, in a local or more global arena, the design process supports students in their paths to becoming responsible, effective citizens in college, careers and life.
Computational thinking provides an organizational means of approaching life and its tasks. It develops an understanding of technologies and their operations and provides students with the abilities to build and create knowledge and new technologies. Not all students will be programmers, but they should have an understanding of how computational thinking can build knowledge and control technology.

Page	**Content Standard**
2	**A. Technology Operations and Concepts:** *Students demonstrate a sound understanding of technology concepts, systems and operations*
4	**B. Creativity and Innovation:** *Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.*
5	**C. 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.*
6	**D. Digital Citizenship:** *Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.*
8	**E: Research and Information Fluency:** *Students apply digital tools to gather, evaluate, and use information.*
10	**F: 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.*

2014 New Jersey Core Curriculum Content Standards - Technology

Content Area	**Technology**
Standard	**8.1 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.**
Strand	**A. Technology Operations and Concepts:** *Students demonstrate a sound understanding of technology concepts, systems and operations.*

Grade Levels	Content Statement Students will:	Indicator	Indicator
P	• Understand and use technology systems.	8.1.P.A.1	Use an input device to select an item and navigate the screen
		8.1.P.A.2	Navigate the basic functions of a browser.
	• Select and use applications effectively and productively.	8.1.P.A.3	Use digital devices to create stories with pictures, numbers, letters and words.
		8.1.P.A.4	Use basic technology terms in the proper context in conversation with peers and teachers (e.g., camera, tablet, Internet, mouse, keyboard, and printer).
		8.1.P.A.5	Demonstrate the ability to access and use resources on a computing device.
K-2	• Understand and use technology systems.	8.1.2.A.1	Identify the basic features of a digital device and explain its purpose.
	• Select and use applications effectively and productively.	8.1.2.A.2	Create a document using a word processing application.
		8.1.2.A.3	Compare the common uses of at least two different digital applications and identify the advantages and disadvantages of using each.
		8.1.2.A.4	Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).
		8.1.2.A.5	Enter information into a spreadsheet and sort the information.
		8.1.2.A.6	Identify the structure and components of a database.
		8.1.2.A.7	Enter information into a database or spreadsheet and filter the information.
3-5	• Understand and use technology systems.	8.1.5.A.1	Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
	• Select and use applications effectively and productively.	8.1.5.A.2	Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures.
		8.1.5.A.3	Use a graphic organizer to organize information about a problem or issue.
		8.1.5.A.4	Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data.
		8.1.5.A.5	Create and use a database to answer basic questions.
		8.1.5.A.6	Export data from a database into a spreadsheet; analyze and produce a report that explains the analysis of the data.

Content Area	**Technology**		
Standard	**8.1 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.**		
Strand	**A. Technology Operations and Concepts:** *Students demonstrate a sound understanding of technology concepts, systems and operations.*		
Grade Levels	**Content Statement Students will:**	**Indicator**	**Indicator**
6-8	• Understand and use technology systems.	8.1.8.A.1	Demonstrate knowledge of a real world problem using digital tools.
	• Select and use applications effectively and productively.	8.1.8.A.2	Create a document (e.g. newsletter, reports, personalized learning plan, business letters or flyers) using one or more digital applications to be critiqued by professionals for usability.
		8.1.8.A.3	Use and/or develop a simulation that provides an environment to solve a real world problem or theory.
		8.1.8.A.4	Graph and calculate data within a spreadsheet and present a summary of the results
		8.1.8.A.5	Create a database query, sort and create a report and describe the process, and explain the report results.
9-12	• Understand and use technology systems.	8.1.12.A.1	Create a personal digital portfolio which reflects personal and academic interests, achievements, and career aspirations by using a variety of digital tools and resources.
	• Select and use applications effectively and productively.	8.1.12.A.2	Produce and edit a multi-page digital document for a commercial or professional audience and present it to peers and/or professionals in that related area for review.
		8.1.12.A.3	Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue.
		8.1.12.A.4	Construct a spreadsheet workbook with multiple worksheets, rename tabs to reflect the data on the worksheet, and use mathematical or logical functions, charts and data from all worksheets to convey the results.
		8.1.12.A.5	Create a report from a relational database consisting of at least two tables and describe the process, and explain the report results.

Content Area	**Technology**		
Standard	**8.1 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.**		
Strand	**B. Creativity and Innovation:** *Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.*		
Grade Levels	Content Statement Students will:	Indicator	Indicator
P	• Apply existing knowledge to generate new ideas, products, or processes. • Create original works as a means of personal or group expression.	8.1.P.B.1	Create a story about a picture taken by the student on a digital camera or mobile device.
K-2		8.1.2.B.1	Illustrate and communicate original ideas and stories using multiple digital tools and resources.
3-5		8.1.5.B.1	Collaborative to produce a digital story about a significant local event or issue based on first-person interviews.
6-8		8.1.8.B.1	Synthesize and publish information about a local or global issue or event (ex. telecollaborative project, blog, school web).
9-12		8.1.12.B.2	Apply previous content knowledge by creating and piloting a digital learning game or tutorial.

Content Area	**Technology**
Standard	**8.1 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.**
Strand	**C. 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.*

Grade Levels	**Content Statement**	**Indicator**	**Indicator**
P	• Interact, collaborate, and publish with peers, experts, or others by employing a variety of digital environments and media. • Communicate information and ideas to multiple audiences using a variety of media and formats. • Develop cultural understanding and global awareness by engaging with learners of other cultures. • Contribute to project teams to produce original works or solve problems.	8.1.P.C.1	Collaborate with peers by participating in interactive digital games or activities.
K-2		8.1.2.C.1	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.
3-5		8.1.5.C.1	Engage in online discussions with learners of other cultures to investigate a worldwide issue from multiple perspectives and sources, evaluate findings and present possible solutions, using digital tools and online resources for all steps.
6-8		8.1.8.C.1	Collaborate to develop and publish work that provides perspectives on a global problem for discussions with learners from other countries.
9-12		8.1.12.C.1	Develop an innovative solution to a real world problem or issue in collaboration with peers and experts, and present ideas for feedback through social media or in an online community.

Content Area	**Technology**		
Standard	**8.1 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.**		
Strand	**D. Digital Citizenship:** *Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.*		
Grade Levels	**Content Statement**	**Indicator**	**Indicator**
K-2	• Advocate and practice safe, legal, and responsible use of information and technology.	8.1.2.D.1	Develop an understanding of ownership of print and nonprint information.
3-5	• Advocate and practice safe, legal, and responsible use of information and technology.	8.1.5.D.1	Understand the need for and use of copyrights.
		8.1.5.D.2	Analyze the resource citations in online materials for proper use.
	• Demonstrate personal responsibility for lifelong learning.	8.1.5.D.3	Demonstrate an understanding of the need to practice cyber safety, cyber security, and cyber ethics when using technologies and social media.
	• Exhibit leadership for digital citizenship.	8.1.5.D.4	Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.
6-8	• Advocate and practice safe, legal, and responsible use of information and technology.	8.1.8.D.1	Understand and model appropriate online behaviors related to cyber safety, cyber bullying, cyber security, and cyber ethics including appropriate use of social media.
	• Demonstrate personal responsibility for lifelong learning.	8.1.8.D.2	Demonstrate the application of appropriate citations to digital content.
		8.1.8.D.3	Demonstrate an understanding of fair use and Creative Commons to intellectual property.
	• Exhibit leadership for digital citizenship.	8.1.8.D.4	Assess the credibility and accuracy of digital content.
		8.1.8.D.5	Understand appropriate uses for social media and the negative consequences of misuse.

Content Area	**Technology**		
Standard	**8.1 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.**		
Strand	**D. Digital Citizenship:** *Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.*		
Grade Levels	**Content Statement**	**Indicator**	**Indicator**
9-12	• Advocate and practice safe, legal, and responsible use of information and technology.	8.1.12.D.1	Demonstrate appropriate application of copyright, fair use and/or Creative Commons to an original work.
	• Demonstrate personal responsibility for lifelong learning.	8.1.12.D.2	Evaluate consequences of unauthorized electronic access (e.g., hacking) and disclosure, and on dissemination of personal information.
		8.1.12.D.3	Compare and contrast policies on filtering and censorship both locally and globally.
	• Exhibit leadership for digital citizenship.	8.1.12.D.4	Research and understand the positive and negative impact of one's digital footprint.
		8.1.12.D.5	Analyze the capabilities and limitations of current and emerging technology resources and assess their potential to address personal, social, lifelong learning, and career needs.

Content Area	**Technology**		
Standard	**8.1 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.**		
Strand	**E: Research and Information Fluency:** *Students apply digital tools to gather, evaluate, and use information.*		
Grade Levels	**Content Statement Students will:**	**Indicator**	**Indicator**
P	Plan strategies to guide inquiry.	8.1.P.E.1	Use the Internet to explore and investigate questions with a teacher's support.
K-2	• Plan strategies to guide inquiry • Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media. • Evaluate and select information sources and digital tools based on the appropriateness for specific tasks.	8.1.2.E.1	Use digital tools and online resources to explore a problem or issue.
3-5	• Plan strategies to guide inquiry. • Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media. • Evaluate and select information sources and digital tools based on the appropriateness for specific tasks.	8.1.5.E.1	Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks.
6-8	• Plan strategies to guide inquiry. • Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media. • Evaluate and select information sources and digital tools based on the appropriateness for specific tasks. • Process data and report results.	8.1.8.E.1	Effectively use a variety of search tools and filters in professional public databases to find information to solve a real world problem.

Content Area	**Technology**		
Standard	**8.1 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.**		
Strand	**E: Research and Information Fluency:** *Students apply digital tools to gather, evaluate, and use information.*		
Grade Levels	**Content Statement Students will:**	**Indicator**	**Indicator**
9-12	• Plan strategies to guide inquiry. • Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media. • Evaluate and select information sources and digital tools based on the appropriateness for specific tasks. • Process data and report results.	8.1.12.E.1	Produce a position statement about a real world problem by developing a systematic plan of investigation with peers and experts synthesizing information from multiple sources.
		8.1.12.E.2	Research and evaluate the impact on society of the unethical use of digital tools and present your research to peers.

Content Area	**Technology**		
Standard	**8.1 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.**		
Strand	**F: 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.*		
Grade Levels	**Content Statement** **Students will:**	**Indicator**	**Indicator**
K-2	• Identify and define authentic problems and significant questions for investigation. • Plan and manage activities to develop a solution or complete a project. • Collect and analyze data to identify solutions and/or make informed decisions. • Use multiple processes and diverse perspectives to explore alternative solutions.	8.1.2.F.1	Use geographic mapping tools to plan and solve problems.
3-5	• Identify and define authentic problems and significant questions for investigation. • Plan and manage activities to develop a solution or complete a project. • Collect and analyze data to identify solutions and/or make informed decisions. • Use multiple processes and diverse perspectives to explore alternative solutions	8.1.5.F.1	Apply digital tools to collect, organize, and analyze data that support a scientific finding.

Content Area	**Technology**		
Standard	**8.1 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.**		
Strand	**F: 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.*		
Grade Level	**Content Statement** **Students will:**	**Indicator**	**Indicator**
6-8	• Identify and define authentic problems and significant questions for investigation. • Plan and manage activities to develop a solution or complete a project. • Collect and analyze data to identify solutions and/or make informed decisions. • Use multiple processes and diverse perspectives to explore alternative solutions.	8.1.8.F.1	Explore a local issue, by using digital tools to collect and analyze data to identify a solution and make an informed decision.
9-12	• Identify and define authentic problems and significant questions for investigation. • Plan and manage activities to develop a solution or complete a project. • Collect and analyze data to identify solutions and/or make informed decisions. • Use multiple processes and diverse perspectives to explore alternative solutions.	8.1.12.F.1	Evaluate the strengths and limitations of emerging technologies and their impact on educational, career, personal and or social needs.

Computers/Technology, Grades K-5

APPENDIX E **COMMON CORE STATE STANDARDS**

Computers/Technology, Grades K-5

http://www.corestandards.org/Math/Content/4/introduction/

Excerpt from *Common Core Standards* Grade 4 Math:

In Grade 4, instructional time should focus on three critical areas: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

Excerpt from *Common Core State Standards:*

Grade 4: Writing Standards

W.4.6: With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.

Grade 5: Writing Standards

W.5.6: With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting.